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PUBLIC VERSION

BEFORE THE
SURFACE TRANSPORTATION BOARD

TOTAL PETROCHEMICALS & REFINING USA, INC.	
Complainant,	
v.	**Docket No. NOR 42121**
CSX TRANSPORTATION, INC.	
Defendant.	

REBUTTAL EVIDENCE OF

TOTAL PETROCHEMICALS & REFINING USA, INC.

(Volume I of II)

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Case Glossary

AEP Texas I	*AEP Texas Northern Co. v. BNSF Ry*, STB Docket No. 41191, slip op. (STB served Nov. 8, 2006)
AEP Texas II	*AEP Texas Northern Co. v. BNSF Ry*, STB Docket No. 41191, slip op. (STB served Sept. 10, 2007)
AEPCO	*Arizona Electric Power Cooperative, Inc. v. BNSF Railway Company and Union Pacific Railroad Company*, STB Docket No. 42113, slip op. (STB served Nov. 22, 2011)
AEPCO II	*Arizona Electric Power Cooperative, Inc. v. BNSF Railway Company and Union Pacific Railroad Company*, STB Docket No. 42113, slip op. (STB served June 27, 2011)
APS	*Arizona Public Service Co. v. Atchison, Topeka and Santa Fe Ry.*, 2 STB 367 (1997)
Arizona Public Service	*Arizona Public Service Co. & Pacificorp v. The Burlington Northern and Santa Fe Railway Company*, 6 STB 851 (2003)
Cargill	*Cargill, Inc. v. BNSF Railway Company*, STB Docket No. 42120, slip op. (STB served Aug. 12, 2013)
Coal Rate Guidelines or Guidelines	*Coal Rate Guidelines, Nationwide*, 1 I.C.C. 2d 520 (1985), *aff'd sub nom. Consolidated Rail Corp. v. United States*, 812 F.2d 1444 (3rd Cir. 1987)
Coal Trading	*Coal Trading Corp. v. Baltimore & Ohio R.R.*, 6 I.C.C. 2d 361 (1990)
Conrail	*Consolidated Rail Corp. v. United States*, 812 F.2d 1444 (3rd Cir. 1987)
CP&L	*Carolina Power & Light Co. v. Norfolk Southern Ry.*, 7 S.T.B. 235 (2003)
Dayton P&L	*Dayton Power & Light Co. v. Louisville & Nash. R.R.*, 1 I.C.C.2d 375, 382 (1985)
Duke/CSXT	*Duke Energy Corp. v. CSX Transportation Inc.*, 7 S.T.B. 402 (2004)
Duke/NS	*Duke Energy Corp. v. Norfolk Southern Railway*, 7 S.T.B. 89 (2003)
DuPont	*E.I. du Pont de Nemours & Co., v. Norfolk S. Ry.*, STB Docket No. NOR 42125, slip op. (STB served March 24, 2014)

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Ex Parte 715 Notice	*Rate Regulation Reforms,* STB Ex Parte No. 715 (STB served July 25, 2012)
FMC	*FMC Wyoming Corp. v. Union Pacific R.R. Co.,* 4 STB 699 (2000)
IPA	*Intermountain Power Agency v. Union Pacific R.R.,* STB Docket No. 42127 UP Reply Evidence (Public), filed November 10, 2011
M&G	*M&G Polymers USA, LLC v. CSX Transportation, Inc.,* STB Docket No. 42123 (STB served Sept. 27, 2012)
Major Issues	*Major Issues in Rail Rate Cases,* STB Ex Parte No. 657, slip op. (STB served October 30, 2006)
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Nevada Power II	*Bituminous Coal – Hiawatha, Utah to Moapa, Nevada,* 10 I.C.C. 2d 259 (1994)
OG&E	*Oklahoma Gas & Electric Co., v. Union Pacific R.R.,* STB Docket No. 42111 (STB served July 24, 2009)
Otter Tail	*Otter Tail Power Co., v. BNSF Ry.,* STB Docket No. 42071 (STB served Jan. 27, 2006)
PPL 2001	*PPL Montana, LLC v. The Burlington Northern and Santa Fe Railway Co.,* 5 STB 1105 (2001)
PPL 2002	*PPL Montana, LLC v. The Burlington Northern and Santa Fe Railway Co.,* 6 STB 286 (2002)
PSCo/Xcel I	*Public Service Co. of Colorado d/b/a Xcel Energy v. Burlington Northern & Santa Fe Ry.,* 7 S.T.B. 589 (2004)
PSCo/Xcel II	*Public Service Co. of Colorado d/b/a Xcel Energy v. Burlington Northern & Santa Fe Ry.,* STB Docket No. 42057 (STB served Jan. 19, 2005)

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Rate Regulation Reforms or Ex Parte 715	*Rate Regulation Reforms,* STB Ex Parte No. 715 (STB served July 18, 2013)
Seminole	*Seminole Electric Cooperative, Inc. v. CSX Transportation, Inc.,* STB Docket No. 42110 (Rebuttal Evidence Filed April 15, 2010)
SunBelt	*SunBelt Chlor Alkali Partnership v. Norfolk Southern Railway Company*, STB Docket No. 42130, slip op. (STB served June 20, 2014)
TMPA	*Texas Municipal Power Agency v. Burlington Northern & Santa Fe Ry.*, 6 STB 573 (2003)
WFA/Basin I	*Western Fuels Association, Inc. v. BNSF Ry.*, STB Docket No. 42088 (STB served Sept. 10, 2007)
WFA/Basin II	*Western Fuels Association, Inc. v. BNSF Ry.*, STB Docket No. 42088 (STB served Feb. 18, 2009)
WFA/Basin July 2009	*Western Fuels Association, Inc. v. BNSF Ry.*, STB Docket No. 42088 (STB served July 27, 2009)
WFA/Basin III	*Western Fuels Association, Inc. v. BNSF Ry.*, STB Docket No. 42088 (STB served June 5, 2012)
Wisconsin P&L	*Wisconsin Power & Light Co., v. Union Pacific R.R.,* 5 STB 955 (2001)
West Texas Utilities	*West Texas Utilities Co. v. Burlington Northern R.R.*, 1 S.T.B 638 (1996), aff'd sub nom. *Burlington Northern R.R. v. STB*, 114 F.3d 206 (D.C. Cir. 1997)

Acronyms

The following acronyms are used:

AAR	Association of American Railroads
AASHTO	American Association of State Highway Officials
ACSES	Advanced Civil Speed Enforcement System
AEI	Automatic Equipment Identification
AEO	EIA's Annual Energy Outlook Forecast
AIILF	All-Inclusive Less Fuel Index, published by AAR
AREMA	American Railway Engineering and Maintenance-of-Way Assoc.
ARRA	American Reinvestment and Recovery Act of 2009
ATC	Average Total Cost
ATF	Across-the-Fence
ATV	All-Terrain Vehicle
ATP	Automatic Train Protection
B&B	Bridge and Building
BNSF	BNSF Railway Company
BOCT	Baltimore and Ohio Chicago Terminal
BRC	Belt Railway Company of Chicago
C&S	Communications and Signals
CAGR	Compound Annual Growth Rate
CAPM	Capital Asset Pricing Model
CFO	Chief Financial Officer
CMP	Constrained Market Pricing
cmp	Corrugated Metal Pipe
CN	Canadian National Railway
CNW	Chicago and North Western Transportation Company
COBRA	Consolidated Omnibus Budget Reconciliation Act
CP	Canadian Pacific Railway
CPI	Consumer Price Index
CSX	CSX Corporation
CSXT	CSX Transportation, Inc.
CTC	Central Traffic Control
CWR	Continuous Welded Rail
CY	Cubic Yards
DCF	Discounted Cash Flow
DOT	Department Of Transportation
DP	Distributed Power
DTL	Direct to Locomotive Fueling
EDI	Electronic Data Interchange
EEO	Equal Employment Opportunity
EIA	Energy Information Administration
EOTD	End of Train Device
ERTMS	European Rail Traffic Management System
FED	Failed-equipment Detector
FRA	Federal Railroad Administration
FSC	Fuel Surcharge

Acronyms

G&A	General and Administrative
GWR	Gross Weight on Rail
HDF	On-Highway Diesel Fuel Index
HR	Human Resources
ICC	Interstate Commerce Commission
IDC	Interest During Construction
IDS/IPS	Intrusion Detection System/Intrusion Prevention System
IHB	Indiana Harbor Belt Railroad
ISS	Interline Settlement System
IT	Information Technology
KCS	Kansas City Southern Lines
LAN	Local Area Network
LF	Linear Feet
LMR	Land Mobile Radio
LUM	Locomotive Unit Mile
MACRS	Modified Accelerated Cost Recovery System
MGA	Monongahela Railway
MGT	Million Gross Tons
MMM	Maximum Markup Methodology
MOW	Maintenance of Way
NCREIF	National Council of Real Estate Investment Fiduciaries
NPI	NCREIF Property Index
NS	Norfolk Southern Railway Company
O/D	Origin/Destination Pair
OSHA	Occupational Safety and Health Administration
PPI	Producer Price Index
PTC	Positive Train Control
R/VC	Revenue to Variable Cost
RCAF-A	Rail Cost Adjustment Factor, adjusted for productivity
RCAF-U	Rail Cost Adjustment Factor, unadjusted for productivity
REDI	CSXT Conductor Training
RMI	A GE Transportation Company
RMS	RMI's Revenue Management Services System
ROW	Right of Way
RSIA	Rail Safety Improvement Act of 2008
RTC	Rail Traffic Controller Model
SAC	Stand-Alone Cost
SARR	Stand-Alone Railroad
SEC	Securities Exchange Commission
SOX	Sarbanes Oxley Act of 2002
STB	Surface Transportation Board
STCC	Standard Transportation Commodity Code
STEO	Short-Term Energy Outlook
T&E	Train and Engine
TMS	RMI's Transportation Management Services System
TPI	Total Petrochemicals & Refining USA, Inc.

Acronyms

TPIRR	TPI Stand-Alone Railroad
TRRA	Terminal Railroad Association of St. Louis
UP	Union Pacific Railroad Company
UPS	Uninterruptible Power Supply
URCS	Uniform Railroad Costing System
USCG	US Coast Guard
USDA	US Department of Agriculture
VHF	Very High Frequency
VP	Vice President
WAN	Wide Area Network
WTI	West Texas Intermediate

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Rebuttal Exhibit List

Testimony Part	Exhibit No.	Title
(1)	(2)	(3)
III-C	III-C-1	Receiving and Departure Track Miles Used in CSXT's Reply RTC vs Receiving and Departure Track Miles Included in CSXT Reply Investment
	III-C-2	Examples of Track Outages Included in CSXT's Reply RTC Simulation That Are Located OFF-SARR
	III-C-3	Evaluation of TPIRR Local Trains
III-D	III-D-1	TPIRR General & Administrative Expense
	III-D-2	TPIRR Maintenance of Way Expenses
III-F	III-F-1	TPIRR Road Property Investment
	III-F-2	Rebuttal Report and Appraisal Review of Retrospective Appraisal of Land for Total Petrochemicals & Refining, Inc. Stand-Alone Railroad
III-H	III-H-1	Summary of SAC Results
	III-H-2	TPIRR Maximum Markup Methodology R/VC Ratios
	III-H-3	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 3Q10
	III-H-4	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 4Q10
	III-H-5	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 1Q11
	III-H-6	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 2Q11
	III-H-7	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 3Q11
	III-H-8	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 4Q11
	III-H-9	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 1Q12
	III-H-10	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 2Q12
	III-H-11	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 3Q12
	III-H-12	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 4Q12
	III-H-13	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 1Q13
	III-H-14	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 2Q13

Rebuttal Exhibit List

Testimony Part	Exhibit No.	Title
(1)	(2)	(3)
III-H	III-H-15	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 3Q13
	III-H-16	Comparison of CSX Tariff Rates and Maximum Rates Per Car for TPI Movements – 4Q13

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I. COUNSEL'S ARGUMENT AND SUMMARY OF EVIDENCE

Total Petrochemicals & Refining USA, Inc., ("TPI") hereby submits its Rebuttal Evidence and Argument on stand-alone costs ("SAC"). TPI submitted Opening Evidence and Argument on February 18, 2014. This Rebuttal responds to the Reply Evidence and Argument submitted by CSX Transportation, Inc. ("CSXT") on July 21, 2014.[1] TPI's Rebuttal Evidence follows the format set forth in *General Procedures for Presenting Evidence in Stand-Alone Cost Rate Cases*, STB Ex Parte No. 347 (Sub-No. 3) (served March 12, 2001) (*General Procedures*). The remainder of this Part I presents the legal argument and a summary of TPI's Rebuttal Evidence, with Part I-A presenting a brief overview, Part I-B summarizing the SAC evidence and Part I-C summarizing TPI's request for relief. Part III of this Rebuttal Evidence[2] demonstrates that the challenged rates are unreasonable because they exceed the SAC rate. In Part IV, TPI sets forth the qualifications of its witnesses for its SAC evidence.

A. OVERVIEW AND SUMMARY

Consistent with Board guidelines, TPI submitted its complete case-in-chief in its Opening Evidence. TPI's evidence presented a SARR – the "TPI Railroad" or "TPIRR" – that operates over a system of approximately 6,900 miles in length through the states of Alabama, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia and West Virginia, and through the District of Columbia, moving largely over the same routes, and in the same manner, as CSXT

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1 Throughout TPI's Opening Evidence, all text within single brackets is {CONFIDENTIAL} and all text within double brackets is {{HIGHLY CONFIDENTIAL}} pursuant to the Protective Order adopted in the Board's decision served on June 23, 2010 in this proceeding.

2 Under *General Procedures*, "Part II" of a Complainant's evidence is reserved for evidence on the issue of market dominance. Since the issue of market dominance was bifurcated in this case and was decided in the *Market Dominance Decision*, there is no Part II to this submission. As set forth in *General Procedures,* TPI will continue to use "Part III" to denominate the section designated for the submission of SAC evidence.

does today. In its evidence, TPI explained in detail the procedures that it had used, which were consistent with the rules, principles and precedent that the Board had enunciated in past SAC cases, and "support[ed] the feasibility of all components of its design and cost estimates." *FMC*, 4 S.T.B. at 723. TPI's evidence showed that the challenged CSXT rates are extraordinarily high – higher by far than the rates produced by the Board's SAC procedures.

In its Reply, CSXT describes TPI's operating plan as having problems "so serious and pervasive" that "CSXT would have been well-justified to discard TPI's operating plan and develop its own, alternative plan," but then claims that it nevertheless "has endeavored to correct and supplement deficient TPI evidence rather than starting anew."[3] Neither claim is accurate. Rather, CSXT has unfairly attempted to tar TPI with the same brush that resulted in the Board rejecting the complainants' operating plans in *DuPont* and *SunBelt*. However, CSXT's claim that it has "corrected" TPI's evidence tacitly recognizes that the Board, in *DuPont* and *SunBelt*, also required that "the defendant in a SAC case…make any necessary corrections to the complainant's opening evidence rather than submitting something entirely new on reply, to avoid having operating plans so different as to impede comparison."[4] Thus, CSXT tries to hedge its bets by claiming that TPI's operating plan is irreparably flawed in order to justify the introduction of a new operating plan, but at the same time claiming that it has corrected TPI's evidence rather than starting anew.

In this Rebuttal, TPI demonstrates that it has not committed the errors claimed by CSXT, and that CSXT has in fact submitted a brand new operating plan that it attempts to disguise as a correction of TPI's plan. Furthermore, TPI exposes multiple incidents of CSXT severely

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3 *See* CSXT Reply, p. I-14.

4 *See, DuPont*, slip op. at 41, citing *Gen Procedures for Presenting Evidence in Stand-Alone Cost Rate Cases*, 5 S.T.B. 441, 446 (2001). *See also*, *SunBelt*, slip op. at 13.

criticizing TPI's evidence as infeasible, impractical or unrealistic in an attempt to damage the credibility of TPI's witnesses, but then adopting the exact same approach as TPI without even acknowledging that it is doing so. CSXT goes so far as to suggest that TPI and its witnesses are incompetent and even to strongly intimate that one witness has committed perjury.

The following are among the more egregious examples of CSXT manufacturing flaws in TPI's Opening Evidence:

- CSXT accuses TPI of "missing" 44,694 local trains in its operating plan, but only adds 5,940 trains in its "corrected TPI train list" for a total of 48,148 local trains. If CSXT had corrected TPI's train list, it should have included 86,902 local trains. Moreover, CSXT's MultiRail-based local train list also contains just 60,788 trains.

- Among the allegedly missing trains, CSXT claims that TPI missed 28,860 industrial yard trains because TPI did not search for "Y" trains in CSXT's traffic data, when in fact CSXT has not identified these trains from its historical traffic data of trains that actually did handle TPIRR traffic, but rather, from its train profiles of all trains that possibly could have been used for TPIRR traffic.

- In order to bolster its claim that TPI omitted 28,860 industrial yard trains, CSXT's MultiRail analysis employs yard trains for 69 percent of TPI's issue movements, although just 4 percent of the issue movements occurred on yard trains according to CSXT's historical traffic data.

- Despite modeling 28,860 industrial yard trains in MultiRail, CSXT excluded those trains from its generation of both local and yard train statistics, which is further evidence that those trains are window dressing. In fact, CSXT developed yard train statistics in the same manner as TPI through a completely separate analysis.

- Although CSXT claims that TPI disregarded 92 separate industrial yard train symbols representing 555 <u>weekly</u> train starts, CSXT only included 11 such trains in its peak week RTC simulation. Moreover, this extrapolates to just 572 annual industrial yard trains, which is a far cry from 28,860.

At bottom, CSXT attempts to exploit its position as "the railroad" to lend a false sense of credibility to its criticisms. But TPI has engaged its own former railroad expert witnesses, including one with 18 years' experience with CSXT itself, not only to rebut CSXT's claims, but to expose its many attempts to mislead the Board.

Despite its claims to the contrary, CSXT presents a brand new operating plan based upon the MultiRail software that has absolutely no connection to TPI's operating plan, and thus cannot be portrayed accurately as a "correction" of TPI's plan. CSXT nevertheless tries to disguise its operating plan as a correction by using a modified version of TPI's Opening train list in its Reply RTC simulation. But that smokescreen only serves to sever CSXT's RTC simulation from its actual MultiRail-based operating plan, resulting in CSXT's failure to demonstrate the feasibility of its operating plan and rendering its RTC results meaningless. The end result is a disjointed, inconsistent and incoherent operating plan. For example:

- CSXT models 48,148 historical local trains in its RTC simulation, but its MultiRail analysis models 60,788 entirely different hypothetical trains with different consists.
- CSXT develops an incomplete set of yard dwell times in its narrative and does not even model those dwell times with consistency in its RTC simulation.
- CSXT develops yard receiving and departure tracks through a formulaic process in its narrative, but does not model those tracks counts for 43 of the TPIRR's yards in the RTC model, including all but one hump yard. Moreover, CSXT's RTC model demonstrates that CSXT's formulaic track counts are insufficient at some yards, excessive at others, and overstate the required receiving and departure tracks in the aggregate.
- CSXT inappropriately mixes apples and oranges by applying the operating statistics from its RTC simulation of 48,148 actual historical train movements to develop operating expenses for its 60,788 unrelated hypothetical trains from its MultiRail-based operating plan.

The Board should reject CSXT's operating plan both because it is not a correction of TPI's plan and CSXT has failed to demonstrate its feasibility in the RTC model. Furthermore, TPI Rebuttal Witness John Orrison has identified numerous inefficiencies that CSXT has baked into its MultiRail operating plan based upon his knowledge of MultiRail, CSXT's operations during his 18 year tenure with CSXT, and the operations of two other Class I railroads for which he has worked.

CSXT's attempts to discredit TPI's evidence do not stop with TPI's operating plan. They extend to nearly every facet of the SAC analysis. But just as with its operating plan, CSXT presents inconsistent, misleading, self-serving, and unrealistic criticisms. For example:

- CSXT virulently objects to internal (so-called "leapfrog") cross-over traffic as a violation of SAC principles. But internal cross-over traffic is identical to the overhead cross-over traffic of past cases, with the single exception that the residual incumbent is the bridge carrier rather than the SARR. Moreover, in *Ex Parte 715*, CSXT alleged that overhead cross-over traffic overcompensates the bridge carrier, but now that the residual incumbent is the bridge carrier in the internal cross-over traffic scenario, CSXT claims the bias is reversed. CSXT cannot have it both ways.

- CSXT self-servingly objects to TPI's use of a distributed power locomotive configuration by requiring the TPIRR to reconfigure all cross-over traffic locomotives at the interchange, thereby adding 45 minutes of dwell time. Rather than accept this dwell time, TPI has eliminated the DP configuration on all cross-over trains.

- CSXT claims that its "standard practice" is to extend the fuel surcharge provisions in existing intermodal contract when those contracts are renewed, even though its evidence shows a trend of applying its default intermodal fuel surcharge program.

- CSXT objects to TPI's correction of flawed data to develop revenues and offers its own correction, despite refusing TPI's requests that CSXT do so during the discovery process.

- Having failed to produce leases for road locomotives in discovery, CSXT objects to TPI's reliance upon leases in prior SAC cases.

- In a break with precedent, CSXT has developed peaking factors for individual rail car types at unrealistic levels ranging from 43 to 146 percent.

- CSXT identifies flaws in its own discovery data to criticize TPI's MOW plan, but then uses the very same data that it claims is too flawed for TPI's use to justify its own proposed MOW staffing at a higher level.

- Although CSXT acknowledges that the TPIRR's newly-constructed bridges would have fewer maintenance requirements, it refuses to acknowledge a similar reduction in track maintenance needs. It would be inconsistent with SAC principles to require TPIRR to invest in brand new infrastructure and then deny it the maintenance benefits that go along with that investment.

- CSXT attempts to justify its MOW staffing by comparing track miles per employee based solely on mainline tracks and sidings, without regard for nearly 10,000 miles of yard, set-out, and helper track that also must be maintained. Using just main line track miles, CSXT creates the appearance that its MOW employees maintain 29 percent less track on average.

- Although CSXT purports to accept that TPI can construct a PTC system in 2010, CSXT imposes upgrade costs based upon an arbitrary 25% increase to CSXT's own PTC costs, thereby imposing more costs to install PTC upon the TPIRR than CSXT itself will incur.
- CSXT inconsistently argues that the industry is irrelevant to the size of an equity flotation fee, but then states that industry comparisons are relevant. Indeed, CSXT's own insistence that the size of an IPO is the most relevant factor would lead to a far smaller flotation fee than CSXT has proposed for the TPIRR.
- CSXT improperly attempts to selectively update various forecasts and indices from those it produced in discovery when such updates are favorable to it. Neither TPI nor the Board can know whether CSXT has ignored other information in its possession that would be favorable to TPI.

Despite many disagreements with CSXT, TPI has accepted portions of CSXT's evidence. In some instances, TPI has accepted a CSXT criticism as legitimate and either adopted CSXT's evidence or made corrections where CSXT's evidence was infeasible, impractical, or unrealistic. In other instances, although TPI disagreed with CSXT's criticism, TPI nevertheless accepted CSXT's evidence so as not to risk rejection of its operating plan if the Board should disagree with TPI's position on several issues of first impression. TPI also accepted CSXT's evidence, despite disagreements, if TPI's evidence would have constituted impermissible rebuttal. Consequently, TPI firmly believes that its Rebuttal Evidence is a conservative overstatement of the TPIRR's true costs as a least-cost, optimally-efficient SARR. After modifying its Opening Evidence to reflect many of CSXT's criticisms, TPI's Rebuttal Evidence still demonstrates that the challenged CSXT rates are unreasonably high.

B. THE EVIDENCE SHOWS THAT THE CHALLENGED RATES ARE UNREASONABLY HIGH

1. The Proper Scope of Rebuttal Evidence

In a number of its past decisions, the Board has enunciated principles to guide parties as to the parameters of permissible rebuttal evidence in rate reasonableness cases before the Board.

These decisions include in particular *General Procedures* and *Duke/NS,* but helpful discussions exist in other cases, including *PSCo/Xcel, Duke/CSXT, CP&L, Otter Tail,* and *WFA/Basin.*

Under this precedent, rebuttal must be supported. *See Duke/NS*, 7 S.T.B. at 637. Moreover, a complainant cannot alter opening evidence that the defendant has not challenged, *PSCo/Xcel,* 7 S.T.B. at 643-644, and *Otter Tail,* slip op. at 4, nor can it significantly redesign its SARR or alter the core assumptions upon which its case-in-chief is based. *See Duke/NS*, 7 S.T.B. at 100, 133; *Duke/CSXT,* 7 S.T.B. at 450; *PSCo/Xcel,* 7 S.T.B. at 643-44; *FMC,* 4 S.T.B. at 790.

If a railroad does challenge a portion of the shipper's opening evidence, then the shipper can accept the railroad reply or assert that its own opening evidence is superior. *Duke/NS,* 7 S.T.B. 100-101. However, the Board has also made clear in *Duke/NS* that, in certain circumstances, the shipper can also "refine its evidence to address issues raised by the railroad regarding its opening evidence." *Id.* Specifically, in such cases, the options open to the shipper are:

> (a) if the railroad has identified flaws in the shipper's opening evidence but has *not* provided substitute evidence, the shipper can supply "corrective evidence" with support; or,
>
> (b) if the railroad has identified flaws in the shipper's opening evidence and the railroad *has* provided substitute evidence, the shipper can show that the railroad's substitute evidence is "unsupported, infeasible or unrealistic," and then supply "corrective evidence" with support.

Duke/NS, 7 S.T.B. at 100-101, 141, 175, 190. In the second case, "infeasible" evidence is evidence that would not work; "unsupported" evidence is evidence for which there is no proof that it would work; and "unrealistic" evidence is evidence that is (a) not what the defendant railroad itself does in a comparable situation, (b) what other railroads generally do in that situation, or (c) otherwise constitutes needless "gold-plating." *Duke/NS*, 7 S.T.B. at 101, n.19.

However, the Board has also indicated that, even where it is permissible for the complainant to supply corrective evidence, the shipper cannot use just any new supporting evidence on rebuttal, because the railroad would not have had an opportunity to respond. *See, e.g.*, *Duke/NS,* 7 S.T.B. at 138, *Otter Tail,* slip op. at 4, *WFA/Basin,* slip op. at 68-69, *General Procedures,* 5 S.T.B. at 446. The Board has determined that acceptable corrective evidence can include: (a) any evidence submitted in the opening or reply[5]; (b) any documents or information produced in discovery[6]; (c) STB precedent[7]; (d) real-world practices of the defendant railroad[8]; and (e) certain other types of evidence, such as what other real-world railroads do.[9]

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5 *See, e.g.*, *PSCo/Xcel,* 7 S.T.B. at 637, *WFA/Basin*, slip op. at 71.

6 *See, e.g.*, *WFA/Basin,* slip op. at 48, *FMC,* 4 S.T.B. at 814 (STB re-states locomotive and car repair costs based on discovery documents cited by complainant). The Board has held that the complainant is entitled to rely on information received in discovery, and the railroad cannot impeach its own discovery documents. *PSCo/Xcel,* 7 S.T.B. at 683.

7 *See, e.g.*, *CP&L,* 7 S.T.B. at 314, *WFA/Basin,* slip op. at 40 (car maintenance expense)

8 *See, e.g.*, *Otter Tail,* slip op. at C-4 (fuel consumption based on defendant's system average); *Duke/NS,* 7 S.T.B. at 191 (STB uses rebuttal for hook bolts where shipper shows that its rebuttal is based on defendant's standards) (*see also CP&L,* 7 S.T.B. at 328, same issue); *Duke/NS,* 7 S.T.B. at 194 (STB uses correction to reply evidence advanced by the complainant on rebuttal for communication system towers where shipper shows that its rebuttal exceeds the real-world practices of the defendant); *WFA/Basin,* slip op. at 48 (STB uses rebuttal evidence when complainant shows that defendant's contract for taxi expenses is the best evidence of record); *WFA/Basin,* slip op. at 93 (STB uses compaction ratio for subballast quantities advanced on rebuttal where complainant shows that it was based on defendant's source material)

9 *See, e.g.*, *CP&L,* 7 S.T.B. at 293 (STB adopts shipper's rebuttal evidence on dispatchers based on comparison with KCS); *Duke/NS,* 7 S.T.B. at 177 (STB uses rebuttal for yard drainage where shipper showed that elaborate drainage advanced by defendant on reply is not generally used by railroads) (*see also CP&L,* 7 S.T.B. at 314 for same issue). Occasionally, the Board has permitted certain other rebuttal, *see, e.g.*, *Duke/NS,* 7 S.T.B. at 173 (evidence based on physical inspection of line).

If a shipper shows that the railroad's reply evidence is unsupported, infeasible or unrealistic on a particular SAC issue, then the Board may accept increases in the shipper's SARR cost on that issue when added by the shipper on rebuttal, regardless of support. *See, e.g.*, *WFA/Basin*, slip op. at 100 (shipper's rebuttal showed that railroad's inclusion of .68 miles of SARR yard track was unnecessary; Board accepted shipper's addition of .05 miles of lay-up track without additional support).

Recently, the Board clarified that "some latitude in answering one another's arguments is required" when parties develop operating plans in different manners. *SunBelt*, slip op. at 8. In particular, in correcting its opening evidence in response to legitimate criticisms, a complainant is not restricted to merely adopting the defendant's operating plan, but instead may adopt the defendant's methodology as modified to fit the complainant's operating plan. As was the case in *SunBelt*, CSXT has developed its operating plan in this proceeding in a very different manner from TPI, which requires a similar degree of latitude in evaluating TPI's rebuttal evidence.

In *Duke/NS,* the Board also warned potential defendants that they "may not take unfair advantage of weaknesses in the shipper's opening evidence by submitting reply evidence that is itself unsupported, infeasible, or unrealistic, or that presents criticism without appropriate evidence that can be used in the Board's SAC analysis." The Board concluded that, if the defendant railroad does present unsupported, infeasible or unrealistic evidence, or presents criticism without evidence that can be used by the Board, "the shipper may use rebuttal to correct deficiencies that have been identified." *Duke/NS,* 7 S.T.B. 100-101.

Finally, the Board has made clear that, when precedent exists on a particular SAC issue, the party seeking a deviation from precedent has the burden of proof. *See, e.g., PSCo/Xcel,* 7 S.T.B. at 644; *WFA/Basin,* slip op. at 53-54, 68-69; *Otter Tail,* slip op. at C-16. There are multiple issues in this case where each party proposed to deviate from precedent.

In presenting its rebuttal SAC evidence, TPI has been mindful to adhere to the Board's guidelines on the proper role of rebuttal evidence. As will be discussed *infra*, there are crucial instances where CSXT has failed to provide the Board with information or programs to support its case, to which TPI responds by showing that its own evidence is feasible and supported, or by supplying corrective evidence in accord with the principles in *Duke/NS*. In other instances, TPI shows that CSXT's evidence is infeasible, unsupported, or unrealistic, and then either shows that its opening evidence in fact meets the Board's standards or supplies corrective evidence using the types of evidence approved by the Board on rebuttal.

2. Traffic and Revenues (Part III-A)

The TPIRR traffic group includes a broad range of commodities moving in intermodal, unit train, manifest (mixed general freight), and local trains. In its Opening Evidence, TPI explained the procedures that it followed to identify and model this traffic under the principles enunciated in *Coal Rate Guidelines* and subsequent cases, in light of the nature and complexity of this case and the limitations of CSXT data produced in discovery. On Reply, CSXT challenges TPI's calculation of both historical and projected traffic volumes, TPI's projected revenues, and TPI's use of internal cross-over traffic. In this Rebuttal Evidence, TPI summarizes the dollar value of the differences, addresses differences in the approach that each party has used, and explains why TPI's Rebuttal Evidence presents the best evidence of record.

a. Historical traffic volume.

TPI selected historical volumes from actual CSXT traffic data for the period from July 1, 2010 through June 30, 2013. Although CSXT generally accepts TPI's historical volumes, CSXT claims that TPI overstated those volumes based upon three criticisms: (1) TPI over-included traffic in the TPIRR traffic group for the 2010, 2011 and 1Q-2Q2013 time periods;[10] (2) TPI incorrectly included traffic in the TPIRR traffic group that does not traverse the TPIRR lines;[11] and (3) TPI improperly included certain high-priority intermodal traffic.[12] In Rebuttal, TPI has accepted the first two criticisms, but rejects the third criticism, that TPI improperly included certain high-priority intermodal traffic.

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[10] *See,* CSXT Reply, pp. III-A-2-6.
[11] *Id.* pp. III-A-7-8.
[12] *Id.* pp. III-A-8-10.

CSXT's exclusion of certain high-priority intermodal traffic is linked to its criticism of internal cross-over (so-called "leapfrog") traffic.[13] Despite its extensive criticism of internal cross-over traffic, CSXT nevertheless retains most such traffic in its SAC analysis. The sole exception is a subset of intermodal traffic for which CSXT claims the TPIRR cannot provide equivalent service because the additional interchanges lead to increased transit times and increased transit times would cause the TPIRR to lose the business. Moreover, CSXT inflates the interchange times between the TPIRR and residual CSXT by insisting that the residual CSXT will not agree to a distributed power configuration for these trains thereby requiring additional time at interchanges to reconfigure the locomotives.[14] Based on this logic, CSXT excluded intermodal traffic for two specific customers from the TPIRR traffic group.[15]

In Rebuttal, TPI retains this intermodal traffic because CSXT's objections are baseless, contrived, and self-inflicted. *See* TPI Reb. Part III.A.1.a. CSXT does not present any empirical data to support its claim that TPIRR's service would be worse. {{[redacted]}} Because these trains already must stop for fuel, inspections, and other operating considerations, these functions could be performed at the interchanges to minimize, if not eliminate, additional time. CSXT's refusal to accept DP configuration is a self-imposed restriction designed to impose additional time, but TPI has rendered this issue moot by agreeing to use CSXT's

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[13] TPI provides a detailed response to CSXT's criticisms of internal cross-over traffic in Part III.C.3.

[14] *Id.* pp. III-A-9-10.

[15] CSXT claims that it excluded intermodal traffic to "two customers, UPS on the route to/from New York and Threads Express to/from Charlotte". (*See,* CSXT Reply, p. III-A-9). CSXT's work papers, however, show that CSXT also excluded cross-over intermodal traffic for United Parcel Service ("UPS"), Seaboard Marine LTD, and Crowley Liner Services from the TPIRR traffic group. The intermodal traffic excluded by CSXT is minimal and amounts to approximately 34,000 units out of a total of 2,460,000 total intermodal units in 2012 (or 1% of intermodal traffic).

preferred head-end configuration for these trains. Finally, the TPIRR actually moves these trains over the TPIRR segments 17% faster on average (including additional interchange time) than historical CSXT train movements.

b. Projected traffic volume

TPI's Opening Evidence forecasted traffic volume growth over two distinct periods. Specifically, TPI forecasted volumes from 2014-2017 based upon CSXT's internal forecasts for coal, merchandise, and intermodal volumes. For 2018-2020, which are years not covered by CSXT's internal forecasts, TPI used a compound annual growth rate ("CAGR") based on the CSXT internal forecasts.

For the 2014-2017 period, CSXT generally accepted TPI's methodology to develop growth rates based on the CSXT internal forecast for merchandise and intermodal traffic but rejected the methodology for coal traffic. Specifically, CSXT complained that TPI's coal volume forecast index included traffic not in the TPIRR traffic group and proposed to correct this issue by aggregating its internal forecast at the Origin Region-Destination level. In Rebuttal, TPI accepts CSXT's criticism but rejects its proposed solution. *See* Part III.A.1.b.i. Instead, TPI retains its Opening methodology but excludes traffic not in the TPIRR traffic group. TPI's Rebuttal approach is superior because it is consistent with recent Board decisions in *DuPont* and *SunBelt*; it maintains consistency with the methodology also used by TPI, and accepted by CSXT, for merchandise and intermodal traffic; and it directly addresses CSXT's criticism in a straightforward manner, whereas CSXT's methodology requires several adjustments to the internal forecasts CSXT provided in discovery.

TPI also objects to CSXT's methodology because CSXT selectively updated its internal coal forecasts produced in discovery, without also updating its forecasts for other commodities. Selective updating by the defendant, after the close of discovery, is prone to "gaming" because only the defendant knows which forecast updates are favorable or unfavorable and can restrict its evidence to just those forecasts that favor its position.

For the 2018-2020 period, CSXT rejected TPI's use of a CAGR due to the impact of one-time events and small initial volumes, and proposed an alternative method based upon EIA AEO forecasts. In Rebuttal, TPI continues to use a CAGR because it is consistent with the methodology approved by the Board in *DuPont* and *SunBelt*; the two problems cited by CSXT actually have a very negligible impact on 2018-2020 volumes; the problems cited by CSXT can work in both directions with minimal net impact on total volumes; CSXT's proposed EIA AEO methodology is unprecedented and prone to distortions; and a CAGR based on CSXT's own forecast is a superior metric. *See* Part III.A.1.b.ii.

c. TPIRR revenues

In Reply, CSXT generally accepted TPI's calculation of historical and projected TPIRR revenues. However, CSXT made several adjustments to TPI's calculations in the following general areas: (1) rate escalation adjustment and fuel surcharge adjustments; (2) adjustments for movements with no shipment keys; and (3) adjustments to TPIRR cross-over traffic.

First, CSXT has made multiple adjustments to TPI's projected revenues that TPI has accepted on Rebuttal. TPI, however, rejects CSXT's changes to fuel surcharges on shipments interchanged with BNSF at Birmingham, AL and fuel surcharges for expiring contracts. *See* Part III.A.2.b. TPI stands by its Opening position that the Birmingham traffic will pay fuel surcharges in the forecast period based upon CSXT's intermodal surcharge program. TPI also continues to apply CSXT's intermodal surcharge program to traffic upon the expiration of existing contracts, as opposed to CSXT's assumption that the contracts would be renewed with the same surcharge terms, because CSXT has not proven its claim that it has a "standard practice" of extending the same fuel surcharge terms to contract renewals when in fact the evidence is to the contrary.

Second, CSXT objects to the methodology that TPI used to evaluate a unique group of CSXT revenue waybill records that did not contain data in a vital database field called "shipment key."[16] Without this shipment key, TPI was unable to properly link the CSXT car or container revenue data with the CSXT car event data, which means that TPI was unable to determine if the revenue was associated with rail cars that traverse the TPIRR. In Reply, CSXT *admits* that the data in question contains missing components on the records, but criticizes the approach used by TPI in Opening to include these revenue records in the TPIRR historical revenues as "overly inclusive."[17] CSXT offers an alternative method to match the revenue and car event data based upon its separate analysis of the data. CSXT's alternative is too little, too late. At several points during the discovery process, TPI asked CSXT to clarify or correct this data issue and CSXT declined to do so. The Board should require CSXT to live with the consequences of its decision almost four years ago to produce bad data in discovery and then to resist providing corrected data in response to questions about the bad data by TPI (i.e., sandbagging). *See* Part III.A.2.a.i.

Third, although CSXT accepts TPI's use of the Alternative ATC methodology adopted in *Ex Parte 715* for cross-over traffic revenue allocations, it makes several adjustments and modifications. Specifically, CSXT: (1) recalculated on-SARR mileages to re-classify certain segments as on- or off-SARR and account for segments that are split between TPIRR and the

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[16] A shipment key is a 14-character code provided by CSXT that uniquely identifies each car movement in the car event data. This key is essential for linking CSXT car waybill and CSXT container waybill data with the CSXT car event data. Without this key, TPI is unable to directly link the CSXT revenue and the CSXT car event data which means that TPI is unable to determine if the revenue is associated with cars that traverse the TPIRR.

[17] *See* CSXT Reply,. p. III-A-28.

residual CSXT;[18] (2) adjusted proxy ATC percentages for certain coal shipments;[19] (3) used the STB's official version of CSXT's 2012 URCS;[20] and (4) modified TPI's treatment of traffic moving in certain local trains.[21] On Rebuttal, TPI has accepted some, but not all, of these adjustments. *See* Part III.A.2.a.iv. TPI accepts CSXT's recalculation of on-SARR mileages only in part. TPI agrees that some, but not all, of the network links that CSXT has identified as off-SARR truly are off-SARR. TPI also accepts CSXT's refinement of TPI's approach to distinguish between internal rerouted traffic and internal cross-over movements. TPI has adopted CSXT's methodology to identify the miles on network links that are split between the TPIRR and residual CSXT.[22] TPI accepts CSXT's adjusted proxy ATC percentages for coal shipments. TPI also accepts CSXT's use of the STB's version of CSXT's 2012 URCS and has incorporated its use in Rebuttal. Finally, because TPI is adding the On/Off-SARR local trains to its operating plan that CSXT alleges were missing on Opening, TPI accepts CSXT's inclusion of terminal switching performed by those trains in the ATC calculations.

CSXT also proposes two alternative modifications to the ATC revenue allocation methodology when applied to internal (so-called "leapfrog) cross-over traffic.[23] TPI rejects those modifications on both procedural and substantive grounds. *See* Part III.A.2.a.iii. Procedurally, because the Board adopted the ATC methodology for all cross-over traffic in the *Ex Parte 715* formal rulemaking proceeding, it may only make modifications through another

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[18] *See,* CSXT Reply, pp. III-A-40-43.
[19] *Id.* pp. III-A-45-46.
[20] *Id.* p. III-A-44.
[21] *Id.* pp. III-A-43-44.
[22] A split link can occur when the TPIRR creates a cross-over movement at a location not at the end-point of a network link.
[23] *See*, CSXT Reply, p. III-A-39.

such rulemaking.[24] Substantively, CSXT's first proposal violates SAC and economic principles. Rather than attempting to allocate revenues between the SARR and residual incumbent, this proposal is a back-door attempt to expand the SAC analysis to off-SARR segments. In addition, its determination of revenue divisions based upon the SARR's costs is inconsistent with the purpose of ATC to determine how much the incumbent carrier would allocate to different segments of the incumbent's network based on the incumbent's costs.[25] CSXT's second proposal essentially is the Efficient Component Pricing ("ECP") method that the Board rejected in *Nevada Power* and *Major Issues*.[26] As the Board noted in *Major Issues*, the use of ECP, or schemes like it, such as CSXT's proposed methodology, inject bias in favor of the railroads and render cross-over traffic ineffectual in simplifying the SAC analysis.[27]

d. Rerouted traffic

CSXT accuses TPI of failing to disclose "a massive amount of re-routed traffic."[28] This is melodramatic nonsense. Where CSXT operates two parallel routes in major urban areas, TPI merely consolidated the traffic over a single route. These are not lengthy reroutes and they are completely internal to the TPIRR. CSXT's suggestion that reroutes of such short distances would have any major impact upon the TPIRR's customer service is unfounded. Furthermore, although CSXT claims that the Board should disallow this rerouted traffic, CSXT includes this traffic in its SAC analysis.

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[24] Indeed, the *Ex Parte 715* proceeding was initiated to modify the original ATC methodology adopted in the *Major Issues* formal rulemaking.

[25] *See, WFA/Basin I* at 12, *AEP/Texas II* at 13 and *WFA/Basin II* at 13.

[26] *See*, *Nevada Power II* at 265, and *Major Issues* at 29.

[27] *See, Major Issues* at 36.

[28] *See*, CSXT Reply, p. I-15.

3. The Stand-Alone Railroad (Part III-B)

The TPIRR is an extensive system that replicates nearly 7,000 route miles of the real-world CSXT system. In Opening, TPI replicated 6,866 route miles. CSXT added line segments in Reply, which TPI has accepted, thus bringing the total size of the TPIRR to 6,912 miles. CSXT also converted 45.63 miles of trackage rights line segments to constructed lines, because it has a partial ownership interest. TPI accepts these conversions, but does not include these lines in the TPIRR's maintenance expenses because there are joint facility agreements that cover those costs. TPI also corrects CSXT's treatment of costs for the Monongahela Railway in the DCF Model. *See* Part III.B.1.a.

In Reply, CSXT accepted TPI's twelve (12) major yards, sixty-eight (68) "other" yards, nineteen (19) intermodal terminals, twenty (20) automotive facilities, twenty-three (23) bulk transfer facilities, and eighty-seven (87) additional interchange locations. CSXT, however, added five (5) "other yards," three (3) intermodal terminals, two (2) partially-owned yards, one (1) coal terminal, and seventeen (17) additional interchange locations. TPI accepts many of these additions, such as RIP tracks, hump lead tracks, and classification tracks. However, TPI rejects many of CSXT's proposed changes because they are unsupported or are the product of CSXT's flawed operating plan. For example, TPI rejects CSXT's addition of: (a) yard lead tracks at ten facilities, (b) track for twelve proposed locomotive service and inspection stations, (c) thirty interchange tracks at ten yards, (d) run-around tracks at 12 major and 68 other yards, and (e) 8 out of 17 interchange yards. Many of the changes that CSXT has made to the TPIRR are the result of arguments advanced by CSXT in other sections of its Reply Evidence, to which TPI responds in Parts III-D and III-F of this Rebuttal. *See* Part III.B.2.

4. Operating Plan (Part III-C)

CSXT is highly critical of TPI's operating plan for the TPIRR, claiming that TPI has failed to satisfy the fundamental requirements for a feasible carload operating plan. Much of CSXT's criticism mirrors the criticisms that NS levied against the complainants' operating plans in *DuPont* and *SunBelt* in a clear attempt to tar TPI with the same brush. Specifically, CSXT claims that TPI omitted a massive number of local trains and that it failed to present a classification and blocking plan. CSXT then adds a third major criticism of TPI's yard service plan. Together, this triumvirate of criticisms forms the foundation of CSXT's attack upon TPI's operating plan. CSXT then attempts to exploit these alleged flaws, just as NS did in *DuPont* and *SunBelt*, to justify its creation of an entirely new operating plan based upon the MultiRail software.

The problem with CSXT's story is that it is not true. First, CSXT fabricated a group of trains that it claims TPI "missed" in developing its opening evidence. TPI could not have missed them because they did not exist, do not appear in CSXT's historical traffic databases, and could not have moved actual historical traffic in the real world. Furthermore, CSXT does not even include them in its Reply train list used to develop operating expenses. In addition, CSXT's RTC simulation is based on an adjusted version of TPI's opening train list, and does not reflect the trains CSXT included in its operating plan.

Second, by modeling the same trains as CSXT operates in the real world, TPI has adopted CSXT's actual blocking plans and TPI has developed the critical car classification counts at intermediate yards that DuPont and SunBelt had omitted from their opening evidence, thus eliminating CSXT's excuse for using MultiRail. Third, with a few Rebuttal adjustments, TPI's yard service plan matches CSXT's real-world productivity levels. Moreover, CSXT has not modeled its Reply yard receiving and departure track counts or dwell times in its Reply RTC simulation to demonstrate their feasibility. Finally, contrary to its claims, CSXT has used MultiRail to create an entirely new operating plan rather than correct the alleged flaws in TPI's operating plan. Furthermore, CSXT's MultiRail operating plan replicates many of the same elements CSXT critiqued, thereby effectively adopting TPI's Opening Evidence for those same operating plan elements.

Much of CSXT's criticism is hyperbole that CSXT repeats over and over in the clear hope and expectation that the Board will defer to CSXT's operating expertise as "the railroad" in this case. Although TPI's Opening Evidence operating plan was sponsored by Richard MacDonald, who has 42 years of railroading experience with both eastern and western carriers, CSXT suggests that he had only a small role in developing TPI's plan. In order to rebut this suggestion and to demonstrate that TPI's Opening Evidence is sound, TPI engaged John Orrison as a rebuttal witness to review TPI's methodology for developing its operating plan, CSXT's critique of that plan, and CSXT's Reply operating plan based upon MultiRail. Mr. Orrison is uniquely qualified for all three tasks because his 35 years of experience include 17 years with CSXT, where his many responsibilities included supervising and managing the development of CSXT's train profiles, freight car blocks and freight car disposition rules, and implementing new operating plans to integrate Conrail and CSXT lines and operations. In his various roles, he also has extensive experience working with MultiRail. Mr. Orrison has confirmed that TPI's process for developing its operating plan based upon historical train movements and blocking plans is both sound and feasible and is used by real-world railroads. Moreover, he has identified multiple inconsistencies between CSXT's claims in this case and what CSXT does in the real world.

TPI also engaged three rebuttal witnesses from the consulting firm of R.L. Banks & Associates, who have operations experience with the former Conrail and NS, to evaluate CSXT's evidence on yard infrastructure and operations. Their review indicates that CSXT has attempted to gold-plate its yard infrastructure.

Finally, CSXT has levied an unfounded attack upon TPI's use of internal (so-called "leapfrog") cross-over traffic in an effort to outright ban such traffic from the SAC analysis. TPI shows that the only difference between internal cross-over traffic and traditional overhead cross-over traffic is a reversal of the segments operated by the SARR and the residual incumbent, which should be revenue-neutral assuming the Board's ATC methodology works as it is intended to work. In addition, TPI shows that internal cross-over traffic is consistent with SAC principles and does not enable "gaming."

TPI's Rebuttal Evidence demonstrates that CSXT's most strident criticisms of TPI's operating plan are unfounded. Where CSXT has identified legitimate criticisms, and in some instances in which TPI believes CSXT's criticisms are not justified, but for which the case record does not provide sufficient detail to disprove CSXT's claims, TPI has conservatively adjusted its operating plan to address them, even when CSXT itself did not address those criticisms in its Reply operating plan. In several instances, despite strongly disagreeing with CSXT's criticisms, TPI reluctantly accepts CSXT's modifications solely to reduce the number of disputed issues.

a. TPI's operating plan is feasible and realistic.

i. Missing trains

CSXT levies a wildly exaggerated charge that TPI somehow "missed" 44,694 local trains in developing its operating plan. If this were true, CSXT's "corrected TPI opening" local train list for the TPIRR should contain 86,902 trains,[29] but instead it contains just 48,148 local trains. In other words, CSXT added just 5,940 of the allegedly missing local trains to the train list it used as the basis for its Reply RTC modeling analysis. To further confuse matters, the trains

[29] 42,208 local trains in TPI Opening plus 44,694 allegedly missing trains.

included in CSXT's RTC simulation are not the trains that CSXT used to develop operating statistics and expenses. That list contains 60,788 local trains, which were developed as part of CSXT's MultiRail analysis, and still contains 30% fewer trains than CSXT's claimed 86,902 figure. Nor is there any link whatsoever between CSXT's two different train lists (i.e., the train list modeled in RTC and the train list used to develop operating expenses.) CSXT doesn't even acknowledge these facts anywhere in its narrative, much less attempt to explain these disconnects, content to allow the reader who does not carefully examine CSXT's multiple different spreadsheets to believe that CSXT has presented a singular coherent train list to establish the feasibility of its operating plan and to develop operating costs. The fact of the matter is that TPI did not "miss" any of these trains; nearly two-thirds of the trains do not exist in the real world and do not appear in CSXT's historical traffic data, and TPI intentionally omitted the remainder in Opening for various legitimate reasons. On Rebuttal, TPI conservatively added 11,373 of these local trains to its operating plan, even though CSXT has not proven they are required to serve the TPIRR traffic group.

CSXT breaks the allegedly missing local trains into three groups. First, CSXT has identified 5,940 "On/Off-SARR" local trains, which are in fact the only local trains that CSXT adds to its "corrected TPI opening" train list. On/Off-SARR Local Trains are real-world CSXT local trains that serve non-issue TPIRR traffic, but that originate or terminate some of that traffic at off-SARR customer locations and some at on-SARR locations. In other words, this is cross-over traffic at the local train level. The difference between TPI's and CSXT's handling of this cross-over traffic is that TPI interchanged the traffic with the residual CSXT at the classification yard, thereby allowing the residual CSXT to provide efficient single-line local service by operating the local train over its entire route (and collect revenue divisions reflecting terminal switching for all cars that moved on those trains), whereas CSXT interchanged the traffic at the physical end-point of the TPIRR, thereby requiring the unrealistic and inefficient interchange of a local train mid-route (usually twice because most local trains operate in turn-around service). CSXT's treatment also reduced the amount of revenue the residual CSXT would be allocated for running the same local trains, because it allocated revenues reflecting terminal switching operations to the TPIRR for much of the traffic moving on those trains. Although TPI intentionally excluded these trains on Opening for service efficiency reasons (and accepted the associated reduction in TPIRR revenue allocation under ATC), TPI accepts their addition on Rebuttal because CSXT has accepted those inefficiencies without objection and because TPI's rationale for excluding these trains is untested, which would require TPI to risk rejection of its entire operating plan based upon this single issue of first impression. TPI nevertheless believes that its exclusion of these trains is justified and asks the Board to address this issue so that future complainants are not forced to jeopardize their entire operating plan to obtain a determination of this single issue. *See* Part III.C.2.a.

Second, CSXT claims that TPI omitted 28,860 industrial yard trains from its local train list. TPI rejects this argument completely because both TPI and CSXT have accounted for yard trains based upon a different methodology in a different portion of their evidence. Consequently, including yard trains in their local train lists would constitute a double-count. Industrial yard trains are not local trains, as evidenced by the fact that CSXT itself does not include any of these allegedly missing trains in either its "corrected TPI opening" or its Reply local train lists. Despite the fact that CSXT itself does not include these yard trains on either local trains list, it goes to great lengths to suggest that TPI missed these trains through sheer incompetence. However, TPI could not possibly have "missed" these trains, because they do not exist in the traffic data provided by CSXT in discovery. On the contrary, they were created by CSXT for Rebuttal! TPI exposes the very deliberate misrepresentations made by CSXT to create that impression in order to show the lengths to which CSXT has gone in this proceeding to create the perception that TPI has no clue what it is doing, but then adopting TPI's methodology and ignoring its own criticisms without acknowledging those facts to the Board. *See* Part III.C.2.b.

Third, CSXT identifies 9,894 additional "missing" trains in a single catch-all category that really is comprised of four groups. TPI excluded the first group because CSXT's own traffic data does not indicate that those trains handle any cars carrying TPIRR traffic, which is a fact that CSXT admits. TPI omitted the second group because those trains only moved empty cars (usually just a couple) that TPIRR could plan to move on other local trains carrying revenue traffic. TPI omitted the third group because those were additional On/Off-SARR local trains. TPI omitted the last group because these trains performed functions that are unnecessary or that would be handled by yard trains. On Rebuttal, TPI conservatively has added 5,433 of these trains based upon CSXT's Reply explanations, even though CSXT offered no definitive proof that its claims were factual. Specifically, TPI added all of the trains repositioning empty cars, all of the On/Off-SARR trains, and a subset of the remainder that CSXT describes as local switchers that provide switching at customer facilities even though CSXT's traffic data does not indicate that they provide such service to the TPIRR's traffic, and CSXT's MultiRail analysis does not assign any cars to be moved by trains having these train symbols. *See* Part III.C.2.c.

In total, TPI has added 11,373 local trains to its Rebuttal train list. Furthermore, unlike CSXT, TPI has modeled the operations of all these trains in its Rebuttal RTC simulation, whereas CSXT has modeled only a subset of these trains.

ii. Internal cross-over traffic

CSXT objects to TPI's use of internal (so-called "leapfrog") cross-over traffic, which it has mischaracterized as "a radical expansion" of cross-over traffic.[30] But this is just another attack by CSXT on the concept of cross-over traffic itself, which CSXT attempts to disguise as something new. The Board should reject CSXT's attempt to carve out an internal cross-over exception to cross-over traffic because internal cross-over movements are the mirror image of long-accepted overhead crossover traffic, they are consistent with SAC principles and Board precedent, they are a part of real-world railroading, and they are absolutely essential to a manageable and cost-effective SAC analysis for carload traffic. *See* Part III.C.3.

CSXT takes several inconsistent positions on this issue. *See* Part III.C.3.a. The only difference between internal and so-called "traditional" overhead cross-over traffic is that the residual incumbent is the bridge carrier in the former whereas the SARR is the bridge carrier in the latter. Curiously, CSXT contended in *Ex Parte 715* that the bridge carrier is over-compensated when the SARR provides the bridge service in a traditional overhead cross-over movement, but abandons that position when the residual incumbent provides that service as an internal cross-over movement in this case. CSXT also doesn't object to internal cross-over movements in the context of On/Off-SARR local trains. In fact, CSXT has forced the residual incumbent into handling local trains as internal cross-over movements.

CSXT wrongly claims that internal cross-over movements violate SAC principles. In fact, internal cross-over traffic serves the same objectives as cross-over traffic in general by keeping the SAC analysis focused on the portion of the CSXT system that is needed to transport the issue traffic, while permitting the TPIRR to achieve the same economies of scale, scope and density as the real-world CSXT without expanding the SARR to an ever larger and more

[30] *See*, CSXT Reply, p. 30.

complex system.[31] *First*, CSXT wrongly contends that internal cross-over traffic violates SAC principles by allowing the SARR to achieve *greater* economies of scale, scope and density than the incumbent enjoys.[32] But that is precisely what SAC both permits and encourages through tools such as rerouting traffic to increase density. *See* Part III.B.3.b.i. *Second*, CSXT inaccurately claims that internal cross-over traffic is different from traditional cross-over traffic because it does not reduce the geographic scope of the SARR, even though CSXT concedes that the internal cross-over segments on the TPIRR add up to 4,500 miles. *See* Part III.B.3.b.ii. *Third*, CSXT inexplicably alleges that internal cross-over traffic complicates the SAC analysis by creating interchanges between the TPIRR and CSXT at points that do not exist in the real world. But that is also true of all traditional cross-over traffic, which adds interchanges at the exact same locations. In any event, the addition of 4,500 route miles of additional track would complicate the SAC analysis far more than a few interchanges. *See* Part III.B.3.b.iii. *Fourth*, CSXT's claim that internal cross-over traffic violates the Board's rules for re-routing is baseless, because internal cross-over traffic does not require any rerouting, so those rules are aimed at cost shifting that does not occur with internal cross-over movements. *See* Part III.B.3.b.iv. *Finally*, CSXT's claim that TPI is using internal cross-over traffic to "game" the SAC analysis are not supported by the facts. *See* Part III.B.3.b.v.

CSXT makes the unsupported and inaccurate claim that internal cross-over movements are inconsistent with real-world railroading.[33] CSXT's claim that railroads always strive to reduce interchanges is inconsistent with the modern history of short line and regional railroad

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[31] *See,* TPI Opening at III-A-17 to 21. *E,g., Nevada Power II* at 265-66; *PSCo/Xcel I* at 601-03; *WFA/Basin I*, slip op. at 11.
[32] *See,* CSXT Reply, Pp. III-C-48-49.
[33] *See* CSXT Reply, p. III-C-41.

spin-offs by Class I railroads which add interchanges. TPI also has presented real-world examples of internal cross-over movements on both BNSF and NS. See Part III.B.3.c.

Finally, TPI has demonstrated that any restrictions upon the use of cross-over traffic in SAC cases would deprive carload shippers of a practical means by which to present rate complaints because the SAC process will have become so impracticable, complex, and expensive that the pursuit of regulatory rate remedies would be futile.[34] Large scale SARRs designed to serve several dozen origin-destination pairs, which already are extremely complex and costly to present, inevitably will create internal cross-over segments because many of the incumbent's lines will not be needed to serve the issue traffic. A ban on internal cross-over traffic will force complainants to choose between increasing the cost and complexity of SAC cases by drastically expanding their SARRs to include the internal cross-over segments or accepting much lower traffic densities that would preclude a SARR from achieving the same economies of scale, scope, and density as the defendant, with the consequence of reducing the level of rate relief or even eliminating relief altogether. *See* Part III.B.3.d.

iii. Car classification and blocking

CSXT criticizes TPI for not developing a car classification and blocking plan for the TPIRR and then proceeds to use this alleged deficiency to justify the creation of its own entirely new plan using the MultiRail software.[35] Because TPI's operating plan runs the same trains with the same blocks through the same yards as the real-world CSXT operated in the Base Year, TPI has adopted CSXT's actual blocking and train service plans during that time period.[36] If CSXT's Base Year blocking and train service plan provided complete service for all of CSXT's historical traffic that moved over the lines replicated by the TPIRR, then that plan also must provide

[34] *See* TPI Opening at III-A-24 to 25.
[35] *See,* CSXT Reply, p. III-C-55 to 74.
[36] *See* TPI Op. at III-C-12.

complete service for the TPIRR's Base Year traffic because it is a subset of the same traffic. *See* Part III.C.4.

However, CSXT claims that "adjustments to CSXT's actual Base Year train service and car blocking plan…*would be required* to handle the TPIRR's Peak Year traffic volumes."[37] That is not true. Although the TPIRR's Peak Year volumes are higher than its Base Year volumes, the customer origins and destinations themselves do not change in a SAC analysis. Volume growth (or decrease) projections are applied to the Base Year traffic to determine the Peak Year traffic for the same customer base. As a result, the TPIRR's Peak Year traffic can move in the same blocks and on the same trains as the Base Year traffic and receive the same complete service because the basic flow and pattern of traffic remains the same. TPI witness Orrison confirms that volumes, which are constantly fluctuating, typically do not trigger changes to real world blocking plans, and in fact, he still recognizes CSXT's current blocking plans from his tenure at CSXT dating back 10-20 years ago. Finally, although a real-world railroad occasionally might need to adjust its blocking plans to handle increased volume with its sunk yard infrastructure, the TPIRR's infrastructure is designed for its Peak Year volume, which means that TPI can redesign CSXT's infrastructure to efficiently handle Peak Year volume with CSXT's Base Year blocking plan. Both TPI and CSXT in fact have done this by redesigning and resizing the TPIRR's yard classification tracks.

TPI also refutes CSXT's arguments that internal rerouting and internal cross-over traffic preclude TPI from using CSXT's blocking plans. Because TPI's reroutes are on-SARR, short distance reroutes based on consolidating traffic from multiple CSXT lines in various urban areas onto a single line, and every train originates and terminates in the same yards where CSXT

[37] *See,* CSXT Reply, p. III-C-57 [emphasis added].

blocks and classifies that traffic in the real world, those reroutes do not require a new blocking plan. Internal cross-over traffic also does not require a new blocking plan because the historical routes are preserved. Interchanging entire trains does not require any classification at all, and interchanging cross-over traffic between trains occurs at the same yards and in the same blocks where that traffic is switched from train to train in the real world, with the only difference being that one train is operated by the TPIRR and the other by the residual CSXT instead of CSXT operating both trains.

The *SunBelt* decision clearly holds that a complainant can adopt the incumbent's classification and blocking plan, as TPI has done, so long as the infrastructure and staffing remains adequate to serve the traffic group.[38] On Rebuttal, TPI has accepted CSXT's Reply classification tracks in order to eliminate this point of contention. In the following sections, TPI also shows that its yard staffing and locomotives maintain the same level of productivity as the real-world CSXT. Thus, TPI has provided an acceptable blocking and classification plan.

iv. Yard facilities

CSXT claims that TPI's proposed yard facilities are inadequate to enable the TPIRR to perform essential yard functions.[39] Specifically, CSXT asserts that TPI has provided inadequate classification tracks and receiving and departure tracks, has omitted some essential yards, and has provided insufficient RIP and support tracks. On Rebuttal, TPI accepts CSXT's addition of five yards, customer lead track, and RIP tracks. *See* Parts III.C.5.c & d. and III.C.6. With respect to classification tracks and receiving and departure tracks, TPI accepts some, but not all, of CSXT's additional infrastructure.

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[38] *See, SunBelt*, slip op. at 16.
[39] *See,* CSXT Reply, pp. III-C-74-76.

As previously noted, TPI accepts CSXT's restatement of yard classification tracks solely to eliminate this point of contention, despite CSXT's gold-plated methodology for determining classification track counts. *See* Part III.C.5.a. Nevertheless, TPI believes that CSXT's classification tracks are overstated because: (a) CSXT unrealistically assumes that a classification track would turn over just once every 24 hours, thereby requiring a separate track for every block; (b) CSXT's claim that "the *number* and *length* of the classification tracks in the yard must be tailored to accommodate the specific blocks contemplated by the railroad's train service plan"[40] is unrealistic because real-world railroads do not—indeed, they cannot—design their classification tracks for block lengths in any single time period, which can and do vary; and (c) CSXT's application of a 15 percent "swing track" capacity factor for hump yards and 1.67 fluidity factor for flat yards is unnecessary because TPI's classification tracks already are designed for Peak Year volume and there are multiple operating measures that a railroad can take increase yard capacity during traffic surges without adding infrastructure.

TPI rejects CSXT's methodology for determining the number of yard receiving and departure tracks because it is based upon an unrealistic academic analysis, with gold-plated assumptions, instead of the RTC Model. *See* Part III.C.5.b.ii. Also, CSXT inexplicably did not model its estimated receiving and departure tracks in its own Reply RTC simulation to determine their feasibility. In fact, CSXT's own Reply RTC simulation exposes the flaws in CSXT's analysis because CSXT's track counts were insufficient at several yards (requiring CSXT to add tracks to its RTC model).[41] But in the aggregate, CSXT's receiving and departure track counts for all yards far exceed what CSXT's RTC model demonstrates is needed to handle the peak year traffic. Therefore, consistent with both precedent and real-world railroad practices, TPI

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[40] *See,* CSXT Reply, p. III.-C-85.
[41] *See,* TPI Rebuttal Exhibit III-C-1.

continues to use its Opening methodology of determining receiving and departure tracks based upon the RTC model, except that TPI's rebuttal track counts are based upon its rebuttal RTC model, which includes additional trains and revised dwell times.

TPI has accepted CSXT's criticism that TPI's Opening RTC dwell times for trains on receiving and departure tracks is understated, which impacts the number of receiving and departure tracks determined by the RTC model. *See* Part III.C.5.b.iii. CSXT's expert, however, only developed dwell time estimates for hump yards and for trains departing flat yards; he did not develop a dwell time for trains arriving at flat yards. Nevertheless, CSXT did include dwell times for all trains arriving and departing hump and flat yards in its RTC simulation. Therefore, to address CSXT's criticism of TPI's Opening RTC dwell times, TPI has accepted the dwell times in CSXT's reply RTC model and incorporated them into TPI's Rebuttal RTC model.

v. Yard staffing and locomotives

CSXT claims that TPI's yard classification jobs are inadequate because TPI has included fewer jobs than the real-world CSXT, yet TPI purports to use CSXT's blocking plans. Therefore, CSXT applies its actual yard staffing levels for the yards on the TPIRR.[42] TPI accepts CSXT's criticism but not its solution. Although TPI agrees that CSXT's actual yard staffing is an appropriate baseline, CSXT ignores the fact that the TPIRR will classify fewer cars on a daily basis than the real-world CSXT, and thus it is unrealistic for CSXT to assume that the TPIRR will need the same number of yard crews. To address this unrealistic assumption in CSXT's methodology, in Rebuttal, TPI has scaled CSXT's Reply yard staffing levels to achieve the same productivity level (i.e., cars classified per crew) as the real-world CSXT. *See* Part III.C.5.e.i.

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[42] *See* CSXT Reply, pp. III-C-132-33.

TPI rejects CSXT's claim that TPI's yard classification job assignments are infeasible because TPI has not assigned any yard jobs or yard locomotives to some TPIRR yards. CSXT itself has numerous yard locations where it classifies cars but does not assign any yard crews or locomotives.[43] Moreover, CSXT's Reply adds five (5) yards to the TPIRR network but assigns yard crews and yard locomotives to only three (3) of them.[44] CSXT's operating plan must assume, as TPI has assumed, that cars in these yards are classified by local train crews rather than yard crews, which is a common industry approach. Therefore, if CSXT's Reply has not assigned a yard crew and locomotive to a yard where TPI did not do so on Opening, TPI does not assign a yard crew or locomotive on Rebuttal. *See* Part III.C.5.e.i.

TPI agrees with CSXT that TPI should have included yard support jobs for the TPIRR. However, rather than blindly assigning the same number of support jobs that CSXT has in the real-world, TPI again has scaled the number of support jobs to reflect the number of actual cars classified in the TPIRR's yards in order to maintain the same level of productivity per support job as the real world CSXT. *See* Part III.C.5.e.ii.

TPI accepts CSXT's substitution of SD40 locomotives for SW1500 locomotives at TPIRR's yards. TPI, however, does not accept CSXT's locomotive counts. CSXT adopted TPI's method for calculating the required number of yard locomotive units, including the number of spare units determined by TPI, with one exception. In Opening, TPI calculated the number of locomotives required in each hump yard by calculating the number of units needed for crews assigned, then adding a unit for crews pushing cars over the hump. In contrast, CSXT calculates the number of units needed for the crews assigned then adds two (2) units for crews pushing cars

43 *See,* CSXT Reply workpaper "Yard Matrix Update.xls" and discovery spreadsheet "Yard Matrix.xls."
44 *See,* CSXT Reply workpaper "TPI Yard Operations Reply.xlsx."

over the hump, thereby overstating the units needed in each hump yard by one unit. Therefore, in Rebuttal, TPI continues to calculate yard locomotive requirements as it did in Opening, adjusted to reflect the addition of the flat yard crew assignments discussed above.

vi. Peak Year train development

TPI rejects CSXT's claim that TPI has understated the number of growth trains for the Peak Year. *See* Part III.C.7.d. First, CSXT claims that "TPI's RTC model understated the number of 'growth' trains that would be required to handle TPI's projected increase in the TPIRR's traffic in the Peak Year," based solely upon the self-serving and conclusory statement that TPI's less than one percent growth estimate is "nonsensical."[45] CSXT then makes an unexplained adjustment that produces just a three percent growth estimate. According to its work papers, CSXT inexplicably reduced TPI's analysis period from July-December to just December in a transparent attempt to inflate the Peak Year train requirement. CSXT does not explain why its single month approach is superior to TPI's 6-month approach or why a three percent growth rate makes more sense than one percent. Furthermore, because the volume forecast index used by both parties was developed based on expected aggregate growth from the last six months in 2012 to the last six months in 2019, CSXT created a mismatch by applying this index to only one month of train data in its model. *See* Part III.C.7.d.i.

Second, CSXT inflated its peak period local train count based on an assertion that, because certain local trains sometimes "outlaw" in the real world, they could not possibly move a single additional car in the Peak Year.[46] Because TPI's forecast model is based on adding carload volume to existing blocks, adding carloads to local trains does not change the historical blocks, cuts, stops, or customers served by the TPIRR local trains, and thus would not add to

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[45] *See,* CSXT Reply, p. III-C-174-75.

[46] *See,* CSXT Reply, pp. III-C-175-176.

their time. Furthermore, CSXT's analysis of trains timing out ignores the RTC results, which show that the local trains in question do not time out on the TPIRR. *See* Part III.C.7.d.ii.

vii. Reciprocal obligations

CSXT claims that TPI has not properly accounted for its reciprocal obligations to connecting carriers in three areas. But despite its claims, CSXT does not make many adjustments on Reply. To the extent that CSXT has made certain adjustments, TPI has accepted them in Rebuttal. *See* Part III.C.11.

First, CSXT objects to TPI's distributed power ("DP") formation for locomotives. Despite this objection, the only change that CSXT makes is to impose 45 minutes of additional dwell time at interchanges between the TPIRR and residual CSXT, based upon the self-serving claim that the residual CSXT will insist that the TPIRR reconfigure all trains with head-end power at the interchange. Rather than incur this additional time, the TPIRR runs all cross-over trains with head-end power instead of DP on Rebuttal. *See* Part III.C.11.a.

Second, based upon CSXT's claim that TPI's classification and blocking assumptions are inconsistent with CSXT's real world practices,[47] TPI has removed all of its opening evidence adjustments to the number of cars CSXT actually classified at New Orleans, St. Louis, Buffalo and Chicago. Also, because TPI accepts CSXT's assignment of yard jobs at all flat yards on the TPIRR and TPI has accepted CSXT's classification tracks in these yards, CSXT's arguments regarding the TPIRR's failure to meet its reciprocal classification and blocking obligations are rendered moot. *See* Part III.C.11.b.

Finally, although CSXT objects that TPI's fueling assumptions for the TPIRR are not in accord with common practice, CSXT accepts TPI's fuel consumption rate and initial fuel price.[48]

[47] *See,* CSXT Reply, pp. III-C-162-164.
[48] *See,* CSXT Reply, p. III-D-15-16.

In other words, CSXT disparages TPI's evidence regarding fueling locomotives used in interline service, while accepting TPI's methodology for calculating fuel costs for these locomotives. *See* Part III.C.11.c.

viii. RTC model

CSXT criticizes TPI's Opening RTC simulation based primarily upon the same operating plan objections addressed in the preceding sections. Because TPI has addressed those criticisms either by making adjustments to its Rebuttal RTC model or demonstrating that CSXT's criticisms are unfounded, there is no need to separately address them here.

TPI also accepts most of CSXT's criticisms not yet addressed by TPI's Rebuttal Evidence. This includes adjusting the speed of crude oil unit trains and certain grain trains, mainline dwell times for local trains serving industries, correcting the modeling of certain road trains at various locations, and incorporating CSXT's revised random outages (except for 42 outages that do not occur on the TPIRR). In addition, TPI has corrected literally hundreds of input errors in CSXT's Reply RTC simulation. *See* Part III.C.13.

b. CSXT's operating plan is disjointed, incoherent, and inconsistent

CSXT inaccurately claims that it has adhered to the Board's requirement, recently reaffirmed in the *DuPont* and *SunBelt* decisions, that "the defendant in a SAC case...make any necessary corrections to the complainant's opening evidence rather than submitting something entirely new on reply, to avoid having operating plans so different as to impede comparison."[49] But that is not what CSXT has done. Instead, CSXT has cobbled together a mixture of evidence based upon two unrelated and irreconcilable operating plans—TPI's Opening plan based on analysis of historical traffic data and CSXT's MultiRail-based plan—that it pretends are part of

[49] *See, DuPont*, slip op. at 41, citing *Gen Procedures for Presenting Evidence in Stand-Alone Cost Rate Cases*, 5 S.T.B. 441, 446 (2001). *See also*, *SunBelt*, slip op. at 13.

the same plan. CSXT makes certain adjustments to TPI's Opening operating plan to create the illusion that its own operating plan is a "corrected" version of TPI's plan, but then CSXT proceeds to develop a completely different operating plan—with completely different trains and blocks—using the MultiRail software. CSXT then models the trains in TPI's operating plan in its Reply RTC simulation instead of the trains in its separate MultiRail-based operating plan, but it then applies the results of the RTC modeling exercise to the other train list to develop operating statistics and expenses.

CSXT's operating plan must be rejected on two independent grounds. First, CSXT has not in fact modeled its operating plan in the RTC simulation, thereby failing to prove the feasibility of its plan or to develop meaningful data to determine appropriate operating expenses. Second, CSXT's MultiRail analysis contains multiple flaws that are evident from TPI's limited ability to review that analysis—which TPI cannot modify[50]—because of the limited functionality of the read-only version of the software served upon TPI but not filed with the Board.

i. CSXT has not modeled its operating plan in its RTC simulation

The RTC model is used in SAC cases "to determine the feasibility of the [SARR's] operating plan and develop key operating characteristics of the SARR."[51] The RTC model permits the proponent of each operating plan "to both test the adequacy of the configuration (to make sure the [SARR] will have sufficient capacity to handle the peak forecast demand), and then to derive the segment-by-segment cycle times (which it then use[s] to develop the operating costs of the [SARR] in the base year)."[52] Therefore, a defendant "cannot protest that an input into the RTC model is flawed without showing the consequence of changing that input on the

[50] Because TPI cannot modify CSXT's Reply analysis, TPI is unable to quantify the impact of CSXT's modeling decisions on its Reply SAC analysis.
[51] *AEPCO*, slip op. at 28.
[52] *WFA I*, slip op. at 15.

output of the model."[53] CSXT has not adhered to this maxim because it has not input into its RTC model: (1) the trains that it contends the TPIRR must operate; (2) the flat yard dwell times that it contends are necessary to operate those trains; or (3) the yard receiving and departure tracks that it contends are needed to hold those trains. Consequently, because CSXT did not model its operating plan in its RTC simulation, it has not demonstrated the feasibility of its operating plan or developed appropriate operating statistics upon which to base the TPIRR's operating and road property investment expenses. *See* Part III.C.1.a.

CSXT could have "corrected" TPI's operating plan to address its criticisms by simply adding the specific historical trains it alleges TPI improperly excluded, modifying the dwell times based upon its witness' calculation, modifying the yard receiving and departure tracks based upon its witness' calculations, and modeling all three in its RTC simulation. Instead, CSXT developed and input an entirely different train list into MultiRail, and failed to model those trains in its RTC simulation; CSXT input some, but not all, of its dwell times into the RTC simulation; and CSXT input different numbers of yard receiving and departure tracks into its RTC simulation for 43 of the TPIRR's yards that were either more or less than its witness calculated for those yards with no rhyme or reason given for the discrepancies. Perhaps the greatest indictment of the disconnect between CSXT's operating plan and its RTC simulation is the fact that its RTC simulation requires more yard departure and receiving tracks to handle the peak week traffic at some yards than CSXT has included in its operating plan, thus proving the infeasibility of CSXT's operating plan for those yards. When CSXT's Reply RTC simulation is adjusted so that the yard receiving and departure tracks match those included in CSXT's Reply

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[53] *Otter Tail*, slip op. at 19.

investment, major backups and congestion occur and the model fails at 30 percent completion.[54] Cumulatively, however, CSXT's RTC simulation demonstrates that the TPIRR requires far fewer tracks than CSXT includes in its operating plan, resulting in a gold-plated TPIRR.[55]

The RTC model only proves the ability of the track configuration (model input 1) to accommodate the operating plan (model input 2), both of which are user inputs to the model. CSXT's failure to input the train lists, dwell times, and track configurations from its operating plan into its RTC model means that the RTC simulation has no probative value. Therefore, the Board should reject CSXT's Reply RTC simulation because it fails to represent both the network configuration that CSXT claims would be required to handle its operations, and the operating plan CSXT used to develop TPIRR's operating expenses.

ii. CSXT's MultiRail model is neither optimal nor feasible

Although CSXT touts its operating plan as "least cost, most efficient" and feasible,[56] because CSXT developed it using the MultiRail program, MultiRail is not an optimizer, as is evident from the vast inefficiencies included in CSXT's MultiRail model. Nor does MultiRail determine what is actually feasible. It merely models traffic flows based on user-defined operational constraints, which may or may not match the real world. Moreover, MultiRail does not model or demonstrate the need for switching as CSXT implies. Rather, CSXT's use of MultiRail is an attempt to constrain the Board's and TPI's review of the evidence, which is clear from CSXT's provision of MultiRail in a read-only capacity without the ability to export data for further analysis, a function that CSXT heavily relied upon when preparing its MultiRail evidence. *See* Part III.C.1.b.

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[54] *See,* TPI Rebuttal workpaper "CSXT Reply YD INV.zip".
[55] *See,* TPI Rebuttal Exhibit III-C-1.
[56] *See,* CSXT Reply pp. III-C-57, 73.

MultiRail did not generate CSXT's blocking and train service plans for the TPIRR—CSXT did. CSXT's Witnesses dictated how inefficient the plans would be through their choices and judgments. Their decision to depart from CSXT's historical operations by redesigning how traffic moves through the TPIRR indicates the plans are not optimized for the real world, and it raises—but does not answer—the question of whether the posited operations can effectively serve TPIRR's shippers. *See* Part III.C.1.b.i.

Alarming examples of gold plating that TPI Witness John Orrison discovered in CSXT's MultiRail peak-year model contradict CSXT's claims that its model demonstrates the most efficient service for TPIRR traffic. *See* Part III.C.1.b.ii. For example, CSXT constructed the model using 60,788 local trains, 26 percent more than it included in its "corrected TPI Opening" train list used as the basis for its RTC analysis.[57] This discrepancy arises because CSXT input into MultiRail train profile schedules, which include all potential local train runs, not those that actually are necessary to move the traffic efficiently. In CSXT's MultiRail model, every local train runs every day it is scheduled, even if MultiRail has not assigned it a single carload of traffic. The most basic illustration of the excessive number of local trains in MultiRail is that the local trains in CSXT's "corrected TPI Opening" train list, which is based on CSXT's historical operations, operate with an average 23.2 cars per train, whereas CSXT's MultiRail local trains operate with an average 10.7 cars per train. CSXT provides no explanation why it assigned so few cars to trains in MultiRail when their historical real world counterparts carry more than double the volume.

TPI has identified the following inefficient operations in CSXT's MultiRail model:

[57] Compare CSXT Reply workpaper "TPIRR Open Train Lists Corrected.xlsx" with CSXT Reply workpaper "BaseYearTrainComparison.xlsx."

- Thousands of MultiRail trains operate with only a fraction of a single carload, which indicates that CSXT has input far more local trains into its MultiRail model than are needed to efficiently handle TPIRR's traffic.
- CSXT also modeled trains to which MultiRail has not assigned any traffic at all.
- In an apparent attempt to give credence to its claim that TPI improperly excluded thousands of industrial yard trains from its local train list, CSXT included thousands of yard trains in its MultiRail modeling exercise without assigning any traffic to them.
- CSXT even modeled many MultiRail trains to carry the same traffic on the same day. Although this is impossible in the real world, it is possible in MultiRail, and CSXT took advantage of this modeling flaw to unfairly burden the TPIRR.
- CSXT's duplicative train operations were not limited to local trains. CSXT also modeled many line-haul merchandise trains to carry the same traffic on the same day.
- Multiple local and line-haul merchandise trains that CSXT includes in its peak-year MultiRail model duplicate either all or part of a route and can be consolidated.
- CSXT's MultiRail model inexplicably contains trains that run without any traffic on large portions of their routes.
- Although CSXT claims that it used the MultiRail "Traffic Circuity" report to identify unnecessarily circuitous routings and "ensure that there were no data errors or issues in the operating plan,"[58] the Traffic Circuity report shows that CSXT's MultiRail model still contains extremely circuitous routings ranging from 32% to 992% longer than the shortest route.

CSXT's MultiRail analysis eschews the proven, real world operations upon which TPI's operating plan is based, resulting in blocking and train service plans of unproven and questionable feasibility. Although CSXT claims that its MultiRail model is tied to its real world operations because CSXT began modeling with the same blocks and same train symbols it uses in the real world, CSXT does not assign cars to the same blocks and the blocks to the same trains as it does in the real world—it assigns them based on its MultiRail criteria and adjustments made by the user. This results in a blocking and train service plan that moves TPIRR's traffic differently from CSXT's actual historical service.

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[58] *See,* CSXT Reply, p. III-C-64.

The dubious feasibility of CSXT's blocking and train-service plans is evident in the fact that MultiRail does not move 99 percent of the traffic from their origins to their actual destinations. Instead, CSXT has modeled only the movement to and/or from the origin and the destination service yards. This deficiency is puzzling because, according to TPI Witness Orrison, CSXT's real-world MultiRail analyses would account for this first-mile/last-mile service.

Another example of the questionable feasibility of CSXT's MultiRail-based plan is the assignment of traffic that moves in the real world on local and/or line-haul merchandise trains to industrial yard trains for short line-haul segments (generally under 10 miles). According to the trip plans provided by CSXT in discovery, only four (4) percent of TPI's issue traffic moves on yard trains for short line-haul segments. But CSXT's MultiRail plan calls for 2,259 TPI issue-traffic carloads (69 percent of TPI's issue traffic) to move in line-haul service on industrial yard trains. There is no reason why the TPIRR should handle this traffic any differently than the real world CSXT. CSXT's objective for doing so clearly is to bolster its claims that TPI omitted over 28,000 industrial yard trains from its local train list.

Further, CSXT provides scant evidence that its MultiRail operating parameters accurately reflect its own real world operations. It merely proclaims that "witness Archaya applied the same MultiRail parameters as those used by CSXT in developing its real world operating plans."[59] CSXT does not provide a MultiRail scenario for its own operations to validate this statement. This prevents TPI from comparing the assumptions CSXT used to develop its MultiRail evidence to those it uses in the real world. Furthermore, if TPI had used MultiRail to develop its Opening evidence, these parameters would not have been known to TPI.

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[59] *See,* CSXT Reply, p. III-C-63.

iii. CSXT has unreasonably constrained TPI's ability to analyze its MultiRail evidence

CSXT has unfairly constrained TPI's analysis by providing a version of its MultiRail model with limited functionality. The read-only version of MultiRail does not permit TPI to verify that CSXT constructed its MultiRail model how it said it did. Moreover, CSXT has provided MultiRail in a manner that prohibits TPI from analyzing MultiRail reports using Excel, which CSXT all but claims is necessary for effective analysis. TPI has had to piece its evidence together through screenshots and PDF reports that were not sufficient for CSXT's own use and severely constrained TPI's ability to conduct a more detailed review and assessment of CSXT's MultiRail evidence. Furthermore, TPI does not have any ability at all to "correct" or "restate" CSXT's MultiRail evidence to demonstrate the impact of CSXT's errors and inefficiencies.

According to CSXT, "it is much easier to export the [report] information to Excel ... if you plan to do any analyses on the information."[60] Otherwise it would not be possible, among other things, to fix discrepancies in the reports, sort the voluminous data for effective analysis, or apply formulas that analyze the report data.[61] TPI's limited-access to MultiRail does not permit it to generate reports of all the train inputs and data for the Board; instead, TPI is limited to using screenshots to demonstrate the problems in CSXT's MultiRail model. This is a tedious task, requiring one or more screenshots to be made to demonstrate things as simple as how a train carries traffic or blocking activity along a train's route. This arduous process greatly hinders the MultiRail analysis that TPI must undertake.

The Board should reject CSXT's attempt to limit TPI's ability to view CSXT's MultiRail evidence in the same manner that CSXT is able to view it and to present its MultiRail evidence in a manner that inhibits TPI's ability to respond. This lack of transparency and encumbering of

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[60] *Id.* p. 34.
[61] *Id.* pp. 17, 33, 34.

TPI's ability to present Rebuttal on MultiRail calls into question the validity of CSXT's evidence and is fundamentally at odds with due process.

5. Operating Expenses (Part III-D)

Part III-D describes the TPIRR's operating expenses for equipment, personnel, general and administrative, information technology, and maintenance-of-way, and develops the related service units and costs based on the results of TPI's RTC simulation. In Reply, CSXT begins its discussion of the TPIRR's annual operating expenses by repeating its attacks on TPI's operating plan. In Part III-C of this Rebuttal, TPI has responded to CSXT's unwarranted criticisms of its operating plan and made corrections, where appropriate, to address some of CSXT's criticisms. In addition, TPI has demonstrated that CSXT's operating plan completely divorces the cars on the TPIRR's merchandise trains from the CSXT trains that actually carried the TPIRR's traffic over the replicated lines during the base year, and moves them instead in hypothetical blocks in new, hypothetical trains, which are demonstrated to be less efficient and more costly than CSXT's actual operations. Furthermore, and most significant, CSXT has improperly developed operating costs by applying statistics from its RTC simulation, which models actual historical trains, to a completely different set of hypothetical trains in CSXT's MultiRail simulation. This complete disconnect renders CSXT's operating expenses meaningless.

In Rebuttal, TPI explains that most of the differences between the parties calculation of annual operating expenses, apart from their different operating plans, is accounted for by the costs for maintenance of way, general & administrative, and railcar lease expenses. CSXT's more complex operating plan for the TPIRR involves more locomotives, more crews, and excessive G&A personnel than TPI provided in its operating plan. As discussed in Part III.C.1., CSXT's operating plan must be rejected by the Board because it does not meet customer service requirements and because it does not provide an appropriate basis for determining the TPIRR's annual operating expenses. In the following sections, TPI addresses certain key areas of difference in the parties' operating cost evidence.

a. Locomotives

CSXT overstates the number of locomotives required by the TPIRR, the cost of acquisition of ES44 locomotives and the cost to maintain the TPIRR's locomotives. Each of these items is addressed below.

i. Locomotive counts

CSXT overstates the number of locomotives for multiple reasons apart from its flawed operating plan. First, CSXT triples TPI's Opening dwell time for servicing road locomotives between trips from three to nine hours. However, CSXT's analysis has a fatal flaw as it double counts the time required to reposition TPIRR locomotives. In addition, data provided by CSXT in discovery, shows that a nine hour dwell time significantly exceeds CSXT's real-world experience from 2007 through 2013. *See* Part III.D.1.a.iii.

Second, CSXT overstates yard locomotives in several ways. CSXT fails to adjust the number of yard job assignments and resulting locomotive requirements to reflect the fact that, by CSXT's own calculations, the TPIRR classifies significantly fewer cars than does CSXT. CSXT also double counts the locomotives that push cars over the hump. *See* Part III.D.1.a.vii.

Third, CSXT overstates the spare margin rates for ES44 and SD40 locomotives by treating locomotives as unavailable during the category of locomotive time that CSXT itself describes as "unknown CSX on-line days." *See* Part III.D.1.a.viii.

ii. Locomotive lease costs

In its Opening Evidence, TPI noted that CSXT failed to provide any lease information to TPI in discovery related to its current acquisition of high powered road locomotives. Therefore, in order to develop lease costs for ES44 locomotives, TPI used publicly available information from the STB's decision in *AEPCO* and the public version of the defendant's reply statement in that proceeding, as well as the lease rate for locomotives based on the agency's decision in the *IPA* case and the public version of UP's evidence in that proceeding.

Having failed to support its position on locomotive leases with information from its own files, CSXT nevertheless objects to TPI's evidence, claiming that it should not be bound by the "litigation decisions" made by other parties. The argument is absurd. First of all, unlike CSXT, the defendant railroads in those cases actually provided the complainants with locomotive leases from which the complainant based its lease costs.[62] Moreover, contrary to CSXT's contention, the fact that the locomotive lease costs in those cases were uncontested – and based on actual leases – enhances their legitimacy. Oddly enough, after criticizing TPI's lease cost figure, CSXT then <u>uses</u> this amount, but with an upward adjustment allegedly to reflect the higher prices paid by CSXT in 2011. TPI contends that the actual lease prices paid by UP for ES44 locomotives in 2010 represents the best information in the record for ES44AC lease rates available in the market place in 2010. *See* Part III.D.1.b.i.

iii. Locomotive maintenance costs

Although CSXT accepts TPI's daily rates for locomotive maintenance based upon an agreement provided in discovery, CSXT imposes five add-on charges. TPI accepts three of these additives and rejects the other two. *See* Part III.D.c. First, TPI rejects a per day management fee because the TPIRR has only two locomotive types in its fleet compared with the multiple different types for CSXT and the TPIRR would not require most of the services covered by this fee. Second, TPI rejects the additive for upgrading locomotives from Tier 2 to Tier 3 EPA emissions compliance because CSXT's Reply evidence is based upon upgrading from Tier 0 to

[62] *See AEPCO v. BNSF*, Docket No. 42113, AEPCO Opening Narrative, III-D-4 (January 25, 2010) and *IPA v. UP*, Docket No. 42117, IPA Opening Narrative, III-D-4 (August 10, 2011).

Tier 2 compliance and as such does not feasibly represent the cost to upgrade Tier 2 locomotives to Tier 3 compliance which has the same emission restrictions as Tier 2 compliance. *See* Part III.D.1.c., Rebuttal Table III-D-3.

b. Railcars

CSXT generally accepts TPI's approach to determining freight rail car costs; but makes several adjustments to these costs to correct certain alleged errors.

i. Lease rates

In Opening, TPI assumed all TPIRR-provided cars would be acquired using full service leases and based its lease rates for TPIRR general freight rail cars on the use of five car types: (1) box cars; (2) covered hoppers; (3) gondolas; (4) open-top hoppers; and (5) flat cars. In Reply, CSXT generally accepts TPI's approach to determining rail car costs; but argues that TPI understated the lease rates on box cars, covered hoppers, and coal-service open-top hoppers. In each instance where CSXT rejected TPI's full service lease rate, CSXT uses a rail car lease rate from 2008 rather than 2010, even though 2010 is the start date for the TPIRR and CSXT had lower 2010 lease rates available.

In Rebuttal, TPI continues to rely upon its Opening rail car lease rates, except for box cars. *See* Part III.D.2.a. Specifically, TPI accepts CSXT's criticism that TPI relied upon a rate that applies only to 50-foot boxcars, but CSXT moves 29 percent of its carloads in 60-foot boxcars. TPI rejects CSXT's Reply lease rates, however, because it too does not distinguish between boxcars of different lengths. Instead, TPI uses an average full service lease rate for 50-foot box cars and 60-foot box cars from *Railway Age*, which was included in CSXT's Reply evidence, weighted by the number of shipments by size of car. *See* Part III.D.2.a.i.

ii. Yard dwell time

CSXT incorrectly contends that TPI significantly understated yard dwell time for railcars on the TPIRR system. *See* Part III.D.2.c.

First, CSXT claims that TPI inappropriately relied on the railcar dwell in yards for the most efficient carriers reported by CSXT's consultant, Oliver Wyman, rather than CSXT's actual yard dwell time which is much higher than more efficient carriers. However, because the TPIRR handles significantly fewer cars, it would experience lower dwell times than the real-world CSXT even though it moves the cars in the same blocks.

Second, CSXT incorrectly claims that the more efficient carriers are smaller than the TPIRR. The more efficient carriers in Oliver Wyman's analysis, which produce the lower dwell times, are the Kansas City Southern and the U.S. operations of Canadian Pacific ("CP") and Canadian National ("CN"). CN provides the predominant dwell time in the efficient carrier analysis and it originated an average of 1.7 million carloads annually in 2010, 2011 and 2012. In comparison, the TPIRR originated 908,242 carloads in the Base Year, or less than those of the U.S. operations of CN.

Third, CSXT incorrectly assumes <u>every</u> car on the TPIRR will experience four yard dwell events in its round trip cycle on the TPIRR rather than the single yard dwell event included in TPI's Opening evidence. But CSXT applies its assumption to all traffic, including unit trains, which by definition do not interchange their cars at yards between the origin and destination. In addition, pre-blocked cars received or delivered in interchange from connecting carriers would not incur yard dwell time at interchange. In Rebuttal, TPI accepts CSXT's assumption of four yard dwell events, but only for local trains on the TPIRR system. TPI applies just two yard dwell events to all interchange received and interchange forwarded traffic does not include any yard dwell events on unit train traffic.

iii. Peaking factor

In Opening, TPI calculated a peaking factor of 5.3 percent, based upon the average number of train starts per day in the peak week of the peak year divided by the average number of train starts per day in the peak year.[63] The method TPI used to calculate its peaking factor is the same as that first prescribed by the Board in *PSCO/Xcel II*[64] and used in every stand-alone cost proceeding since that decision. In Reply, CSXT abandoned this Board-approved methodology in favor of developing peaking factors for each car type.[65] This methodology generated absurdly high peaking factors of 43 percent for general freight and 67 percent for the hopper/gondola fleet, with the Plain Gondola peaking factor reaching 146 percent. TPI rejects CSXT's approach as infeasible and unrealistic because CSXT has not demonstrated that it or any other real-world railroad maintains car fleets with such astronomical peaking factors. *See* Part III.D.2.f.

c. Operating personnel

CSXT overstates the TPIRR's train & engine personnel in several different ways. CSXT also overstates T&E compensation. TPI accepts some of CSXT's reply evidence, but rejects the evidence discussed below.

First, although CSXT accepts TPI's assumption that yards crews will work 270 shifts per year, it restricts road crews to 251 shift starts per year. This is inconsistent with all previous Board decisions dating back to *FMC*.[66] TPI's assumption of 270 shift starts is reasonable based on road crews that work six days per week, 45 weeks per year. The TPIRR crew districts have

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63 *See,* TPI Opening at III-D-4.
64 *See, PSCo/Xcel II* at 13.
65 *See,* CSXT Reply, p. III-D-45.
66 *See, e.g., FMC* 833, *TMPA* 667, *CP&L* 291, *Duke/CSXT* 456, *PSCo/Xcel I* 644, *WFA/Basin I* 40, *AEPCO* Rebuttal III-D-26, *DuPont* Opening III-D-10 and Reply III-D-42, *SunBelt* Opening III-D-10 and Reply III-D-37.

been drawn up precisely so that the crews can get back and forth in the allotted time. In most instances the crew begins its week on duty at home, travels to the other end of the district in one shift, rests a minimum of ten hours, and travels back home on its next shift. Each crew member makes three such roundtrips per week, 45 weeks per year, thus leaving seven weeks per year for time off, vacations, holidays, personal leave, etc. TPI has followed Board precedent and continues to use 270 shifts per year for yard, local and road crews. *See* Part III.D.3.a.i.(1).

Second, rather than accepting TPI's crew rebalancing percent, CSXT applies its locomotive rebalancing percent of 3.1 percent to train crews.[67] CSXT's reliance upon its locomotive rebalancing percent is completely inappropriate because trains have varying numbers of locomotives, depending on the weight of the train and the terrain over a particular route, and thus the number of locomotives that must be rebalanced is not the same as the number of crew that must be rebalanced. *See* Part III.D.3.a.i.(3).

Third, CSXT replaces TPI's re-crew rate with a rate allegedly based on CSXT's actual experience in the past three years.[68] TPI contends that the RTC simulation is the superior and more accurate source for the TPIRR. *See* Part III.D.3.a.i.(4).

Fourth, CSXT overstates T&E fringe benefits. TPI calculated fringe benefits based upon the 2010 average of all Class I carriers. CSXT rejects both TPI's inclusion of all Class I carriers and only 2010 data. CSXT's reliance upon an average of just CSXT and NS fringe benefits wrongly implies that employees are unwilling to move for jobs and that an alternative job with CSXT or NS will be in close proximity to an employee's existing job on the TPIRR. Moreover, CSXT's argument and SAC principles would permit the TPIRR to use the much lower NS fringe benefit ratio rather than a mere average of the NS/CSXT ratios. CSXT's use of a multi-year

[67] *See,* CSXT Reply, p. III-D-48.
[68] *See,* CSXT Reply, p. III-D-51.

average for fringe benefits also is inconsistent with its use of 2010 wage data. *See* Part III.D.3.b.ii.

d. Non-Train operating personnel

CSXT proposes to increase the TPIRR's non-train operating personnel by 400 employees or 46 percent. The main drivers of CSXT's increases in Reply are customer service, intermodal facility management, and car inspectors.

To develop the TPIRR's customer service staff, CSXT relies on staffing from the actual CSXT without scaling this staff to the TPIRR's size. Despite CSXT's claims of being conservative and including less staffing than the actual CSXT, CSXT's proposed Customer Service staffing of 150 is almost exactly equal to CSXT's 2013 actual staffing of 151.[69] Because CSXT does not adequately describe the responsibilities and activities of Customer Service personnel in Reply, many of its proposed personnel have no clear role. This failure prevents TPI from determining if this staff handles customer-service type functions already handled by other TPIRR staff. In Rebuttal, TPI agrees to establish two Customer Service teams as CSXT does in Reply, but given CSXT's excess staffing compared to the actual CSXT and given the Operations and Marketing functions that support Customer Service on the TPIRR, TPI reduces the staffing proposed by CSXT. *See* Part III.D.3.c.i.(1).

CSXT unnecessarily increases the TPIRR's operations planning and joint facilities staff. Although CSXT claims that TPIRR steps into a substantial amount of CSXT's joint facilities, TPIRR in fact operates over only a fraction of the real world CSXT trackage rights. CSXT also

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[69] *See* TPI Rebuttal workpaper "TPIRR Rebuttal 2013 Org Chart.xls". CSXT claims in Reply at III-D-61 that CSXT has 302 customer service employees. An examination of employees in CSXT's discovery workpaper "2013 Org Chart.xls" shows only 151 customer service employees focused on operations.

overstates its own actual number of Operations Planning personnel to justify more such personnel to the TPIRR. *See* Part III.D.3.c.i.(2).

CSXT unduly increases TPI's 281 Car Inspectors to 441 by adding yard-based Car Inspectors. These increases are excessive given the inspection workload at the TPIRR yards. Although the TPIRR classifies only 63.5 percent of the cars classified by CSXT in 2013, CSXT assigns 95.2 percent of CSXT's actual inspectors at the TPIRR's yards in 2013. Based on the smaller number of cars classified by the TPIRR, the number of inspectors included in TPI's Opening evidence is realistic. *See* Part III.D.3.c.iii.

e. General and Administrative

In Opening, TPI included a cost of $91.6 million for the TPIRR's general and administrative ("G&A") department, which was comprised of 304 individuals.[70] In Reply, CSXT included a cost of $166.6 million and staffing of 760 personnel.[71] The staffing level proposed by CSXT is based on a "top down" approach that utilizes the existing CSXT as a starting point. Inherent in this approach is the inclusion of inefficiencies and characteristics of a very large Class I staff developed through years of consolidations and technology shifts to serve varied types of traffic and countless lower density rail lines and branch lines. This approach also completely ignores the fact that the TPIRR is a new, startup railroad that will not be faced with many of the same costs and burdens as an existing railroad that was established over time and has been through many different mergers and acquisitions. Moreover, the TPIRR will not replicate most of the real-world CSXT's lower density rail lines. In contrast to CSXT's top-down approach, TPI relies on a "bottom up" approach to determine the actual needs of a new, least-cost, most-efficient railroad.

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[70] *See,* TPI Opening workpaper "TPIRR Operating Expenses_Opening.xls".
[71] *See,* CSXT Reply, p. III-D-76.

CSXT has attempted to justify its G&A expenses for the TPIRR by comparing them to those of other Class I carriers as a percent of revenues.[72] However, as described in Rebuttal Exhibit III-D-1, CSXT's composition of G&A expenses includes errors as well as expenses not in the TPIRR numbers—such as Casualties & Insurance, Writedown of Uncollectible Accounts, Other Taxes Except on Corporate Income or Payrolls, Joint Facility–Debit, Joint Facility–Credit, and Other—thus overstating the G&A for Class I carriers in the comparison. Correcting these errors reveals that CSXT's 2010 through 2012 G&A expenses, as a percent of revenue, far exceed those of any other carrier, and TPI's Rebuttal G&A expenses (as a percent of revenue) are consistent with the more efficient Class I carriers, especially considering that TPI developed its staffing for the TPIRR with a bottom up approach for a new, least-cost, most-efficient carrier.

CSXT's attempt to discredit TPI's Opening G&A evidence stops just short of accusing one of TPI's four G&A witnesses, Richard McDonald, of perjury.[73] As demonstrated in TPI Rebuttal Exhibit III-D-1, Part A.4.a., CSXT's accusations are extremely careless and completely without merit.

To ensure that it develops G&A staffing to meet the needs of the TPIRR, TPI carefully examined the Reply evidence provided by CSXT. While this examination uncovered many unnecessary, unsupported, redundant, and sometimes excessive aspects of CSXT's Reply evidence, TPI did identify reasonable arguments in certain areas for increasing the TPIRR staffing that it had proposed in its Opening Evidence. The most noticeable increase in TPI's Rebuttal evidence show up in the Law department. On Rebuttal, TPI has increased the TPIRR's G&A expenses to $99.6 million *See* Part III.D.4. and Reb. Ex. III-D-1.

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[72] *See,* CSXT Reply, Table III-D-14 at page III-D-78.
[73] *Id.* p. III-D-83.

f. Maintenance of Way

CSXT proposes a MOW plan with a staffing level that is 72 percent greater than TPI's Opening plan. The Board should reject this plan because it is based on flawed assumptions, substantially unsupported, and bloated with new positions and extra personnel that would not be required for the MOW operations and annual maintenance of the TPIRR. TPI's expert reaffirms his approach to MOW staffing and annual costs taken on Opening, and strongly disagrees with CSXT's assertions that the TPIRR is understaffed. The result of CSXT's approach is a gold-plated MOW plan that does not reflect the TPIRR's actual needs. TPI addresses CSXT's proposed MOW plan in detail in Part III.D.5 and Rebuttal Exhibit III-D-2.

CSXT designed a MOW plan for the TPIRR that ignores CSXT's own real-world staffing and fails to account for differences between the TPIRR and real-world CSXT. CSXT also assails TPI's reasonable reliance on CSXT's own MOW staffing data produced during discovery to determine appropriate TPIRR staffing levels, claiming the data contained errors. But CSXT then uses this very same data it claims is too erroneous for TPI's use to justify its own proposed staffing at a higher level, ignoring the different job-level needs of the TPIRR. The Board should reject CSXT's criticism of TPI's use of flawed CSXT data, because TPI reasonably relied on the data.[74] Even in Reply, CSXT has not attempted to correct the acknowledged flaws in its own data. *See* Reb. Ex. III-D-2, Part A.

Furthermore, in an effort to undermine TPI's Opening comparison of track miles per MOW employee, CSXT artificially inflates CSXT's actual MOW staffing in comparison to the TPIRR by creating the appearance that CSXT's MOW staff are responsible for less infrastructure than they actually maintain in the real world. Specifically, CSXT claims that TPI overstated the number of CSXT track miles in its Opening analysis and instead uses 21,684 track-miles to

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[74] *See, e.g., AEPCO II* at 103; *AEP Texas II* at 81, 83; *PSCo/Xcel II* at 93, 103.

develop its staffing ratio.[75] But CSXT's track-miles figure includes only main line tracks and sidings—it excludes the approximately 10,000 additional track miles of yard, set-out, and helper tracks that CSXT's MOW staff maintains, which has the effect of understating CSXT's Track miles per MOW employee. To avoid distortion, staffing levels should be calculated using all operated track miles. Using just main track miles to calculate its staffing level, CSXT makes its MOW employees appear to maintain 29 percent less track on average. *See* Reb. Ex. III-D-2, Part B.1.

CSXT also overstates the number of comparable CSXT MOW positions that the TPIRR needs to replicate in an effort to skew its comparison of the parties' MOW staffing. This makes CSXT's own staffing levels appear dramatically higher than the TPIRR's, even though many of CSXT's MOW positions are unnecessary on the TPIRR or are accounted for outside the MOW construct. *See* Reb. Ex. III-D-2, Part B.2.

CSXT developed its MOW plan using a top down approach, starting with the existing CSXT staff, and "whittling" away employees. CSXT also added many positions not listed in the 2010 or 2007 CSXT MOW employee data, without defining their roles or functions in any detail, and without providing evidence that the positions exist on CSXT's real world railroad.[76] Rather than outlining the positions needed on the TPIRR and providing a detailed discussion of the responsibilities for each employee as TPI did in Opening,[77] CSXT's expert used this "whittling" approach to guess the staffing needs for the TPIRR MOW Department. He then arbitrarily

[75] TPI's Opening track-miles value of 31,674, while much closer to the correct value than CSXT's Reply value, was incorrect and is corrected here.

[76] *See,* CSXT Discovery 2010 Employee Data (e.g. ACE Process Inspection Engineer not included in 2010 data; Assistant Engineer Bridges not included in 2010 data; Capital Project Managers not included in 2010) Also refer to Rebuttal e-workpaper "Rebuttal TPI MOW Employee Positions and Descriptions.xls" for other examples of positions not listed in CSXT's 2010 data.

[77] *See,* TPI Opening workpaper "TPI MOW Employee Positions and Descriptions.xls".

further reduces the workforce without explanation of the TPI's needs or basis for making the arbitrary cuts. *See* Reb. Ex. III-D-2, Part C.1.

CSXT's "top-down" approach fails to give any consideration to the TPIRR's new infrastructure when determining MOW staffing. The existing CSXT system was originally constructed to a lower standard than today's modern infrastructure, requiring costly upgrades and additional maintenance over time. In addition, the CSXT system has undergone phases of deferred maintenance and roadbed and track joint pumping, was constructed using archaic construction techniques, and has existing defects and age-related maintenance needs. CSXT's "top-down" approach essentially imputes these characteristics on the TPIRR. However, because rail defects are extremely rare in new rail, there should be limited need for replacements, very few corresponding field welds required, and much less welding repair required. *See* Reb. Ex. III-D-2, Part C.2.

Although CSXT acknowledges that the TPIRR bridges will require less maintenance because they are new steel and concrete bridges, it refuses to acknowledge that the TPIRR's track and roadbed will also require very little maintenance in the first ten years of the TPIRR, because they are also new. Despite CSXT claims that new track settles, requiring additional maintenance,[78] TPI expert Crouch's experience as an NS Project Engineer with many major capital freight railroad track projects across the southeast, and with more than 250 new track projects since 1991, settling of new track that has been properly constructed and tamped has never caused issues requiring additional maintenance. In addition, TPI's operating witness, Richard McDonald, had the real experience of assigning the maintenance staff needed for a completely new FRA Class IV freight railroad in the mid-1980's: C&NW's WRPI, serving the

[78] *See,* CSXT Reply, p. III-D-179.

Southern Powder River Basin coal fields, currently operated by Union Pacific. During the first 10 years of its operation, WRPI's track speed never fluctuated from its 50 mph loaded / 60 mph empty timetable speed while handling up to 32 loaded and 32 empty unit coal trains per day, without a single derailment of any kind. *See* Reb. Ex. III-D-2, Part C.2.

CSXT wrongly implies that the TPI MOW plan defers maintenance, scrimps on maintenance, and depresses maintenance.[79] But this charge is inconsistent with CSXT's agreement with TPI's methodology and cost approach on a majority of the contracted service categories.[80] For CSXT, on the one hand, to generalize that TPI's MOW costs are insufficient, even for a new railroad, then, on the other hand, to accept TPI's costs, or approach to cost development, on almost all items is contradictory. Fewer maintenance requirements do not equate to deferred maintenance, but merely are a fact of new infrastructure. Indeed, it would violate SAC principles to impose the cost of new infrastructure upon the TPIRR, but deny it the benefit of that investment by imposing the MOW costs associated with much older infrastructure. *See* Reb. Ex. III-D-2, Part C.3.

g. Ad Valorem taxes

CSXT's approach to calculating the TPIRR's ad valorem taxes is fundamentally flawed. The central flaw in CSXT's approach is that it compared CSXT's 2011 Net Revenue calculation from its Annual Report Form R-1, which CSXT prepared using accrual accounting methodologies, to its calculation of the alleged TPIRR Net Revenue using some undocumented hybrid of accrual and tax accounting methodologies. Because CSXT did not account for any accrued revenues or expenses in developing its TPIRR Net Revenues, its comparison to CSXT's Net Revenues calculated under accrual accounting is an invalid comparison. *See* Part III.D.9.a.

[79] *See,* CSXT Reply, p. III-D-175.
[80] *See,* CSXT Reply workpaper "Reply Exhibit III-D-3 CSX TPI MOW.xls".

Furthermore, CSXT's approach is intuitively suspect because CSXT claims that this proceeding should be dismissed since the TPIRR is not viable, but when ad valorem taxes are calculated, CSXT would have the Board believe that the TPIRR is a highly profitable entity that would necessarily pay higher ad valorem taxes than does CSXT. *See* Part III.D.9.b.

h. Intermodal lift and ramp costs

In Reply, CSXT includes $104.1 million for lift and ramp costs and adds another $9.0 million for management personnel, for a total of $113.2 million, or nearly double the costs included by TPI in Opening.[81] In Opening, TPIRR contracted out intermodal terminal services, including lift and ramp costs. To estimate fees that would be charged by a container lift provider, TPI used actual CSXT terminal expenses to develop a cost per container. CSXT basically follows this same approach, but makes several errors in the development of its intermodal lift costs. First, CSXT unnecessarily includes 74 TPIRR personnel to oversee contract terminal services. Second, CSXT unnecessarily includes clerical staff in its costs. Third, CSXT imposes terminal utility costs on the TPIRR even though the TPIRR does not receive terminal revenue for all terminal activities. Fourth, CSXT incorrectly includes equipment charges in the lift fees. Finally, CSXT mistakenly "corrects" the development of lift fees for the Bedford Park and North Baltimore facilities. *See* Part III.D.10.a.

6. Non-Road Property Investment (Part III-E)

TPI's Opening Evidence described non-road property investment as including locomotives, railcars and other equipment. In Reply, CSXT addressed Non-Road Property Investment only by indicating that all of these items are addressed elsewhere in its evidence. TPI's review of CSXT's Reply evidence indicates that CSXT has accepted TPI's acquisition of locomotives and railcars though lease agreements and lease or annuitization of the purchase price

[81] *See,* CSXT Reply workpaper "TPI Operating Expense_Reply.xls".

of other equipment and inclusion of these costs as operating expenses. Differences in the costs associated with locomotive, railcar and other equipment leases and acquisitions are addressed in Rebuttal Parts III-C and III-D. In Rebuttal, TPI accepts CSXT's adjustment to the miles of trackage rights and joint facilities, and discusses differences in the application of the trackage rights expenses in Rebuttal Part III-D. TPI also addresses CSXT's claim that the TPIRR is required to share in the cost of ownership of lines that are partially owned by CSXT and used by TPIRR via trackage rights or joint facility agreements in Part III-F.

7. Road Property Investment (Part III-F)

In Part III-F of its Reply, CSXT proposes road property costs for the TPIRR that are far in excess of what would be needed to construct the railroad. CSXT's excessive road property costs result from a myriad of reasons, including flawed methodology, misinterpretation of facts, deviation from precedent, and other errors. In this section, TPI provides a brief overview of Rebuttal Part III-F, including description of some of the major errors found in the Reply Evidence.

a. Land

CSXT made several errors in its land valuation.[82] First, CSXT used a flawed methodology that produces skewed and unreliable land valuation results. CSXT ignored the simple fact that, as parcel size decreases, the per-unit price increases.[83] In other words, all other things being equal, smaller parcels tend to have a higher per-acre price than larger parcels. In developing a per-acre price for each land classification, CSXT used a straight average of all sales in its data, regardless of parcel size. Thus, CSXT gave equal weight to all sales. Of course, the

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[82] *See* CSXT Reply, p. III-F-2-14.

[83] *See, e.g.,* <u>The Appraisal of Real Estate</u> at page 198, The Appraisal Institute (14th ed. 1998) ("Size differences can affect value and are considered in site analysis...Generally, as size increases, unit prices decrease. Conversely, as size decreases, unit prices increase.").

TPIRR would generally buy more property from larger land-owners, on a parcel-by-parcel basis. CSXT failed to acknowledge this fact, which overstates its land valuation. *See* Part III.F.1.f.

CSXT focuses its land valuation evidence on values in eight urban areas: Chicago, Atlanta, Baltimore, Chattanooga, Jacksonville, Nashville, Pittsburgh, and Washington DC. However, CSXT only inspected three of these eight urban areas for the TPIRR. CSXT's inspection of the other five disputed urban areas actually took place in 2009 in support of another case, by an appraiser who has since passed away.[84] In other words, CSXT inspected only Atlanta, Baltimore, and Chicago for this case. One apparent result of these disparate inspections is that CSXT applied two totally different land valuation techniques to produce land values for the eight disputed urban areas: one technique for the five areas inspected in 2009 for another proceeding, and an entirely different technique for the three areas inspected for this case. *See* Part III.F.1.a.

For each of the three urban areas inspected for this proceeding, CSXT created multiple wildly varying valuations for the same land classification within the urban area. CSXT did not explain how these different valuations were developed, nor did CSXT explain how it decided which valuation to apply to which property segment. Furthermore, CSXT based these multiple valuations on a very small number of actual land sales in proximity to the TPIRR corridor. As just one example, CSXT developed 24 different residential valuations for the TPIRR land in Chicago even though CSXT found only 3 residential sales within one-quarter mile of the TPIRR route. In valuing the 34.9-mile ROW in Chicago, CSXT alternated among these 24 residential values with 182 value changes in the 34.9 miles. CSXT did not explain how these 24 different values were created, nor did CSXT explain how it decided which of the 24 values to assign to

[84] *See* CSXT Reply, p. III-F-5 (n. 6).

each segment of the ROW. *See* Part III.F.1.a.v. With no explanation of its valuation technique, the CSXT evidence on land value is unsupported.

CSXT denigrated the TPI valuation as a "desktop" appraisal[85], but this characterization is incorrect. TPI performed on-the-ground inspection in 16 urban areas, covering 452 miles of the hypothetical railroad right-of-way. Over 1,700 geo-coded photographs documented these on-the-ground inspections.[86] On-the-ground inspections were enhanced by use of online aerial photography, and through use of readily-available online tools such as Federal flood maps and county online mapping (GIS) systems. The Board recently recognized the value of using both computer tools and on-the-ground inspection to create the most accurate land classifications.[87] In contrast, CSXT provided no photographic evidence of its inspections or resulting land use designations. TPI's use of aerial imagery and other software tools made its appraisal more accurate. *See* Part III.F.1.a.

CSXT also erred in its treatment of water crossings. CSXT proposed that the TPIRR spend $94.5 million to acquire the "land" of 14 water crossings; the vast majority of this dollar figure involves the river crossing of the Potomac River between Washington, DC and Virginia. As explained in Rebuttal Exhibit III-F-2, the TPIRR would not be required to "buy" the Potomac River. The U.S. government holds fee title to the riverbed, subject to a public trust for navigation and fisheries.[88] CSXT has provided no evidence that it "owns" the Potomac River

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[85] *See* CSXT Reply, p. III-F-2.

[86] *See* TPI Opening, Exhibit III-F-2, p. 19-22. Photos are found in TPI's Opening Workpapers, in the Part III-F-1 folder titled "TPI photos".

[87] *See SunBelt* at 99.

[88] *See, e.g., United States v. Robertson Terminal Warehouse, Inc.*, Civ. Action No. 73-01903, slip op. at 8 (D.D.C. Sept. 3, 2008) ("The United States holds fee title…to the bed of the Potomac River."), *aff'd by United States v. Old Dominion Boat Club*, 630 F.3d 1039 (D.C. Cir. 2011).

and, indeed, such a contention is far-fetched. Appraisal principles do not require valuation of navigable river crossings.[89] *See* Part III.F.1.f. and Rebuttal Exhibit III-F-2.

Although CSXT followed recent Board decisions regarding valuation of easements and real estate acquisition costs,[90] TPI presents fresh evidence that those decision are factually and theoretically incorrect. As for easement valuation, the Board should not adopt CSXT's evidence because it results in over-valuation of easements. TPI has provided empirical evidence that no correlation exists between easement value and the passage of time. *See* Part III.F.1.d. Real estate acquisition costs should be excluded as a barrier to entry because CSXT itself did not pay such costs for the vast majority of its real estate. *See* Part III.F.1.e.

b. Roadbed preparation

CSXT proposes roadbed preparation costs far in excess of what would be necessary to construct the TPIRR.[91] The main reason for CSXT's inflated costs is the reliance on generic unit costs from the R.S. Means Handbook ("Means") rather than real-world data from actual rail construction projects. Although Means costs are undeniably useful, they represent only one of many ways to estimate costs for a rail construction project. TPI recognizes that Means costs have been preferred by the Board in many recent SAC cases, but the evidence in Part III-F shows that TPI has provided actual project costs that are superior to Means costs for several construction items. *See* Part III.F.2.a.i.

As an initial matter, Means unit costs are not representative of the earthwork costs that will be incurred by the TPI due to the economies of scale inherent in a project as large as the

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[89] "The navigable waters are United States public property and because of this, the great inland waterways have long been deemed national assets rather than the private property of riparian owners." The Uniform Appraisal Standards for Federal Land Acquisition, page 55, The Appraisal Institute in cooperation with the U.S. Department of Justice.

[90] *See* CSXT Reply, p. III-F-8-9; *SunBelt* at 103-104; *DuPont* at 141.

[91] CSXT Reply, p. III-F-14-70.

TPIRR. In fact, the Means Handbook states that "[t]he size, scope of work, and type of construction project will have a significant impact on cost. Economies of scale can reduce costs for large projects."[92] Obviously, construction of the TPIRR would be classified as a large project resulting in reduced unit costs (*i.e.*, lower than those shown in the Means Handbook). *See* Part III.F.2.a.i.

In lieu of Means costs, TPI relied upon real-world rail construction costs from the Trestle Hollow Project.[93] CSXT raised a number of objections to the use of Trestle Hollow unit costs[94], but TPI has strongly rebutted these objections. *See* Part III.F.2.a.ii. Unlike Means' national average unit costs, the Trestle Hollow Project occurred in an area of the country that is in the midst of the TPIRR. Moreover, Trestle Hollow involved many difficult elements that ensure its costs are not too low for the TPIRR; the Project occurred in hilly terrain that was heavily wooded.[95] The right-of-way not only involved curvature, but also elevation change. In other words, it was not a prototypically simple rail construction project (flat, straight, with no vegetation). *See* Part III.F.2.a.ii.

A SARR is entitled to utilize the lowest feasible costs[96], and the Trestle Hollow Project costs are, by definition, feasible because they represent a recent real-world construction project. CSXT's arguments against Trestle Hollow actually support its use in this case. CSXT asserts that the Trestle Hollow Project was "tiny in size and scope in comparison to the TPIRR."[97] Of course, it is also true that any recent railroad construction project would be "tiny in size and

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[92] *See,* TPI Rebuttal workpaper "Means Handbook project size.pdf."
[93] *See, e.g.*, TPI Opening, p. III-F-10-16.
[94] *See* CSXT Reply, p. III-F-16-31.
[95] *See, e.g.*, TPI Opening photographs in workpaper folder "Trestle Hollow Pictures."
[96] *See, e.g.*, AEPCO at 46 ("AEPCO correctly asserts that it may choose the lowest feasible cost for each category of expense"). *See also* FMC, 4 STB at 800.
[97] *See,* CSXT Reply, p. III-F-20.

scope" when compared to the 6,900-mile TPIRR[98], including the CSXT projects cited in the Reply Evidence.[99]

CSXT makes an unsuccessful attempt to discredit the Trestle Hollow earthwork unit costs via reference to Authorities for Expenditure ("AFE") that were produced by CSXT in discovery.[100] CSXT's argument actually confirms that TPI was correct in disregarding the AFEs. CSXT stated that concentration of earthwork in a smaller area results in a less expensive unit price.[101] CSXT also stated that the TPIRR averages 75,000 CY total earthwork per mile, of which 44,000 is common earthwork.[102] Finally, CSXT also stated that the AFEs it produced in discovery are several times less concentrated than the TPIRR; these AFEs average 20,012 CY total earthwork per mile, of which 13,941 is common earthwork.[103] By CSXT's own argument, the AFEs are unrepresentative and should not be used for the TPIRR. *See* Part III.F.2.a.iii.

TPI also utilized the Trestle Hollow Project for clearing and grubbing costs, which was reasonable given the heavily wooded, uneven terrain involved in that construction project.[104] TPI's position is quite conservative on the clearing and grubbing issue because TPI applied its unit cost per acre for clearing and grubbing to all of the TPIRR acres of clearing despite the fact that nearly 70 percent of the TPIRR's acres would only require clearing, and not grubbing. *See* Part III.F.2.b.ii.

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[98] This would also hold true for all of the projects used by R. S. Means to develop the unit costs in the Means Handbook.

[99] *See* CSXT Reply, p. III-F-23-31.

[100] *See* CSXT Reply, p. III-F-23-31.

[101] *See* CSXT Reply, p. III-F-21.

[102] *See* CSXT Reply, p. III-F-21.

[103] *See* CSXT Reply, p. III-F-27-28. The total earthwork in the table on these pages is 1,280,170 CY and the total track distance is 63.97 miles, which equals 20,012 CY per mile. Similarly, the common earthwork is 891,845 CY, which is 13,941 CY per mile.

[104] *See, e.g.*, TPI Opening photographs in workpaper folder "Trestle Hollow Pictures."

TPI's determination of unit cost for adverse terrain earthwork was reasonable. CSXT's opposition to TPI's adverse terrain unit cost is based on a flawed interpretation of what TPI did. CSXT claims there was nothing adverse about the Trestle Hollow terrain (Reply at III-F-42-43), but TPI's evidence assumed that Trestle Hollow was standard (non-adverse) excavation, and, consequently, TPI escalated the Trestle Hollow unit cost by the adverse terrain factor derived from Means.[105] In other words, TPI determined the inherent relationship in Means costs between common earthwork and common earthwork in adverse terrain. TPI utilized this relationship to increase Trestle Hollow unit costs to a level appropriate for adverse terrain. The Board should reject CSXT's critique as inapplicable. *See* Part III.F.2.c.ii.(6).(b).

CSXT claims it is unclear whether the Trestle Hollow Project entailed fine grading and, due to this alleged uncertainty, CSXT seeks to add separate fine grading costs to the TPIRR.[106] These additional costs are unnecessary and would result in a double-count. TPI's workpapers show that final grading was included in the Trestle Hollow Project costs utilized by TPI.[107] *See* Part III.F.2.c.ii.(7).(b).

CSXT asserts that the Board should adjust the quantities of excavated materials for haulage purposes to account for "swell" of the materials after excavation.[108] The Board has consistently rejected assertions of swell and shrinkage in SAC cases.[109] The Board should similarly reject CSXT's claims swell in this proceeding. *See* Part III.F.2.c.ii.(7).(c).

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[105] *See* TPI Opening, p. III-F-16.
[106] *See* CSXT Reply, p. III-F-49 (n. 92).
[107] *See* TPI Opening e-workpaper "Trestle Hollow Specifications.pdf," page 164, Sections 3.5.15 and 3.5.16.
[108] *See* CSXT Reply, pp. III-F-50-52. CSXT also referred to swell and shrinkage of materials in other parts of the Reply. *See also*, CSXT Reply, pp. III-F-43 and 47.
[109] *See SunBelt* at 116; *DuPont* at 184-185; *AEPCO* at 92.

On the issue of earthwork quantities, CSXT made a serious error in its designation of slag as "other borrow."[110] CSXT's position is contrary to recent precedent.[111] Moreover, CSXT's rationale for its position is based on a faulty understanding of history. CSXT contends that classification as borrow is appropriate because it is unlikely that original construction of the rail lines replicated by the TPIRR would have encountered slag.[112] This contention is incorrect. By 1815, Pittsburgh was calling itself the "Birmingham of America" in recognition of the role played by Birmingham, England in the iron industry, and there were over 200 furnaces across Pennsylvania in 1840.[113] Smelting operations in the region would have resulted in adjacent piles of waste slag. Simple history shows that slag would have existed in the Pittsburgh area prior to the original construction of the lines replicated by the TPIRR, and, thus, would need to be excavated. *See* Part III.F.2.c.i.

CSXT proposes that the TPIRR spend millions of dollars to purchase large amounts of urban land for the sole purpose of depositing excavation waste.[114] Just as it has done in two recent cases, the Board should deny CSXT's ill-advised proposal.[115] *See* Part III.F.2.c.ii.(7).(a).

Finally, CSXT also proposed excessive costs is several other areas. For example, CSXT utilized a questionable methodology that results in overstated costs for subgrade preparation. *See* Part III.F.2.c.ii.(8). On the subject of retaining walls, CSXT over-applied its conversion ratio to non-solid retaining walls.[116] *See* Part III.F.2.f.ii.

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[110] *See* CSXT Reply, p. III-F-35-36.
[111] *SunBelt* at 111.
[112] *See* CSXT Reply, pp. III-F-35-36.
[113] *See* TPI Rebuttal e-workpaper "Pennsylvania.iron.smelting.history.pdf".
[114] *See* CSXT Reply, p. III-F-45-48.
[115] *DuPont* at 170; *SunBelt* at 117.
[116] *See* CSXT Reply, p. III-F-65-66.

c. Track Construction

The differences in the parties' track construction costs result mainly from the categories of ballast, sub-ballast, ties, and rail. *See* Part III.F.3.

On the issue of ballast unit cost, TPI utilized the same method that was accepted in the *DuPont* case.[117] TPI averaged the ballast costs for all the ballast sources provided by the defendant in discovery. *See* Part III.F.3.b.ii.(1). However, CSXT has taken a variety of steps to substantially inflate the TPIRR's necessary ballast costs.[118] First, CSXT unreasonably restricted the number of ballast quarries, despite the fact that the TPIRR would obtain ballast from quarries located on both the residual CSXT and other railroads. In other words, the fourteen quarries that were included in CSXT's discovery responses are representative of the current ballast market and, consequently, the costs that the TPIRR would incur. This should not be a foreign concept to CSXT because CSXT relied upon similar logic for sub-ballast.[119] *See* Part III.F.3.b.ii.(1).

Second, CSXT improperly weighted the various ballast suppliers. CSXT also assigned far-off quarries to certain railheads, ignoring nearby or lower-cost quarries. *See* Part III.F.3.b.ii.(2). The excessive quantity of CSXT's resulting ballast unit cost can be confirmed by comparing its asserted unit cost with the result in the recent *DuPont* case.[120] *See* Part III.F.3.b.ii.(2).

For ballast transportation, CSXT provided inconsistent arguments such that it is impossible to determine exactly what CSXT is proposing.[121] CSXT also misreads the Board's

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[117] *DuPont* at 191.
[118] *See* CSXT Reply, p. III-F-71-82.
[119] *See* CSXT Reply, p. III-F-84.
[120] *See* NS Reply Evidence at p. III-F-123, Docket 42125 (public version) filed Nov. 30, 2012. *See also* TPI Rebuttal e-workpaper "DuPont ballast cost.pdf."
[121] *See* CSXT Reply, p. III-F-80-82.

AEPCO precedent. The Board should utilize the transportation cost proposed by TPI. *See* Part III.F.3.b.ii.(5).

On the subject of sub-ballast, CSXT's vendor quotations are over-stated compared to the real-world project costs offered by TPI. *See* Part III.F.3.b.iii. Precedent confirms that the sub-ballast unit cost utilized by TPI is reasonable because sub-ballast is customarily less expensive than ballast. *See* Part III.F.3.b.iii.

CSXT claims that TPI's cross-tie unit cost is understated. TPI shows that its unit cost is accurate based on cost information provided by CSXT in discovery. *See* Part III.F.3.c.

CSXT has over-stated costs for various other items, such as rail, field welds, switches, and rail lubricators, due to various departures from precedent, double-counts, and failures to examine TPI's supporting documents. *See* Part III.F.3.d – f.

d. Bridges

Given that TPI utilized bridge unit costs from projects in the TPIRR region, CSXT's application of a location factor adjustment to the bridge unit costs was improper. *See* Part III.F.5.b. For specific bridge types, TPI has accepted some, but not all, of the adjustments proposed by CSXT. For Type II Bridges, CSXT erroneously adjusts the superstructure proposed by TPI. As described in Part III.F.5.b.ii, the Type II design utilized by TPI is sufficient and meets industry standards. TPI accepted certain design adjustments made by CSXT to Type IV Bridges, Mixed Span Bridges, Tall Bridges, Special Non-Moveable Bridges, Truss Span Bridges, Oversized Culverts, and Moveable Bridges. *See* Part III.F.5.b. The Board should reject CSXT's attempted adjustment to Moveable Bridge pier height because CSXT did not provide the requested information in discovery. *See* Part III.F.5.b.x.(4).

CSXT has unreasonably rejected TPI's proposal to rely on funding via the Truman-Hobbs Act for the majority of the TPIRR's Moveable Bridge cost.[122] The Board recently decided that Truman-Hobbs would not be available for new-build bridges,[123] a position also taken by CSXT. However, a blanket ban on use of Truman-Hobbs Act funding would impose an impermissible barrier to entry on the TPIRR. If CSXT, as the incumbent, were ordered to construct a bridge to achieve a specified level of navigability of an intersecting waterway, then the TPIRR presumably has no choice but to construct the same bridge that the incumbent was ordered to construct in order to preserve that level of navigability on the affected waterway. However, if the incumbent received Truman-Hobbs Act funding to construct the required bridge, and if the TPIRR were required to construct the same bridge without the benefit of the same funding source, then a barrier to entry clearly has been created. *See* Part III.F.5.b.x.(3).

In other words, the Board must permit the TPIRR to either: (1) benefit from Truman-Hobbs Act funding, or (2) construct a bridge that provides a lesser level of waterway navigability than the existing bridge. Otherwise, a barrier to entry results. "Under SAC procedures, a SARR is not required to incur costs for construction activities that the defendant railroad has never incurred."[124] *See* Part III.F.5.b.x.(3).

Each generation of railroad bridges has been required to accommodate more and larger marine vessels on an expanding number of waterways because of government mandates. Truman-Hobbs explicitly recognizes that this evolution imposes costs on the railroads that they should not have to bear. If the Board denies the TPIRR's access to Truman-Hobbs Act funding that exists only to relieve the incumbent railroads of this cost burden in the real world, it must

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[122] *See* CSXT Reply, p. III-F-138.
[123] *DuPont* at 223.
[124] *PSCo/Xcel I*, 7 STB at 690.

also allow the TPIRR to ignore the navigability and design mandates that necessitate the costs to be incurred. If the TPIRR cannot access Truman-Hobbs Act funding, it must be allowed to construct bridges without regard for the navigation requirements of intersecting waterways, with shorter and/or lower, and possibly non-movable, spans.[125] *See* Part III.F.5.b.x.(3).

Importantly, CSXT does not claim to have paid the full cost for all movable bridges on its system. It cannot make that claim because it did not pay in full for all bridges. In fact, publicly available data shows that CSXT itself has utilized Truman-Hobbs funding in the last few years for bridges actually replicated by the TPIRR. Specifically, a bridge over the Mobile River near Hurricane, Alabama (just northeast of the city of Mobile) was built in 2011, with 94% of the funding coming from the Truman-Hobbs Act and the American Recovery and Reinvestment Act. *See* Part III.F.5.b.x.(3).

e. Signals and communications

CSXT accepts TPI's assumption that the TPIRR will install PTC before the start of operations, which is consistent with the Board's recent *DuPont* and *SunBelt* decisions.[126] However, CSXT unreasonably adds interoperability costs and a 25% escalation for "upgrades."[127] These additional costs are unnecessary. *See* Part III.F.6.a.i.

An overarching flaw in CSXT's reasoning is that CSXT treats the TPIRR's PTC system just like the PTC system that CSXT itself is trying to install. That is, CSXT believes the TPIRR must first install one system and then overlay another system in 2015. In prior proceedings, the railroads have taken the position that the SARR must first install a CTC system and then overlay

[125] *See, e.g,. Burlington Northern Railroad Co. v. STB*, 114 F.3d 206, 214 (D.C. Cir. 1997) (Court affirms Board decision on the issue of barriers to entry, finding it appropriate that Burlington Northern was permitted "to earn a competitive return on all investments the railroad actually made at their current value, but not on the investments it avoided by being the first to market.").

[126] *See* CSXT Reply, p. III-F-146.

[127] *See* CSXT Reply, p. III-F-146-147 and 159 (n. 342).

PTC on top. In this proceeding, CSXT has gone one step further – CSXT has the TPIRR installing a PTC system in 2010 and then installing an "upgraded" PTC system in 2015. *See* Part III.F.6.a.i.

The Board should permit TPI to implement a fully-interoperable PTC system in 2010 in order to eliminate the PTC mandate as a barrier to entry under contestable market theory. Requiring the TPIRR to incur two sets of PTC costs within just five years is inconsistent with contestable market theory because it imposes unique costs upon the new entrant that the real world CSXT does not face during precisely the same time period in which it too must implement PTC. *See* Part III.F.6.b.i.

Contestable market theory requires that the advantage that an incumbent obtains from having entered the market first and through a piecemeal process of expansion over an extended period of time cannot be used to create a barrier to entry.[128] As a result of its piecemeal entry, CSXT has had many decades to recover, in whole or in major part, the costs associated with its existing CTC system.[129] The TPIRR, in contrast, would have less than 5 years to do so before that system would become obsolete, all the while incurring costs for a replacement PTC system. Since requiring the TPIRR to invest in two redundant signaling systems over a very short 5-year period would impose a risk upon its investors that was not faced by CSXT's investors, that

[128] *See Coal Trading* at 413-14 (1990) (a market is not contestable when the costs faced by the incumbent and the SARR are different).

[129] *Cf. West Texas Utilities* at 671-72. CTC systems were first introduced in the late 1920's and were in standard use by most railroads by the 1940s. By the 1970's and 1980's electromechanical control and display systems were replaced with computer operated displays.

requirement would be an impermissible barrier to entry under contestable market theory.[130] *See* Part III.F.6.b.i.

However, if the Board adheres to its precedent in *DuPont* and *SunBelt*, which would permit the TPIRR to implement only a non-interoperable version of PTC in 2010 and then incur additional costs from 2011-2015 to become interoperable, the Board should not impose those costs to a degree that is greater than what CSXT is incurring to achieve interoperability. In other words, the Board must reject CSXT's upgrade charge—which CSXT itself has not and will not incur. CSXT admits that its 25% upgrade additive is merely a guess made by its experts.[131] If interoperability costs are required, then a portion of the initial costs proposed by CSXT should be allocated to 2010, with the remainder to the 2011-2015 period. Furthermore, if the Board requires interoperability costs, it should not also require development and testing costs because the TPIRR would incur those costs in 2010 only if it were to obtain a tangible benefit in the form of a fully-interoperable PTC system in 2010. *See* Part III.F.6.b.ii.

In addition to the conceptual issues described above, CSXT has overstated the costs for many elements of its PTC proposal. *See* Part III.F.6.b. For example, CSXT improperly includes excessive development and testing costs for the TPIRR based on the view that the TPIRR would be the "first mover."[132] These costs exceed what CSXT itself expects to spend, yet the TPIRR would be forced to wait an extra five years (compared to CSXT) in order to achieve a fully-functioning system. *See* Part III.F.6.b.ii.

[130] *See PPL Montana, LLC v. The Burlington Northern and Santa Fe Railway Company*, 5 S.T.B. 1105, 1111-12 (2001) (holding that "a SARR should not be assumed to bear costs that are not faced by the defendant railroad [including]...costs associated with risks not faced by the defendant railroad's investors.").

[131] *See* CSXT Reply, p. III-F-159 (n. 342).

[132] *See* CSXT Reply, p. III-F-158-159.

CSXT includes significant costs for the TPIRR to purchase locomotive equipment for other railroads.[133] CSXT reasons that this purchase is necessary due to foreign locomotives operating on the TPIRR during the five year period between 2011 and 2015. CSXT has ascribed the full cost of foreign road locomotive radios to the TPIRR, which is plainly excessive and unnecessary. The PTC mandate was established in the RSIA, which was signed by President Bush on October 16, 2008.[134] The FRA's regulations were issued January 15, 2010, many months before the start of TPIRR operations.[135] All railroads knew they would need to be developing and testing PTC technology to get ready for December 31, 2015. In other words, the foreign railroads would need PTC radios for their locomotives due to federal law, not due to the existence of the TPIRR. *See* Part III.F.6.b.ii.(4).

CSXT's assumption that the TPIRR would pay to equip locomotives for other real world railroads to meet RSIA standards would result in the TPIRR improperly subsidizing its competitors and must be rejected. Under CSXT's construct, the first railroad to comply with the RSIA standards in the real world would be required to pay for radios for railroads with which it has run through agreements. CSXT offers no proof that this sort of arrangement occurs in the real world, because it does not. Therefore, CSXT's assumption that TPI would pay for that equipment on behalf of those railroads is at odds with reality. *See* Part III.F.6.b.ii.(4).

In response to certain CSXT suggestions, TPI has used this Rebuttal Evidence to correct its unit costs and incorporate inadvertently omitted PTC elements in its TPIRR cost estimate. *See* Part III.F.6.a.ii. TPI does not accept CSXT's proposal for fencing around signal huts. *See* Part III.F.6.a.ii.(1).

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[133] *See* CSXT Reply, p. III-F-163.
[134] *See,* 110-P.L.-432.
[135] *See,* 75 FR 2598.

f. Buildings and facilities

In this Rebuttal Evidence, TPI has adjusted its evidence on Buildings and Facilities in several ways. TPI accepted certain changes proposed by CSXT to locomotive fueling facilities, locomotive shops, and other buildings. *See* Part III.F.7. TPI also accepts that the TPIRR must build the Curtis Bay Coal Terminal, but the TPIRR does not need to include the numerous elements proposed by CSXT. *See* Part III.F.7.u.

TPI eliminated costs for certain intermodal and automotive facilities that CSXT does not own. *See* Part III.F.7.a. TPI also rejects excessive costs proposed by CSXT for certain items, such as crane costs for the locomotive shops, the addition of redundant locomotive service and inspection facilities, and certain yard offices. *See* Part III.F.7.

CSXT has over-stated the number of necessary Maintenance of Way buildings. *See* Part III.F.7.i. CSXT also erroneously claims that yardmaster towers will need elevators due to the Americans with Disability Act ("ADA"). However, ADA guidelines do not apply to the yardmaster towers. *See* Part III.F.7.k. Additional increases made by CSXT to yard paving and yard drainage costs are similarly unnecessary. *See* Part III.F.7.t.

8. DCF Analysis (Part III-G)

In Part III-G of its Reply, CSXT objects to two major aspects of the DCF model utilized by TPI in the Opening Evidence. First, CSXT adds an equity flotation fee (so called "gross spread") to the raising of equity capital by the TPIRR. Second, CSXT proposes a deviation from the Board's established rule regarding indexing of SARR operating expenses. Both positions advanced by CSXT are contrary to precedent[136], and the Reply Evidence is far from adequate to justify deviation from the Board's decisions on these issues.

[136] *See, e.g., DuPont* at 273-275; *SunBelt* at 183-185; *Major Issues*, slip op. at 39-47.

a. An equity flotation fee is not warranted

CSXT fails to justify an equity flotation fee for the TPIRR. The CSXT evidence is an internally inconsistent smorgasbord of contradictory statements that do not support the 2.0 percent equity flotation fee proposed by CSXT. The contradictions are so pervasive and incisive that they forcefully disprove not only the rationale behind the amount proposed, but also CSXT's critique of the Board's *DuPont* and *SunBelt* decisions.

i. The TPIRR need not use an IPO

CSXT's flotation fee rests on the assumption that the TPIRR would use a high-cost IPO to raise equity funds.[137] CSXT's reasoning is flawed because the TPIRR could sell its equity through a private placement arrangement without incurring the substantial costs of an IPO. *See* Part III.G.1.a. The process is less complex than that for a public sale like an IPO because, in many cases, registration statements and other regulatory actions are not required. This allows the issuing companies to avoid the time, expense, and disclosure requirements of filing registration statements and other regulatory notices.[138]

A private placement for the TPIRR is feasible. Real world investors have shown a willingness to invest large sums of money on a private basis to operate real world railroads. The prime example of this is Berkshire Hathaway's decision to invest $34 billion to acquire and operate the BNSF Railway. While not a private equity placement, Berkshire Hathaway's acquisition of the BNSF nevertheless shows that sophisticated investors are available to provide

[137] *See* CSXT Reply, p. III-G-2 (the flotation fee is "dependent on the size of the IPO gross proceeds raised").

[138] *See* "Introduction to Private Placements" at http://www.seclaw.com/docs/privateplacement.php/.

sufficient capital to build and operate a railroad as large as the TPIRR, without the need to raise equity capital through an IPO.[139]

ii. Contrary to CSXT's assertions, risk and other factors affect equity flotation fees.

In an effort to counter the Board's reasoning in *DuPont* and *SunBelt*, CSXT asserts that the size of an equity flotation fee is "not reflective of either the risk profile…[or] the industry characteristics" but depends "on the size of the IPO gross proceeds raised," and the "gross spread is not dependent on industry or specific company characteristics but tends to follow the dollar amount of proceeds raised."[140] CSXT is wrong on this point. Risk and the industry <u>do</u> matter, as various experts cited by TPI agree. Moreover, CSXT's own evidence shows that there are factors other than size of the issuance that affect the gross spread. *See* Part III.G.1.b.

CSXT has analyzed recent equity flotation fees in an unsuccessful attempt to show that the amount raised is all that matters in determining the size of the fee. CSXT's own data, however, reveals that the two industries with the most data points are the Financial sector and the Information Technology ("IT") sector,[141] which have nearly identical gross spreads – 3.4% for Financial and 3.3% for IT. Under CSXT's theory(that the size of issuance determines the fee), these two sectors should have nearly identical average amounts raised.[142] However, the average amount raised in the IT sector is nearly three times the amount in the Financial sector.[143]

Perhaps aware that its own data does not support its position, CSXT postulates that factors other than the amount raised may affect the size of an equity flotation fee. Just one page

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139 Another large railroad equity transaction was Fortress Investment Group's $1.1 billion acquisition of RailAmerica in February 2007.

140 *See* CSXT Reply, p. III-G-2- 3.

141 *See* CSXT Reply, p. III-G-7.

142 The ample number of data points suggests that CSXT's theory, if true, should be evident. In other words, because these two sectors have the most data points, the results of CSXT's analysis should be the most probative for these sectors.

143 *See* CSXT Reply, p. III-G-7.

after saying that the specific industry does not matter, CSXT posits that a healthcare CEO planning an IPO would "compare[] his company…to other healthcare companies" to obtain "industry comparables."[144] Of course, earlier, CSXT had claimed that this cannot happen because bankers are not interested in the industry, only the size of the stock issuance.[145] Just two pages after stating that the size of the amount raised is all the matters in determining the equity flotation fee, CSXT states that, given bankers' real-world practices, "different deals in which comparable amounts are raised might show different gross spreads."[146] CSXT then admits to two <u>further</u> factors that affect the size of an equity flotation fee: the "excitement" level and the role of government involvement.[147]

At the end of the day, it is impossible to determine what CSXT believes. In attempting to disprove the Board's rationale in *DuPont* and *SunBelt*, CSXT has succeeded only in tying itself in knots. CSXT has not even remotely justified deviation from the Board's *DuPont* and *SunBelt* precedent.

iii. The BN example does not support CSXT's position

CSXT also relies upon the 1991 equity issuance of the Burlington Northern Railroad ("BN") in an attempt to salvage the 2.0 percent fee proposed for the TPIRR. CSXT contends that the 3.9 percent fee incurred by BN shows the "middle of the range" of what the TPIRR would incur.[148] The facts do not support such a contention. First, BN did not actually pay 3.9 percent as a fee for the issuance – BN only paid 3.0 percent because 0.9 percent represented the "cost" to BN of stock dilution. Even if the TPIRR used an IPO, there would be no pre-existing stock to dilute. Second, records of the Securities and Exchange Commission show that BN

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[144] *See* CSXT Reply, p. III-G-4.
[145] *See* CSXT Reply, p. III-G-3 ("gross spread is not dependent on industry").
[146] *See* CSXT Reply, p. III-G-5.
[147] *See* CSXT Reply, p. III-G-8.
[148] *See* CSXT Reply, p. III-G-6.

raised only $345 million in its 1991 issuance. This figure is over 80 times less than the equity CSXT expects the TPIRR to raise. If, as CSXT asserts, "the larger the dollar amount of IPO proceeds raised, the lower the gross spread percentage"[149], then 3.0 percent cannot be the "middle" of what the TPIRR would incur. Indeed, even 2.0 percent is far too high based on the BN experience. *See* Part III.G.1.c.

iv. The empirical evidence shows that CSXT's proposal is off the mark

CSXT notes that the TPIRR would need to raise between $21.8 billion and $30.1 billion in equity (Reply at III-G-8), an offering that CSXT admits is unusually large. In fact, the amount needed by the TPIRR is far larger than any of the real world examples included by CSXT in its data set.[150] Given CSXT's assertion that the equity flotation fee decreases as the amount raised increases, then the 2.0 percent fee proposed by CSXT for the TPIRR should be lower than that found in of any of the real-world examples included in the CSXT workpaper. However, this is not the case. There are several data points with an equity flotation fee far lower than 2.0 percent, and some as low as 0.75 percent.[151] *See* Part III.G.1.d.

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In sum, there is no support for the 2.0 percent figure proposed by CSXT for the TPIRR. This proposal materializes on the last page of CSXT's 8-page treatment of the equity flotation issue with no support other than the assertion that 2.0 percent "appears to be reasonable."[152] CSXT incorrectly assumes that the TPIRR would raise capital through an expensive IPO, yet provides no support for the implicit view that a public process is necessary. CSXT's position is also internally inconsistent and has not met the standard established by the Board in *DuPont* and

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[149] *See* CSXT Reply, p. III-G-3.
[150] *See* CSXT Reply work paper "Gross Spread Analysis" at tab "US-Industry."
[151] *See* CSXT Reply work paper "Gross Spread Analysis" at tab "US-Industry."
[152] *See* CSXT Reply, p. III-G-8.

SunBelt. By CSXT's own reasoning and evidence, the equity flotation fee for the TPIRR, if it were to raise equity capital through a public process, should be significantly lower than 0.75 percent, yet CSXT has not explained why 2.0 percent is the appropriate figure. The Board should reject CSXT's evidence on the equity flotation fee.

b. CSXT impermissibly deviates from the Board's established indexing rule

CSXT has improperly deviated from the Board's established rule regarding indexing of SARR operating expenses.[153] *See* Part III.G.2. In the *Major Issues* rulemaking, the Board determined that SARR operating expenses should be indexed using a hybrid RCAF index.[154] CSXT's deviation from this prescribed hybrid RCAF index for projecting TPIRR operating expenses is improper because the index was adopted through notice-and-comment rulemaking and, therefore, the Board must abide by the rule it adopted.[155] The Board cannot deviate from the hybrid RCAF index without engaging in a further notice-and-comment rulemaking process.[156]

Beyond CSXT's improper deviation from *Major Issues*, there are several other problems with CSXT's approach. First, CSXT's approach does not properly take into consideration productivity in the fuel costs of the TPIRR for years 2010 through 2013. The hybrid RCAF index includes a productivity component that takes into consideration railroad total factor productivity, including productivity associated with fuel consumption. CSXT's approach disregards this productivity which leads to an overstatement in TPIRR fuel costs.

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[153] *See* CSXT Reply, p. III-G-8-10.
[154] *Major Issues* at 39-47.
[155] *See, e.g., U.S. International Trade Commission v. ASAT, Inc.*, 411 F.3d 245, 253 (D.C. Cir. 2005); *Steenholdt v. FAA*, 314 F.3d 633, 639 (D.C. Cir. 2003).
[156] *See, e.g., United States Telecom Association v. FCC*, 400 F.3d 29, 35 (D.C. Cir. 2005).

Second, CSXT's attempt to develop a productivity-adjusted AII-LF is fatally flawed. CSXT applies a productivity adjustment factor ("PAF") with fuel to a cost index excluding fuel. One cannot simply combine the AII-LF with the RCAF PAF and expect to produce a meaningful index.

Third, it would be unfair to allow CSXT to selectively update the record. CSXT has chosen to update the fuel prices paid by the TPIRR because such a change is beneficial to CSXT, but CSXT has ignored other input prices that may have declined between 2010 and 2013. This sort of selective updating is improper and contrary to precedent.[157] Neither TPI nor the Board has access to the information needed to update every operating expense since the close of discovery or to know whether those updates would be favorable or unfavorable.

9. Results of SAC analysis (Part III-H)

In Part III-H of its Reply, CSXT expresses disagreement with numerous aspects of the SAC analysis results described in the TPI Opening Evidence. The issues raised by CSXT include debt capital structure, bonus depreciation, and several others. As explained below, the Board should follow TPI's Opening Evidence.

a. Debt capital structure

CSXT wants the TPIRR to operate differently than real-world railroads by structuring the TPIRR's debt like a typical home mortgage even though real-world railroads, including CSXT itself, structure their debt to make coupon payments (consisting of fixed interest) on the debt.[158] The Board and ICC have acknowledged that real-world railroads generally operate in this fashion.[159] TPI recognizes that the Board recently rejected efforts to structure SARR debt in the

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[157] *See, e.g., WFA/Basin I* at 6; *WFA/Basin* at 8 (n. 8) (served July 27, 2009);*FMC* at 729.
[158] *See* CSXT Reply, p. III-H-2-6.
[159] *See, e.g., DuPont* at 281; *SunBelt* at 191; *Nevada Power II* at 319.

manner of real-world railroad debt.[160] In those two cases, the Board stated that a SARR is evaluated through a "regulatory lens" where scrutiny of the financial markets does not occur.[161] TPI believes the Board's rational underlying those decisions is incorrect.

According to those recent decisions, because fixed coupon payments mean that a SARR is paying only interest on its debt and not repaying the principal, this would impede the ability of the SAC test to determine a SARR's ability to pay the cost of constructing, maintaining, and operating its system.[162] The Board's position is not correct because the repayment of any principal borrowed is accounted for in the levelized stream of capital recovery payments, not in the debt amortization approach. This occurs through the capital carrying charges included in the "Investment SAC" level of the DCF model, which ensure that a SARR is developing enough quarterly cash flows to pay back not only the interest on the debt (as encompassed in the weighted-average cost of capital used as a discount factor), but also the principal amount originally borrowed (as reflected in the investment costs and interest during construction costs). Far from not paying back any principal, the quarterly capital charges explicitly account for repaying principal on existing and future investments. Thus, the repayment of principal is already accounted for in the DCF model regardless of whether the Board uses a home mortgage amortization approach or a coupon approach. *See* Part III.H.1.d.

In addition to relying on the *DuPont* and *SunBelt* decisions, CSXT makes several flawed arguments to support its mortgage-style debt structure for the TPIRR. First, CSXT incorrectly characterizes TPI's Opening Evidence as advocating for a single 20-year note.[163] TPI merely stated in its Opening Evidence that, consistent with *Major Issues* and previous Board decisions,

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[160] *DuPont* at 281; *SunBelt* at 191.
[161] *DuPont* at 279-282; *SunBelt* at 189-191.
[162] *DuPont* at 281; *SunBelt* at 191.
[163] *See* CSXT Reply, p. III-H-5-6.

the model includes the first 20-years of debt for road property investment.[164] Such financing can include multiple debt instruments of varying duration. In its Opening Evidence, TPI also recognized the Board's concern that, if a SARR issues 20-year debt obligations, such a 20-year term might not match the actual length of debt obligations issued by the railroads in the cost of capital determination group.[165] As TPI previously explained, this need not be a concern. The railroads' level of debt has remained fairly constant since the last round of mergers in the mid 1990's. This is because the railroads are issuing new debt as their preexisting debt instruments mature, or the railroads are redeeming older debt issuance and replacing them with newer issuances. In other words, the railroads are holding their levels of debt constant by issuing new debt when the older debt expires or the debt is called. As such, the railroad's interest payments would be expected to be consistent from year to year and not decline over time.[166] *See* Part III.H.1.d.

CSXT also criticizes the Opening Evidence debt structure because it uses the current interest rate during the analysis period. CSXT claims that TPI is ignoring future changes in interest rates.[167] CSXT's critique is overblown. The consistency of interest rates is an assumption that the DCF model already makes. In calculating the interest tax shields associated with future asset replacements, the Board's DCF model already assumes future interest payments will equal prior year interest payments. CSXT used this assumption itself in calculating interest payments on future asset replacements.[168]

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[164] *See* TPI Opening at III-H-4.
[165] *See* TPI Opening at III-H-4.
[166] *See* TPI Opening at III-H-4.
[167] *See* CSXT Reply, p. III-H-4.
[168] *See* CSXT Reply workpaper "Exhibit III-H-1 Reply.xlsm," worksheet "Replacement Interest," cell D5.

In an attempt to counter TPI's showing that real-world railroads do not have debt structured like home mortgages, CSXT asserts that some of the debt instruments that form that basis of the AAR's cost of debt are "paid in full" at maturity.[169] CSXT's statement is misleading because the "full payment" by the relevant railroad likely involved reissuance of the principal in a new debt instrument. As indicated in Opening, the railroads' capital structure has remained constant over the last decade, indicating that, as old debt is retired or paid in full, new debt is issued to replace it.[170]

TPI's treatment of the TPIRR's debt enables the TPIRR to maintain a stable capital structure. This is consistent with the Board's DCF model, which assumes the capital structure does not change over time.[171] To reflect this steady-state nature, the TPIRR must reissue debt as older debt is retired, which ultimately leads to consistent interest payments as reflected in TPI's DCF model.

b. Replacement assets

CSXT erroneously creates a double-count of interest payments through what it calls a "re-establish[ment]" of a 20-year debt amortization schedule for replacement assets.[172] CSXT's action results in a double count because TPI included a terminal interest value calculation in its Opening Evidence, which accounts for TPIRR interest payments for debt issued in perpetuity.[173] Hence, TPI does not accept CSXT's proposal. *See* Part III.H.1.e.

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[169] *See* CSXT Reply, p. III-H-5.
[170] *See* TPI Opening, p. III-H-2-6.
[171] *See* TPI Opening, p. III-H-12.
[172] *See* CSXT Reply, p. III-H-6.
[173] *See* TPI Opening, p. III-H-12-15.

c. Bonus depreciation

In its Opening Evidence, TPI stated that the TPIRR would utilize bonus depreciation provisions available under federal law for capital investments.[174] Use of bonus depreciation in this manner is in accord with direct Board precedent.[175] Even though the bonus depreciation laws may have been short-term in nature, the Board has previously applied short-term tax laws in effect during the construction period of a SARR.[176]

Despite this controlling precedent, CSXT claims that bonus depreciation is improper as a "reverse barrier to entry" because identical bonus depreciation was not available to it during the construction of all the lines replicated by the TPIRR.[177] CSXT contends that bonus depreciation "would inappropriately place the TPIRR at a distinct *advantage* relative to the incumbent CSXT."[178] CSXT believes the bonus depreciation is inappropriate because it exists "solely as a byproduct of the artificially short construction period assumption," and thus confers "tax benefits on the SARR that were not available to the incumbent."[179]

CSXT's position does not warrant overturning existing precedent. In its two recent decisions on the issue, the Board stated that the short time period for SARR construction results in both benefits and disadvantages for the SARR, and that it would be improper to bar the SARR from the benefits while requiring the SARR to endure the disadvantages.[180] In fact, CSXT and its predecessors have benefitted from a wide range of prior tax benefit laws that are not available to the TPIRR. *See* Part III.H.1.f.i. In other words, CSXT's argument works both ways.

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[174] *See* TPI Opening, p. III-H-8-10.
[175] *DuPont* at 277-279; *SunBelt* at 188-189.
[176] *See, e.g.*, *West Texas Utilities* at 714; *McCarty Farms* at 525-529.
[177] *See* CSXT Reply, p. III-H-7.
[178] *See* CSXT Reply, p. III-H-7 (emphasis original).
[179] *See* CSXT Reply, p. III-H-8.
[180] *DuPont* at 278; *SunBelt* at 188.

CSXT offers to allow the TPIRR to take bonus depreciation to the same extent that CSXT itself did during the TPIRR construction period.[181] However, this would give an unfair advantage to CSXT because various other (now-expired) tax and/or legal provisions were available to CSXT and its predecessors in previous decades yet, crucially, are not available to the TPIRR. If CSXT were to get the benefit of limiting the TPIRR's use of current law, then CSXT must share with the TPIRR some percentage of the benefits CSXT received in prior years under prior law. These prior benefits are not available to the TPIRR but were available to CSXT. Because this simply is not possible, the Board should apply existing law to the TPIRR – just as then-existing law similarly applied to CSXT and its predecessors over the past 180 years.

CSXT not only was aided by many historic tax breaks, but also continues to benefit from current favorable tax treatment unavailable to the TPIRR. For example, CSXT obtained a tax break from the state of Florida in 2012 for spending more than $250 million in capital projects.[182] Because the TPIRR completed the primary construction of its rail system in 2010, and does not begin replacing any major assets until 2025 at the earliest, it would not be eligible for the special tax treatment CSXT received from the state of Florida. *See* Part III.H.1.f.i.

The Board accepted complainants' use of bonus depreciation in the *DuPont* and *SunBelt* decisions because, among other things, there are both disadvantages and advantages from the compressed construction schedule of the SARR.[183] CSXT questions what the disadvantages might be, given that the Board did not specify them.[184] There are many such disadvantages. For example, prices for materials (such as steel) could be elevated during the brief period of SARR

[181] *See* CSXT Reply, p. III-H-9.

[182] *See* "Florida's Tax Break Often Helps Companies Do Already-Planned Work," *Orlando Sentinel*, July 7, 2012. Available at: http://articles.orlandosentinel.com/2012-07-07/business/os-single-sales-factor-20120707_1_tax-revenue-tax-incentive-single-sales-factor.

[183] *DuPont* at 278; *SunBelt* at 188.

[184] *See* CSXT Reply, p. III-H-7-8.

construction, thus forcing the SARR to expend far more than under normal conditions. In contrast, real-world railroads such as CSXT have benefitted from acquiring their materials over many decades, in both boom and bust cycles. Moreover, CSXT has had the option of choosing not to construct new lines during unfavorable market conditions, whereas a SAC complainant must take conditions as they are during the SARR construction period.

The viability of a SARR can also be negatively impacted by prevailing debt interest rates. If the SARR construction period coincides with a period of high interest rates for debt, the SARR would be saddled with extra debt costs, thus negatively affecting the complainant's entire case. The negative impact would be a direct consequence of the "artificially short construction period assumption", and would affect the SARR to a much greater extent than the defendant railroad. Compared to the SARR, the defendant would have incurred moderate levels of debt over many decades of financing, thus smoothing out any period of high interest rates. *See* Part III.H.1.f.i.

In other words, a SARR must incur "current market prices" at the time construction actually occurs. That means the SARR must pay market rates for land, material and labor, whether that be a boom or a bust market, regardless what the incumbent may have paid (unless the incumbent paid nothing, in which case the SARR also pays nothing). Tax depreciation is a temporal cost factor just like most other costs that the SARR must incur.

According to CSXT, its position is a necessary result of the SARR being a "replacement carrier that steps into the shoes of the incumbent."[185] CSXT's position is misguided. CSXT fails to recognize that the stand-alone replacement need not be constructed or operated in the same

[185] *See* CSXT Reply, p. III-H-8-9.

manner as the defendant.[186] In fact, the "SARR" need not even be a railroad.[187] *See* Part III.H.1.f.i.

d. TPIRR capital structure

In its Opening Evidence, TPI explained that it corrected a flaw in the Board's standard capital recovery methodology.[188] Specifically, the DCF model assumes that the SARR's capital structure will remain constant in perpetuity, but the model also assumes that after year 20, and until the first assets are replaced in the replacement level of the DCF model, the railroad has no debt and no tax shielding interest payments. This creates an irreconcilable mismatch between the SARR's cost of capital and its cash flows. The cost of capital assumes that the SARR is carrying debt, and its associated interest payments, but the cash flows reflect no benefits from the interest tax shields. *See* Part III.H.1.h.i.

TPI corrected for this flaw in its Opening Evidence. TPI adjusted the terminal value in the capital carrying charges to account for the interest tax shields that would exist with a constant level of debt in perpetuity.[189] In two recent decisions, the Board adopted a correction identical to that made by TPI in its Opening.[190] Nonetheless, CSXT seeks to have the Board depart from those recent decisions.[191] CSXT invokes older precedent in an attempt to support its position, but CSXT's interpretation of *Coal Trading Company*, *McCarty Farms*, and *Major Issues* is plainly incorrect. *See* Part III.H.1.h.i.

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[186] *McCarty Farms* at 468; *AEPCO* at 10.
[187] *Coal Rate Guidelines* at 543; *WFA/Basin II* at 14.
[188] *See* TPI Opening, p. III-H-12.
[189] *See* TPI Opening, p. III-H-13.
[190] *DuPont* at 282-284; *SunBelt* at 193.
[191] *See* CSXT Reply, p. III-H-11-14.

CSXT also asserts that the Board's recent *DuPont* and *SunBelt* decisions are erroneous for both conceptual and mathematical reasons.[192] In support of its conceptual error claim, CSXT asserts that the terminal value correction creates inconsistent assumptions regarding amortization of debt incurred during the initial construction period and debt incurred in subsequent asset replacement.[193] CSXT is wrong for two reasons. First, the different assumptions mentioned by CSXT existed even prior to the terminal value correction accepted by the Board in *DuPont* and *SunBelt*, not as a consequence of that correction. Second, CSXT ignores the fact that the debt reflected in the terminal value calculation is there to perpetually replace future assets (as well as to account for other corporate needs as debt is used by real-world railroads). Therefore, CSXT is wrong in its claim that there will be no amortization of debt for assets in subsequent asset replacement cycles.[194] *See* Part III.H.1.h.i.

CSXT's assertion of a mathematical error is similarly unfounded. CSXT asserts that the terminal value correction would result in overstating the interest the TPIRR would pay in the last ten years of the 20-year analysis period.[195] In other words, the terminal value correction utilizes an average interest payment for all 20 years, and that average figure is higher than the actual interest payment in years 11 through 20. CSXT ignores the fact that actual interest payments would be higher than the average in the first ten years. Hence, there is no mathematical error. *See* Part III.H.1.h.i.

In lieu of TPI's terminal value correction, CSXT proposes that the Board recalculate the TPIRR's capital structure as debt is amortized.[196] CSXT's position is inconsistent with standard

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[192] *See* CSXT Reply, p. III-H-13-14.
[193] *See* CSXT Reply, p. III-H-13.
[194] *See* CSXT Reply, p. III-H-13.
[195] *See* CSXT Reply, p. III-H-14.
[196] *See* CSXT Reply, p. III-H-14.

finance theory, which states that a firm's cost of equity should decrease as the debt percentage decreases. The inconsistency arises because CSXT's proposal does not involve changing the cost of equity and, consequently, the proposal cannot be adopted. *See* Part III.H.1.h.i.

e. PTC investment

CSXT failed to credit the TPIRR with bonus depreciation for PTC investment in years 2011 through 2013. Under the applicable depreciation laws, the TPIRR would be entitled to such bonus depreciation in the year in which the relevant investment was made. Moreover, CSXT has already begun depreciating its PTC related investments, which presumably includes taking bonus deprecation on these investments. Failing to include the bonus depreciation overstates the capital carrying costs required for PTC. *See* Part III.H.1.h.ii.

f. MGA investment

CSXT contends that the TPIRR would be required to assume CSXT's capital expenditure payments for the MGA area. TPI agrees that the TPIRR must assume some of the MGA capital costs, but CSXT has incorrectly calculated the net costs to the TPIRR by failing to account for the depreciation and interest expense tax shields associated with such a capital investment. TPI has included the necessary MGA capital costs, but also included the resulting depreciation and investment tax credits. *See* Part III.H.1.h.iii.

g. Cross-subsidy analysis

CSXT purports to perform a cross-subsidy analysis for a single TPIRR line segment in Indiana, and states that the Board should use this flawed analysis as a "template" for any other subsidy analyses that the Board would perform.[197] CSXT made several errors in its attempt to create a cross-subsidy template, including:

[197] *See* CSXT Reply, p. III-H-22.

1. CSXT improperly imputed 2012 traffic to all years moving over the Indiana line segment, thereby ignoring actual traffic for 2010 and 2011.
2. CSXT improperly excluded traffic originating and/or terminating at two specific mileposts.
3. CSXT included costs for sub-ballast on bridges, which was improper because bridges have no sub-ballast.
4. CSXT included certain turnouts even though the TPIRR would have no such turnouts on this line segment.
5. CSXT improperly assigned turnouts to customers where such turnouts are unnecessary.

When these errors are corrected, the revenues exceed the stand-alone costs for this Indiana line segment tested by CSXT. *See* Part III.H.2.

TPI's Rebuttal Evidence, however, does indicate the presence of a so-called "*Otter Tail*" cross-subsidy on this segment. Although TPI has provided the Board with a work paper that calculates the effect of this cross-subsidy, TPI contends that the *Otter Tail* cross-subsidy test is inappropriate and should be rejected because it: (1) impermissibly measures a cross-subsidy based upon hypothetical rates that are not and never will charged in the real-world; and (2) violates contestable market theory as held by the Board in its *WPL* decision. *See* Part III.H.2.b.

C. REQUEST FOR RELIEF

For the foregoing summarized above and detailed in Part III, Exhibits, and supporting work papers, the Board should declare that the challenged rates are unreasonable under the stand-alone cost constraint, prescribe reasonable rates for a period of 10 years, beginning on July 1, 2010, and award TPI reparations for monies paid in excess of the reasonable rates from July 1, 2010 through the effective date of the Board's decision.

Respectfully submitted,

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PUBLIC

CERTIFICATE OF SERVICE

I hereby certify that this 5th day of November 2014, I served a copy of the Rebuttal Evidence and Argument for Total Petrochemicals and Refining USA, Inc. upon Defendant via hand-delivery at the address below:

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Compared to CSXT, the TPIRR benefits from greater traffic density on its rail lines. In other words, the rail lines of the TPIRR are utilized for more trains and more traffic, on average, than the rail lines of CSXT. One mechanism by which TPI has developed a more densely utilized rail system is by omitting many of the CSXT branch lines and other comparatively lightly-used rail lines of the CSXT system. By developing a SARR with greater density, TPI benefits from concentrating its traffic on a smaller rail infrastructure.

The increased density of the TPIRR is apparent by comparing the TPIRR route map to a 2008 density map from the CSXT website.[1] These two maps show that the TPIRR replicates most of the high density CSXT rail lines (depicted in red on the CSXT map), a smaller percentage of the medium density CSXT rail lines (depicted in yellow), and very few of the low density CSXT rail lines (shown in green).

It is well-recognized that an increase in density results in economies of production. *See, e.g.*, *PPL I* , 6 STB 286, 299 (n. 21) (Board states that there is "declining capital investment needed per unit of output as the rail system is used more intensively"). *See also* *Guidelines*, 1 ICC2d at 526. However, it is also the case that operating costs per unit of output are higher on light-density rail lines – particularly light-density branch lines that are frequently used to pick up and deliver small numbers of cars to various consignors and consignees. CSXT itself has argued that its service on lightly-used branch lines is more costly than the Board and most complainants realize.[2] Experts agree.[3]

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[1] *See* TPI Opening Exhibits III-A-1 and III-A-6 (TPIRR route map) and Rebuttal workpaper "CSX.presentation.Shortline.Workshop.Feb.2008.pdf" (2008 shortline presentation at page 162). The CSXT map is labeled "Proprietary Not for Public Release", but it is readily available on the CSX website. *See* workpaper "CSX.shortline.workshop.Publicly.Available.pdf", showing the website page where the presentation is available.

[2] Joint Comments of CSXT and NS at p. 8, in *Major Issues in Rail Rate Cases*, STB Ex Parte No. 657 (Sub-No. 1) (filed May 1, 2006) (CSXT and NS assert that prior cross-over traffic revenue allocation methods "do not adequately account for the full costs to the residual incumbent of serving crossover traffic, particularly on the low-density residual lines that the complainant chooses not to include in its SARR.").

The efficiencies demonstrated by the TPIRR should come as no surprise to CSXT. Over the past decade, CSXT's own experience has revealed that elimination of light-density and/or branch lines can and does increase railroad efficiency. The key difference, however, is that the scale and scope of the TPIRR's commitment is far beyond what CSXT has sought to accomplish. In other words, the TPIRR is a more fully developed version of the CSXT strategic vision for increasing efficiency.

It is common knowledge that Class I railroads have sold or leased a significant percentage of their track to shortline railroads over the past twenty years. "Between 1980 and 2008, the Class I railroads transferred nearly 30,000 route-miles to short-line and regional railroads."[4] In the words of the Board:

> Larger railroads have shed many of their lighter density lines, either through abandonment or through line sales, and have focused more of their resources on their mainline service. For the larger railroads, this refocusing has helped improve their financial health.

Meridian Southern Railway, LLC – Acquisition and Operation – Line of Kansas City Southern Railway Company, STB Docket No. 33854, slip op. at 2 (n. 1) (served Aug. 29, 2000).

Of course, shortline railroads can operate with lower costs than Class I railroads.[5] In adopting a class exemption to apply to acquisitions by Class III railroads, the Board noted that "continued rail operations made possible by such acquisitions should improve service for

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[3] Denver Tolliver, John Bitzan, and Doug Benson, Railroad Operational Performance in the United States, 49 JOURNAL OF THE TRANSPORTATION RESEARCH FORUM 87, 92 (Fall 2010) (As rail networks become more dense, including through "the sale of branch lines to local and regional railroads," traffic is "concentrated on fewer lines" and Class I railroads are "relieved of the time-intensive tasks of picking up and delivering freight on low-density lines."); Carl D. Martland, Productivity Improvements in the U.S. Rail Freight Industry, 1980-2010, 51 JOURNAL OF THE TRANSPORTATION RESEARCH FORUM, 83, 99-100 (Fall 2012) (stating that ties will deteriorate regardless of use, thus necessitating tie maintenance).

[4] Carl D. Martland, Productivity Improvements in the U.S. Rail Freight Industry, 1980-2010, 51 JOURNAL OF THE TRANSPORTATION RESEARCH FORUM, 83, 100 (Fall 2012).

[5] *See, e.g.*, H.R. Conf. Rep. 104-422 (1995) at p. 179-180 (ICCTA should "avoid imposing additional and sometimes potentially fatal costs on start-up operations of smaller railroads who often can keep rail lines in service, even if not viable as part of a larger carrier's system.").

shippers and decrease the cost of its provision." *Class Exemption for Acquisition or Operation of Rail Lines by Class III Rail Carriers under 49 U.S.C. 10902*, 1 STB 95, 103 (1996). *See also Class Exemption for the Acquisition and Operation of Rail Lines under 49 U.S.C. 10901*, 1 ICC2d 810, 813 (1985) ("shortlines frequently are able to reduce operating costs").

The sale or lease of light-density rail lines by Class I railroads continues to this day, indicating that the rail industry believes further efficiencies can be obtained by more such "spin-offs." The Board has recognized that the rail industry "continues to shed…excess or inefficient infrastructure." *Major Issues*, slip op. at 40. Indeed, recent filings by railroad organizations expressed concern about possible Board action that would allegedly have a "chilling effect" on future light-density line sales or leases by Class I railroads. Many such statements were made in the recent proceeding of STB Ex Parte No. 714, *Information Required in Notices and Petitions Containing Interchange Commitments*.[6]

The reason Class I railroads are concerned about a "chilling effect" is they know that efficiency can be improved with the proper rail line spin-offs. *See, e.g.*, Denver Tolliver, John Bitzan, and Doug Benson, Railroad Operational Performance in the United States, 49 JOURNAL OF THE TRANSPORTATION RESEARCH FORUM 87, 92 (Fall 2010) ("the elimination of less productive route miles has improved the efficiency of train operations"). This is exactly the strategy exemplified by the TPIRR, albeit on a much more comprehensive scale.

CSXT itself continues to shed light-density and other rail lines. Data submitted to the Board in the CSXT R-1 reports reveals that CSXT's "miles of road" have declined from 22,841

[6] *See, e.g.*, Opening Comments of AAR, at p. 2-3 and 8-10 (filed Dec. 18, 2012) (expressing concern about the "potential chilling effect" on the "transfer of marginal rail lines from large railroads to smaller railroads"); Opening Comments of ASLRRA, at p. 5 (filed Dec. 18, 2012) ("the Proposed Rules would also create a huge disincentive for Class I railroads to consider spinning off segments in the future that would make more sense economically to be operated and/or owned by a short line"). *See also* Petition for Clarification of ASLRRA (filed Sept. 23, 2013) (expressing concern that new Board regulation is "likely to have a chilling effect on the willingness of incumbent carriers to spin off redundant or low density lines" to shortline railroads).

in 2003 to 20,814 in 2013 – a drop of 8.9% in a decade. While some of this decline may be due to abandonments, recent public filings at the Board reveal that CSXT also continues to transfer lines to short-line railroads. *See, e.g., Georgia Southwestern Railroad, Inc. – Acquisition Exemption – CSX Transportation, Inc.*, STB Docket No. 35176 (served Sept. 26, 2008); *Pennsylvania Northeastern Railroad, LLC – Acquisition and Operation Exemption – CSX Transportation, Inc.*, STB Docket No. 35535 (served July 22, 2011); *Finger Lakes Railway Corp. – Acquisition and Operation Exemption – CSX Transportation, Inc.*, STB Docket No. 35545 (served Oct. 7, 2011); *Pennsylvania & Southern Railway, LLC – Acquisition, Lease and Operation Exemption – CSX Transportation, Inc*., STB Docket No. 35572 (served Dec. 20, 2011). A few years ago, the appropriateness of several of these CSXT rail line spin-offs was challenged. CSXT explained that it has an "ongoing network rationalization program," which aims to "focus its capital and other resources on rail lines that contribute in a meaningful way to its return on investment."[7]

CSXT even has a "Network Rationalization" department.[8] The purpose of this department, apparently, is to handle inquiries from parties that may be "interested in leasing or purchasing a line of railroad" from CSXT.[9]

CSXT also recently sold significant real estate and track assets to two state departments of transportation. In Massachusetts, CSXT sold physical assets to the Massachusetts Department of Transportation, retained a freight rail easement, but sold a portion of the freight rail easement to a Class III railroad in a related transaction. *Massachusetts Coastal Railroad – Acquisition – CSX Transportation, Inc*., STB Docket No. 35314 (served Mar. 29, 2010); *Massachusetts*

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7 Response of CSXT to UTU Supplemental Petition to Revoke, at p. 4 and 12 in *The Columbus & Ohio River Rail Road Company – Acquisition and Operation Exemption – CSX Transportation, Inc*., STB Docket No. 34540 (filed April 5, 2005).

8 *See* Rebuttal workpaper "CSXT.network.rationalization.department.10.15.14.pdf".

9 *See id*.

Department of Transportation – Acquisition Exemption – Certain Assets of CSX Transportation, Inc., STB Docket No. 35312 (served May 3, 2010). CSXT was relieved of maintenance and dispatch obligations by virtue of these transactions.[10]

In Florida, CSXT recently sold real estate and track assets to the Florida Department of Transportation ("FDOT"). *Florida Department of Transportation – Acquisition Exemption – Certain Assets of CSX Transportation, Inc*., STB Docket No. 35110 (served Dec. 15, 2010). As a result of that proceeding, CSXT retained the common carrier obligation to provide freight rail service, but CSXT was relieved of maintenance and dispatch obligations, which were to be provided by FDOT. CSXT would pay a fee to operate on the line. *See* FDOT Motion to Dismiss, at p. 22-24 and at Exhibit 2 (filed April 3, 2009). CSXT recently stated that the proceeds from the sale to FDOT will be invested "in additional freight rail capacity and infrastructure within the state."[11]

To some extent, the TPIRR designed by TPI merely represents a much more complete, and accelerated version of, CSXT's "ongoing network rationalization". The TPIRR represents a fuller implementation of steps that CSXT itself recognizes as beneficial, appropriate, and good for the bottom line. By omitting many light-density and/or branch lines from the TPIRR, TPI has "focused [the TPIRR's] capital and…resources on rail lines that contribute in a meaningful way to its return on investment."[12] By omitting the marginal lines, the efficiency and profitability of the remaining rail operations are much greater because they are not diluted by the marginally-performing rail lines. TPI has aggressively taken the steps necessary to produce the most efficient SARR possible.

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[10] *See Brotherhood of Railroad Signalmen v. STB*, Case No. 10-1138, 638 F.3d 807, 810 (D.C.Cir., March 29, 2011).

[11] CSXT Annual Report 2012 at p. 25.

[12] Response of CSXT, at p. 12 in STB Docket No. 34540 (filed April 5, 2005).

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III. STAND-ALONE COST

A. STAND-ALONE TRAFFIC AND REVENUES

The TPIRR traffic group includes a broad range of commodities moving in manifest (mixed general freight), intermodal, unit and local trains. The selected traffic includes local, interline, and cross-over movements. In its Opening Evidence, TPI described the procedures it followed to identify and model the handling of this traffic under the hypothetical, optimally efficient presumptions inherent in the *Coal Rate Guidelines*. In Reply, CSXT attacks much of TPI's evidence including its use of internal re-routes, cross-over traffic and CSXT's own forecasts.

This Rebuttal evidence summarizes the dollar value impact of the differences between the parties' approaches, briefly discusses the approach each party used, and identifies the best evidence of record which is summarized in this Rebuttal. This narrative also identifies where CSXT's Reply evidence includes misstatements and attempts to limit properly included traffic and revenue.

This part of TPI's Rebuttal evidence addresses the differences between traffic and revenues included in TPI's Opening evidence and in CSXT's Reply evidence as forecasted over the ten (10) year discounted cash flow ("DCF") model life. The remainder of this Part III-A addresses these differences under the following topical headings:

1. Stand-Alone Volumes (Historical and Projected)
2. Stand-Alone Revenues (Historical and Projected)

1. Stand-Alone Volumes (Historical and Projected)

In its Opening evidence, TPI selected the TPIRR traffic group as a subset of the actual CSXT traffic that was shipped over the selected rail lines of the hypothetical TPIRR. The

TPIRR traffic group was made up of a broad range of commodities (i.e., general freight, coal and intermodal) that traversed the hypothetical rail lines of the TPIRR for each year in the ten-year DCF. The TPIRR traffic was selected from electronic traffic data provided by CSXT in discovery. The TPIRR traffic volume was developed using actual CSXT car and container waybill data and CSXT car and train event data for the third quarter 2010 ("3Q10") through the second quarter 2013 ("2Q13"). This period is referred to as the historical period and the TPIRR volumes in the historical period are referred to as the historical volumes.

The TPIRR traffic volume was developed for the third quarter 2013 ("3Q13") through the second quarter 2020 ("2Q20") using various forecasts of traffic volume change applied to historical volumes pursuant to the existing methodology accepted by the Board in recent stand-alone cost decisions. This period is referred to as the forecast period and the TPIRR traffic volumes for the forecast period are referred to as the projected volumes. The projected volumes are created based upon two unique forecast periods: (1) the period covered by CSXT's own internal forecast of traffic volumes produced in discovery (2014 through 2017); and (2) the period from the end of CSXT's internal forecast until the end of the 10-year DCF model period (2018 through 2Q20).

In Reply, CSXT criticized TPI's calculation of both historical and projected traffic volumes for the TPIRR traffic group. CSXT made specific adjustments to the TPIRR traffic group to incorporate various changes based on these criticisms. In addition, CSXT generally criticized TPI's use of internally re-routed traffic across the hypothetical TPIRR system but did not make any adjustments to the TPIRR traffic group as a result of this criticism.

Rebuttal Table III-A-1 below, summarizes the differences in TPIRR traffic volume by year between TPI Opening evidence and CSXT Reply.

Rebuttal Table III-A-1
Differences In TPIRR Tons and Shipments
Between TPI Opening and CSXT Reply

	Time Period	TPI Opening	CSXT Reply	Difference Aggregate 1/	Difference Percent 2/
	(1)	(2)	(3)	(4)	(5)
		TPIRR Gross Tonnage			
1.	2010 (Jul-Dec)	233,636,034	218,976,193	(14,659,841)	-6.3%
2.	2011	465,801,488	441,809,924	(23,991,564)	-5.2%
3.	2012	434,081,339	429,811,027	(4,270,312)	-1.0%
4.	2013	452,416,378	435,056,984	(17,359,394)	-3.8%
5.	2014	461,567,023	448,027,571	(13,539,452)	-2.9%
6.	2015	480,221,980	459,560,793	(20,661,187)	-4.3%
7.	2016	499,154,490	476,941,824	(22,212,666)	-4.5%
8.	2017	508,030,595	486,079,019	(21,951,576)	-4.3%
9.	2018	524,723,188	497,878,857	(26,844,331)	-5.1%
10.	2019	542,872,234	504,939,290	(37,932,944)	-7.0%
11.	2020 (Jan-Jul)	281,271,091	256,250,447	(25,020,644)	-8.9%
12.	Total	4,883,775,840	4,655,331,928	(228,443,912)	-4.7%
		TPIRR Shipments			
13.	2010 (Jul-Dec)	2,856,435	2,730,905	(125,530)	-4.4%
14.	2011	5,683,950	5,473,166	(210,784)	-3.7%
15.	2012	5,560,817	5,493,731	(67,086)	-1.2%
16.	2013	5,705,115	5,543,757	(161,358)	-2.8%
17.	2014	5,890,813	5,753,402	(137,411)	-2.3%
18.	2015	6,191,431	5,998,145	(193,286)	-3.1%
19.	2016	6,533,630	6,326,064	(207,566)	-3.2%
20.	2017	6,716,804	6,509,319	(207,485)	-3.1%
21.	2018	7,014,628	6,658,184	(356,444)	-5.1%
22.	2019	7,333,196	6,767,819	(565,377)	-7.7%
23.	2020 (Jan-Jul)	3,837,219	3,447,083	(390,136)	-10.2%
24.	Total	63,324,038	60,701,574	(2,622,464)	-4.1%

Source: TPI Opening workpaper "Revenue Summary (Final).xlsx" and CSXT Reply workpaper "Revenue Summary (Final) Reply.xlsx".
1/ Column (3) – Column (2).
2/ Column (4) ÷ Column (2).

As shown in Rebuttal Table III-A-1 above, the TPIRR volumes included in CSXT's Reply represent approximately 4.7 percent fewer gross tons and approximately 4.1 percent fewer shipments, on average, than TPI Opening volumes.

TPI addresses each of the specific adjustments identified in CSXT's Reply evidence that cause the differences noted above in the following sections of this Rebuttal evidence.

a. <u>Historical Volumes</u>

In Opening, TPI selected historical volumes from actual CSXT traffic data for the historical period from July 1, 2010 through June 30, 2013. In Reply, CSXT criticized TPI's methodology for identifying CSXT traffic to include in the TPIRR traffic group in the historical period. Specifically, in Reply, CSXT excluded traffic from the TPIRR traffic group because CSXT claimed: (1) TPI over-included traffic in the TPIRR traffic group for the 2010, 2011 and 1Q13-2Q13 time periods;[1] (2) TPI incorrectly included traffic in the TPIRR traffic group that does not traverse the TPIRR lines;[2] and (3) TPI improperly included certain high-priority intermodal traffic.[3] In Rebuttal, TPI accepts all of CSXT's changes identified above except those related to the claim that TPI improperly included certain high-priority intermodal traffic. TPI's reason for rejecting CSXT's exclusion of certain high-priority, cross-over intermodal traffic is discussed below.

In Opening, TPI included coal, general freight and intermodal traffic in the TPIRR traffic group that was, in certain instances, handled by the residual incumbent as a bridge carrier. In Reply, CSXT claims that "[r]ather than provide continuous service over the SARR, these movements 'leapfrog' between the TPIRR and the residual CSXT, jumping over any segment that TPI decided not to build or operate."[4] CSXT further claims that "[t]his type of SARR operation is particularly troublesome for high priority shipments that require expedited service" because the hypothetical operations "add unnecessary interchanges between the SARR and

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1 *See,* CSXT Reply, pp. III-A-2-6.
2 *Id.* pp. III-A-7-8.
3 *Id.* pp. III-A-8-10.
4 *Id.* pp. III-A-8-9.

residual CSXT, which add time to these time-sensitive moves."[5] CSXT concludes that additional interchanges lead to increased transit times and increased transit times would cause the TPIRR to lose the business. Moreover, CSXT inflates the interchange times between the TPIRR and residual CSXT by insisting that the residual CSXT will not agree to a distributed power configuration for these trains thereby requiring additional time at interchanges to reconfigure the locomotives.[6] Based on this logic, CSXT excluded intermodal traffic for two (2) specific customers from the TPIRR traffic group.[7]

CSXT's reason for excluding this high-priority cross-over intermodal traffic fails for the following reasons:

- CSXT's claim is unsupported by any empirical data or analysis to show that the TPIRR service received by these customers would be worse than the actual service provided by the CSXT;
- CSXT fails to consider that the proper comparison of service levels for any shipment is the total time for the movement of a shipment from origin to destination;
- {{[redacted]}};[8]
- This high-priority traffic already must stop along the route of movement to refuel, to get inspected, to switch out cars, and for other operating considerations. These services could be coordinated to occur at the hypothetical interchanges with the TPIRR without the loss of additional time;

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5 *Id.* p. III-A-10.

6 *Id.* pp. III-A-9-10.

7 CSXT claims that it excluded intermodal traffic to "two customers, UPS on the route to/from New York and Threads Express to/from Charlotte". (*See,* CSXT Reply, p. III-A-9). CSXT's workpapers, however, show that CSXT also excluded cross-over intermodal traffic for United Parcel Service ("UPS"), Seaboard Marine LTD, and Crowley Liner Services from the TPIRR traffic group. The intermodal traffic excluded by CSXT is minimal and amounts to approximately 34,000 units out of a total of 2,460,000 total intermodal units in 2012 (or 1% of intermodal traffic).

8 CSXT contract AGRT 2020 governs shipments to UPS and CSXT contract CSXT 3651 governs shipments for Crowley Liner Services, Inc. and Crowley Logistics, Inc. TPI could not locate in the supporting information provided by CSXT a contract that covered shipments to Seaboard Marine LTD in discovery.

- CSXT's refusal to accept distributed power locomotive configurations for the residual CSXT is an opportunistic tactic designed solely to affect the transit times for these cross-over trains. Given this new disclosure by CSXT on Reply, TPI has accepted CSXT's insistence upon a front-end locomotive configuration in Rebuttal in order to avoid the necessity of changing the configuration at interchanges;

- CSXT identified specific premium merchandise trains that carried the high-priority cross-over intermodal traffic it excluded from the TPIRR traffic group.[9] An evaluation of the traffic on these premium trains showed that CSXT is not excluding all of the traffic it moved on these trains but only a subset of the traffic for the customers in question. As a result, CSXT is proposing that the TPIRR eliminate most of the traffic that moves on a premium train but keep some "premium" traffic so that the TPIRR must still operate the scheduled train, albeit without the same economies of scope as the real-world CSXT;

- TPI evaluated the specific peak period trains identified by CSXT in Reply that carried the high-priority intermodal traffic it slated for exclusion and found that the hypothetical TPIRR actually moves these particular trains 17 percent faster, on average, over the TPIRR segments (including the additional time associated with interchange) than CSXT historically moved these trains;[10] and

- CSXT actually has a history of failed service for the United Parcel Service. In 1999, CSXT lost much of the UPS business, not by missing transit times by 1 or 2 hours, but by completely failing to provide reliable service to the customer.[11]

In Rebuttal, TPI includes all of the high-priority cross-over intermodal traffic in the TPIRR traffic group because TPIRR does provide reliable scheduled service that is equal to or better than CSXT's recent service levels.

b. Projected Volumes

In Reply, CSXT was critical of TPI's methodology for forecasting TPIRR volume growth over the forecast period covered by CSXT's forecast. TPI's Rebuttal responses to CSXT's criticisms for each unique forecast period are discussed below.

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9 The high-priority trains identified by CSXT had train ID's of {{[redacted]}}. These are considered premium trains that are "curfew related trains operated to protect service for customer commitments." *See*, TPI Rebuttal workpaper "TRAIN DESIGNATION SCHEME (CSX-TPI-C-28892 to 28893)".

10 *See,* TPI Rebuttal workpaper "TPIRR_INTERMODAL_TRANSIT_TIME_ANALYSIS.xlsx".

11 *See,* the August 27, 1999 article in the *Florida Times-Union* titled "UPS Lightens CSX's Load" noted that CSXT's service was so bad that UPS was forced to "divert 50 percent of its rail business to trucks because of deteriorating service."

i. Period Covered by CSXT Forecast (2014-2017)

In Opening, TPI utilized the CSXT internal forecast that was provided in discovery to project coal, merchandise and intermodal volumes over the 2014 through 2017 period. For merchandise and intermodal traffic, TPI utilized the CSXT internal forecast and aggregated the CSXT forecasted carload and container shipments by 2-digit STCC and CSXT commodity group to develop year-over-year volume change indices. For coal traffic, TPI further refined its approach to disaggregate the coal volume growth based on CSXT origin coal-producing regions. TPI applied these indices to the actual TPIRR 2013 traffic volumes to develop forecasted TPIRR volumes for the 2014-2017 time period.

In Reply, CSXT accepted TPI's general use of the CSXT internal forecast to develop growth rates for coal, merchandise and intermodal volumes over the 2014-2017 period. CSXT did not accept TPI's specific methodology to develop growth rates for all traffic. Specifically, CSXT accepted TPI's specific methodology to develop growth rates based on the CSXT internal forecast for merchandise and intermodal traffic but rejected and modified TPI's specific methodology to develop growth rates based on the CSXT internal forecast for coal traffic.

CSXT claimed that "because the TPIRR only handles 61% of CSXT's coal shipments, an accurate application of the CSXT coal forecast requires a more refined approach."[12] According to CSXT, a "refined" approach is required because TPI's use of aggregated forecasts for each Origin Region assumes "the same volume growth of shipments to all destinations from a given region".[13] According to CSXT, this results in a shift in "traffic from shipments that do not move over the SARR (*i.e.*, traffic not selected for the SARR traffic group) to those that do, thereby

[12] *See,* CSXT Reply, p. III-A-10.
[13] *Id.* pp. III-A-10-11.

substantially overstating future coal shipment volumes on the TPIRR."[14] As an example, CSXT notes that "CSXT's export shipments from CAPP mine origins to Newport News, VA comprise 39% of the total CAPP coal traffic in the CSXT forecast, yet only 1% of those movements travel on the TPIRR."[15] To correct for this issue, CSXT concluded that TPIRR coal volumes must be projected using its internal forecast aggregated at the Origin Region-Destination level.

As a result of CSXT's decision to utilize a forecast aggregated at the Origin Region-Destination level, CSXT had to incorporate a number of adjustments to the forecast model. Specifically, CSXT:

1. Added new coal movements to the TPIRR traffic group[16];
2. Removed coal volumes to account for partial plant closures that CSXT apparently did not consider when the CSXT forecast was developed;
3. "Corrected" its own forecast to include other traffic in the coal forecast;
4. Aggregated various coal destinations into a single destination; and
5. Terminated the accepted process of allocating overflow tons from capped plants to other coal burning plants in the TPIRR network during the 2014-2017 time period.[17]

In Rebuttal, TPI adjusts the coal volume forecast model in response to CSXT's criticism that the coal forecast index was based on traffic that is not included in the TPIRR traffic group, but rejects CSXT's position that its internal forecast must be aggregated at the Origin Region-Destination level to mitigate this issue. Specifically, TPI's Rebuttal coal volume forecast model adjusts CSXT's coal volume forecast developed for CAPP origins based on CSXT's internal

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[14] *Id.* p. III-A-11.

[15] *Ibid.*

[16] In Reply, CSXT added several new coal movements to the TPIRR traffic group. These new coal movements were included in the CSXT internal forecast but were not included in the historical period (*See,* CSXT Reply, p. III-A-12). TPI accepts CSXT's addition of these new movements in its Rebuttal TPIRR traffic group.

[17] CSXT acknowledges that the Board, in its recent decision in *DuPont,* accepted the process of re-allocating overflow tons from capped plants (where the coal tons are forecasted to exceed the 85% cap at a particular power plant) to other plants in the traffic group. CSXT claims in Reply that its proposed methodology of forecasting coal volumes from 2014-2017 by using growth rates based on the aggregation of the CSXT internal forecast on a Origin Region – Destination basis "eliminates any perceived justification for allocating coal tonnage in excess of a plant's capacity to other locations." (*See,* CSXT Reply, pp. III-A-14-15).

forecast to exclude volumes that terminate at Newport News, VA.[18] This adjustment reduces TPIRR Opening coal revenues by $40 million per year, on average, over the 2014-2020 time period or 1.8 percent of total TPIRR coal revenues. TPI's approach is superior because:

1. It is supported by recent Board decisions in *DuPont* and *SunBelt* that utilized growth indices based on the aggregation of the railroad internal forecast on a commodity basis;
2. It utilizes a consistent methodology for merchandise, intermodal and coal traffic handled by the TPIRR;
3. It addresses CSXT's primary criticism that the coal volume growth index used in TPI's Opening evidence is based on significant forecasted growth of coal that is not included in the TPIRR traffic group; and
4. CSXT has not claimed that its internal forecast is outdated, inaccurate and unreliable due to significant, unforeseen developments and coal market changes.[19] This is important because, in *DuPont,* the parties agreed that the railroad's internal forecast was flawed. The Board used this fact to dismiss the railroad's internal forecast for coal volumes and to utilize the Energy Information Administration's ("EIA") Annual Energy Outlook ("AEO") forecast instead.

When incorporating the Origin Region-Destination growth rates, CSXT selectively updated the internal coal forecast produced in discovery. CSXT did not update its entire internal forecast to accommodate its proposed Origin Region-Destination coal forecast approach. Such selective updating of forecasts for a single commodity with information that is not available to TPI is prone to gaming and contrary to STB precedent.[20] Neither TPI nor the Board is in a position to identify aberrations between the CSXT internal forecast and actual CSXT market changes since the forecast was originally developed.

[18] In Rebuttal, TPI has excluded CAPP coal volumes destined for Dominion Terminal and Pier X from the calculation of the coal compound annual growth rate ("CAGR") for CAPP origin coal. These are the volumes identified in the CSXT Reply workpapers that are not included in the TPIRR traffic group.

[19] In *DuPont*, the railroad argued that "significant, unforeseen developments and coal market changes that occurred after 2010 have rendered its 2010 forecast outdated, inaccurate and unreliable". This argument was accepted by the complainant and relied upon by the Board as the basis for rejecting the use of the railroad's internal forecast for coal volumes and, ultimately, accepting the use of an EIA forecast. *See, DuPont* at 254-255.

[20] *See, FMC* at 729 and *WFA/Basin* July 2009 at 8, fn. 8.

For example, neither TPI nor the Board is in a position to determine whether the volumes included in the February 2013 CSXT internal forecast reflect the following changes:

1. Phosphate and fertilizer volume increases based on the reopening of a mine that led to more short haul phosphate rock shipments to fertilizer production facilities;[21]

2. Chemical volume growth driven by an increase in energy-related markets;[22]

3. The rise in crude oil shipments due to increased supply of low-cost crude from shale drilling activity;[23]

4. Automotive vehicle shipment increases due to the restart of a production facility;[24]

5. Mineral volume growth as a more severe winter resulted in increased application of salt to roads;[25]

6. Aggregate volume increases from the continued recovery in construction activity;[26]

7. Waste and equipment volume increases due to continued clean-up efforts from Super Storm Sandy;[27]

8. Fertilizer volume growth due to increased application by farms to improve crop yields in the face of low crop inventories and strong crop prices;[28]

9. Forest products volume growth led by an increase in building product shipments due to the continued recovery of the residential housing market;[29]

10. Waste shipment growth due to the continued recovery in construction activity and environmental remediation projects;[30]

11. Domestic coal volume increases due to higher coal generation as natural gas prices increased;[31]

12. Wheat volume increases due to customer expansion;[32]

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[21] *See*, CSX Quarterly Financial Report, First Quarter 2013 at page 7.
[22] *Ibid.*
[23] *Ibid.*
[24] *Ibid.*
[25] *Ibid.*
[26] *Ibid.*
[27] *Ibid.*
[28] *See*, CSX Quarterly Financial Report, Second Quarter 2013 at page 8.
[29] *Ibid.*
[30] *Ibid.*
[31] *Ibid.*

13. Scrap and aluminum volume increases due to an increase in domestic steel production and modal conversions;[33]

14. Pulp board volume increases due to inventory replenishments that resulted from earlier production outages;[34]

15. Grain and corn volume increases due to a strong corn and soybean crop when compared to the prior year crop;[35] and

16. Semi-finished steel volume increases due to more shipments of slab that were temporarily sourced from another location due to a customer mill outage.[36]

If the CSXT internal forecast is revised for any individual change identified by CSXT in Reply, it should be revised to reflect all of the unanticipated volume changes experienced by CSXT since the forecast was first developed.

ii. Years Beyond CSXT Forecast (2018-2020)

In Opening, for the outer years beyond the CSXT forecast period 2018-2020, TPI utilized a compound annual growth rate ("CAGR") based on the CSXT internal forecast of coal, merchandise and intermodal volumes.

In Reply, CSXT rejected the use of a CAGR, claiming that "CAGR's are an imperfect method for forecasting future growth, and would produce gross distortions in certain conditions and circumstances."[37] CSXT contends that there are two primary problems with the CAGR approach: (1) the impact of one-time events, which CSXT illustrates based on the application of a CAGR to future volumes of STCC 10 commodities (Metallic Ores); and (2) the impact of relatively small initial volumes, which CSXT illustrates based on the application of a CAGR to future volumes of STCC 13 commodities (Crude, Petroleum, Natural Gas or Gasoline). CSXT

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32 *See,* CSX Quarterly Financial Report, Third Quarter 2013 at page 8
33 *Ibid.*
34 *Ibid.*
35 *See*, CSX Quarterly Financial Report, Fourth Quarter 2013 at page 9.
36 *Ibid.*
37 *See,* CSXT Reply, p. III-A-19.

utilized EIA AEO forecasts to forecast coal, merchandise and intermodal volumes for the years 2018-2020.

In Rebuttal, TPI continues to utilize a CAGR developed from CSXT's internal forecast to forecast growth in coal, merchandise and intermodal traffic volumes for the period from 2018-2020 for the following reasons:

- TPI supported its use of a CAGR in Opening based on the fact that it has been accepted previously by the Board in SAC proceedings. Since TPI's February 2014 Opening evidence, the Board has issued decisions in *DuPont* and *SunBelt* that support the use of CAGR;

- Although CSXT attempts to discredit the application of the CAGR by highlighting two general issues: (1) the CAGR growth rate for STCC 10;[38] and (2) the CAGR growth rate for STCC 13,[39] both of these issues have a negligible impact on the resulting 2018-2020 volumes, i.e., they affect less than 0.5% of total TPIRR general freight volumes ***combined***. Also, CSXT incorrectly calculates a 10-year CAGR to develop the 221% increase in STCC 13. The TPIRR CAGR for STCC 13 is just 19% and accurately reflects the growth of crude oil originating in North Dakota;[40]

- CSXT's attempt to discredit the CAGR can also impact the CAGR in the opposite way (i.e., a CAGR could understate volume growth). For example, a one-time event that reduces volumes will have a negative impact on the CAGR growth rate. Also, a situation where the initial period volumes are high could also have a negative impact on the CAGR growth rate. The benefit of a CAGR based on <u>all</u> of the CSXT traffic is that the highs and the lows, the distortions, and the exceptions will all be factored into the average CAGR;

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[38] CSXT claims that the CAGR for STCC 10 is skewed by a "one-time, one-destination anomaly" which is a 50% increase in AK Steel shipments related to a new iron ore plant that is scheduled to open in 2015. *See,* CSXT Reply, p. III-A-17. CSXT claims that this event results in a CAGR of 11% per year for an industry that otherwise experiences no growth.

[39] CSXT claims that the CAGR for STCC 13 is skewed because "volumes in the initial year are relatively small." *See,* CSXT Reply, p. III-A-17. Rather than calculating the CAGR based on the 2013-2017 time period of the CSXT internal forecast, CSXT calculates the CAGR based on the 2010-2017 time period. CSXT then claims that crude oil originating in North Dakota has grown significantly from extremely low volumes in 2010 and that this substantial growth generates a 2010-2017 GAGR of 221%. CSXT states that this growth rate would create illogical results for the 2017-2020 time period. *See,* CSXT Reply, p. III-A-18.

[40] *See*, TPI Opening workpaper "Non-Coal Volume Forecast Matrix.xlsx".

- CSXT's claims that the CAGR should utilize additional years of historical data ignores Board precedent that the CAGR should be based on historical data for the DCF period at issue in the proceeding;[41]

- CSXT's use of EIA AEO data to forecast non-coal traffic is unprecedented and inaccurate. CSXT uses the annual rate of change in an EIA AEO forecast of Industrial Sector Macroeconomic Indicators for the non-manufacturing sector and the manufacturing sector to create growth rates for all 2-digit STCC non-coal shipments, except transportation equipment (STCC 37), which is based on the EIA AEO forecast of Light-Duty Vehicle Sales By Technology Type. Because neither of these EIA AEO forecasts are presented at a 2-digit STCC level, CSXT attempted to create a link between the forecast categories included in the EIA AEO forecasts and the 2-digit STCC for CSXT traffic. CSXT had to create a link based on a tenuous linkage between 3-digit NAICS codes[42] to 2-digit STCC codes.[43] Also, the EIA AEO industrial forecast does not measure either generic growth in rail volumes or the specific growth in CSXT rail volumes. The use of a macroeconomic forecast of generic industrial growth (based on a tenuous linkage) should not be utilized when a CSXT-specific rail transportation growth by 2-digit commodity is available; and

- A CAGR based on actual data and the railroad's own internal forecast is the best metric to forecast the TPIRR traffic in the 2018-2020 time period and is the forecast used by TPI in Rebuttal.

Rebuttal Table III-A-2 below, summarizes the differences in TPIRR traffic volumes by year between CSXT Reply and TPI Rebuttal.

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41 *See, DuPont* supporting DuPont's use of a CAGR based on the 2009-2015 time period to forecast growth in non-coal traffic by stating that "the benefit of the DuPont CAGR's six-year time span – a combination of actual and forecasted data – is to mitigate the likelihood that a single, extraordinary year may skew the result." (*DuPont* at 261). Also see the Board's decision in *SunBelt* accepting the combination of actual and forecasted data for the DCF model period. (*SunBelt* at 173).

42 NAICS (North American Industry Classification System) is a coding system developed jointly by the United States, Canada, and Mexico to classify businesses and industries according to the type of economic activity in which they are engaged.

43 STCC (Standard Transportation Commodity Codes) classification system was developed in the 1960's as a unique, comprehensive commodity system based on the Standard Industrial Classification (SIC) System. The STCC is maintained and published by the Association of American Railroads (AAR), and has been modified over the years to meet the needs of its user base; most notably, but not exclusively, the North American Freight Railroads.

Rebuttal Table III-A-2
Differences In TPIRR Tons and Shipments
Between CSXT Reply and TPI Rebuttal

	Time Period	CSXT Reply	TPI Rebuttal	Difference: Aggregate 1/	Difference: Percent 2/
	(1)	(2)	(3)	(4)	(5)
		TPIRR Gross Tonnage			
1.	2010 (Jul-Dec)	218,976,193	219,440,508	464,315	0.2%
2.	2011	441,809,924	442,813,189	1,003,265	0.2%
3.	2012	429,811,027	429,811,027	0	0.0%
4.	2013	435,056,984	435,981,983	924,999	0.2%
5.	2014	448,027,571	447,002,083	(1,025,488)	-0.2%
6.	2015	459,560,793	465,400,154	5,839,361	1.3%
7.	2016	476,941,824	484,606,303	7,664,479	1.6%
8.	2017	486,079,019	495,152,495	9,073,476	1.9%
9.	2018	497,878,857	511,556,163	13,677,306	2.7%
10.	2019	504,939,290	528,942,958	24,003,668	4.8%
11.	2020 (Jan-Jul)	256,250,447	273,850,719	17,600,272	6.9%
12.	Total	4,655,331,928	4,734,557,583	79,225,654	1.7%
		TPIRR Shipments			
13.	2010 (Jul-Dec)	2,730,905	2,747,474	16,569	0.6%
14.	2011	5,473,166	5,508,136	34,970	0.6%
15.	2012	5,493,731	5,528,338	34,607	0.6%
16.	2013	5,543,757	5,581,322	37,565	0.7%
17.	2014	5,753,402	5,780,664	27,262	0.5%
18.	2015	5,998,145	6,079,276	81,131	1.4%
19.	2016	6,326,064	6,423,446	97,382	1.5%
20.	2017	6,509,319	6,618,926	109,607	1.7%
21.	2018	6,658,184	6,914,557	256,373	3.9%
22.	2019	6,767,819	7,227,478	459,659	6.8%
23.	2020 (Jan-Jul)	3,447,083	3,780,983	333,900	9.7%
24.	Total	60,701,574	62,190,600	1,489,025	2.5%

Source: CSXT Reply workpaper "Revenue Summary (Final) Reply.xlsx" and TPI Rebuttal workpaper "Revenue Summary (Final) Reply_REB2.xlsx".
1/ Column (3) – Column (2).
2/ Column (4) ÷ Column (2).

As shown in Rebuttal Table III-A-2 above, the TPIRR Rebuttal volumes represent approximately 1.7 percent more gross tons and approximately 2.5 percent more shipments, on average, than CSXT Reply volumes.

c. **Other**

CSXT also complained about two (2) theoretical issues related to the TPIRR traffic group volumes that did not result in any CSXT adjustments to TPIRR traffic volumes. Specifically, CSXT complained about: (1) TPI's utilization of large volumes of internally re-routed traffic; and (2) TPI's inclusion of large volumes of internal cross-over movements.

i. **Re-Routed Traffic**

CSXT claims that TPI failed "to adequately disclose and describe its large-scale internal re-routes of TPIRR traffic" and "also failed [to]meet its burden of proof by demonstrating that re-routed cross-over traffic would provide the same or better service than that provided by CSXT over the actual route of movement, as required by the Board's precedents."[44] CSXT argues that "the Board would be justified in disallowing that re-routed traffic and removing it from the SAC analysis."[45]

CSXT's Reply argument about rerouted traffic is empty rhetoric. TPI's Opening narrative and workpapers fully disclosed the TPIRR's use of internally rerouted traffic, including rerouted issue and non-issue traffic. TPI also demonstrated that the TPIRR continued to provide at least the same level of service, if not better service, during the TPIRR's Peak Year as compared against CSXT existing operations.

TPI clearly outlined the dimensions of the internally rerouted traffic included on the TPIRR at Sections III-A-1-a and III-C-3-a, and in Exhibit III-C-I of its Opening evidence. TPI explained in its Opening that rerouted traffic generally fell into two categories. First, as in prior SAC cases, TPI rerouted entire trains over parallel or adjacent track in certain (generally urban)

[44] *See,* CSXT Reply, pp. III-A-1-2.
[45] *Id.* pp. III-A-2.

areas over very limited geographic scope.[46] Second, TPI rerouted certain issue traffic movements by rerouting specific cars from the real-world CSXT trains on which they move to alternate TPIRR trains traversing alternative routes, including issue traffic moving through the Florida Panhandle, from Ohio to West Virginia, and through Central Indiana.[47]

In addition to describing the dimensions of the rerouted TPIRR traffic, TPI also clearly explained how it accounted for revenue divisions between the TPIRR and CSXT on rerouted traffic. TPI described in Part III-A-2-iv the special procedure required to calculate ATC divisions for internally rerouted traffic. This included TPI identifying the portion of CSXT revenue attributable to the actual route of movement for these shipments and assigning that portion of total revenue to the TPIRR. TPI accomplished this by calculating ATC divisions using CSXT car movement records, which show the actual route of movement for each car.[48] This meant that, where TPI rerouted traffic over a somewhat longer route, TPI continued to base its TPIRR revenues on the shorter actual route of movement.

CSXT's claim that TPI failed to disclose its internally rerouted traffic is further contradicted by CSXT's ability to easily identify the rerouted traffic in TPI's ATC division calculations. TPI identified the rerouted traffic as part of its ATC calculations, a process that CSXT accepted in its Reply.[49] There is simply no basis to CSXT's claim that TPI failed to disclose the TPIRR rerouted traffic.

CSXT also asserts that TPI failed to demonstrate that it could still meet customer needs when rerouting certain issue and non-issue traffic. This claim is also incorrect. TPI included in

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[46] *See,* TPI Opening, at III-C-25.

[47] *Id.* at III-C-26.

[48] *Id.* at III-A-37.

[49] CSXT accepted TPI's approach of calculating on- and off-SARR miles for the calculation of ATC divisions by identifying on- and off-SARR network links, and using certain coding and mileage metrics to identify rerouted traffic. *See*, CSXT Reply, p. III-A-40 and CSXT Reply workpaper "TPIRR SARR Mileage Assignments.xlsx." As TPI explains below, CSXT did identify some network links that TPI misidentified as being on-SARR segments, and accepted these changes in this Rebuttal.

its Opening evidence an analysis that compared transit times for the TPIRR's principle traffic flows to comparable CSXT traffic.[50] TPI demonstrated in its Opening evidence that TPIRR's 2019 peak-week train transit times (and cycle times where available) for train movements over the various TPIRR line segments are equivalent to or faster than the real-world CSXT transit times for the comparable trains moved during the 2012 peak week.[51] This is a higher standard than that used by railroads in the real-world, and a standard that demonstrates that the TPIRR is more than meeting the needs of its customers.[52]

CSXT's customer service comment is even more nonsensical when the length of many of the reroutes is considered. Unlike prior cases where the rerouted SARR traffic added hundreds of miles to the movements,[53] the vast majority of the non-issue traffic TPIRR reroutes are less than 50 miles in length, with some as short as only a few tenths of a mile.[54]

TPI updated its transit time comparison to reflect the changes it made to its Rebuttal RTC modeling of the TPIRR in response to the few valid modeling criticisms leveled by CSXT in Reply. As discussed more extensively in Rebuttal Part III-C-14, even with the Rebuttal changes to the TPIRR network and train operating practices, the TPIRR peak period transit times still meet or exceed CSXT Base Year 2012 transit times.

ii. Internal Cross-over Traffic

CSXT "strongly objects to TPI's heavy reliance on internal cross-over or 'leapfrog' traffic, and urges the Board to prohibit TPI and future complainants from using this distorting tactic."[55] CSXT makes several claims and then concludes that "the Board should also remove from the SAC analysis all TPIRR movements containing internal cross-over segments and

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[50] *See,* TPI Opening workpaper "TPIRR Peak Week Transit Time Comparison.xlsx".
[51] *Id.*
[52] *See, PSCo/Xcel I* at 608 and *TMPA* at 594-595.
[53] *See,* for example, *TMPA* at 596 where a reroute added 324.8 miles to a round-trip movement.
[54] *See*, CSXT Reply workpaper "TPIRR SARR Mileage Assignments.xlsx," worksheet "ReroutedSegments."
[55] *See,* CSXT Reply, p. III-A-30.

associated TPIRR revenues."[56] TPI's detailed Rebuttal to CSXT's claims concerning the use of cross-over traffic is included in Section III-C of this Rebuttal evidence. In Rebuttal, TPI does not exclude any of this traffic from the TPIRR traffic group.

TPI's SAC presentation does not violate any Board precedent, as internal cross-over, or "leapfrog" movements, exist today in real world railroading and the residual CSXT is fairly compensated for its overhead hook-and-haul trainload operations. Simply stated, there is no problem with the inclusion of internal cross-over traffic in the TPIRR traffic group. In addition, CSXT's own Reply submission includes the very same "leapfrog" traffic it argues should be excluded. TPI includes this traffic in Rebuttal for the following reasons.

First, internal cross-over traffic moves in the real world. Internal cross-over traffic operations represent a rational and efficient approach to maximize the utilization of existing infrastructure and are regularly used by Class I railroads in real world railroading today. A well-known example is the movement of BNSF east-west traffic over the Montana Rail Link network, which serves as a leapfrog bridge for that traffic. Another example is Pan Am Railways' service as a leapfrog carrier for CP shipments of Bakken crude oil originating in the Williston Basin.[57]

Second, the TPIRR network is based on real-world operations and traffic flows. CSXT's claim that "[b]y assuming that the residual CSXT would move TPIRR traffic over significant interior segments… TPI is able to avoid very significant costs of constructing and operating lines…"[58] is totally without merit.

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[56] *Id.* p. III-A-37. In the alternate, CSXT claims that should the Board not exclude this traffic and associated revenue from the SAC analysis, the Board should consider two alternative options "to mitigate distortions caused by TPI's use of the leapfrog device." (*See,* CSXT Reply, p. III-A-37). TPI addresses these two alternatives in the Rebuttal section concerning stand-alone revenues.

[57] *See, Bakken Oil Business Journal*, Nov/Dec 2012, Jan 2013, p. 36.

[58] *See,* CSXT Reply, p. III-A-31.

In developing its SAC evidence, the complainant must develop a methodology to ensure the delivery of the issue traffic. While the Board has consistently stated that the transportation method used to transport the issue traffic need not be another railroad,[59] for practical reasons most complainants develop a SARR to transport the issue traffic. The complainant develops the SARR network to ensure service to the issue traffic. It may then include other non-issue traffic that shares those facilities, including cross-over traffic. The complainant is not required to construct all facilities required to serve the non-issue traffic from end-to-end, but may use cross-over traffic to limit the size and scope of the SARR's operations. Board precedent lays the responsibility for designing the SARR on the complainant. The defendant railroad is not entitled to determine which segments should or should not be included in the SARR network.

CSXT's statement that "use of this internal cross-over device would allow a complainant to avoid any expensive segment or facility on its SARR network… by simply assuming the residual incumbent would construct and operate that line…"[60] is misleading in that the residual incumbent has already constructed and operates the non-SARR rail segments and facilities. The residual incumbent would not need to "construct and operate" any new facility no matter how the SARR is configured.

Also, the scenario that exists with the so-called "leapfrog" traffic is precisely the opposite scenario about which the Board expressed concern first in *AEPCO* and later in *Ex Parte 715*. There, the Board expressed concern that a SARR positioned as an internal "bridge" carrier to the residual incumbent would be over-compensated by the ATC revenue division formula for the efficient overhead hook-and-haul trainload operations it provided for the residual incumbent over the costly high-density bridge segment.

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[59] *See, e.g., WFA/Basin II* at 14.
[60] *See,* CSXT Reply, p. III-A-32.

If the Board believed that the ATC formula overcompensated the SARR in *AEPCO* because the SARR provided efficient hook-and-haul overhead trainload service over a high-cost, high-density bridge segment, then it must reject CSXT's assertion that the SARR in this case is avoiding its cost burden because the residual CSXT provides efficient hook-and-haul overhead trainload service over a high-cost, high-density bridge segment. The SARR in the *AEPCO* case was not over-compensated for its role as a bridge carrier, and the residual CSXT segments are not under-compensated for their identical role as a bridge carrier in this case. Both "bridge carriers" are fairly compensated for their roles as a result of the ATC revenue division formula based on the incumbent's costs incurred over the segments in question.

Even if the Board were to agree with CSXT's unsupportable claim that inclusion of internal cross-over traffic is inappropriate, there are no grounds on which to simply remove the traffic from the SARR traffic group. For the reasons described above, there is no problem with including the traffic and the associated revenue divisions on that traffic based on the on-SARR and off-SARR routing. However, assuming for the sake of argument that there was a problem with the so-called "leapfrog" operations, at most, the subject traffic should be limited to a single on-SARR segment. Because all of the "leapfrog" traffic could easily be converted to single-SARR-segment cross-over traffic, there is no reason to eliminate the traffic entirely. For example, CSXT operates many trains moving between Florida and the Northeastern states using the old Seaboard Air Line routes through Jacksonville, FL, Savanah, GA and Columbia, SC. TPI chose to treat traffic moving over this route as internal cross-over traffic between Jacksonville, FL and Pembroke, NC, but could have easily rerouted this traffic to move over the TPIRR in-single line SARR by rerouting the traffic first via Manchester and Atlanta, GA.

2. Stand-Alone Revenues (Historical and Projected)

In its Opening evidence, TPI developed total TPIRR revenue for each traffic type included in the TPIRR traffic group (i.e., general freight, coal and intermodal) for each year in the ten-year DCF model period using the electronic revenue data provided by CSXT in discovery. The TPIRR revenue was developed using actual CSXT car and container waybill data and CSXT car event data for the third quarter 2010 ("3Q10") through the second quarter 2013 ("2Q13"). This period is referred to as the historical period and the TPIRR revenues for the historical period are referred to as the historical revenues.

The TPIRR revenue was developed for the third quarter 2013 ("3Q13") through the second quarter 2020 ("2Q20") using various economic forecasts applied to historical revenues pursuant to the methodology accepted by the Board in recent stand-alone cost decisions. This period is referred to as the forecast period and the TPIRR revenues for the forecast period are referred to as the projected revenues.

In Reply, CSXT generally accepted TPI's calculation of historical and projected TPIRR revenues. CSXT made several adjustments to TPI's calculations in the following general areas: (1) rate escalation adjustments; (2) fuel surcharge adjustments; (3) adjustments for movements with no shipment keys; and (4) adjustments to TPIRR cross-over traffic.

Rebuttal Table III-A-3 below, summarizes the differences in TPIRR revenue by year between TPI Opening and CSXT Reply.

Rebuttal Table III-A-3
Differences In TPIRR Revenue
Between TPI Opening and CSXT Reply – ($000)

	TPIRR Revenue		Difference	
Time Period	TPI Opening	CSXT Reply	Aggregate 1/	Percent 2/

	(1)	(2)	(3)	(4)	(5)
1.	2010 (Jul-Dec)	$3,152,088	$2,940,893	$(211,195)	-6.7%
2.	2011	6,831,542	6,476,194	(355,349)	-5.2%
3.	2012	6,850,694	6,722,619	(128,075)	-1.9%
4.	2013	7,300,676	7,007,927	(292,749)	-4.0%
5.	2014	7,670,634	7,456,190	(214,444)	-2.8%
6.	2015	8,138,932	7,839,678	(299,254)	-3.7%
7.	2016	8,719,659	8,360,217	(359,442)	-4.1%
8.	2017	9,122,099	8,742,364	(379,735)	-4.2%
9.	2018	9,721,148	9,206,953	(514,195)	-5.3%
10.	2019	10,422,109	9,683,706	(738,404)	-7.1%
11.	2020 (Jan-Jul)	5,587,198	5,083,641	(503,558)	-9.0%
12.	Total	$83,516,780	$79,520,380	$(3,996,400)	-4.8%

Source: TPI Opening workpaper "Revenue Summary (Final).xlsx" and CSXT Reply workpaper "Revenue Summary (Final) Reply.xlsx".
1/ Column (3) – Column (2).
2/ Column (4) ÷ Column (2).

As shown in Rebuttal Table III-A-3 above, the difference in TPIRR revenue included in CSXT's Reply is 4.8 percent less, on average, than TPI Opening amounts.

TPI addresses each of the specific adjustments identified in CSXT's Reply in the following sections of this Rebuttal evidence under either the historical or forecasted revenue headings.

a. <u>Historical Revenues</u>

In Reply, CSXT generally accepted the TPIRR historical revenues developed by TPI. As noted in the prior section of this Rebuttal, TPI accepted a number of CSXT changes to historical TPIRR traffic volumes. These changes in historical TPIRR traffic volumes also impact historical TPIRR revenues and are not included in the detailed discussion of historical revenues below.

CSXT included certain Reply criticisms of TPIRR revenues that affect both the historical and projected TPIRR revenues. These issues include:

1. CSXT revenues without shipment keys;
2. CSXT elimination of high priority intermodal traffic over crossover segments;

3. CSXT alternate revenue calculations for internal crossover traffic; and

4. CSXT adjustments to TPI's ATC calculations.

TPIRR Rebuttal responses to these particular issues are included in below.

i. CSXT Revenues Without Shipment Keys

In Opening, TPI evaluated a unique group of CSXT revenue waybill records that did not contain a vital database field called a shipment key.[61] Without this shipment key, TPI was unable to properly link the CSXT car or container revenue data with the CSXT car event data, which means that TPI was unable to determine if the revenue was associated with rail cars that traverse the TPIRR. In addition, these car or container waybill records were deficient in other critical areas.[62] In Opening, rather than exclude the approximately $660 million in CSXT revenues associated with these records from the TPIRR historical revenue analysis, TPI developed an approach to determine whether these car and container waybill records were associated with the traffic that was already included in the TPIRR traffic group.

In Reply, CSXT *admits* that the data in question contains missing components on the records when it states that "[t]he waybill data that CSXT produced in discovery is the same data it uses in its normal course of business, and any missing data or anomalies in those records are simply part of those data-sets."[63] CSXT goes on to explain that these records are "a relatively rare occurrence in the huge interconnected traffic and revenue data sets...produced in discovery in this case" and, in any event, only "represent less than 2% of total CSXT waybill revenues."[64] Despite CSXT's admission that its own waybill data in question here is problematic, CSXT

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[61] A shipment key is a 14-character code provided by CSXT that uniquely identifies each car movement in the car event data. This key is essential for linking CSXT car waybill and CSXT container waybill data with the CSXT car event data. Without this key, TPI is unable to directly link the CSXT revenue and the CSXT car event data which means that TPI is unable to determine if the revenue is associated with cars that traverse the TPIRR.

[62] Some of these records contained bad data for origin/destination fields, contract fields, and/or customer fields.

[63] *See,* CSXT Reply, pp. III-A-27-28, (n. 37).

[64] *Ibid.*

criticizes the approach used by TPI in Opening to include these revenue records in the TPIRR historical revenues as "overly inclusive" because, "under TPI's approach, only *one* field from waybills needs to match a TPIRR movement for TPI to attribute *all* of the movement's revenues to the TPIRR."[65] In Reply, CSXT claims it utilizes a matching process similar to the one it used to correct TPI's SARR volume for the historical period to include revenues associated with these records in the TPIRR traffic revenues.

In Rebuttal, TPI rejects CSXT's Reply claims and makes no changes to the approach it developed in Opening to include the revenue associated with some of these bad records in the TPIRR traffic revenues. The time for CSXT to evaluate these records was when they were produced to TPI in discovery, not after TPI has done its best to work within the limitations of those records as produced by CSXT. CSXT's failure to analyze and evaluate these bad records <u>before</u> producing them should preclude it from suggesting an alternative to TPI's methodology now. CSXT was fully aware that there were issues with the waybill data it produced in discovery and, despite TPI's repeated requests for clarification and corrected data at that time, CSXT declined to do so.[66] CSXT's "assistance" at this stage of the process is rejected by TPI and should also be rejected by the Board. The Board should require CSXT to live with the consequences of its decision almost four years ago to produce bad data in discovery and then to resist providing corrected data in response to questions about the bad data by TPI.

The Board also should reject CSXT's attempt to link its proposal to include revenues associated with waybill records without a shipment key with its proposal to revise the matching process used to exclude SARR traffic in the historic period. CSXT's linking of these two (2)

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[65] *Id.* p. III-A-28.

[66] *See,* TPI Rebuttal workpaper "TPI_Letter to CSXT_111910" (November 19, 2010 letter from J. Moreno to P. Hemmersbaugh requesting an explanation concerning bad waybill data produced by CSXT) and TPI Rebuttal workpaper "CSXT_Letter to TPI_121010" (December 10, 2010 response where CSXT admits that there are "revenue adjustment records that cannot be matched to specific shipments").

issues ignores a critical point. The matching process CSXT proposed on Reply (and TPI accepted on Rebuttal) to exclude SARR traffic in 2010, 2011, and 2013 was based on a matching approach of complete waybill records with shipment keys and good data in all other fields. To compare that process with the process of matching bad revenue records here is ridiculous. CSXT should be responsible for the position it took when producing bad waybill records to TPI at the beginning of this proceeding.

ii. CSXT Elimination of High Priority Intermodal Traffic Over Crossover Segments

In Reply, CSXT adjusted the TPIRR traffic volumes to exclude certain high-priority cross-over intermodal traffic. CSXT also "removes that traffic from the SAC analysis, for purposes of TPIRR traffic volumes, revenues, operating plan, and operating expenses."[67] In Rebuttal, TPI continues to include this traffic in the TPIRR traffic group (along with the associated revenues and operating expenses) based on the evidence presented previously in this Rebuttal Part III-A.

iii. CSXT Alternate Revenue Calculations for Internal Crossover Traffic

In Opening, TPI calculated TPIRR revenues by allocating total CSXT revenues for each movement in proportion to the average total cost of the movement on-SARR and off-SARR using the procedures adopted by the Board in *Ex Parte 715*. In Reply, CSXT claims that, because the TPIRR traffic group includes such a large volume of internal cross-over traffic, a new ATC calculation is required for this internal cross-over traffic.[68]

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[67] *See,* CSXT Reply, p. III-A-38.
[68] *See,* CSXT Reply, p. III-A-39.

CSXT offers two (2) options to modify the revenue allocation for internal cross-over traffic: (1) Use ATC between (a) standard off-SARR segments beyond the geographic scope of the SARR; and (b) the combined on-SARR and leapfrog segments. Then use replacement costs for the SARR-avoided segment;[69] or (2) the Board could use a movement's available contribution above variable costs for the On-SARR segment with ATC-based revenue for the leapfrog segments as a surrogate for the full economic cost of the leapfrog segment. CSXT provided this alternative in its workpapers.[70]

CSXT's proposed internal cross-over division methods are deeply flawed. CSXT states that it included two (2) alternative cross-over traffic revenue allocation approaches to address the alleged dichotomy of internal cross-over traffic.[71] While couched in terms of economic necessity and fundamentals, CSXT's two (2) proposed revenue allocation alternatives are unnecessarily complex and violate SAC and economic principles. The Board's current ATC methodology already provides the incumbent carrier sufficient revenues to operate its residual lines. Rather, CSXT's proposed internal cross-over revenue allocation approaches are nothing more than punitive tools to use against the shipper, and must be disregarded.

Under the first proposed revenue allocation approach, CSXT states that the parties would first allocate revenues between what CSXT calls "standard" off-SARR segments, e.g., segments operated by the incumbent beyond the geographic scope of the SARR, and SARR segments and internal cross-over segments using Alternative ATC. Next, the parties would allocate the remaining SARR and internal cross-over revenues based on a nebulous replacement cost

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[69] *Ibid.*

[70] *See, e.g.*, CSXT Reply workpaper "TPIRR Coal Revenue Forecast (Final) REPLY.xlsx," worksheet "Coal Revenue Forecast," column GK.

[71] *See*, CSXT Reply, p. III-A-39.

standard and URCS variable costs.[72] CSXT also states that, if a replacement cost standard is not practical, a "less accurate" approach would use the average SARR investment per route mile to develop the investment replacement costs.

The fundamental flaw with CSXT's proposed approach is that it really is not attempting to allocate revenues between the SARR and the incumbent carrier, but instead is attempting to use a back-door method of calculating the SAC to build and operate the internal cross-over segments. This is not a revenue allocation approach at all; rather, it is a way to expand the scope of the SARR's costs to include segments not necessary to the SARR's operations. This fact is abundantly obvious when CSXT's "less accurate" approach of using the SARR system average investment per route mile is used. CSXT is simply stating that the SARR will receive whatever revenues are left after subtracting the replacement cost for the internal cross-over segment from the already allocated ATC revenues. This is not revenue allocation, but simply an expansion of the SARR's SAC.

CSXT's approach also violates one of the fundamental principles of SAC revenue allocations. The STB repeatedly has stated that the purpose of the ATC division methodology is to determine how much the incumbent carrier would allocate to different segments of the incumbent's network based on the incumbent's costs.[73] In simple terms, the cost to construct and operate the SARR has absolutely no impact on the allocation of revenues between different segments of the incumbent's network. CSXT's proposed approach would completely reject this concept and base revenue divisions on internal cross-over movements solely on the estimated SARR costs. Internal cross-over traffic serves the same purpose as other cross-over traffic, and

[72] *See,* CSXT Reply, p. III-A-39 (n. 46). CSXT states a "less accurate" approach would use the average SARR investment per route mile to develop the investment replacement costs.
[73] *See, WFA/Basin I* at 12, *AEP/Texas II* at 13 and *WFA/Basin II* at 12.

should not shoulder a different revenue allocation method simply because it is the incumbent acting as the overhead carrier and not the SARR.

CSXT presents a second method to allocate revenues on internal cross-over traffic if the STB believes the replacement cost method is not feasible. Under its second proposed allocation methodology, CSXT suggests allocating revenues based on a movement's available contribution above its variable costs for the on-SARR portion of a movement, in combination with an ATC-based revenue allocation for the internal cross-over segment. CSXT states that, under this approach, SARR revenue allocation would be the lower of incumbent's URCS variable costs or the Alternative ATC calculation for the on-SARR segments only.[74] Like its replacement cost approach, CSXT's contribution approach is deeply flawed and must be disregarded.

Contrary to the approach's name, CSXT's proposed methodology has nothing to do with a movement's contribution above variable costs. CSXT states that it would use a movement's contribution above variable costs for the on-SARR portion of the movement. A movement's contribution represents the portion of revenue that is not consumed by variable costs and so contributes to the coverage of fixed costs. In other words, contribution is equal to revenues less variable costs.[75] A review of CSXT's revenue allocation workpapers shows that it did not calculate the contribution on the TPIRR movements when allocating revenues under this second proposed approach, nor did it allocate this contribution in any fashion.[76] Instead, CSXT's approach simply provided the lesser of the Alternative ATC division or the URCS variable costs for the entire movement for those movements that included internal cross-over movements.[77]

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[74] *See,* CSXT Reply, pp. III-A-39-40.

[75] *See, WFA/Basin I* at 14 "contribution (i.e., revenue in excess of variable cost as calculated by URCS)".

[76] *See*, for example, CSXT Reply workpaper "TPIRR General Freight Revenue Forecast STCC 28 1h 2013 (Final) REPLY.xlsx," worksheet "Gen Freight Revenue Forecast," Column EL.

[77] For movements without any internal cross-over segments, CSXT's approach relies entirely upon Alternative ATC to divide revenues. For movements which travel over different routes, some with internal cross-over segments and some without internal cross-over segments, CSXT calculated for each movement the number of

While not clearly or articulately stated, CSXT may be arguing that the SARR should only receive its variable costs of service as its division with the remaining contribution being paid to the incumbent. This is what CSXT has effectively done by providing movements with internal cross-over segment revenues equal to their URCS variable costs. This is the Efficient Component Pricing ("ECP") division scheme the Board rejected in *Nevada Power* and *Major Issues*.[78] As the Board noted in *Major Issues*, the use of ECP, or schemes like it such as CSXT's proposed methodology, inject bias in favor of the railroads and render cross-over traffic ineffectual in simplifying the SAC analysis.[79]

iv. CSXT Adjustments to TPI's ATC Calculations

In Opening, TPI calculated the TPIRR revenues by allocating total CSXT revenues for each movement in proportion to the average total cost of the movement on-SARR and off-SARR using the procedures adopted by the Board in *Ex Parte 715*. In Reply, CSXT accepts TPI's use of Alternative ATC "but makes several corrections and modifications" to TPI's calculations. Specifically, CSXT: (1) recalculated on-SARR mileages to include segments not on the SARR and complete segments that are split between TPIRR and the residual CSXT;[80] (2) adjusted proxy ATC percentages for certain coal shipments;[81] (3) used the STB's official version of CSXT's 2012 URCS;[82] and (4) modified TPI's treatment of local traffic.[83] Each of these adjustments are discussed in detail below.

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carloads in 2012 that traversed routes with internal cross-over segments and the number of carloads without internal cross-over movements. The percentage of traffic without internal cross-over movements had its revenues based on Alternative ATC, while the percentage with internal cross-over movements had its revenues based on CSXT's proposed approach.

[78] *See*, *Nevada Power II* at 266, and *Major Issues* at 29.

[79] *See, Major Issues* at 36.

[80] *See,* CSXT Reply, pp. III-A-40-43.

[81] *Id.* pp. III-A-45-46.

[82] *Id.* p. III-A-44.

[83] *Id.* pp. III-A-43-44.

(1) CSXT Recalculated On-SARR Mileages

CSXT claims that TPI "made two significant errors in the method it used to flag network links" in its development of on-SARR miles for ATC calculations. First, CSXT claims that TPI incorrectly labeled some segments as on-SARR when they were in fact off-SARR lines.

Second, CSXT claims TPI erred when calculating on-SARR miles involving links that are partially on-SARR and partially on the residual CSXT. According to CSXT, TPI "inappropriately assigned all miles of the network link to the SARR"[84] affecting 141 of the 541 TPIRR network links. On Rebuttal, TPI accepts some of CSXT's changes, but not all, as described below.

TPI's Opening described the process used to calculate the on-SARR miles used to develop TPI's ATC calculations.[85] TPIRR miles were developed by summing the car mileage data from the car event data for segments that were identified as traversing the SARR and moving on SARR trains. Where SARR-miles could not be identified from the car event data, proxies were developed using the same approach used to develop the proxy miles for the full CSXT movement, i.e., proxies based on railcars moving on the same waybill, between the same CSXT origins and destinations, or the same ultimate origins and destinations. TPI also stated that internally rerouted traffic required special considerations when developing Alternative ATC divisions because STB precedent requires revenue divisions be based on the actual route of movement and not the SARR route of movement.[86]

To accommodate rerouted traffic in its Opening ATC calculations, TPI included two (2) specific steps in its ATC division development programs and approaches. First, TPI identified

[84] *See,* CSXT Reply, p. III-A-41.
[85] *See*, TPI Opening, p. III-A-33.
[86] *See*, TPI Opening, p. III-A-37.

those CSXT network links[87] that it believed were used to carry internally rerouted traffic. This included the network links shown in CSXT's Reply Table III-A-10. TPI reviewed the network links identified by CSXT as not being on the TPIRR or used by TPIRR rerouted traffic and agrees that some, but not all, the links identified by CSXT should be shown as off-SARR locations.[88] Where TPI agrees with CSXT that a network link was miscoded, it changed the network designation in this Rebuttal.[89] TPI discusses where it does not agree with CSXT's reclassifications in Rebuttal Part III-C-7-d-iii.

<u>Second</u>, TPI also included a process in its Opening ATC calculations to account for SARR miles when CSXT car event data may have shown internally rerouted traffic not specifically identified by TPI. As TPI noted in Opening, CSXT operates many parallel line segments through major metropolitan areas that are relatively short in length. Where these short parallel lines occur, TPI consolidated the traffic moving over these parallel lines into a single line, while ensuring that all TPI traffic is still adequately served.[90] To account for these small reroutes, or in those instances where CSXT's car event data may not have shown the actual route of movement, TPI included a process in its SQL program to capture these TPIRR miles. CSXT refined this approach in its Reply evidence to distinguish between internal rerouted traffic and internal cross-over movements.[91] TPI reviewed CSXT's refinement and adopts CSXT's internal cross-over logic in developing its Rebuttal ATC calculations.

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[87] A "network link" is a CSXT defined term used to identify a line segment between two CSXT mileposts.

[88] *See*, TPI Rebuttal workpaper "TPI_Final_Network-Rebut V6 (ATC).xlsx." This workpaper identifies where TPI accepts and rejects CSXT's changes to the on-SARR network links. It also shows where TPI has adopted CSXT's identification of line segments in which the TPIRR rerouted some SARR traffic.

[89] CSXT overstated the ramifications of its changes. While a network link may represent a segment over 100 miles in length, a railcar may only move over a portion of that network link. For example, CSXT highlighted the network link between Baldwin and Tallahassee, FL was over 150 miles in length, but failed to state that half of the TPIRR traffic that moves over this segment moves less than three (3) miles.

[90] *See*, TPI Opening, p. III-A-5, note 8.

[91] CSXT noted that an internally rerouted movement could be incorrectly identified as an internal cross-over movement. CSXT called these "false leap frog movements." A "false leap frog movement" as CSXT called it in

CSXT also claims that TPI incorrectly identified the miles on network links that are split between the TPIRR and the residual CSXT.[92] TPI reviewed CSXT's claim and agrees that, in certain situations, links should be split between the TPIRR and the incumbent CSXT. TPI has adopted CSXT's split link methodology in its Rebuttal ATC calculations.[93]

(2) CSXT Adjusted Proxy ATC Percentages for Certain Coal Shipments

TPI based its ATC division calculations on 2012 CSXT traffic statistics, which is the last full calendar year of traffic and density data provided by CSXT in discovery.[94] Because large railroads, like CSXT, have dynamic traffic groups, the traffic moving in 2012 does not exactly match the traffic moving in any prior or subsequent years. The railroad adds new movements each year as its business grows, and loses movements as shippers go out of business or move shipments to other railroads or other transportation modes. This means a movement that occurs in a year prior to, or after, 2012 may not have an ATC division percentage since it was not included in the 2012 traffic data on which TPI based its ATC divisions.

TPI applied its ATC divisions to its traffic group based on five (5) movement characteristics: 1) Movement Origin Freight Station Accounting Code ("FSAC"); 2) Destination FSAC; 3) CSXT Origin Milepost; 4) CSXT Destination Milepost, and 5) Shipment STCC. For those movements that did not occur in 2012, for which TPI could not develop specific ATC divisions, TPI developed ATC division proxies based on common shipment characteristics.

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its Reply, can occur when the CSXT car event data shows zero (0) car-miles on a network link over which a car actually moves. *See*, CSXT Reply workpaper "Leapfrog Segments," worksheet "SQL."

[92] A split link can occur when the TPIRR creates a cross-over movement at a location not at the end-point of a network link.

[93] Like its claim on off-SARR segments discussed above, CSXT has overstated the impact of the issue. The average length of the network links in which the TPIRR and the residual CSXT split movements is 15 miles, of which approximately ten (10) miles are on-SARR miles and five (5) miles are for the residual incumbent. This means, on average, TPI overstated the SARR mileage by five (5) miles.

[94] *See*, TPI Opening, p. III-A-29.

These proxy divisions were deployed on a sliding scale of common characteristics to different shipments.[95] If, for example, TPI could not find an ATC division match on all five (5) shipment characteristics, it then attempted to make a match on four (4) shipment characteristics. If it could not match on four (4) characteristics, it then looked at (3) common characteristics in order to make a match. This process was continued until a final proxy based on the movement's STCC alone.[96]

CSXT accepted and adopted TPI's ATC application methodology for all commodities, except coal. CSXT claims that TPI's approach for developing ATC percentages for 2010, 2011 and 2013 for coal "does not account for an origin shifting within coal origin regions."[97] CSXT seeks to refine TPI's process by including the EIA coal origin region as one of the shipment characteristics on which to base an ATC proxy. TPI reviewed CSXT's approach and agrees that including the coal origin region increases the chances for finding a more movement specific ATC proxy and accounts for coal origin shifting within a region. TPI adopted CSXT's coal ATC proxy approach in this Rebuttal, but refined the approach to provide more specific origin matches.[98]

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95 *See*, TPI Opening workpaper "TPIRR ATC Divisions.xlsx," worksheets "ATC Car Lookups," and "ATC Container Lookup."

96 In reviewing its Opening and CSXT's Reply workpapers, TPI found that both parties excluded a two characteristic proxy based on shipment origin and destination FSAC, even though the proxy was included in both parties' ATC development workpapers. TPI has included this proxy in its Rebuttal traffic forecast, but it has minimal impact on the final results.

97 *See,* CSXT Reply, p. III-A-45. *See* also, discussion of this issue on traffic, *supra* pp. III-A-3-4.

98 CSXT placed coal origins into one of six regions – Northern Appalachian ("NAPP"), Central Appalachian ("CAPP"), Southern Appalachian ("SAPP"), Eastern Interior ("EINT"), Wyoming Powder River Basin ("WPRB") and "Other." TPI refined this approach to include three additional regions that CSXT has placed in the "Other" region. These include "Rocky Mountain" for Colorado originated coal, "Great Lakes" for coal originating at Great Lake ports and "Import" for coal originating at East Coast coal ports.

(3) CSXT Used STB's Official Version of CSXT's 2012 URCS

TPI explained, in Opening, that it relied upon full year 2012 traffic data to develop ATC division percentages because it was the latest full year of traffic data available.[99] It also explained that the Board had delayed the issuance of its final 2012 URCS models to a date after TPI's filing of its Opening SAC evidence, and because of this, TPI developed the CSXT 2012 URCS variable costs using an URCS model based upon the STB's programs and procedures.[100]

As expected, the Board released its final 2012 CSXT URCS model after TPI submitted its Opening evidence. CSXT uses the STB's 2012 URCS in Reply. TPI accepts the use of the STB's version of CSXT's 2012 URCS and has incorporated its use in this Rebuttal.

(4) CSXT Modified TPI's Treatment of Local Traffic

TPI explained, in Opening, that there were numerous instances where it chose to not move a particular piece of traffic over a CSXT route replicated by the SARR, and instead chose to let the residual CSXT handle the local portion of the movement (i.e., "On/Off-SARR Local Trains"). In all cases, this was done to maximize the efficiency of both the TPIRR and residual CSXT portions of local crossover-traffic movements and ensure high levels of service for TPIRR shippers.[101]

CSXT claims in its Reply that movements originating or terminating on (near) the TPIRR where TPI posits CSXT local service "is an abuse of the cross-over traffic fiction permitted." CSXT assumes TPI would perform these local operations and "corrects TPI's failure to serve on-SARR customers…" in its ATC calculations by treating these movements as originated or terminated.

[99] *See,* TPI Opening, p. III-A29.
[100] *Id.*
[101] *See*, TPI Opening, p. III-A-32.

As TPI explains more fully in Section III-C-7-b of this Rebuttal, TPI adjusted its train list to include the On/Off-SARR Local Trains that CSXT asserts TPI incorrectly excluded from its Opening train list. Because TPI has included these additional trains in its ATC division calculations, and adjusted its calculations to reflect the movements that these additional trains originate and terminate on the TPIRR network, this issue is moot.

b. Projected Revenues

In Reply, CSXT generally accepted the projected revenues developed by TPI in Opening with a few specific adjustments. These adjustments include the following: (1) CSXT corrects intermodal rates used to develop annual rate escalations for {{[redacted]}};[102] (2) CSXT incorporates more recent Global Insight AII-LF and RCAF indices;[103] (3) CSXT corrects the fuel surcharge mechanism used for the {{[redacted]}} coal contract {{[redacted]}};[104] (4) CSXT corrects a spreadsheet error affecting the calculation of certain fuel surcharge amounts;[105] (5) CSXT corrects TPI's calculations to reflect discounted fuel surcharges actually received by certain intermodal customers;[106] (6) CSXT assigns the same fuel surcharge found in the historical period for the projected period for shipments CSXT interchanged with BNSF at Birmingham, AL;[107] (7) CSXT assumed that expiring contracts that are renewed in the future maintain the same fuel surcharge terms as the expiring contract;[108] and (8) CSXT incorporates a revised EIA Short Term Energy Outlook to determine fuel prices used to calculate fuel surcharge revenues.[109]

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[102] *See,* CSXT Reply, pp. III-A-21-22.
[103] *Id.* p. III-A-22.
[104] *Id.* pp. III-A-22-23.
[105] *Id.* p. III-A-23.
[106] *Id.* pp. III-A-23-24
[107] *Id.* pp. III-A-24-25.
[108] *Id.* pp. III-A-25-27
[109] *Id.* p. III-A-27.

In Rebuttal, TPI accepts all of CSXT's changes identified above except CSXT's fuel surcharge adjustment for shipments interchanged with BNSF at Birmingham, AL and CSXT's assumptions concerning the fuel surcharge for expiring contracts. In addition, while TPI agrees with CSXT's use of updated indices and fuel prices in its Reply evidence, TPI utilizes even more recent updates in this Rebuttal. TPI's reason for rejecting CSXT's Reply evidence for the two (2) items noted above is explained below

i. Fuel Surcharge for <u>Birmingham, AL Shipments</u>

In Opening, TPI calculated total CSXT intermodal fuel surcharge revenues for the forecast period by either: (1) applying the applicable fuel surcharge provision from the CSXT intermodal contract;[110] or (2) applying CSXT's own fuel surcharge program based on the price of On-Highway Diesel Fuel ("HDF"). TPI then calculated the TPIRR fuel surcharge amounts for the forecast period by allocating a share of the total CSXT fuel surcharge revenues for intermodal traffic to the TPIRR using the revenue division percentage calculated under the ATC methodology. In Reply, CSXT objects to the application of CSXT's own fuel surcharge program for a specific group of intermodal traffic that is interchanged with the BNSF at Birmingham, AL.[111] CSXT claims that the CSXT container "waybill records report almost no fuel surcharge revenues for these moves" and, as a result, TPI should not be permitted to receive more than the actual historical fuel surcharge percentage in the forecast period.[112]

[110] In certain instances, the CSXT container waybill data did not identify a specific contract for waybill movements in the historical period. Also, there were instances where the CSXT container waybill data did identify a specific contract for waybill movements but that contract was not provided by CSXT in discovery. In these instances, CSXT's intermodal fuel surcharge program was utilized.

[111] *See,* CSXT Reply, p. III-A-24.

[112] *Id.* pp. III-A-24-25.

In Rebuttal, TPI rejects CSXT's adjustment and makes no changes to the approach it developed in Opening to calculate fuel surcharge revenues for the forecasted period for intermodal traffic interchanged at Birmingham, AL for the following reasons:

- CSXT's own container waybill records fail to report a valid price authority for over 36% of all the intermodal shipments.[113] As a result of CSXT's own bad records, the projected fuel surcharge amounts for these intermodal shipments cannot be calculated based on an existing contract. TPI maintains that defaulting to the CSXT intermodal fuel surcharge program is a reasonable approach for these records;

- CSXT's analysis of fuel surcharge revenues for these intermodal shipments is based on an aggregation of all the Birmingham, AL records to produce an arithmetic average fuel surcharge percentage. When the records included in CSXT's analysis are reviewed more closely in a disaggregated manner, they show that this traffic historically achieved fuel surcharge percentages as high as 25.4% on certain intermodal shipments;[114]

- CSXT's claim is based on the assumption that past is prologue for intermodal fuel surcharges. CSXT claims that, because the historical period reflected low fuel surcharge levels, the same will hold true in the forecasted period. This assumption is belied by CSXT's own historical records which indicate that more and more of the traffic moving across its system is moving under agreements that call for higher fuel surcharges; and

- CSXT failed to apply the adjustment to any other intermodal shipments included in the TPIRR traffic group. If the method utilized by TPI in Opening is suitable for some intermodal shipments included in the TPIRR traffic group, it should be good for all.

In Rebuttal, TPI makes no changes to the calculation of intermodal fuel surcharge revenues for these shipments in the forecasted period.

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[113] A review of the CSXT container waybill data for traffic included in the TPIRR traffic group shows that over 36% of the shipments report a Contract of "UNKNOWN" or "BLNK" for intermodal shipments (*See,* TPI Rebuttal workpaper "TPIRR_TRAFFIC_HISTORICAL_CONTAINER_ALL_Reb.xlsx").

[114] *See,* TPI Rebuttal workpaper "TPIRR_TRAFIC_HISTORICAL_CONTAINER_ALL_Reb.xlsx".

ii. Fuel Surcharge After Contract Expiration

In Opening, TPI assumed that, "[a]fter contract expiration and through 2Q20, fuel surcharge rates are assumed to follow CSXT's HDF surcharge programs."[115] In Reply, CSXT complains that TPI's assumption is "contrary to CSXT's practice,"[116] which is that "[f]uel surcharge discounts under a prior contract generally continue at the same level when a contract renews."[117] Based on this, CSXT adjusted the fuel surcharge calculations to reflect the assumption "that contracts renewed in the future maintain the same fuel surcharge terms as the existing contracts."[118]

In Rebuttal, TPI rejects CSXT's adjustment based on their revised assumption for the following reasons:

- CSXT's fuel surcharge adjustment is based on a singular claim that TPI's assumption is "contrary to CSXT's practice."[119] The only support provided by CSXT to demonstrate this "standard practice" is a table summarizing the applicable fuel surcharge terms for six (6) contracts. But CSXT produced over one hundred and eighty (180) contracts in discovery in this proceeding. Finding six (6) contracts to support its required assumption for all contracts is hardly indicative of a "standard practice" for CSXT. For example, TPI reviewed each of the 180 CSXT contracts produced in discovery and found at least seven (7) contracts that demonstrate a change from a discounted fuel surcharge mechanism in an expired contract that is followed by a full CSXT standard fuel surcharge in the renewed contract.[120] Applying CSXT's logic, TPI identified a contradictory "standard practice." Thus, contrary to CSXT's claim, it has no "standard practice" for the calculation of fuel surcharges in renewed contracts;

- On a much broader scale, very little CSXT traffic was shipped under a contract or tariff that included a fuel surcharge mechanism approximately fifteen (15) years ago. Since that time, CSXT and other Class I railroads have been aggressively expanding them to additional customers as contracts are signed or renewed;

[115] *See,* TPI Opening at page III-A-15.
[116] *See,* CSXT Reply, p. III-A-25.
[117] *Ibid.*
[118] *Id.* p. III-A-26.
[119] *Id.* p. III-A-25.
[120] *See,* TPI Rebuttal workpaper "Contract_Summary_Renewed_Full_CSXT_Fuel_Surcharge.xlsx".

- TPI's assumption is consistent with the actions of a least-cost, most-efficient railroad which are focused on the maximization of revenues and revenue growth over time. Like CSXT, TPIRR believes that creating value for its customers compared with the increasing demand for service provides a solid foundation for growth and pricing above rail inflation over the long term[121]. As noted by CSXT's Chief Sales and Marketing Officer when asked to comment on the direction of CSXT pricing:

> "Going forward, I think all modes of transportation have an opportunity to price up, price up significantly, particularly in this type of economic environment. When you couple that with what is happening in 2014 and you look at projections for 2015, we are in a very robust pricing market in virtually all modes of transportation. So up is the way the direction looks to me."[122]

- Clearly, CSXT's made for litigation argument to ignore additional fuel surcharge revenue after a contract expires under the auspices of a "standard practice" is completely at odds with their corporate goal of aggressively pricing their products. Regardless, TPIRR will aggressively seek to maximize revenues; and

- TPI's assumption is consistent with the methodology accepted by the Board in its *AEPCO* decision.[123]

Rebuttal Table III-A-4 below, summarizes the differences in TPIRR revenues by year between CSXT Reply and TPI Rebuttal.

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[121] *See*, CSX's (CSX) CEO Michael Ward on Q2 2014 Results Earnings Call Transcript (July 16, 2014) included in TPI Rebuttal workpaper "SA Transcripts_CSXT 2Q1014 Investor Call".
[122] *Ibid.*
[123] *See*, *AEPCO*, at 27 to 28.

Rebuttal Table III-A-4
Differences In TPIRR Revenue
Between CSXT Reply and TPI Rebuttal – ($000)

		TPIRR Revenue		Difference	
	Time Period	CSXT Reply	TPI Rebuttal	Aggregate 1/	Percent 2/
	(1)	(2)	(3)	(4)	(5)
1.	2010 (Jul-Dec)	$2,940,893	$2,967,269	26,376	0.9%
2.	2011	6,476,194	6,540,524	64,330	1.0%
3.	2012	6,722,619	6,775,702	53,083	0.8%
4.	2013	7,007,927	7,075,518	67,591	1.0%
5.	2014	7,456,190	7,490,865	34,675	0.5%
6.	2015	7,839,678	7,956,707	117,029	1.5%
7.	2016	8,360,217	8,544,944	184,727	2.2%
8.	2017	8,742,364	8,976,605	234,241	2.7%
9.	2018	9,206,953	9,576,704	369,751	4.0%
10.	2019	9,683,706	10,270,791	587,085	6.1%
11.	2020 (Jan-Jul)	5,083,641	5,514,764	431,123	8.5%
12.	Total	$79,520,380	$81,690,393	2,170,011	2.7%

Source: CSXT Reply workpaper "Revenue Summary (Final) Reply.xlsx" and TPI Rebuttal workpaper "Revenue Summary (Final) Reply_REB2.xlsx".
1/ Column (3) – Column (2).
2/ Column (4) ÷ Column (2).

As shown in Rebuttal Table III-A-4 above, the TPIRR revenues from TPI Rebuttal represent approximately 2.7 percent more revenues, on average, than the TPIRR revenues from CSXT Reply.

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III. STAND-ALONE COST

B. STAND-ALONE RAILROAD SYSTEM

The TPIRR is an extensive system that replicates much of the current CSXT system, extending from Chicago, IL south to New Orleans, LA, and east to Orangeburg, NY and Washington, DC; from Baltimore, MD south to Montgomery, AL; from East St. Louis, IL east to Greenwich, OH; from Memphis, TN east to Atlanta, GA; from Deshler, OH south to Nashville, TN and Atlanta, GA: and from Atlanta, GA south to Oneco, FL and Orlando, FL. CSXT "accepts the general scope and configuration of the TPIRR posited by TPI."[1] However, CSXT includes additional mainline and sidings, customer lead track, additional joint facility miles and partially owned route miles as well as additional interchange locations, intermodal facilities and yards. CSXT also increases the TPIRR's yard track and yard acreage.

The issues raised by CSXT in Reply will be addressed separately below under the following topical headings:

1. Routes and Mileage
2. Yards and Interchange Track
3. Track Miles and Weight of Track
4. Joint Facilities
5. Signals and Communications System
6. Turnouts, FEDs and AEI Scanners

1. Routes and Mileage

Rebuttal Table III-B-1 below summarizes the differences in constructed route miles between TPI's Opening and CSXT's Reply.

[1] *See*, CSXT Reply, p. III-B-1.

Rebuttal Table III-B-1
Comparison of TPIRR Constructed Route Mileage – TPI Opening and CSXT Reply

Description (1)	TPI Opening[1/] (2)	CSXT Reply[2/] (3)	Difference Cols (3)–(2) (4)
1. Main Lines			
a. Partially Owned Lines			
i. Dolton to Woodland	0.00	32.85	32.85
ii. Belt Railway Chicago ("BRC")	0.00	1.20	1.20
iii. IHB Railway	0.00	11.29	11.29
iv. TRRA	0.00	0.29	0.29
b. East St. Louis Rose Lake Extension	0.00	0.30	0.30
c. Other Main Lines	6,161.93	6,161.93	0.00
2. Branch Lines	704.01	704.01	0.00
3. Total Constructed Route Miles	6,865.94	6,911.87	45.93

1/ TPI Opening, Table III_B-1, p. III-B-3.
2/ CSXT Reply, Table III-B-2, p. III-B-13.

a. Main Lines

CSXT proposes adding 0.3 miles of mainline track in East St. Louis, IL between Rose Lake Yard and the connection with the track of the Terminal Railroad Association of St. Louis ("TRRA") "[i]n order to permit the TPIRR to operate in the same manner as CSXT does today."[2] TPI accepts the addition of this 0.3 miles in Rebuttal. CSXT also adds route miles associated with partially-owned lines as discussed below.

i. Partially-Owned Lines

CSXT claims that TPI must include the road property investment costs for some of the TPIRR's trackage rights segments because CSXT has partial or total ownership of these lines. These segments include:

- 65.7 miles of TPIRR's Chicago to Nashville line between Dolton, IL and Woodland Jct., IL – operated by Union Pacific Railroad ("UP") in which CSXT has 50 percent ownership or 32.85 miles;
- 4.8 miles of TPIRR's BRC Branch in Chicago – CSXT has 25 percent ownership or 1.20 miles;

[2] *See,* CSXT Reply, p. III-C-183.

- 11.29 miles of TPIRR's Bedford Park Branch in Chicago – operated by the Indiana Harbor Belt Railroad ("IHB") but 100 percent owned by the Baltimore and Ohio Chicago Terminal Railroad ("BOCT"), a wholly-owned subsidiary of CSXT; and

- 2.0 miles on TRRA in East St. Louis, IL – CSXT has 14.29 percent ownership or 0.29 miles.

TPI accepts CSXT's "re-classification" of these 45.63 miles from trackage rights to constructed miles. However, as discussed in the joint facilities and maintenance of way sections of Rebuttal Part III-D, these miles are not included in the TPIRR's maintenance expenses because there are operating and maintenance (joint facility) agreements under which TPIRR pays other railroads for the operating and maintenance expenses.

CSXT's Reply also includes discussions of expenses associated with several other segments that CSXT believes should be included in TPIRR's costs, but which CSXT does not include for various reasons, with one exception. Therefore, TPI does not include them either.

The one exception pertains to the Monongahela Railway ("MGA") which CSXT and Norfolk Southern Railway ("NS") acquired as part of the purchase of Conrail. In Opening, TPI included costs for the TPIRR operations over the MGA but omitted the investment associated with the annual program maintenance for the MGA, as pointed out in CSXT's Reply.[3] TPI accepts CSXT's calculation of the TPIRR's portion of this annual investment. However, as discussed in Part III-G, CSXT included this investment in the DCF Model improperly and TPI has corrected this in Rebuttal.

b. <u>Branch Lines</u>

CSXT accepts TPI's 704.01 miles of branch lines.[4]

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3 *See*, CSXT Reply, pp. III-B-6-9.
4 *See*, CSXT Reply, Table III-B-2, p. III-B-13.

c. Rebuttal Route Miles

As discussed above, TPI accepted CSXT's changes to the TPIRR route miles. Rebuttal Table III-B-2 below, compares the route miles included in TPI's Opening, CSXT's Reply and TPI's Rebuttal.[5]

Rebuttal Table III-B-2
Comparison of TPIRR Constructed Route Mileage -
TPI Opening, CSXT Reply and TPI Rebuttal

Description	TPI Opening[1/]	CSXT Reply[2/]	TPI Rebuttal[3/]	Difference Cols (3)–(4)
(1)	(2)	(3)	(4)	(5)
1. Main Lines				
a. Partially-Owned Lines				
i. Dolton to Woodland	0.00	32.85	32.85	0.00
ii. Belt Railway Chicago	0.00	1.20	1.20	0.00
iii. IHB Railway	0.00	11.29	11.29	0.00
iv. TRRA	0.00	0.29	0.29	0.00
b. East St. Louis Rose Lake Extn	0.00	0.30	0.30	0.00
c. Other Main Lines	6,161.93	6,161.93	6,161.93	0.00
2. Other Branch Lines	704.01	704.01	704.01	0.00
3. Total Constructed Route Miles	6,865.94	6,911.87	6,911.87	0.00

1/ Table III-B-1 above, Column (2).
2/ Table III-B-1 above, Column (3).
3/ *See* TPI Rebuttal workpaper "TPIRR Route Miles Rebuttal Grading.xlsx," tab "TPIRR Miles."

As shown in Rebuttal Table III-B-2 above, there are no remaining differences between TPI and CSXT regarding the constructed route miles of the TPIRR.

2. Yard and Interchange Track

In Opening, TPI's operating plan specified the location of twelve (12) "major" and sixty-eight (68) "other" yards where activities such as train staging, car inspection, yard switching (for originating and terminating traffic plus intermediate blocking of cars), crew changes, local train operations and locomotive repairs, servicing and fueling would take place.[6] At many of these

[5] Although CSXT lists all of the partially-owned lines and the Rose Lake extension under "Main Lines," only the Dolton to Woodland segment is included as a TPIRR main line; the remaining partially-owned lines and the Rose Lake extension are included as TPIRR branch lines. However, in order to maintain consistency with CSXT's Reply, Rebuttal Table III-B-2 follows the format included in CSXT's Reply.

[6] *See,* TPI Opening workpaper "TPIRR Yard Matrix Opening Grading.xlsx," tab "TPIRR Yards."

locations, traffic also would be interchanged with CSXT and other railroads. The number and length of "running tracks" in each yard (the tracks necessary to handle the peak period trains moving through the yards of TPIRR) were based on the results of the RTC Model. These include receiving and departure tracks, inspection tracks and interchange tracks.[7]

Nineteen (19) intermodal terminals, twenty (20) automotive terminals and twenty-three (23) bulk transfer terminals were also added manually to the TPIRR yard list.[8]

Interchange locations were identified by a review of TPIRR carload data and interchange track was added at eighty-seven (87) interchange locations where the TPIRR did not already have a yard.[9]

The number and length of classification tracks were estimated based on the range of car counts at each yard.[10] The number and length of tracks needed for locomotive repair and servicing facilities, fueling and car repair (RIP tracks) were estimated by general yard size and included where necessary.[11]

All of the above were incorporated into the yard requirements of the TPIRR resulting in 1,467.19 miles of yard track contained in 229 yards.

In Reply, CSXT accepted the vast majority of TPI's yards and yard track calculations.[12] CSXT accepted TPI's twelve (12) major yards, sixty-eight (68) "other" yards, nineteen (19) intermodal terminals, twenty (20) automotive facilities, twenty-three (23) bulk transfer facilities, and eighty-seven (87) additional interchange locations. CSXT added five (5) "other yards,"

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[7] *See*, TPI Opening workpaper "TPIRR Yard Matrix Opening Grading.xlsx," tabs "TPIRR Yards" and "Yard Track Length."

[8] *See*, TPI Opening workpaper "TPIRR Yard Matrix Opening Grading.xlsx," tab "TPIRR Yards."

[9] *Id*.

[10] *See*, TPI Opening workpaper "TPIRR Yard Matrix Opening Grading.xlsx," tab "Class Track Length."

[11] *See*, TPI Opening workpaper "TPIRR Yard Matrix Opening Grading.xlsx," tab "Additional Track."

[12] See, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx." CSXT's changes to TPI Opening are marked in red.

three (3) intermodal terminals, two (2) partially-owned yards, one (1) coal terminal, and seventeen (17) additional interchange locations.

The specific differences in yard and interchange track between TPI and CSXT are addressed below.

a. Yards

As noted above, TPI included a total of 229 yards. CSXT accepted all of TPI's yards and added twenty-eight (28) more yards. Each category of yard track is discussed below.

i. Major Yards

TPI included twelve (12) major yards and CSXT accepted those yards. TPI determined the number of "running" tracks and track miles[13] based on the track required by the RTC Model to handle trains in the TPIRR's yards.[14] CSXT claims that the number of tracks included by TPI is significantly understated because TPI understated the dwell times used in the RTC Model for various activities.[15] Stated differently, CSXT claims that the dwell times should have been greater which would then lead to an increase in the number of tracks in each yard. In fact, a review of the number of tracks included by CSXT in the major yards reveals that CSXT actually decreased the number of tracks in Willard Yard and Radnor Yard.[16]

Rebuttal Part III-C contains a discussion, supported by Rebuttal Exhibit III-C-1, comparing the number of yard tracks CSXT constructed to the number of yard tracks required by CSXT's RTC Model. This analysis demonstrates that CSXT included investment costs for more yard tracks than required to handle the TPIRR's peak period traffic. Rebuttal Part III-C also

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[13] This track reflects receiving, departure, inspection and interchange track, i.e., the track necessary to hold trains in yards while various tasks are being performed. It excludes track where non-line haul-related tasks are performed, such as classification track, fueling track, RIP tracks and locomotive repair and servicing track.

[14] *See*, TPI Opening, p. III-B-9 and workpaper "TPIRR Yard Matrix Opening Grading.xls," tab "TPIRR Yards."

[15] *See*, CSXT Reply, p. III-B-21. *See, also*, CSXT Reply, pp. III-C-98-125 and 187-195.

[16] *See*, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "TPIRR Yards."

critiques CSXT's development of the number of tracks in each yard, showing that CSXT's methodology is unrealistic and gold-plated.

In Rebuttal, TPI continues to use the RTC Model to determine the number of "running" tracks required in TPIRR's major yards as the RTC Model is a better indicator of the tracks required than CSXT's formulas. As discussed in Rebuttal Part III-C, TPI made some modifications to its RTC Model in response to CSXT's valid Reply criticisms. As a result of those modifications, there were some changes to the number and length of "running" tracks required in nine (9) of the TPIRR's major yards.[17]

ii. <u>Other Yards</u>

TPI included sixty-eight (68) "other" yards and CSXT accepted those yards. For all but ten (10) of those yards, CSXT accepted the "running" track proposed by TPI.[18] As with the major yards, CSXT claims that the number of tracks included by TPI is understated. However, a review of CSXT's yard matrix reveals that CSXT increased the number of tracks in five (5) yards and decreased the number of tracks in five (5) yards.[19] As with the major yards, CSXT's adjustment to the number of tracks in these yards is incorrect because CSXT's formulas used to calculate the number of yard tracks are unrealistic and gold-plated.

In Rebuttal, TPI continues to use the RTC Model to determine the number of "running" tracks required in the other yards. As discussed in Rebuttal Part III-C, TPI made some modifications to its RTC Model in response to CSXT's valid Reply criticisms. As a result of

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[17] *See*, TPI Rebuttal workpaper "TPIRR Yard Matrix Rebuttal Grading.xlsx," tabs "TPIRR Yards" and "Yard Track Length."

[18] *See*, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "TPIRR Yards."

[19] *Ibid*.

those modifications, there were some changes to the number and length of "running" tracks required in twenty-one (21) of TPIRR's sixty-eight (68) other yards.[20]

CSXT also added yards at five (5) locations. TPI added these yards in Rebuttal and accepted the number of tracks and track miles proposed by CSXT. TPI also added the Curtis Bay Coal Terminal to the listing of other yards and accepted CSXT's 10.203 miles of track for this facility.[21]

iii. <u>Intermodal Facilities</u>

In Opening, TPI included nineteen (19) intermodal terminals with a total of 113.60 track miles. In Reply, CSXT accepted these terminals and the track miles proposed by TPI.[22] CSXT added three (3) additional intermodal terminals (and 31.72 miles of track) based on the traffic included by TPI.[23] TPI added these three (3) facilities and the track miles in Rebuttal.

iv. <u>Automotive Facilities</u>

In Opening, TPI included twenty (20) automotive yards with a total of 33.55 miles of track. On Reply, CSXT accepts the locations and track miles of TPI's automotive facilities.[24]

v. <u>Bulk Transfer Facilities</u>

In Opening, TPI included twenty-three (23) Bulk Transfer facilities with a total of 18.47 miles of track. On Reply, CSXT accepts the locations and track miles of TPI's Bulk Transfer facilities.[25]

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[20] *See*, TPI Rebuttal workpaper "TPIRR Yard Matrix Rebuttal Grading.xlsx," tabs "TPIRR Yards" and "Yard Track Length."

[21] *Id*.

[22] *See*, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "TPIRR Yards."

[23] *See*, CSXT Reply, p. III-B-19.

[24] *See*, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "TPIRR Yards."

[25] *Id*.

vi. Curtis Bay Coal Terminal

On Reply, CSXT added the tracks and investment for the Curtis Bay Coal Terminal.[26] CSXT developed the total investment separately from the rest of the TPIRR's investment.[27] As part of the investment, CSXT included 53,874 feet, or 10.20 miles, of yard track.[28] On Rebuttal, TPI included the Curtis Bay Coal Terminal but TPI included the various components in their proper location to correctly develop the investment costs. Therefore, TPI included the 10.20 miles of yard track with the other yard track miles of the TPIRR.[29] The remaining components of the Curtis Bay Coal Terminal are discussed in Rebuttal Part III-F-7, where CSXT included the investment.

vii. Partially-Owned Yards

On Reply, CSXT added the TPIRR's portion of the track miles associated with two (2) partially-owned yards. Specifically, CSXT included 62.5 miles (25 percent) of BRC's Clearing Yard in Chicago, IL and 5.15 miles (14.29 percent) of TRRA's Madison Yard in East St. Louis, IL.[30] TPI included these track miles on Rebuttal.[31]

viii. Classification Tracks

In Opening, TPI included a total of 346.64 miles of classification tracks at the twelve (12) major yards and forty (40) other yards.[32] On Reply, CSXT accepted TPI's amount of classification tracks at thirty (30) of the other yards.[33] However, CSXT increased the amount of

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26 *See*, CSXT Reply, p. III-B-19.
27 *See*, CSXT Reply workpaper "Curtis Bay Coal Pier.xls."
28 *Ibid*.
29 *See*, TPI Rebuttal workpaper "TPIRR Yard Matrix Rebuttal Grading.xlsx," tab "TPIRR Yards."
30 *See*, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "TPIRR Yards."
31 *See*, TPI Rebuttal workpaper "TPIRR Yard Matrix Rebuttal Grading.xlsx," tab "TPIRR Yards."
32 *See*, TPI Opening workpaper "TPIRR Yard Matrix Opening Grading.xlsx," tab "Class Track Length."
33 *See*, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "Class Track Length."

classification track at all of the TPIRR's twelve (12) major yards and ten (10) of the other yards. CSXT also included classification tracks at one (1) of the five (5) other yards that it added.[34]

In Rebuttal, TPI accepted CSXT's Reply modifications and included 451.27 miles of classification tracks.[35]

ix. Yard Lead Tracks

On Reply, CSXT claims that TPI did not build the lead tracks to ten (10) facilities – two (2) intermodal, five (5) automotive and three (3) bulk transfer. CSXT adds 8.77 miles for lead tracks to these facilities.[36] As support, CSXT simply includes Google Earth photographs or engineering drawings with distances measured. CSXT provides no support for its assumption that these lead tracks are not included in the miles which TPI included in Opening for these facilities, i.e., the track miles provided by CSXT in discovery. TPI does not accept CSXT's additional 8.77 miles of yard lead track for these ten (10) facilities.

In response to CSXT's specific example of the Tampa intermodal facility, which is currently located on a CSXT line parallel to the rail line of the TPIRR, TPI contends that, as TPI included the construction costs for this facility, it would be located next to the rail line constructed by the TPIRR, therefore making CSXT's lead track unnecessary.

x. Additional Tracks

In Opening, TPI included additional tracks in various yards for fixed fueling platforms, locomotive shops, direct-to-locomotive ("DTL") fueling / locomotive servicing, car shops and RIP tracks for a total of 35.09 track miles.[37]

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[34] *Ibid*.
[35] *See*, TPI Rebuttal workpaper "TPIRR Yard Matrix Rebuttal Grading.xlsx," tab "Class Track Length."
[36] *See*, CSXT Reply, pp. III-B-17-18.
[37] *See*, TPI Opening workpaper "TPIRR Yard Matrix Opening Grading.xlsx," tab "Additional Track."

On Reply, CSXT accepted TPI's number of tracks and tracks miles for fixed fueling platforms, locomotive shops, DTL fueling / locomotive servicing and car shops. CSXT accepted the RIP tracks included by TPI but added RIP tracks at an additional five (5) locations. CSXT also added track for twelve (12) proposed locomotive service and inspection stations,[38] additional interchange track at ten (10) existing major and other yards, a run-around track at each of the eighty (80) major and other yards and yard lead tracks at each of the eleven (11) hump yards, plus the ten (10) yard lead tracks discussed above, for a total of 270.04 track miles.[39] Each of these differences are discussed below.

CSXT added a total of 9.09 miles of track for twelve (12) proposed locomotive service and inspection stations.[40] As discussed in Rebuttal Part III-F-7, the locomotive service and inspection stations added by CSXT are not necessary. Therefore, TPI rejects the 9.09 track miles added by CSXT.

CSXT added a total of 1.326 miles of RIP track at five (5) additional locations.[41] On Opening, TPI included RIP tracks at yards with car inspectors. Although CSXT's narrative states that it added car inspectors at five (5) locations, neither CSXT's narrative nor its workpapers identify the five (5) locations. TPI assumes that the car inspectors were placed at the same locations where CSXT added RIP tracks. On Rebuttal, TPI added car inspectors at the five (5) yards where CSXT added RIP tracks. Therefore, TPI accepted the five (5) RIP tracks added by CSXT.

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[38] CSXT's narrative refers to eight (8) locations but CSXT's workpapers included track at twelve (12) locations. Compare CSXT Reply, p. III-B-22 with CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "Additional Track."

[39] *See*, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "Additional Track."

[40] *Ibid*.

[41] *Ibid*.

CSXT added thirty (30) interchange tracks totaling 42.99 track miles at ten (10) of the other yards on the TPIRR.[42] As discussed previously, TPI relied on the RTC Model to determine the number and length of tracks required in the major and other yards to efficiently move trains over the TPIRR during the peak period. This includes the track needed for interchange trains. Therefore, the tracks included by TPI already incorporate the tracks needed to handle interchange traffic. Furthermore, CSXT provided no support for its determination of the additional number of tracks at these specific locations.[43] Therefore, TPI rejects CSXT's additional interchange tracks at these ten (10) other yards.

On Reply, CSXT added one (1) run-around track at each of the twelve (12) major and sixty-eight (68) other yards on the TPIRR for a total of 167.08 track miles.[44] CSXT attempts to justify the addition of these tracks by claiming that TPI did not include connecting tracks in its yards. However, CSXT never identifies exactly what tracks it claims are missing from TPI's calculations, instead simply referring to TPI's Opening yard templates.[45] Furthermore, rather than measuring the claimed missing connecting track, CSXT simply adds another track to each yard using the length of the longest yard track included by TPI in Opening.[46] This additional track is unnecessary as all the required sidings in these yards have been identified using the RTC Model as explained previously. As CSXT has not identified the specific track it claims is missing and the track miles CSXT did include are unnecessary and have no relation to the track that CSXT claims is missing, TPI rejects the run-around tracks included by CSXT.

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42 *Ibid*.

43 CSXT performed no analysis to determine the length of these additional tracks. Rather, CSXT simply used the average length of the interchange tracks included by TPI at the eighty-seven (87) additional interchange yards included in Opening.

44 *See*, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "Additional Track."

45 *See*, CSXT Reply, III-B-22 and footnote 41.

46 *See*, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "Additional Track."

On Reply, CSXT added a lead track in each hump yard to represent the track on which the hump is located. TPI accepted CSXT's 5.69 total miles of track for the eleven (11) hump yards on the TPIRR.

xi. Yard Acreage

In Reply, CSXT takes issue with some of the yard acreages included by TPI on Opening.[47] CSXT adjusts the yard acreage at hump yards and certain flat yards based on CSXT's changes to the track miles at these yards. CSXT accepts TPI's acreages for intermodal and automotive terminals but does not accept TPI's acreages for the bulk transfer terminals. CSXT also claims that TPI failed to include acreage for interchange yards. CSXT's criticisms are addressed in Rebuttal Part III-F-1 where land costs are developed.

b. Interchange Track

As discussed above, TPI included interchange track on Opening in two ways. First, interchange track was included in the yard track identified by the RTC Model for the major and other yards as interchange trains were included in the trains moving over the TPIRR during the peak period. Second, additional interchange yards were added at locations where there were no major or other yards based on a review of the TPIRR's traffic data. In Opening, TPI identified interchange traffic at one-hundred thirty-two (132) locations: nine (9) major yards, thirty-six (36) other yards and eighty-seven (87) additional interchange yards.[48]

On Reply, CSXT added thirty (30) interchange tracks totaling 42.99 miles at ten (10) of TPIRR's other yards.[49] As previously discussed, CSXT did not support these additional tracks and TPI has rejected them.

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[47] *See*, CSXT Reply, pp. III-B-23-24.
[48] *See*, TPI Opening workpaper "TPIRR Yard Matrix Opening Grading.xlsx," tab "TPIRR Yards."
[49] *See*, CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "Additional Track."

CSXT also added one (1) interchange track to both the Weldon Connection, NC and Folkston, GA additional interchange yards. TPI could find no support for the addition of these tracks and has not accepted them in Rebuttal.

CSXT added seventeen (17) interchange yards where the TPIRR would interchange traffic with CSXT.[50] As discussed below, TPI agrees with nine (9) of CSXT's additional interchange yards and rejects eight (8) of them.

TPI accepted CSXT's additional interchange yards at Starke, FL, Lakeland, FL, Pine Jct., IN, Crawfordsville, IN, Contentnea, NC, Richmond, PA, Willow Creek, IN, Indianapolis, IN and Henderson, KY.

TPI rejects CSXT's addition of an interchange with CSXT at Deland, FL because there are no CSXT lines that connect to the TPIRR at this location and the TPIRR constructed the Deland Branch to the end of CSXT ownership.

TPI rejects CSXT's addition of an interchange between TPIRR and CSXT at Decoursey, KY because the TPIRR and CSXT lines actually connect nearby at KC Jct., KY where TPI included an interchange yard that CSXT accepted.

TPI rejects CSXT's addition of an interchange between TPIRR and CSXT at Madisonville, KY because there are no CSXT lines that connect to the TPIRR at this location. Furthermore, TPI included a yard at nearby Atkinson, KY, which CSXT accepted, and traffic between TPIRR and CSXT would be interchanged there.

TPI rejects CSXT's addition of an interchange between TPIRR and CSXT at Marion, OH because TPI has already included a yard at Marion, OH, which CSXT accepted. Interchanges between TPIRR and CSXT would be handled at this existing yard.

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[50] *See*, CSXT Reply, p. III-B-12 and workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "Additional Track."

TPI rejects CSXT's addition of an interchange between TPIRR and CSXT at Hamilton, OH because the TPIRR and CSXT lines actually connect nearby at New River Jct., OH where TPI included an interchange yard that CSXT accepted.

TPI rejects CSXT's addition of an interchange between TPIRR and CSXT at Clinton, SC because the TPIRR and CSXT lines actually connect nearby at Dover, SC where TPI included an interchange yard that CSXT accepted.

TPI rejects CSXT's addition of an interchange between TPIRR and CSXT at Richmond / Fulton, VA because both TPI and CSXT included ACCA Yard at Richmond, VA. Interchanges between TPIRR and CSXT would be handled at this existing yard.

TPI rejects CSXT's addition of an interchange between TPIRR and CSXT at Crestline, OH because TPI already included a yard at Crestline/Galion, OH that CSXT accepted. Interchanges between TPIRR and CSXT would be handled at this existing yard.

c. Rebuttal TPIRR Yard and Interchange Track

As discussed above, and shown in Rebuttal Table III-B-3 below, TPI increased its yard and interchange track from 1,417.19 track miles to 1,815.93 track miles.[51] This is still substantially lower than CSXT's overstated 2,109.91 track miles.[52]

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[51] This includes 10.203 miles of track for the Curtis Bay Coal Terminal.

[52] CSXT's 2,099.705 yard track miles plus 10.203 miles of yard track for the Curtis Bay Coal Terminal that CSXT included in its separate development of the total costs for the Curtis Bay Coal Terminal.

Rebuttal Table III-B-3
Comparison of TPIRR Yard and Interchange Track Miles -
TPI Opening, CSXT Reply and TPI Rebuttal

	TPI Opening		**CSXT Reply**		**TPI Rebuttal**	
Description	**No. of Locations**	**Track Miles**	**No. of Locations**	**Track Miles**	**No. of Locations**	**Track Miles**
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Yard Track for Trains						
a. Major and Other Yards	80	776.000	85	925.869	85	884.529
b. Intermodal Facilities	19	113.600	22	145.316	22	145.316
c. Automotive Facilities	20	33.553	20	33.553	20	33.553
d. Bulk Transfer Facilities	23	18.466	23	18.466	23	18.466
e. Subtotal		941.619		1,123.204		1,081.864
2. Curtis Bay Coal Terminal	---	---	1	10.203	1	10.203
3. Partially-owned Yards	---	---	2	67.647	2	67.647
4. Classification Tracks	52	346.640	53	451.268	53	451.268
5. Other Yard Lead Tracks	---	---	10	8.770	---	---
6. Fixed Fueling Tracks	16	12.273	12	12.273	12	12.273
7. Locomotive Shops	4	4.545	4	4.545	4	4.545
8. DTL Fueling/Loco Svc	15	4.261	15	4.261	15	4.261
9. Car Shop Tracks	3	3.665	3	3.665	3	3.665
10. Loco Service & Insp.	---	---	12	9.091	---	---
11. Rip Tracks	27	10.341	32	11.667	32	11.667
12. Run-around Tracks	---	---	80	167.080	--	---
13. Hump Yard Lead Tracks	---	---	11	5.691	11	5.691
14. Addl. Int. Tracks Existing Yards	---	---	10	42.993	---	---
15. Addl. Interchange Yards	87	143.850	104	187.550	96	162.850
16. Total		1,467.194		2,109.908		1,815.934

Source: TPI Rebuttal workpaper "TPIRR Yard and Interchange Track Comparison.xlsx"

3. Track Miles and Weight of Track

According to CSXT, its "Reply evidence provides the additional main line, secondary track, interchange tracks and yard tracks that the TPIRR would need to serve its selected traffic group."[53]

Rebuttal Table III-B-4 below compares TPI's Opening and CSXT's Reply TPIRR track miles.

[53] *See,* CSXT Reply, p. III-B-14.

Rebuttal Table III-B-4
Comparison of TPIRR Track Miles – TPI Opening and CSXT Reply

Description	TPI Opening[1/]	CSXT Reply[2/]	Difference Cols (3)-(2)
(1)	(2)	(3)	(4)
1. Main Line Track			
a. Single Main Line (incl. branch lines)	6,865.94	6,911.87	45.93
b. Other Main (incl. sidings)	3,353.29	3,371.57	18.28
2. Other			
a. Helper Pocket and Setout Track	136.10	136.10	0.00
b. Customer Lead Track	0.00	63.71	63.71
3. Yard and Interchange Track	1,467.19	2,109.91 [3/]	642.72
4. Total Track Miles	11,822.52	12,593.16	770.64

1/ TPI Opening, p. III-B-5, Table III-B-2.
2/ CSXT Reply, p. III-B-15, Table III-B-3.
3/ CSXT total of 2,099.705 miles plus 10.203 miles for the Curtis Bay Coal Terminal.

a. Main Line Track

CSXT accepts TPI's track specifications for main lines.

i. Single Main

CSXT adds 45.63 single main line track miles for partially-owned lines and 0.3 miles for the Rose Lake Yard extension. As discussed above, TPI accepted these 45.93 additional miles.

ii. Other Main and Sidings

TPI's other main and siding miles in Opening were determined from its RTC Model. On Reply, CSXT adds 18.28 miles of other main track and sidings that it claims are required to serve the TPIRR's selected traffic group, consisting of 6.99 miles of third main leading into Radnor Yard in Nashville, TN and 11.29 miles of second main between Blue Island Yard, IL and Bedford Park IM, IL. However, CSXT's Reply RTC Model shows that the 6.99 miles of third main leading into Radnor Yard is not utilized and, therefore, is unnecessary.[54] On Rebuttal, TPI included the 11.29 miles of second main between Blue Island Yard, IL and Bedford Park IM, IL.

[54] TPI's Rebuttal RTC Model did not require this 6.99 miles of third main either.

On Rebuttal, as explained in Rebuttal Part III-C, TPI made a few modifications to its RTC Model simulation in response to CSXT's valid criticisms in Reply. The results of those modifications (both additions and deletions) result in a total of 3,353.38 miles of other main track and siding on Rebuttal.

b. Branch Line Track

CSXT accepts TPI's track specifications and track miles for the TPIRR's branch lines.[55]

c. Other

i. Helper Pocket and Setout Track

CSXT accepts TPI's locations and specifications of setout and helper pocket tracks.

ii. Customer Lead Track

On Reply, CSXT added 24 lead tracks totaling 63.71 miles to access 52 customers on the TPIRR.[56] TPI included these track miles on Rebuttal.[57]

d. Yard Track

Yard track was discussed previously.

e. Rebuttal TPIRR Track Miles

As discussed above, and below, TPI added track miles where appropriate. Rebuttal Table III-B-5 below, summarizes the TPIRR track miles presented by TPI in Opening and compares CSXT's Reply track miles to those included by TPI on Rebuttal.

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[55] *See*, CSXT Reply, p. III-B-16.

[56] *See*, CSXT Reply workpaper "Customer Lead Tracks.xlsx."

[57] As CSXT included the customer tracks as yard tracks, TPI has added them to its Rebuttal Yard Matrix. *See*, TPI Rebuttal workpaper "TPIRR Yard Matrix Rebuttal Grading.xlsx," tab "TPIRR Yards."

Rebuttal Table III-B-5
Comparison of TPIRR Tracks Miles -
TPI Opening, CSXT Reply and TPI Rebuttal

Description	TPI Opening[1/]	CSXT Reply[2/]	TPI Rebuttal[3/]	Difference Cols (3)-(4)
(1)	(2)	(3)	(4)	(5)
1. Main Line Track				
a. Single Main Line (incl. branch)	6,865.94	6,911.87	6,911.87	0.00
b. Other Main (incl. sidings)	3,353.29	3,371.57	3,353.38	18.19
2. Other				
a. Helper Pocket and Setout Track	136.10	136.10	136.10	0.00
b. Customer Access Sidings	0.00	63.71	63.71	0.00
3. Yard and Interchange Track	1,467.19	2,109.91	1,815.93	293.98
4. Total Track Miles	11,822.52	12,593.16	12,280.99	312.17

1/ TPI Opening, p. III-B-5, Table III-B-2.
2/ CSXT Reply, p. III-B-15, Table III-B-3 plus 10.203 miles of yard track for the Curtis Bay Coal Terminal.
3/ TPI Rebuttal workpapers "TPIRR Route Miles Rebuttal Grading.xlsx," tab "Sticks" and "TPIRR Yard Matrix Rebuttal Grading.xlsx, tab "TPIRR Yards."

4. Joint Facilities

On Opening, TPI included 490.07 miles of joint facilities and privately-owned track. On Reply, CSXT accepted TPI's miles of joint facilities and privately-owned track but added two (2) additional joint facilities segments. First, CSXT added 2.0 miles of track over the TRRA in East St. Louis to connect the TPIRR to TRRA's Madison Yard. Second, CSXT added 12.60 miles over the IHB from Bedford Park IM, IL to Bensenville, IL in order for the TPIRR to interchange with the UP at Proviso, IL and the CN at Bensenville, IL in the same manner as CSXT does today.

On Rebuttal, TPI accepted these additional two (2) joint facility segments. Total joint facility and privately-owned track for the TPIRR equals 505.57 miles.[58]

[58] In the Part III-B-1-a discussion of route miles, 45.63 miles of joint facility segments were re-classified as partially-owned segments based on CSXT's percentage ownership. These segments are also still joint facility segments as they are covered by maintenance and operating agreements.

5. Signals and Communications System

TPI equipped the TPIRR with a Positive Train Control system ("PTC") from the outset of operations in July 2010. CSXT accepts PTC from the outset but claims that, because TPI would be a "trailblazer," additional costs would be incurred "to make that system interoperable with other railroads by 2015."[59]

CSXT claims that TPI's PTC will require additional interoperability costs and modifies the costs for material and installation of communications and microwave systems to account for multi-directional locations and space limitations.

CSXT also takes issue with TPI's spacing and construction of microwave towers.

Signals and communications system costs are addressed in Rebuttal Part III-F-6.

6. Turnouts, FEDs and AEI Scanners

CSXT accepts TPI's turnout specifications, number and placement of Failed Equipment Detectors ("FEDs"), and number and placement of AEI scanners.[60]

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59 *See*, CSXT Reply, p. III-B-24.
60 *See*, CSXT Reply, p. III-B-25.

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III. STAND-ALONE COST

C. STAND-ALONE RAILROAD OPERATING PLAN

This section of TPI's Rebuttal Evidence responds to CSXT's Reply evidence on the TPIRR's operating plan. This section also responds to CSXT's Reply Evidence related to the RTC Model simulation of the TPIRR's operations conducted by TPI, as well as the "MultiRail" model used by CSXT to create its car classification and blocking plan for the TPIRR.

On Opening, TPI presented an operating plan sponsored by Richard McDonald, who has 42 years of railroading experience in varied and increasingly responsible operating positions with the New York Central, Penn-Central, and Chicago and Northwestern Railroads. CSXT's Reply is highly critical of that operating plan, which it describes as "a series of 'automated' analyses,"[1] and proffers a completely new plan concocted from scratch based upon output from the MultiRail software program. On Rebuttal, TPI asked several additional operating experts to review TPI's Opening operating plan, CSXT's critique of that plan, and CSXT's alternative MultiRail-based plan.

John Orrison has worked in the rail industry since he was a Norfolk Southern college intern in 1976. Upon graduating, he went to work for NS as a Project Engineer for three years and continued as an intern while attending Harvard Business School. He then worked for CSXT from 1985-2002, in over ten different capacities, beginning as an Assistant Terminal Trainmaster at CSXT's Hamlet, NC hump yard, and subsequently serving in such operating positions as Division Superintendent—Detroit Division, Vice President—Service Design, and culminating as Vice President—Network Planning. His many responsibilities included supervising and managing the development of CSXT's train profiles, freight car blocks and freight car

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[1] *See,* CSXT Reply, p. III-C-4.

disposition rules, and implementing new operating plans to integrate Conrail and CSXT lines and operations. Most notably, Mr. Orrison was an operating witness for CSXT in the STB's Conrail acquisition proceeding[2] and he continued consulting for CSXT in the Conrail proceeding after he left CSXT's employ. After spending two years as Executive Vice President—Strategic Planning for Pacer Stacktrain, Mr. Orrison served as Assistant Vice President—Service Design & Performance for BNSF from 2005-12, where he led and directed the BNSF Merchandise Service Design & Performance team.

Mr. Orrison has confirmed that TPI's process for developing its operating plan based upon historical train movements and blocking plans is feasible and is used by real world railroads. Moreover, he has identified serious flaws in CSXT's process for developing its alternative operating plan. Finally, in his various operating roles, Mr. Orrison has extensive experience working with MultiRail and has determined that CSXT's application of MultiRail in this case is inefficient and has not provided complete trip plans for all of the TPIRR's traffic.

TPI also engaged the consulting firm of R.L Banks & Associates, Inc. ("RLBA") to review CSXT's development of dwell times for yard receiving and departure tracks. The RLBA team was led by Stephen M. Sullivan, who has 25 years' experience working with Class I railroads and 13 years with the American Short Line and Regional Railroad Association. His experience includes several operating positions with Conrail, starting as a conductor and brakeman in New York, then a terminal trainmaster where he supervised operations at the Stanley hump yard in Toledo, OH, and finally as District Superintendent of Operations overseeing Conrail's northwest Ohio and southwest Michigan operations. The other team members from RLBA are John McLaughlin, who has over 18 years of experience with Conrail,

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2 *CSX Corp. and CSX Transp., Inc., Norfolk Southern Corp. and Norfolk Southern Ry. Co.—Control and Operating Leases/Agreements—Conrail Inc. and Consolidated Rail Corp.*, STB Finance Docket No. 33388.

and Walter H. Schuchmann, who previously worked for NS as an operating and safety officer and supervised commuter, intermodal, and merchandise freight operations in Chicago.

The RLBA team has evaluated CSXT's yard infrastructure and operations evidence and has identified flaws in CSXT's methodology and the addition of gold-plated infrastructure. They discuss ways that efficient railroads operate yards in the real world to address surges in traffic without all of the extra infrastructure that CSXT adds to the TPIRR to handle such traffic.

CSXT's critique of TPI's operating plan is loaded with hyperbole and a multitude of distortions and inaccuracies. Furthermore, despite the multitude of criticisms in CSXT's narrative, its work papers frequently employ the very same methodologies and adopt the very same evidence as TPI's Opening. In many areas, CSXT's evidence is disjointed and inconsistent. Most significantly, despite its claims to the contrary, CSXT has not attempted "to correct the deficiencies in [TPI's] operating plan rather than proffering an entirely separate plan…."[3] Instead, CSXT devises a different operating plan based upon MultiRail, and then attempts to dress it up as a "correction" to TPI's operating plan. CSXT, in fact, has created one operating plan predicated upon MultiRail, but then modeled a completely different operating plan in the RTC simulation that is based upon TPI's Opening operating plan. Consequently, CSXT has created a complete mismatch between its MultiRail and RTC analyses that cannot be used to develop any meaningful operating statistics for the TPIRR or to demonstrate the feasibility of CSXT's operating plan. *See* Part III.C.1.a.

The height of CSXT's hyperbole is its charge that TPI omitted 44,694 local trains from its opening train list, which included 42,208 local trains. *See* Part III.C.2. If that were true,

[3] *See,* CSXT Reply, pp. III-C-7-8.

CSXT's "corrected" local train list for the TPIRR should contain 86,902 local trains,[4] when in fact CSXT's "corrected" list contains just 48,148 local trains. The local trains added by CSXT constitute just one of the three groups of allegedly missing trains identified by CSXT. Specifically, CSXT added 5,940 "On/Off-SARR" local trains but did not add any of the 28,860 industrial yard trains or any of the 9,894 "Other" local trains that it spends over 25 pages of narrative to criticize TPI for omitting. Furthermore, although CSXT modeled a peak period train list derived from its corrected TPI local train list of 48,148 Base Year trains in its Reply RTC simulation, CSXT created an entirely different local train list for its development of operating expenses in Reply based on its MultiRail analysis.

It is important to understand that while the train list CSXT used to develop train operating statistics and expenses in Reply (i.e., CSXT's "Reply train list") was developed as part of its MultiRail analysis, the Reply train list is not the same as—and in fact is merely a subset of— CSXT's MultiRail train list. CSXT's inclusion of both its Reply train list and its MultiRail train list is confusing by design. In fact, CSXT's failure to disclose in its Reply narrative that its Reply train list is merely a subset of its MultiRail train list serves to imply that the two are the same. Review of CSXT's workpapers reveals that they are not. In the MultiRail train list, CSXT included 28,860 industrial yard trains. CSXT included these trains in its MultiRail train list in an apparent attempt to justify its claim that TPI should have included them in its Opening train list. As discussed in greater detail below, TPI could not possibly have included these trains because CSXT conjured them from thin air in developing its Reply evidence. Furthermore, CSXT failed to assign any cars to roughly half of these trains in its MultiRail analysis. Nonetheless, CSXT did not include any of the 28,860 industrial yard trains from its MultiRail analysis in its own

[4] 42,208 local trains in TPI Opening plus 44,694 allegedly missing trains.

Reply train list that it used to develop operating statistics and expenses. Rather, CSXT's Reply train list includes only 60,788 local trains.

Although CSXT's Reply train list contains 60,788 local trains, that is still 30 percent less than 86,902 local trains. Moreover, there is no connection between CSXT's Reply and RTC train lists, i.e., the smaller RTC list is not a subset of the larger Reply list. *See* Part III.C.1.a. CSXT does not offer any explanation for its failure to add all of the allegedly "missing" trains. However, its failure to do so demonstrates that the trains were properly omitted from TPI's opening train list. CSXT offers no justification for its creation of two unrelated train lists, because there is no compelling reason for it to have done so.

TPI explains that it intentionally omitted all of the allegedly "missing" local trains. First, TPI treated the 5,940 On/Off-SARR local trains as trains moving cross-over traffic that the residual CSXT would handle over the entire local train route from the classification yard to the customer rather than creating inefficient en route interchanges of local trains. However, because CSXT seems to have no objections to interchanging local trains, TPI has added those local trains to its rebuttal operating plan. *See* Part III.C.2.a.

Second, TPI continues to exclude the 28,860 industrial yard trains from its local train list because: (1) yard trains are not local trains, (2) CSXT also has not included yard trains in either its MultiRail or "Corrected TPI Opening" local train lists, and (3) both TPI and CSXT have accounted for industrial yard trains in a separate analysis, which would result in a double-count if the yard trains also were included in the local train list. *See* Part III.C.2.b.

Third, TPI excluded the 9,894 "Other" missing trains in Opening either because they do not handle the TPIRR's traffic according to CSXT's own traffic data, they are On/Off-SARR locals, they handled only a few empty cars, or they simply moved empty (usually railroad owned) equipment within a yard at a dispatcher's discretion, an operation that will be handled by yard trains in both TPI's and CSXT's operating plans. On Rebuttal, TPI has conservatively added 5,433 of these "Other" trains based solely upon CSXT's Reply explanations, for which CSXT offered no definitive proof that its claims were factual. Specifically, TPI added all of the trains repositioning empty cars, all of the On/Off-SARR trains, and a subset of the remainder that CSXT describes as local switchers that provide switching at customer facilities even though CSXT's traffic data does not indicate that they provide such service to the TPIRR's traffic. TPI is being extremely conservative in adding these local switchers because its operating experts—all with real world experience—universally note that running locomotives "light," as CSXT proposes, is an inefficient and infrequent occurrence, and railroad management discourages trainmasters and dispatchers from allowing such operations. CSXT has not offered any justification for adding the balance of these "Other" local trains. *See* Part III.C.2.c.

CSXT's attack on TPI's use of internal (so-called "leapfrog") cross-over traffic is mostly a thinly-disguised attack on cross-over traffic in general. *See* Part III.C.3. Internal cross-over traffic is traditional overhead cross-over traffic, except that the residual incumbent is the bridge carrier instead of the SARR. If the bridge carrier is overcompensated for its services in handling overhead cross-over traffic, as CSXT and other Class I railroads have argued in prior maximum rate cases and Board rule making proceedings in scenarios where the SARR is the bridge carrier, then it must be true regardless of whether the SARR or the residual incumbent is the bridge carrier. However, the bridge carrier is neither overcompensated nor undercompensated, because the Board's ATC revenue allocation model is cost-based and revenue neutral by design. Therefore, if overhead cross-over traffic does not violate SAC principles, neither can internal cross-over traffic. TPI has rebutted each of CSXT's objections to internal cross-over traffic and shown that it is consistent with SAC principles and the overall objectives of cross-over traffic in general. Furthermore, TPI shows that internal cross-over traffic can and does occur in the real world, such as the bridge service that Montana Rail Link provides for BNSF across nearly the entire state of Montana, and similar arrangements between NS and various regional carriers in the Northeast US. Finally, TPI demonstrates that, without internal cross-over traffic, the SAC process will become too impracticable, complex and expensive to be an effective regulatory rate constraint for carload traffic.

CSXT again resorts to hyperbole to criticize TPI for not developing a new car classification and blocking plan for the TPIRR. *See* Part III.C.4. Although CSXT begrudgingly acknowledges the Board's recent holding in *SunBelt* that a complainant can adopt the incumbent's classification and blocking plan, as TPI has done, CSXT alleges that TPI's Peak Year volumes require adjustments to that blocking plan. But Mr. Orrison explains that real world railroads don't change their basic blocking plans simply because volumes change because: (1) volumes are constantly changing, and (2) blocking plans are designed to accommodate normal changes in traffic levels. In fact, Mr. Orrison observes that much of CSXT's current blocking plan is recognizable from when he worked for CSXT 20 years ago. Although railroads frequently tweak their blocking plans to address temporary phenomena (e.g., severe storms, track maintenance) and seasonal traffic patterns, wholesale changes occur only to address infrastructure changes or major shifts in traffic patterns. Because the TPIRR operates the same trains with the same consists as CSXT over the same routes and through the same yards in the same locations to serve the same customers as the real world CSXT, there is no need to create new blocking plans. Furthermore, because TPI sizes its infrastructure for handling its Peak Year traffic volume in the same blocks and trains, there is no need to change the blocking plans to accommodate the infrastructure, even though the real world CSXT might need to do so because of its sunk infrastructure in order to avoid capital expenditures.

CSXT challenges TPI's claim that it operates the same trains over the same routes as CSXT on the specious ground that TPI rerouted 1.3 million carloads in the Base Year. But those internal (i.e., on-SARR) reroutes are merely the consolidation of traffic that moves over parallel lines, generally in urban areas. Because those reroutes are not long distances and every train originates and terminates in the same yards on the TPIRR as they do on the real world CSXT, those reroutes do not require a new blocking plan. *See* Part III.C.4.

Furthermore, although CSXT argues that TPI's use of internal cross-over traffic precludes the use of CSXT's blocking plans, CSXT doesn't explain why. Internal cross-over traffic does not impact blocking plans because the TPIRR interchanges all cross-over traffic, including internal cross-over traffic, either (1) by interchanging the entire train, which does not require any blocking or classification; or (2) by interchanging traffic between trains at the same yards and in the same blocks where that traffic is switched from train to train in the real world. In the second scenario, the only difference between the SAC analysis operations and the real world operations is that one of those trains is now operated by the TPIRR and the other by the residual CSXT. *See* Part III.C.4.

Lastly, CSXT contends that TPI cannot rely upon CSXT's real world blocking plan because it has reduced the TPIRR's infrastructure and staffing from real world CSXT levels. In some instances, TPI accepts CSXT's criticism and makes appropriate adjustments to its staffing and infrastructure. In other instances, although TPI rejects CSXT's criticism, it nevertheless adopts CSXT's reply evidence because doing so is largely inconsequential and would reduce the number of disputes. For example, although TPI disagrees with CSXT's criticism of how TPI calculated the number and length of classification tracks, TPI has accepted all of CSXT's reply evidence on classification tracks for both hump and flat yards on the TPIRR. TPI also has accepted CSXT's addition of five yards, customer lead track, and RIP tracks. *See* Part III.C.5.

TPI accepts CSXT's criticism that TPI's Opening dwell times on yard receiving and departure tracks are understated. *See* Part III.C.5.b.iii. But CSXT itself has provided inconsistent and disjointed evidence of dwell times. For hump yards, CSXT has estimated 5.0 hours of dwell time for both arriving and departing trains and CSXT properly has used those dwell times in its RTC simulation. Therefore, although TPI disagrees with CSXT's dwell time estimates for hump yards, TPI nevertheless has accepted them and incorporated them into its RTC model. For flat yards, CSXT also has estimated 5.0 hours of dwell time for departing trains, but in contrast, it has not presented evidence of a dwell time for arriving trains. Nor does TPI agree that 5.0 hours is reasonable or realistic for trains departing flat yards. Furthermore, CSXT has not consistently modeled the same dwell times in its RTC simulation for arriving and departing trains. For most flat yard train events, CSXT has used the same dwell times as TPI did in Opening, which leads to the conclusion that CSXT has accepted those dwell times. Therefore, because CSXT's Reply RTC model contains the only complete source of flat yard dwell times, TPI has accepted those dwell times and incorporated them into its rebuttal RTC simulation. Moreover, because a defendant "cannot protest that an input into the RTC model is flawed without showing the consequence of changing that input on the output of the model," the only dwell time evidence that the Board may consider are the dwell times that CSXT actually has modeled, which are the dwell times that TPI also has adopted on rebuttal.[5]

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[5] *Otter Tail*, slip op. at 19.

Yet in other instances, TPI stands firmly behind its opening evidence. TPI rejects CSXT's evidence on yard receiving and departure tracks because it is based upon an unrealistic academic analysis, with gold-plated assumptions, instead of the RTC model. Also, for unexplained reasons, CSXT did not even attempt to model its estimated receiving and departure tracks in its own Reply RTC simulation to determine their feasibility. In fact, CSXT's own Reply RTC simulation exposes the flaws in CSXT's analysis because CSXT's paper-based formulaic track counts were insufficient at several yards (requiring CSXT to add tracks to its RTC model).[6] But overall, CSXT's formulaic receiving and departure track counts for all yards in total far exceed what CSXT's RTC model demonstrates is needed to handle the Peak Year traffic. Therefore, consistent with precedent, TPI continues to use its Opening methodology of determining receiving and departure tracks based upon the RTC model, except that TPI's rebuttal track counts are based upon its rebuttal RTC model, which includes additional trains and revised dwell times. *See* Part III.C.5.b.

Because TPI has included fewer yard classification jobs than the real world CSXT, CSXT concludes that they are inadequate. But CSXT ignores the fact that the TPIRR will classify fewer cars on a daily basis than CSXT, and thus it does not need the same number of yard crews. CSXT has cherry-picked two examples of yards where TPI agrees it did not provide sufficient classification jobs in Opening, and attempts to extrapolate that conclusion to TPI's entire evidence. TPI has reviewed all of the TPIRR yard classification jobs and found a similar mismatch between the number of yard crews assigned and the number of cars classified at 12 other yards. Therefore, TPI has increased the crews assigned to those yards so that they have the

[6] *See,* TPI Rebuttal Exhibit III-C-1.

same productivity level (i.e., cars classified per crew) as the real world CSXT. By that measure, TPI's rebuttal yard jobs are comparable to those of the real world CSXT.[7] *See* Part III.C.5.e.

TPI agrees with CSXT that TPI should have included yard support jobs for the TPIRR. However, rather than blindly assigning the same number of support jobs that CSXT has in the real world, TPI has scaled the number of support jobs to reflect the number of actual cars classified in the TPIRR's yards. This maintains the same level of productivity per support job as the real world CSXT. *See* Part III.C.5.e.ii.

CSXT tries to exploit TPI's proposal to operate trains on the TPIRR with distributed power as a flaw in TPI's operating plan. Although CSXT asserts that distributed power ("DP") is inefficient for operations in the East, this assertion is belied by CSXT's own decision to order all future locomotives with DP capability. Despite these claims, CSXT accepts DP for the TPIRR, but self-servingly claims that the residual CSXT will not agree to accept trains in DP configuration and will require the TPIRR to reconfigure all locomotives on cross-over trains at the interchange, thereby adding 45 minutes of dwell time. CSXT then argues that the extra dwell time will render the service unacceptable to certain intermodal customers. But if that were to occur, then certainly either the residual CSXT or TPIRR would agree to the other's preferred configuration in order to retain the business. Since CSXT is insisting that it will not accept DP no matter what, on rebuttal, TPI has accepted CSXT's preferred head-end configuration for all cross-over trains, thus rendering CSXT's objections to DP moot and avoiding the additional dwell time imposed by CSXT. *See* Part III.C.11.a.

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[7] CSXT also criticizes TPI for not assigning any yard classification jobs to some yards. But neither does CSXT in either the real world or its reply evidence. TPI and CSXT both assume that road crews will classify cars at these yards. Although CSXT claims that TPI's dwell times are too short for road crews to do this work, TPI has adopted CSXT's reply dwell times, thereby providing sufficient time.

CSXT claims that TPI has not properly accounted for its reciprocal obligations to connecting carriers. First, CSXT repeats its objections to DP, but ultimately it does not propose any changes to address its complaints. Second, CSXT objects to certain adjustments that TPI made to the cars classified at certain interchange locations. Third, CSXT disparages TPI's evidence regarding fueling locomotives used in interline service, but then accepts TPI's methodology for calculating fuel costs for these locomotives. TPI has accepted the second criticism and removed those adjustments in Rebuttal. Because CSXT has accepted TPI's evidence on the first and third issues despite its complaints, TPI retains its Opening positions. *See* Part III.C.11.

Finally, CSXT criticizes TPI's RTC simulation primarily for the same reasons, discussed above, that it criticizes TPI's operating plan (e.g., missing trains, unrealistic dwell times). TPI has addressed all of those criticisms in its Rebuttal RTC simulation as described above. TPI also has made adjustments in response to a few additional CSXT criticisms, such as the maximum train speed for crude oil unit trains. *See* Part III.C.13.

In contrast, CSXT's RTC simulation fails to even model its MultiRail-based operating plan. *See* Part III.C.1.a. CSXT did not model any of its MultiRail trains. Instead, CSXT modeled a peak period train list derived from TPI's opening train list, plus just 5,940 of the local trains and 11 industrial yard trains that TPI allegedly missed. The total number of trains modeled in the RTC simulation is far smaller than those in the MultiRail analysis and there is no connection between them but for some common train symbols. Because CSXT's MultiRail analysis assigned traffic to different blocks and trains than those in the RTC simulation that actually moved the traffic historically, it created a disconnect between the RTC simulation and the MultiRail-generated trains to which CSXT assigned the traffic in its operating plan. In contrast, TPI added another 5,433 local trains to its Rebuttal train list in addition to the 5,940 CSXT added in Reply (53,581 local trains in Rebuttal), modeled them in RTC, and developed operating expenses based on them.

Furthermore, CSXT did not model all of its yard dwell times for arriving and departing trains, or its yard departure and receiving tracks in the RTC simulation. Consequently, CSXT has failed to model its operating plan in the RTC simulation to demonstrate its feasibility or to develop appropriate operating statistics to determine the TPIRR's operating costs. *See* Part III.C.5.b.iii.

In summary, CSXT's Reply is wrong or greatly exaggerated on nearly all counts. TPI's Opening evidence was sound and complete. To the extent that CSXT's overblown rhetoric includes legitimate criticism, TPI has made adjustments in this Rebuttal evidence. TPI addresses in greater detail each of the issues raised by CSXT in the remainder of this Rebuttal Part III-C under the following topical headings:

1. CSXT's Operating Plan is Fatally Flawed
2. CSXT Grossly Exaggerates the Number of Trains "Missing" From TPI's Operating Plan
3. Internal Cross-Over Traffic
4. Car Classification and Blocking Plan
5. Yard Service Plan
6. Customer Lead Tracks
7. Peak Year Train Development
8. Train Size and Equipment Issues
9. Crew Districts and Crew Requirements
10. Repair, Inspection, Fueling and Communication Functions
11. Reciprocal Obligations
12. Crude Oil Practices
13. Rail Traffic Control Model ("RTC")
14. Transit Times

1. CSXT's Operating Plan is Fatally Flawed

In the recent *DuPont* and *SunBelt* decisions, the Board reaffirmed its long-standing requirement that "the defendant in a SAC case...make any necessary corrections to the complainant's opening evidence rather than submitting something entirely new on reply, to avoid having operating plans so different as to impede comparison."[8] CSXT claims that, "mindful of the Board's preference that a defendant railroad attempt, wherever possible, to correct the deficiencies in the complainant's operating plan rather than proffering an entirely separate plan, CSXT presents this Reply Evidence in the form of a series of corrections and adjustments to TPI's fatally flawed operating plan."[9] Elsewhere, CSXT claims that it "has endeavored to correct and supplement deficient TPI evidence rather than starting anew" and has "accepted TPI's manifestly deficient plan as the starting point to build a plan that would appropriately serve the needs of TPIRR's traffic."[10] But that is not what CSXT has done. Instead, CSXT has cobbled together a mixture of evidence based upon two (2) unrelated and irreconcilable operating plans—TPI's Opening plan based on analysis of historical traffic data and CSXT's MultiRail plan—that it pretends are part of the same plan, in the apparent belief that either no one will notice, or that the Board will simply take CSXT at its word without evaluating CSXT's evidence. Essentially, CSXT has proposed one (1) operating plan based upon MultiRail and assorted academic analyses of dwell times and track capacities, but then has modeled a much different operating plan in its RTC simulation that is based upon TPI's Opening RTC model.

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8 *See, DuPont*, slip op. at 41, citing *Gen Procedures for Presenting Evidence in Stand-Alone Cost Rate Cases*, 5 S.T.B. 441, 446 (2001). *See also*, *SunBelt*, slip op. at 13.

9 *See,* CSXT Reply, pp. III-C-7-8 and note 22, citing *SunBelt* at 13 and *DuPont* at 41.

10 *See,* CSXT Reply, p. I-14.

Although this is but the primary example, CSXT has presented a disjointed and incoherent operating plan for the TPIRR in many other ways. While CSXT "talks the talk," it does not "walk the walk." In several instances, CSXT criticizes elements of TPI's operating plan, but then retains those same elements in its own operating plan without even acknowledging that it is doing so. In other instances, CSXT makes only partial changes, again without acknowledging what changes it has not made. In still more instances, CSXT purports to make changes in its narrative but does not model those changes in its RTC simulation. TPI addresses the details of each such instance in the relevant portions of Part III-C that defend TPI's own operating plan for the TPIRR.

In the following subsections, TPI demonstrates that CSXT's operating plan must be rejected on two independent grounds. First, CSXT has not in fact modeled its operating plan in the RTC simulation, thereby failing to prove the feasibility of its plan or to develop meaningful data to determine appropriate operating expenses. Second, CSXT's MultiRail analysis contains multiple flaws that are evident from TPI's limited ability to review that analysis—which TPI cannot modify[11]—because of the limited functionality of the read-only version of the software served upon TPI but not filed with the Board.

a. CSXT has Not Modeled its Operating Plan in its Reply RTC Simulation

This section focuses upon CSXT's failure to model its operating plan in its RTC simulation and the fatal consequences of that failure upon CSXT's Reply operating plan. CSXT commits three (3) fatal errors. First, CSXT has not modeled the trains from its MultiRail-based operating plan in its Reply RTC simulation. Second and third, it has not modeled its Reply dwell

[11] Because TPI cannot modify CSXT's Reply analysis, TPI is unable to quantify the impact of CSXT's modeling decisions on its Reply SAC analysis.

times, or the yard receiving and departure tracks developed from those dwell times, in its RTC simulation. CSXT's failure to model these three (3) major components of its operating plan in its RTC simulation means that that it has not demonstrated the feasibility of its operating plan.

The RTC model plays a critical role in the development of a SARR's operating plan. The parties use the RTC model "to determine the feasibility of the [TPIRR's] operating plan and develop key operating characteristics of the SARR."[12] Specifically, the RTC model permits the proponent of each operating plan "to both test the adequacy of the configuration (to make sure the [SARR] would have sufficient capacity to handle the peak forecast demand) and then to derive the segment-by-segment cycle times (which it then use[d] to develop the operating costs of the [SARR] in the Base Year)."[13] Therefore, a defendant "cannot protest that an input into the RTC model is flawed without showing the consequence of changing that input on the output of the model."[14] CSXT has not adhered to this maxim because it has not input into its RTC model: (1) the trains that it contends the TPIRR must operate; (2) the flat yard dwell times that it contends are necessary to operate those trains;[15] or (3) the yard receiving and departure tracks that it contends are needed to hold those trains. Consequently, because CSXT did not model its operating plan in its RTC simulation, it has not demonstrated the feasibility of its operating plan or developed appropriate operating statistics upon which to base the TPIRR's operating and road property investment expenses.

CSXT attempts to show that it has "corrected" TPI's operating plan, rather than starting from whole-cloth, by modeling TPI's Opening train list in its RTC simulation. But despite claiming that TPI omitted 44,694 Base Year local trains, CSXT's "corrected" TPI train list adds

[12] *AEPCO*, slip op. at 28.
[13] *WFA I*, slip op. at 16.
[14] *Otter Tail*, slip op. at 19.
[15] *See*, TPI Rebuttal workpaper "CSXT RTC Dwell Frequency by Yard Type and Stop Type.xlsx".

just 5,940 local trains, which is just 13 percent of the allegedly missing local trains.[16] This fact is fatal to CSXT's claims that TPI omitted any larger number of local trains because CSXT has not input those trains into its RTC model train list. The far more significant fact for CSXT's operating plan, however, is that the train list in its RTC simulation is not the train list in its MultiRail-based operating plan.

TPI created its Opening train list from actual historical trains that CSXT's own traffic data indicates handled the TPIRR traffic in the Base Year. In contrast, CSXT developed its MultiRail train list very differently. CSXT could have adjusted TPI's opening train list by simply adding the specific historical trains it alleges TPI improperly excluded. However, rather than make this straightforward adjustment to TPI's evidence, CSXT developed and input an entirely different train list into MultiRail that is comprised of nearly every train (road and local) listed in CSXT's Base Year train profiles that conceivably could have handled TPIRR's traffic, regardless of whether they actually did so or are needed to do so, and a handful of trains that do not appear in the train profiles data at all. Moreover, CSXT input all of those trains into MultiRail based on an unproven presumption that they would all be required to move the TPIRR traffic, and then assigned MultiRail-generated TPIRR traffic blocks to some of the trains. MultiRail did not assign every car to the same block, or every block to the same train, on which it actually moves in the historical trains included in the RTC model. Furthermore, because MultiRail assigns cars on an average basis, it spread the TPIRR's traffic evenly across every potentially available train over the course of the entire MultiRail simulation period (year), thus

[16] Although CSXT also models 11 yard trains in its peak period RTC simulation, it does not use the RTC model outputs to develop operating statistics for those or any other yard trains. CSXT's "Corrected TPI Opening Train List" does not contain any yard trains. *See,* CSXT Reply workpaper "TPIRR Open Train Lists Corrected.xlsx." CSXT claims to have modeled "a sample of" 16 industrial yard trains in the peak week. *See,* CSXT Reply, p. III-C-173-174. However, CSXT's workpapers indicate that it actually included only 11 such trains in its RTC model.

ensuring that every train would be operated regardless of how few cars were assigned to each train. In fact, CSXT's operating plan calls for over 10,000 local trains to be operated with no consist whatsoever (i.e., light engine moves), and another roughly 5,000 road and local trains to be operated with less than one carload! This destroys any pretense that CSXT has for claiming that it has "corrected" TPI's Opening evidence, or that CSXT has developed a "least cost, most efficient" SARR.

Because the MultiRail trains are not the same trains that CSXT has modeled in its RTC simulation, CSXT has neither demonstrated the feasibility of its MultiRail-based operating plan nor developed meaningful operating statistics to determine the TPIRR's operating expenses. This disconnect is most obvious with regard to the TPIRR's local trains. As previously noted, CSXT claims that TPI omitted 44,694 Base Year local trains, but only added 5,940 of those trains to its RTC simulation local train list, for a total of 48,148 local trains. In contrast, CSXT's MultiRail train list contains 60,788 local trains.[17] Because CSXT did not model those 60,788 local trains in its RTC simulation, that simulation is meaningless to determine the feasibility of CSXT's operating plan.

In addition, CSXT cannot claim that its results are conservative because it modeled a subset of its total train list. This is because the 48,148 historical local trains are not a subset of the 60,788 trains CSXT conjured as part of its MultiRail analysis. They are mutually exclusive train lists containing different trains moving different consists of cars serving a different mix of customers over different routes. In fact, the local trains both TPI and CSXT modeled in RTC

[17] *See,* CSXT Reply workpaper "BaseYearTrainComparison.xlsx". For some of these MultiRail trains, there is no traffic to assign at all, thereby confirming that they are not needed. For another group of MultiRail trains, the annual consist is so small that MultiRail assigns only fractional cars to every train which adds up to just a handful of cars over the course of an entire year. In other words, nearly every day of the year, those trains have no consist even though CSXT includes them in its operating plan along with operating costs developed from its RTC simulation of a vastly different group of trains.

average 23 cars per train, while the local trains output from CSXT's MultiRail analysis average only 11 cars per train. CSXT's RTC simulation is also meaningless for developing the operating statistics that are essential to determining the TPIRR's operating expenses. Despite this fact, CSXT has done just that.

CSXT's RTC simulation is disconnected from its MultiRail operating plan evidence in two (2) other ways that further undermine its operating plan. First, as discussed in Part III.C.1.a above, CSXT has not consistently modeled the dwell times on yard receiving and departure tracks that it developed in its narrative. But a defendant "cannot propose changes to yard times without tracing the effect through the entire network."[18] Consequently, CSXT's failure to input those dwell times into its RTC simulation precludes it from complaining about TPI's dwell times—which are the dwell times that CSXT modeled in its RTC simulation when it did not model its Reply dwell time estimates—because CSXT "cannot protest that an input into the RTC model is flawed without showing the consequence of changing that input on the output of the model."[19]

Second, as discussed in Part III.C.5.b below, CSXT has not consistently modeled the yard receiving and departure tracks—developed in large part from its revised dwell times—in its RTC simulation. CSXT's RTC model includes 43 yards that differ from CSXT's proposed network as described in its operating plan and investment calculations. Many of those yards in CSXT's RTC model contain less than half of the receiving and departure tracks that CSXT claims will be necessary to handle its average daily traffic.[20] According to CSXT's RTC results, its investment numbers are overstated in these instances because CSXT included more track than its RTC

[18] *Otter Tail*, slip op. at 18.
[19] *Id.* at 19.
[20] CSXT's Reply Yard Model uses average daily statistics produced from MultiRail rather than peak period statistics produced from actual CSXT traffic data.

model indicates is required. Indeed, some of the yards CSXT included in its RTC model contain as much as twice the number of tracks that CSXT has proposed to handle the TPIRR's traffic. An even greater indictment of the disconnect between CSXT's operating plan and its RTC simulation is the fact that the RTC simulation requires more yard departure and receiving tracks to handle the peak week traffic at some yards than CSXT has included in its operating plan, thus proving the infeasibility of CSXT's operating plan for those yards. Cumulatively, however, CSXT's RTC simulation demonstrates that the TPIRR requires far fewer tracks than CSXT includes in its operating plan, resulting in a gold-plated TPIRR.[21]

Consequently, the RTC model cannot validate the feasibility of CSXT's operating plan or the operating and road property investment costs required to successfully implement its plan, because the track usage at these 43 yards is not in balance with the tracks included in CSXT's investment. This indicates that the model CSXT has used to develop its yard receiving and departure tracks is inferior to the RTC model for such purposes. While CSXT's yard sizing model uses simple averages, average dwell times, and basic train schedules to develop yard receiving and departure tracks, the RTC simulation accounts for hundreds of other variables as well as upstream and downstream traffic flows and their impact on yard requirements during the peak time period. CSXT's RTC simulation either only partially utilized the tracks at a yard because the yard was overbuilt or utilized more tracks than CSXT included in its investment calculations because the yard was underbuilt.[22] This fundamental error impacts the entire universe of CSXT's RTC outputs, skewing the results of not only CSXT's RTC model, but also all calculations that rely upon the RTC simulation data as inputs.

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[21] *See,* TPI Rebuttal Exhibit III-C-1.

[22] *See,* TPI Rebuttal Exhibit III-C-1 and TPI Rebuttal workpaper "Insufficient CSX Yard Capacity Screen Shots.zip".

When CSXT's Reply RTC simulation is adjusted so that the yard receiving and departure tracks match those included in CSXT's Reply investment, major backups and congestion occur and the model fails at 30 percent completion.[23] This illustrates the impact that an improper configuration can have on the RTC model. Moreover, it demonstrates that CSXT's proposed investment cannot feasibly handle the traffic or operations designed by CSXT, and that CSXT's model is inadequate.

The RTC model only proves the ability of the track configuration (model input 1) to accommodate the operating plan (model input 2), both of which are user inputs to the model. CSXT's failure to input the actual train lists, dwell times, and track configurations from its operating plan into its RTC model means that the RTC simulation has no probative value. The Board should reject CSXT's Reply RTC simulation because it fails to represent both the network configuration that CSXT claims would be required to handle its operations, and the operating plan CSXT used to develop TPIRR's operating expenses. In fact, CSXT's Reply investment costs cannot be connected to its RTC simulation in any meaningful way due to the multitude of inconsistencies described above.[24] The foregoing deficiencies in CSXT's evidence undermine its major criticisms of TPI's operating plan and prove that CSXT's operating plan is fatally flawed.

b. The Board Should Reject CSXT's MultiRail Model, which is Neither Optimal Nor Feasible[25]

CSXT touts its operating plan as "least cost, most efficient" and feasible,[26] because CSXT developed it using the MultiRail software program. But MultiRail is not an optimizer, as is

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[23] *See,* TPI Rebuttal workpaper "CSXT Reply YD INV.zip".

[24] *See,* TPI Rebuttal workpaper "Yard Screen Shots.zip" and Rebuttal Exhibit III-C-1 and TPI Rebuttal workpaper "Insufficient CSX Yard Capacity Screen Shots.zip" for further detail.

[25] TPI Rebuttal workpaper "MultiRail Review.docx" contains MultiRail screenshots and information that support the examples used in this section.

[26] *See,* CSXT Reply pp. III-C-57, 73.

evident from the vast inefficiencies included in CSXT's MultiRail model operating plan for TPIRR. Also, MultiRail does not determine what is actually feasible. It will model traffic flows only based on user-defined operational inputs and constraints, which may or may not match the real world, and has the capability of modeling impossible scenarios, such as duplicate movements of the same cars. Moreover, MultiRail does not model or demonstrate the need for switching as CSXT implies. CSXT's use of MultiRail is an attempt to constrain the Board's and TPI's review of the evidence, which is clear from CSXT's provision of MultiRail in a read-only capacity without the ability to export data for further analysis, a function that CSXT heavily relied upon when preparing its MultiRail evidence.

i. MultiRail Requires its User to Optimize Blocking and Train Service Plans

CSXT's assertion that the "MultiRail modeling tool . . . generate[s] blocking and train service plans that are optimized to serve the specified traffic" is untrue. MultiRail is not an optimizer. On its own, it cannot identify necessary blocks, trains, or network infrastructure, optimal blocking, or optimal routing. It does not create blocks or trains or assess yard staffing, locomotive planning, or car equipment distribution planning. It certainly does not replace a human planner or apply its own judgment.

MultiRail is merely a time-saving accounting and reporting software tool. It automates the process of assigning cars to blocks and blocks to trains based on user-input criteria. It also automates report generation based on pre-defined report specification criteria.

Indeed, MultiRail requires user input at nearly every step of the plan-generation process. For example, a user must input all traffic, network infrastructure, block definitions, and all train profile activities that will be part of the operating plan and the myriad criteria that MultiRail uses to route the traffic. In addition, users may exercise varying levels of control over the layout and content of reports that MultiRail generates.

User inputs dictate MultiRail's outputs. If a user does not input appropriate blocks, cars may not flow through to their destination.[27] If a user does not input enough trains or inputs too many trains, MultiRail may strand blocks or run trains empty. If a user applies routing penalties that do not correspond to real world inefficiencies or constraints, MultiRail may avoid the most efficient route in the real world or select efficient, but infeasible routes.

Thus, MultiRail did not generate CSXT's blocking and train service plans for the TPIRR—CSXT did. CSXT's Witnesses dictated how inefficient the plans would be. Their choices and judgments directly impact the efficiency and feasibility of the plans. The Witness' decision to depart from CSXT's historical operations by redesigning how traffic moves through the TPIRR indicates the plans are not optimized for the real world, and it raises—but does not answer—the question of whether the posited operations can effectively serve TPIRR's shippers.

ii. CSXT's Evidence Confirms that it Did Not use MultiRail to Generate an Efficient Operating Plan

Inefficiencies that do not exist in CSXT's real world operations abound in CSXT's MultiRail evidence. Thus, CSXT's MultiRail blocking and train service plans are not the most efficient plans for the TPIRR and should not be used to measure TPI's operating plan.

In an attempt to demonstrate the efficiency of its MultiRail model, CSXT cites to the reduction in peak-year manifest trains (compared to TPI's road-train count) and its use of MultiRail reports that identify unnecessarily circuitous routings and excessive car handlings.[28] This tactic is misleading. First, MultiRail did not enable CSXT to reduce the number of manifest

[27] CSXT experienced cars that failed to flow completely through the TPIRR. *See,* CSXT Reply, p. III-C-64.
[28] *See,* CSXT Reply, p. III-C-64, 68.

trains that TPI proposed by 2.5 percent. CSXT simply reduced the number of road trains available to move the traffic compared to the real world train count. If TPI had used MultiRail in Opening and reduced the number of road trains, CSXT surely would have claimed that result was not realistic. In fact, in CSXT's critique of TPI's Peak Year train list, it complained that, "[t]he notion that the TPIRR could accommodate a 20% increase in traffic with virtually the same number of road trains as it operated in the Base Year is simply not credible."[29] CSXT's proposed adjustment to this alleged shortcoming was to increase TPIRR's Peak Year merchandise train volumes by roughly three (3) percent compared to TPIRR's Base Year merchandise train volumes. Here however, CSXT boasts that is was able to accommodate CSXT's historical traffic base using thousands fewer road trains than CSXT in the Base Year.

Second, the MultiRail reports that identify circuitous routing and car handlings require the user (CSXT) to determine what is unnecessary or excessive. The circuity report merely identifies all blocks that do not travel the shortest route; the handlings report shows the number of handlings for all blocks used to move a shipment from origin to destination.[30] A user must manually evaluate the results to identify any "unnecessarily circuitous routings and excessive car handlings."[31] Furthermore, this process is subjective. Ten (10) different users could come up with ten (10) different adjustments when evaluating the same set of circuity and handlings reports.

Alarming examples of gold plating that TPI Witness John Orrison discovered in CSXT's MultiRail peak-year model contradict CSXT's claims that its model demonstrates the most efficient service for TPIRR traffic. Perhaps the most obvious indicator of the vast inefficiency

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[29] *Id.* p. III-C-175.
[30] TPI Rebuttal workpaper "MultiRail Reports.docx."
[31] *See*, CSXT Reply p. III-C-64.

that CSXT designed into its MultiRail models is its proposed local train network. CSXT constructed the model using 60,788 local trains, 26 percent more than it included in its "corrected" TPI Opening train list used for RTC purposes.[32] This discrepancy arises because CSXT input into MultiRail train profile schedules, which include all potential train runs, not those that actually are necessary to move the traffic efficiently. Thus, in CSXT's MultiRail model, every train runs every day it is scheduled, even if MultiRail has not assigned it a single carload of traffic.

CSXT modeled unnecessary fractional-car trains. The thousands of CSXT MultiRail trains that operate with only a fraction of a carload confirm that CSXT's train service plan operates vast numbers of light and, thus, unnecessary trains. For example:

- Trains A792 and A792A, combined, operate 365 days per year on the same route, but haul only 21.9 cars each year.[33] Thus, at least 343 of these train operations are unnecessary (365-22=343).[34]
- Train B713 operates 365 days per year, but moves only 25.6 cars per year. Thus, at least 339 of these train operations are unnecessary (365-26=339).
- Train A741 operates 261 days per year, but moves only 8 cars per year. Thus, at least 253 of these train operations are unnecessary (261-8=253).[35]
- Train B211 operates 261 days per year, but moves only 10.4 cars per year. Thus, at least 250 of these train operations are unnecessary (261-11=250).
- Train A714 operates 261 days per year, but moves only 18.3 cars per year. Thus, at least 242 of these train operations are unnecessary (261-19=242).

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32 Compare CSXT Reply workpaper "TPIRR Open Train Lists Corrected.xlsx" with CSXT Reply workpaper "BaseYearTrainComparison.xlsx."

33 TPI derives the cars per year figure from the maximum value of the "Est Cars" field in the MultiRail train profile. This field displays the number of cars per operating day that a train will haul for each portion of its route. *See,* TPI Rebuttal workpaper "MultiRail Car Counts.pdf", which is an e-mail from Oliver Wyman confirming that "Est Cars" is a per train operation.

34 This traffic could also be assigned to Trains A789, which operates Monday-Friday, and A789A, which operates Sunday, Monday, and Saturday, eliminating the need for A792 and A792A altogether. Note that the Monday A792A is a duplicate train that would not be used.

35 This traffic could be assigned A742, which operates the same days and across the same stations as A741.

That these trains even exist in CSXT's MultiRail modeling exercise is inconsistent with CSXT's narrative. CSXT claims that Witness Rodney Smith adjusted local trains as necessary based upon the daily volume of merchandise cars and "the required level of service (*i.e.*, does the customer receive local service, three, five or seven days per week)."[36] If this were true, thousands of trains would not run multiple days per week carrying only a fraction of a car each day. Surely customers do not require—and would not pay for—train service for only a fraction of a rail car.

CSXT modeled trains that serve no traffic. Examples abound of local trains that CSXT modeled in MultiRail without assigning any traffic to them.

- Trains A777 and A784 operate every day, A779 six (6) days per week, and A776 and A786 five (5) days per week from Taft, FL, on the same round-trip route, but have no assigned blocks or traffic. Eliminating these trains will save 937 unnecessary train runs per year.

- Train H794 operates five (5) days a week, but has no assigned blocks or traffic and does not stop to do work at any location on its route. Another train, H793, provides service to the same locations, dwelling at most of them, and carrying traffic. Thus, H794 can be eliminated, saving 260 unnecessary train runs per year.

- Train A745 travels three and one half hours from Fairburn, GA, to Colpark, GA and three hours twenty-five minutes back five (5) days per week, but has no assigned blocks or traffic and dwells at Colpark for merely five (5) minutes. Eliminating this train will save 260 train runs per year.

CSXT developed operating statistics and operating expenses for all of these local trains despite that CSXT's own plan did not require them to move any TPIRR traffic.

In addition, in an apparent attempt to give credence to its claim that TPI improperly excluded thousands of industrial yard trains from its local train list, CSXT included thousands of yard trains in its MultiRail modeling exercise without assigning any traffic to them.

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[36] *See,* CSXT Reply p. III-C-66.

- Trains Y150, Y250, and Y350 provide yard-job service every day between a yard at Oakworth, AL and Decatur, AL, but haul no traffic. Instead, train Y101 hauls the traffic between these points every day. Thus, Y150, Y250, and Y350 can be eliminated, saving 1095 unnecessary train runs per year.[37]

- Trains Y122 and Y226 operate every day over the same route between Kayne Avenue, TN, Vinehill, TN, and Nashville, TN, but have no traffic assigned to them. Instead, CSXT has the TPIRR serve the same locations as these trains using Y330. Eliminating Y122 and Y226 would save 730 unnecessary train runs each year.

- Trains Y150 and Y650 operate every day between Augusta, GA and Beech Island, SC, but are not assigned any work or traffic even though CSXT claims they historically serve TPIRR customers in and around Augusta.[38] Instead, CSXT assigns traffic between these points, and traffic to another Augusta destination, to Y221 and F751, which both operate five (5) days per week. Eliminating trains Y150 and Y650, and leaving Y221 and F751 to serve the traffic, would save 730 unnecessary train runs each year.

Although CSXT included these yard trains in its MultiRail analysis, CSXT did not include them in its Reply train list that CSXT used to develop operating statistics and operating expenses for the TPIRR. These yard trains are merely window dressing to support CSXT's bogus claim that TPI should have included yard trains in its local train list.

CSXT modeled duplicative trains. CSXT modeled many MultiRail trains to carry the same traffic on the same day. Although this is impossible in the real world, it is possible in MultiRail, and CSXT took advantage of this modeling flaw to unfairly burden the TPIRR.

- Local trains B808 and B842 both operate on Tuesdays, Wednesdays, and Thursdays on the same route carrying the same blocks of the same traffic, resulting in 156 unnecessary train operations per year.

- Local trains M721 and M721A both operate on Mondays, Wednesdays, and Fridays on the same route carrying the same blocks of the same traffic, resulting in 156 unnecessary train operations per year.

[37] Train Y103, which moves a .67-car block every day from Oakworth to Decatur could also be eliminated, because Y101 could handle this traffic. Eliminating train Y103 will save an additional 365 unnecessary train runs per year.

[38] *See,* CSXT Reply, p. III-C-31. CSXT did not model these trains to travel to other Augusta points besides Beech Island, despite its claims that they serve other Augusta customers.

- Local trains M724 and M724A both operate on Mondays, Wednesdays, and Fridays on the same route carrying the same blocks of the same traffic, resulting in 156 unnecessary train operations per year.
- Local trains M725 and M725A both operate on Tuesdays, Thursdays, and Fridays on the same route carrying the same blocks of the same traffic, resulting in 156 unnecessary train operations per year.
- Local trains F707 and F707A both operate on Tuesdays and Thursdays on the same route carrying the same blocks of the same traffic, resulting in 104 unnecessary train operations per year.
- Local trains A701 and A701A both operate on Thursdays on the same route and carry the same blocks of the same traffic, resulting in 52 unnecessary train operations per year.

CSXT's duplicative train operations were not limited to local trains. CSXT also modeled many line-haul merchandise trains to carry the same traffic on the same day. For example:

- Q333 and Q333A both operate on Tuesdays and Thursdays on the same route carrying the same blocks of the same traffic, resulting in 104 unnecessary train operations per year.
- Q686 and Q686A both operate on Mondays and Wednesdays on the same route at the exact same times carrying the same blocks of the same traffic, resulting in 104 unnecessary train operations per year.

Multiple trains can be consolidated. Multiple local and line-haul merchandise trains that CSXT includes in its peak-year MultiRail model duplicate either all or part of a route and can be consolidated. TPI Witness John Orrison identified the following examples of trains that could be consolidated without exceeding the maximum train length set in Multi-Rail.

- Local train O706 can be consolidated into local train O705, eliminating 365 train operations per year. Both trains operate in loops starting in Bradenton, FL, and running by Oneco, FL. O705 carries only one block of 2 cars, from Bradenton to Oneco, and O706 carries only one block of 2 cars, from Oneco to Bradenton. Also, O706's dwells, which are only at Oneco and Palmetto, FL, for a total of 20 minutes, can be added to O705's dwells at these locations (oddly, CSXT has not assigned any dwell time to O705 at Oneco, even though it sets out a block there).
- Local train A741 can be consolidated into local train A742, eliminating 261 train operations per year. A741 carries a maximum of 0.03 cars Monday through

Friday between the same locations served by A742 on the same days, and the trains depart the same origin within 15 minutes of each other.

- Line-haul merchandise train Q702 can be consolidated into line-haul merchandise train Q438, eliminating 261 train operations per year. Q702 carries 11.3 cars daily, Monday through Friday, from Richmond, VA to Selkirk, NY, while Q438 carries a maximum of 85.56 cars from Richmond, VA to Selkirk, NY seven (7) days per week.

- Line-haul merchandise train Q273 can be consolidated into line-haul merchandise train Q271, eliminating 261 train operations per year. Q273 carries only a block of 20.23 cars from Ridgefield Heights, NJ to Selkirk, NY each day Monday through Friday. Q271 runs from Ridgefield to Selkirk on the same days carrying 38.35 cars per day.

CSXT models trains to run empty on portions of their routes. CSXT's MultiRail model inexplicably contains trains that run without any traffic on large portions of their routes. The following trains are examples of how CSXT has used MultiRail to burden TPIRR with these blatant inefficiencies.

- Line-haul train L133 begins its route in North Baltimore, OH and runs empty for 291 miles[39] to Louisville, KY, where it is refueled and re-crewed and picks up a block of 40 cars that it transports to Jacksonville, FL. There is no reason why this train could not start in Louisville, saving both the wasted fuel and two crew starts needed to move it from North Baltimore to Louisville.

- Line-haul merchandise train Q376 starts its runs with 90 cars at Salem, IL, and takes them to Avon, IN, where it sets the cars out before proceeding completely empty for 270 miles[40] to Willard, OH. There is no reason why this train could not end in Avon, saving both the wasted fuel and two crew starts needed to move it to Willard.

CSXT applies unnecessarily circuitous routings. Although CSXT claims that it used the MultiRail "Traffic Circuity" report to identify unnecessarily circuitous routings and "ensure

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[39] *See,* CSXT Reply workpaper "SARR19F_EstimatedTrainVolumes.xls"
[40] *Id.*

that there were no data errors or issues in the operating plan,"[41] the Traffic Circuity report shows that CSXT's MultiRail model still contains extremely circuitous routings. For example:

- CSXT's model routes a block of traffic from Massachusetts to Greenville, NJ via Selkirk, NY, Waycross, GA, and Jacksonville, FL, which exceeds the shortest route by 2,070 miles, a 992 percent difference!
- CSXT's model routes a block of traffic from East St. Louis to Atlanta, GA, by taking it to via Terre Haute, IN, to Avon, IN, reversing route from Avon, to Terre Haute, and proceeding to Atlanta. This route exceeds the shortest route by 215 miles, a 33 percent difference.
- CSXT's model routes a block of auto traffic travelling from New Boston, MI to Dixiana, SC via Louisville, which exceeds the shortest route by 261 miles, a 32 percent difference.

CSXT modeled empty cars to travel more miles than they do in the real world. CSXT models empty cars to travel more miles than they do in the real world by inputting them as fractional cars based on the empty to loaded car-mile ratio for the traffic. That is, for each loaded car, CSXT uses the ratio to determine the size of the empty car associated with the loaded car (e.g., if the ratio is .8, CSXT models .8 of a car for each loaded car). The result is a fractional car that moves the same mileage as the loaded car.

Average cars per local train in MultiRail is less than CSXT's historical average. CSXT inexplicably runs its MultiRail Peak Year local trains with far fewer cars than its historical real world trains. Using CSXT's "corrected" TPI Opening local train list, which is based on CSXT's historical operations, CSXT has historically operated its local trains with an average 23.2 cars per train. But CSXT models its local trains in MultiRail with an average 10.7 cars per train. CSXT provides no explanation why it assigned so few cars to trains in MultiRail when their historical real world counterparts carry more than double the volume.

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[41] *See,* CSXT Reply, p. III-C-64.

iii. CSXT's Use of MultiRail Ignores Real world Operational Constraints

CSXT's MultiRail analysis eschews proven, real world operations resulting in blocking and train service plans of unproven and questionable feasibility.

We know that CSXT's historical operations are feasible. But, by introducing its MultiRail evidence, CSXT abandoned those operations in favor of a hypothetical model. CSXT claims that its MultiRail model is tied to its real world operations because CSXT began modeling with the same blocks and same train symbols it uses in the real world. But CSXT does not assign cars to the same blocks and the blocks to the same trains as it does in the real world—it assigns them based on its MultiRail criteria and adjustments made by the user. This results in a blocking and train service plan that moves TPIRR's traffic differently from CSXT's actual historical service.

TPI Witness Orrison notes that changing block composition and movement patterns can adversely impact the level of service that the TPIRR provides. According to Witness Orrison, the best guideline to developing an operating plan is to use historical traffic patterns, because they are proven to work. Thus, small "tweaks" are better than the complete remodeling that CSXT performed with MultiRail. Even CSXT does not use MultiRail to completely redesign its operating plan in the real world. It merely uses it to model temporary irregular operations or as an accounting tool to monitor traffic flows through the network to enable identification of minor adjustments to its operating plan.[42] In fact, Witness Orrison noticed that CSXT's 2012 Base Year operating plan data had not changed significantly since the 1980s after the formation of CSXT (and then again after the acquisition of Conrail by NS and CSXT).

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[42] *See,* CSXT Reply, p. III-C-60.

CSXT knows that its MultiRail plans are not always fit or feasible for use in its real world operations. It admits that its operations team (not its planning team[43]) must vet and approve any MultiRail plans before they are implemented.

> Once the proposed change [to CSXT's operating plan] has been tested successfully in MultiRail, CSXT's Service Design Department forwards the recommended change to the Field Transportation Department and to other company resources (*e.g.*, the departments that manage CSXT's locomotive fleet and crew personnel) for final approval. When the proposed change is approved, it is input to the operating plan . . . .[44]

Confirming this, TPI Witness Orrison recalls from his tenure at CSXT having to "sell" MultiRail modelling recommendations to CSXT's operations team before they could be incorporated in real world operations. In other words, the CSXT Witnesses who developed CSXT's MultiRail evidence for this case cannot unilaterally implement their MultiRail recommendations at CSXT. But, apparently, what is not good enough for CSXT's own operations is good enough for this rate case. CSXT has not supported its MultiRail evidence with Witnesses from its operations team.

The dubious feasibility of CSXT's blocking and train-service plans becomes evident when viewing the MultiRail evidence, which the Board cannot do since it does not have the appropriate software. For example, CSXT's plans do not move 99 percent of the traffic from their origins to their actual destinations. Instead, CSXT has modeled the movement of a large amount of traffic only to and/or from the origin and the destination servicing yards, because it aggregated the waybill data for the TPIRR traffic into MultiRail nodes[45] which represent a range of origin or destination stations. CSXT's failure to model these shipments between servicing

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[43] CSXT's planning team includes its Operations Research department.

[44] *See,* CSXT Reply, p. III-C-60.

[45] In MultiRail, "nodes" are yards or junction points on the network. "Links" connect nodes, similar to how track connects yards or junction points. Planners can assign distance penalties to links and nodes in MultiRail to divert traffic from them.

yards and customer locations is evident from the large number of switching trains that were assigned no traffic and perform no blocking activity. According to TPI Witness Orrison, CSXT's own operating plan would account for this first-mile/last-mile service.

Another example of the questionable feasibility of CSXT's MultiRail-based plan is the assignment of traffic that moves in the real world on local and/or line-haul merchandise trains to industrial yard trains for short line-haul segments (generally under 10 miles). According to the trip plans provided by CSXT in discovery, only four (4) percent of TPI's issue traffic moves on yard trains for short line-haul segments. But CSXT's MultiRail plan calls for 2,259 TPI issue-traffic carloads (69 percent of TPI's issue traffic) to move in line-haul service on industrial yard trains. There is no reason why the TPIRR should handle this traffic any differently than the real world CSXT. CSXT's objective for doing so clearly is to bolster its claims that TPI omitted over 28,000 industrial yard trains from its local train list. Importantly, the movement of industrial yard trains included in CSXT's MultiRail modeling exercise is not used by CSXT in its development of TPIRR operating statistics and expenses. Like TPI, CSXT uses a separate analysis in Part III-D to develop operating statistics and expenses for all yard trains, including industrial yard trains.

Further, CSXT provides scant evidence that its MultiRail operating parameters accurately reflect its own real world operations. It merely exclaims that "witness Archaya applied the same MultiRail parameters as those used by CSXT in developing its real world operating plans."[46] CSXT does not provide a MultiRail scenario for its own operations to validate this statement. This prevents TPI from comparing the assumptions CSXT used to develop its MultiRail evidence to those it uses in the real world. Furthermore, because CSXT did not provide this

[46] *See,* CSXT Reply, p. III-C-63.

information in Discovery, it cannot introduce it in Reply. If TPI had used MultiRail to develop its Opening evidence, these parameters would not have been known to TPI.

iv. CSXT's MultiRail Model is Inconsistent with its Criticisms of TPI's Operating Plan

Although CSXT claims that its MultiRail modeling is feasible, the model is subject to many of the same criticisms that CSXT levied against TPI's proposed operating plan. For example:

- CSXT criticizes TPI's operating plan for excluding train Y221, which it claims was required to move cars from Augusta, GA, to Beech Island, SC,[47] but Y221 hauls no traffic from Augusta to Beech Island in CSXT's MultiRail model.
- CSXT criticizes TPI for excluding train Y102, which it claims is necessary provide service to customer facilities,[48] but it runs Y102 empty in CSXT's MultiRail model.
- CSXT criticizes TPI for excluding industrial yard trains Y122 ("Kayne Ave."), Y226, Y290 ("Remote Job"), Y308, and Y650,[49] but none of these trains haul traffic in CSXT's MultiRail model.
- CSXT criticizes TPI for excluding train F760 (the "Bowater Switcher"), because it delivers empty cars to a customer facility at Catawba, SC,[50] but CSXT does not have train F760 haul any traffic in its MultiRail model.
- CSXT used one hour fifteen minutes as the standard dwell time (pickup and setout time) for local, regional, and system yards even though it argues that TPI should have used standard dwell times of two (2) to five (5) hours in its RTC analysis.[51]

v. CSXT's MultiRail Analysis Does Not Indicate that Any Switching Trains are Necessary

MultiRail does not demonstrate the need for switching at customer facilities, although CSXT claims that it does. MultiRail models the movement of cars from origins to destinations

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47 *See,* CSXT Reply, p. III-C-29.
48 *Id.* p. III-C-30.
49 *See,* CSXT Reply Ex. III-C-4.
50 *Id.* p. III-C-34.
51 *Id.* pp. III-C-191-194.

on the TPIRR, but does not model switching at the destination or intermediate yards. In fact, CSXT included myriad "local switcher" trains in its MultiRail train list, but did not assign any traffic to them. For example, CSXT modeled train H794, the "Fostoria Rd. Switcher," in MultiRail to operate five (5) days per week, but it has no cars or blocks associated with it and does not dwell at any location. Even where switcher trains dwell at locations, MultiRail does not indicate what these trains do, much less demonstrate that they are required at all. For example, CSXT modeled train F778, the "Collier Switcher," to run every day from Collier, VA, to Emporia, VA, and back, dwelling in Emporia for one hour. But MultiRail does not have any cars or tasks assigned to this train at Emporia. Because MultiRail does not model switching tasks, CSXT's MultiRail model does not demonstrate that any train is necessary to support switching services.

vi. CSXT has Not Provided its MultiRail Evidence in a Manner that Permits Effective Rebuttal

CSXT has unfairly constrained TPI's analysis by producing a version of its MultiRail model with limited functionality. To view its model, CSXT has provided a read-only version of MultiRail that does not permit TPI to verify that CSXT constructed its MultiRail model how it said it did. Moreover, CSXT has provided MultiRail in a manner that prohibits TPI from analyzing MultiRail reports using Excel, which CSXT all but claims is necessary for effective analysis. TPI has had to piece its evidence together through screenshots and pdf reports that were not sufficient for CSXT's own use and severely constrained TPI's ability to conduct a more detailed review and assessment of CSXT's MultiRail evidence. Furthermore, TPI does not have any ability at all to "correct" or "restate" CSXT's MultiRail evidence to demonstrate the impact of CSXT's errors and inefficiencies.

CSXT could not have developed its MultiRail evidence without MultiRail's ability to develop reports. After entering its initial set of blocks into MultiRail, CSXT used the "Traffic Routing – Flows with No Block Option Report" to identify cars that failed to flow through the TPIRR system so that it could create the additional blocks necessary to handle this traffic.[52] Once CSXT input all the necessary blocks, it used the MultiRail "Traffic Circuity" and "Excessive Handling" reports as part of its "quality control" process to identify unnecessarily circuitous routings and excessive handlings.[53] CSXT applied a similar approach to ensure that adequate trains were modeled. After inputting an initial set of trains, CSXT used the "'Block Train Validity Check Report' generated by MultiRail to confirm that blocks were not 'stranded' ... during the block to train process."[54] Also, "CSXT validated the feasibility of its train service plan by reviewing a 'Train Volume Summary Report' generated by MultiRail to identify trains that were 'too long' or 'too short' in comparison to CSXT's real world trains."[55]

To evaluate most of the MultiRail reports that it relied upon to generate its MultiRail evidence, CSXT used Microsoft Excel.[56] CSXT printed reports to Excel because it otherwise would not have been able, among other things, to fix discrepancies in the reports, sort the voluminous data how it saw fit, or apply formulas that analyze the report data.[57] According to CSXT, "it is much easier to export the [report] information to Excel ... if you plan to do any analyses on the information."[58] For example, CSXT used Excel to fix "issues" with and apply a weighting analysis to the "Regions Statistics by Train Category" report that it submitted with its

[52] *See,* CSXT Reply, p. III-C-64.
[53] *Ibid.*
[54] *Id.* p. III-C-66.
[55] *Id.* p. III-C-68.
[56] *See,* CSXT Reply workpaper "MultiRail Freight Edition.docx" 5.
[57] *Id.* pp. 17, 33, 34.
[58] *Id.* p. 34.

evidence.[59] Moreover, CSXT analyzed the critical "Block Train Validity Check" report, which confirms that no blocks were stranded, in Excel to apply a filter "to get traffic 100% On SARR."[60] It used a similar process in Excel to analyze stranded or partially routed blocks.[61]

But CSXT did not provide the MultiRail program in a fashion that enabled TPI to print to Excel, encumbering TPI's ability to review the MultiRail evidence.[62] Specifically, Oliver Wyman required that MultiRail be loaded on its laptop to ensure that the required technologies that MultiRail relies upon are present and the operating environment is proper. Microsoft Excel is not available on the laptop and the option to print to Microsoft Excel is disabled.

Moreover, because the Board does not have access to MultiRail and the limited-access MultiRail does not permit TPI to generate reports of all the train inputs and data, TPI is limited to using screenshots to demonstrate the problems in CSXT's MultiRail model. This is a tedious task, requiring one or more screenshots to be made to demonstrate things as simple as how a train carries traffic or blocking activity along a train's route. Also, because the MultiRail interface has multiple tiles, some of which require scrolling to see all of the data, multiple screenshots may be necessary just for a single train. Once a screenshot is taken, it needs to be copied to a thumbdrive before the next screenshot can be taken. This arduous process greatly slows down the MultiRail analysis that TPI must undertake.

The Board should reject CSXT's attempt to limit TPI's ability to view CSXT's MultiRail evidence in the same manner that CSXT is able to view it and to present its MultiRail evidence in a manner that inhibits TPI's ability to respond. This lack of transparency and encumbering of

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59 *Id.* p. 17.
60 *Id.* p. 33.
61 *Id.* p. 34.
62 *See,* TPI Rebuttal workpaper "MultiRail Laptop.pdf" 1. Although TPI counsel initially requested that MultiRail be provided on a laptop, Oliver Wyman ultimately indicated that it would not provide MultiRail any other way.

TPI's ability to present Rebuttal on MultiRail calls into question the validity of CSXT's evidence and is fundamentally at odds with due process.

2. CSXT Grossly Exaggerates the Number of Trains "Missing" From TPI's Operating Plan

CSXT's claim that TPI has omitted 44,694 local trains from its Base Year train list is wildly exaggerated.[63] CSXT identifies three distinct groups of allegedly missing local trains: (a) 5,940 local trains that serve both on-SARR and off-SARR locations in the real world ("On/Off-SARR Local Trains"); (b) 28,860 industrial yard trains; and (c) 9,894 other local trains that perform first-mile/last-mile switching. Despite its rhetoric, CSXT itself has added only the first group of 5,940 and two (2) percent of the second group [64] of the allegedly missing local trains to its "corrected" TPI Opening train list, i.e., the basis for the peak period train list CSXT modeled in its Reply RTC analysis. This confirms the exaggerated nature of CSXT's claims.[65] Additionally, CSXT fails to demonstrate the need for, much less the feasibility of, an operating plan that adds all of the allegedly missing local trains.

CSXT confuses matters by developing two separate train lists in its reply evidence, without acknowledging or explaining this fact in its narrative. In addition to the "corrected" TPI Opening train list, which contains a total of 48,148 Base Year local trains, CSXT developed a second train list for its MultiRail analysis that contains 60,788 local trains.[66] It is notable that neither of CSXT's train lists include as local trains the 28,860 industrial yard trains that CSXT claims TPI omitted from its Opening local train list. This is a clear demonstration that the

63 *See,* CSXT Reply, p. III-C-16.

64 CSXT claims to have modeled "a sample of" 16 industrial yard trains in the peak week. *See* CSXT Reply, p. III-C- 173 to 174. However, CSXT's workpapers reveal that it actually included only 11 such trains in its modeling exercise. This extrapolates to 572 annual trains (11 x 52 = 572); 572 is less than 2 percent of the allegedly "missing" 28,860 industrial yard trains (572 ÷ 28,860 = 0.0198).

65 *See,* CSXT Reply workpaper "TPIRR Open Train Lists Corrected.xlsx".

66 *See,* CSXT Reply workpaper "BaseYearTrainComparison.xlsx".

28,860 industrial yard trains are neither required to be included in, nor missing from, TPI's local train list. Furthermore, there is no link whatsoever between CSXT's two train lists except for the train symbols. The "corrected" TPI Opening train list comprises actual historical trains moving actual historical block consists. The MultiRail train list consists entirely of hypothetical trains moving hypothetical consists of blocks developed and assigned in MultiRail. This train list was pulled from the train profiles planning data that CSXT provided in discovery.

CSXT's MultiRail train list is grossly over-inflated. The MultiRail list of 60,788 local trains is a list of all local trains that CSXT's train profile routing and scheduling information indicate could be used to move the TPIRR's traffic in the Base Year. It is the maximum number of potential local trains that could possibly operate on CSXT's system to handle the highest possible volume of CSXT's traffic. It is not the number of trains that actually would be, or were, required to move the traffic TPI selected for inclusion in the TPIRR traffic group. If a local train profile indicated that the train was scheduled to operate five days per week, CSXT assumed the train always would operate on the TPIRR five (5) days per week, and included that train in its MultiRail train list, even if there is no traffic for that train to handle.[67]

CSXT's overstatement of local trains in its MultiRail train list can be illustrated by the different manner in which local trains operate. Local trains routinely operate over different line segments to serve different customers on different days of the week. The TPIRR does not necessarily replicate every line segment on a local train's route or handle traffic for every

[67] There are a few exceptions to this general statement. For 11 train symbols, CSXT elected to run a given train symbol more frequently than the train profiles (e.g., Train A727, which the CSXT train profiles data indicates runs 5 days per week, but CSXT assumed would run six (6) days per week). For ten (10) train symbols, CSXT elected to run a given train symbol less frequently than the train profiles (e.g., Train A704, which the CSXT train profiles data indicates runs six (6) days per week, but CSXT assumed would run five (5) days per week). In total, the CSXT train profiles data for the train symbols included in CSXT's operating plan add up to 60,424 available trains. But CSXT's plan assumes a total of 60,788 available trains for those symbols, a net of 364 more than the profiles indicate would be available to run, even though the TPIRR handles less traffic than the real world CSXT.

customer on that route every day that train may be scheduled to operate. Therefore, the TPIRR does not need to run every local train every operating day flagged on CSXT's train profile schedule. No efficient railroad, including CSXT itself, would blindly run a local train under such circumstances. MultiRail, however, is not designed to determine whether or not a train is necessary. Rather, MultiRail merely accepts the trains that CSXT inputs into the program and cars are assigned to each train on an average daily basis across the entire period modeled, as opposed to the ebb and flow of actual traffic patterns. As a result, MultiRail will assign a fraction of a car to every day of the year that a given train is scheduled to operate even if that train moves just one car over the course of the entire year.[68] Although CSXT assumed that the train will run every day on its train profile, that train plainly would need to operate just one day to handle that one car in its annual consist. The consequences of CSXT's unreasonable assumption are evident in its MultiRail analysis, which assigns fractional cars (i.e., less than one full carload) to thousands of local trains included in its plan. As a result, for a given train symbol, CSXT's plan calls for hundreds of trains to run in order to deliver dozens of cars over the course of a year.

For example, because the train profiles data indicated that local train A714 was available to run 5 days per week, CSXT assumed it would run 260 times per year. However, CSXT assigned a total of just 15 annual carloads to train A714 over the course of a year. Because MultiRail is based on smoothed out average carload statistics, CSXT assigned 0.07 carloads to each of the 260 trains it assumed would operate in the Base Year.[69] Therefore, CSXT's plan

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[68] For example, if a train profile contains a 5-day per week schedule throughout the year but there are only ten carloads of traffic for that train to handle during the year, MultiRail will assign 0.04 cars per day to that train for 260 days.

[69] MultiRail train volume on A727 shows 0.07 cars/day from Talladega, Al to Lineville, AL and 0.07 cars moving back to Talladega, AL but MultiRail Traffic Manager shows 0.05 cars/day each way. Since the A727 local is

calls for 260 annual train starts, 260 annual crew starts, 264 annual locomotives, and 20,153 annual locomotive unit miles to move 15 annual carloads 78 miles.[70] This is direct proof that CSXT's MultiRail local train list is grossly over-inflated and is the complete antithesis of a least-cost, optimally-efficient railroad.

Another example of CSXT's inflated train statistics is evident from a simple analysis of train consist data. The 48,148 local trains included in CSXT's "corrected" TPI Opening local train list, based on actual historical operations, average 23.2 cars per train. In contrast, CSXT assigned only 10.7 cars on average to its MultiRail based list of 60,788 local trains.

Finally, CSXT inappropriately conflates its two separate train lists by modeling its "corrected" TPI local train list of 48,148 local trains in the RTC simulation to develop operating statistics (*i.e.*, train speed and run times), but applied those statistics to the 60,788 local trains in its MultiRail train list to develop operating costs. In other words, CSXT developed operating statistics based upon the list of actual historical trains moving actual consists and applied those statistics to a completely different—and inflated—list of hypothetical trains moving hypothetical consists. Of course, nowhere in its reply narrative does CSXT make this clear; but, the fact is abundantly evident in its work papers. The development of two different train lists for the same SARR is inappropriate, unprecedented, and proves that CSXT has not demonstrated the feasibility of its MultiRail-based operating plan because CSXT has not modeled its MultiRail train list in the RTC simulation. As explained in Part III.C.1.a above, the disconnect between CSXT's two very different train lists invalidates CSXT's operating plan.

5X/week, MultiRail takes the daily traffic in the Traffic Manager File (0.05 cars/day) then multiples by 7X (0.05*7=0.35 cars/week) and then divides by 5X (0.35 cars/week / 5 days/week = 0.07 cars/day of train operation.

70 MultiRail train schedule shows A714 begins at Talladega, AL MP 910 operates to Lineville MP 882 to set-out and pick-up cars (28 miles). The local then operates to Wadley, AL MP 857 (25 miles) with no work assigned, then back to Talladega, AL (53 miles). The round trip for the locomotives operating on this schedule is 78 miles.

CSXT has not demonstrated a need to add any of the allegedly missing trains. Furthermore, because CSXT has only added, and modeled operations for, the 5,940 On/Off-SARR Local Trains, CSXT's reply evidence cannot support the addition of any more than those trains.[71] Nevertheless, in order to be conservative and to reduce the areas of disagreement between the parties, TPI's rebuttal evidence accepts the addition of the 5,940 On/Off-SARR Local Trains and a subset of the 9,894 other local trains. TPI continues to reject all of the industrial yard trains because both TPI and CSXT have accounted for those trains in other portions of their evidence, which would make the addition of those trains to either party's local train list a double-count. Not only has CSXT failed to acknowledge that it accounted for industrial yard trains in a separate analysis, CSXT's Part III-C narrative falsely implies that the industrial yard trains *are* included in its local train operating plan. Those trains are a red herring, listed in the CSXT workpapers for no reason except to give the false impression that they were used to develop CSXT's local train operating statistics and expenses. Only after drilling down into the CSXT workpapers can one ascertain that the list of 28,860 allegedly "missing" yard trains are not considered whatsoever in the development of CSXT's local train operating statistics or expenses.

In the following subsections, TPI explains both why none of the allegedly missing trains need to be added and why TPI nevertheless has added some of those trains strictly to reduce the number of contentious issues, even though the additions result in overstated operating statistics and expenses. In total, TPI adds 11,373 local trains to its rebuttal operating plan.

The remainder of this portion of TPI's Rebuttal Part III-C is discussed under the following headings and summarized in Rebuttal Exhibit III-C-3:

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[71] *Otter Tail*, slip op. at 19 ("BNSF cannot protest that an input into the RTC model is flawed without showing the consequence of changing that input on the output of the model").

a. Local Trains That Operate Both On/Off-SARR

b. Industrial Yard Trains

c. Other Local Trains that Perform First-Mile/Last-Mile Switching

a. Local Trains that Operate Both On/Off-SARR

In criticizing TPI for excluding the 5,940 On/Off-SARR Local Trains, CSXT purports to have made some sort of revelation about TPI's opening evidence.[72] But TPI did not overlook these trains in its opening evidence; it was up front and open as to its intentional exclusion of these trains and explained its reasons for doing so in TPI Opening Exhibit III-C-1, at pages 29-31.[73] Ironically, out of the entire universe of 44,694 local trains that CSXT contends TPI omitted, these 5,940 trains intentionally excluded by TPI are the only supposedly missing trains that CSXT actually added to its "corrected" TPI Opening train list.[74]

On/Off-SARR Local Trains are real world CSXT local trains that serve non-issue traffic on the TPIRR, but that originate or terminate some of that traffic at off-SARR customer locations and some at on-SARR locations. In other words, this is cross-over traffic at the local train level. This is an issue of first impression for SAC cases because the Board has never been asked to determine the appropriate parameters for employing cross-over traffic at the local train level. Although the Board's precedent for line-haul cross-over traffic provides some guidance, local trains operate in a different manner from line-haul trains, which requires additional guidance based upon those differences. For example, local trains operate over short distances, traverse

[72] *See,* CSXT Reply, p. III-C-16 to 26.

[73] Ironically, although CSXT attributes TPI's omission of the 5,940 On/Off-SARR Local Trains to TPI's automated process, this was one of several instances where TPI's decision was predicated principally upon a detailed manual review of the traffic data. *See,* CSXT Reply, p. III-C-17.

[74] *See,* CSXT Reply workpaper "TPIRR Open Train Lists Corrected.xlsx".

different routes on different days to serve different customers, and typically travel round trip out of the same yard within a single day.

The issue is whether TPI's operating plan for On/Off-SARR Local Trains employs the cross-over traffic device for local traffic in the most feasible and realistic manner without introducing bias to the SAC analysis. TPI submits that, for the reasons presented in the following subparts, not only is its opening operating plan for On/Off-SARR Local Trains feasible, realistic, consistent with SAC principles, and without bias, but also CSXT's reply evidence is inefficient and unrealistic. Despite TPI's confidence in its opening position, TPI is adding all 5,940 On/Off-SARR Local Trains to its rebuttal train list in order to avoid the risk that its entire operating plan might be rejected based on this single issue of first impression.

i. TPI's Operating Plan for On/Off-SARR Local Trains is the Most Efficient Plan that Does Not Bias the SAC Analysis

In order to keep the size of the SARR manageable and to properly focus the SAC analysis, TPI designed the TPIRR to serve the issue traffic and other traffic that shares facilities with the issue traffic. Even so, the TPIRR, at 7,417 route miles, still is the second largest SARR ever developed for a SAC case. Although the size of the TPIRR means that it originates and/or terminates a lot of its traffic, it still handles a sizeable volume of cross-over traffic on both local and line-haul trains. CSXT has challenged TPI's use of internal cross-over traffic, which is a subset of line-haul cross-over traffic that CSXT dubs "leapfrog" traffic, which TPI has addressed in Part III.C.3 below. In contrast, CSXT has not objected to—and in fact insists upon including—internal cross-over traffic at the local train level. CSXT, however, objects to TPI's operating plan for a subset of traffic moving on local trains that serve locations both on-SARR and off-SARR (i.e., On/Off-SARR Local Trains).

CSXT's operating plan for the TPIRR operates On/Off-SARR Local Trains as cross-over trains that the TPIRR interchanges with the residual CSXT en route. Because these local trains often travel round trip from a single TPIRR yard, the TPIRR often must interchange each train to the residual CSXT, which must interchange the train back to the TPIRR to return to the yard, which makes them internal cross-over trains. On some local train routes, these interchanges occur multiple times in the course of a single trip. It is highly ironic that CSXT advocates for the introduction of internal cross-over local trains in congested industrial and urban areas where such operations so clearly would be costly, difficult, and detrimental to customer service, but virulently objects to internal cross-over line-haul trains where the operational impact upon long-haul intercity traffic would be much less significant, if not negligible. CSXT's motivation clearly is to impose burdensome costs on the TPIRR, and in doing so, CSXT even is willing to impose the same burdensome costs upon the residual CSXT and its customers in this hypothetical construct.

The need for cross-over traffic at the local train level has not been contested by CSXT in this case. If TPI is to achieve the same economies of scale, scope and density as the real world CSXT over the same TPIRR line segments, it either must employ cross-over traffic or expand the TPIRR to include all the lines over which each local train operates. Just as with line-haul cross-over traffic, this first expansion would cascade into even more expansions in order to permit the TPIRR to achieve the same economies of scale, scope and density as the real world CSXT on the newly-added lines, until the TPIRR has modeled nearly the entire CSXT system.[75] TPI Opening Exhibit III-C-5 showed that the full scope of just the first expansion would nearly double the size of the 7,357 mile TPIRR by adding 6,200 more miles. This sort of expansion would turn the

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[75] *See, e.g., PSCo/Xcel I* at 602.

SAC analysis on its head by shifting from a theoretical railroad designed principally to serve the issue traffic and other traffic that shares those facilities to a railroad designed principally to serve all of the incumbent's local train traffic of which the issue traffic happens to share only a small portion of the required facilities.[76] Therefore, TPI employed the cross-over traffic device to keep the SAC analysis manageable and focused on the issue traffic.

But as noted herein, attempting to model local cross-over traffic in the same manner as line-haul cross-over traffic, by interchanging local trains between the SARR and residual incumbent, creates significant operating inefficiencies that are not present with respect to the interchange of line-haul cross-over trains. Therefore, TPI's opening operating plan did not interchange local trains that carry cross-over traffic to or from off-SARR customer locations.[77] Instead, the TPIRR interchanged local cross-over traffic at the classification yards where local trains originated and terminated, which ensured single line local train service and avoided the problems associated with interchanging local trains. Specifically, TPI's opening operating plan contained the following three different types of local train operations, depending on the customer locations serviced by a local train on any particular day:

1. If a local train is scheduled to service only customers located on the TPIRR, the TPIRR would operate that train;
2. If a local train is scheduled to service only customers located on the residual CSXT, the residual CSXT would operate that train; and

[76] *See*, TPI Opening Exhibit III-C-1, pp. 30-31.

[77] TPI created an exception for 122 local trains that transported a combination of TPI's issue traffic and off-SARR local traffic. TPI Opening Exhibit III-C-1, p. 29 and n. 86; *see also,* CSXT Reply, p. III-C-22. TPI did this because the purpose of the SAC analysis is to determine the least cost at which an efficient competitor could serve the issue traffic. *Coal Rate Guidelines*, 1 I.C.C.2d at 542. In order to make that showing, the TPIRR must provide all of the services that the real world CSXT provides for the issue traffic in exchange for payment of the challenged rates. As the cross-over device illustrates, there is no comparable requirement for non-issue traffic because the ATC division compensates the SARR and residual incumbent for the portion of the service that each performs. In the case of On/Off-SARR Local Trains, the residual CSXT receives a larger share of revenue for the on-SARR local traffic that it handles.

3. If a local train with no issues traffic is scheduled to service both on-SARR and off-SARR locations, the residual CSXT would operate that train (*i.e.*, On/Off-SARR Local Trains).

This operating plan ensured that a single carrier, either the TPIRR or the residual CSXT, operated a local train over its entire route instead of imposing at least one, and often more, inefficient local train interchanges between the TPIRR and residual CSXT.

TPI anticipated CSXT's claim that TPI's operating plan for local trains attempts to shift the burden of providing higher cost origination/termination services from the TPIRR to the residual CSXT and claims revenue for services the TPIRR did not provide. Specifically, TPI conservatively assumed that the TPIRR would perform all the yard activities and provide all of the infrastructure associated with switching, classifying and blocking the cars for all three types of local trains that originate/terminate at yards on the TPIRR network. TPI also assigned the residual CSXT a full ATC terminal revenue credit for both the on-SARR and off-SARR traffic (i.e., all carloads) carried on the local trains operated by the residual CSXT. As a result, the TPIRR performed some of the most costly operations (i.e., classification, forwarding) and built some of the most costly infrastructure (i.e., yards) associated with originating and terminating cars for both on-SARR and off-SARR locations even though it did not operate many of the local trains that served those customers and thus did not receive an ATC terminal revenue credit for this first-mile/last-mile service. If anything, the TPIRR was undercompensated for the services that it provided, while the residual CSXT was overcompensated. CSXT, therefore, cannot credibly claim that TPI's opening operating plan for cross-over local trains injected bias into the SAC analysis that was prejudicial to CSXT.

CSXT has not objected to TPI's operating plan for the first two local train types described above, but adamantly objects to the third, *i.e.*, the on/off-SARR locals, because this operating plan means that on-SARR customer locations will be served by the residual CSXT, rather than the TPIRR, on days when the local train also services off-SARR locations. There are 5,940 such trains in the Base Year that TPI excluded from its opening train list and that CSXT has added in its reply train list. CSXT insists that the TPIRR interchange these local trains with the residual CSXT, rather than allow the residual CSXT to operate them in more efficient single line local service, and to receive a full ATC revenue share (including a terminal credit) for doing so. CSXT's plan allocates less revenue to the residual CSXT for operating the 5,940 trains than CSXT would receive under TPI's operating plan for operating the same number of trains with the same number of crews.

TPI considered and rejected such operations in its opening evidence because interchanging local trains could not guarantee efficient service to the customers of either the TPIRR or residual CSXT. Due to CSXT's network structure and train routes that vary daily depending upon which customer facilities are being served, On/Off-SARR Local Trains would need to interchange between the TPIRR and residual CSXT on each route over the course of a relatively short run. The operations required to coordinate the multiple hand-offs of these local trains, the inconsistent and unpredictable scheduling and yard dispatching operations, and the unproductive down-time for the crews and equipment of one carrier during local operations performed by the other carrier render the concept of CSXT's internal cross-over operating plan for On/Off-SARR Local Trains inefficient, and impractical.[78]

The inefficiencies of CSXT's operating plan for On/Off-SARR Local Trains are illustrated by the very same examples that CSXT provides in its reply evidence to criticize TPI's operating plan for these trains. CSXT provides the example of local Train A700, which operates

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[78] *See,* TPI Opening Exhibit III-C-1, p. 30.

in turn-around service from the Cartersville, GA yard, which is part of the TPIRR.[79] CSXT shows the lines over which Train A700 operates,[80] including which portions are on-SARR and which portions are off-SARR. Because Train A700 serves a mix of customers on several different lines that flow out of the Cartersville yard, its route can vary from day to day and so can its operations as proposed by TPI. On days when Train A700 would operate entirely on-SARR to serve only on-SARR customers, the TPIRR operates the train over the entire route and receives a full ATC terminal revenue share. On days when Train A700 only services off-SARR customer locations, the residual CSXT operates the train over the entire route and receives a full ATC terminal revenue share. Finally, on days when Train A700 would operate both on and off-SARR to service both on and off-SARR customers, CSXT operates the train over the entire route and receives a full ATC terminal revenue share. CSXT's example of Train A700 reflects this third scenario, which is the only scenario to which CSXT has objected. Ironically, although CSXT does not object to operating Train A700 the full distance from Cartersville to off-SARR locations to serve off-SARR customers, it does object to serving on-SARR customers along that route even though it would receive a full ATC terminal revenue credit for doing so without having to perform any of the yard services associated with Train A700 at the Cartersville yard.[81]

CSXT's example describes the route of Train A700 on April 1, 2013. In that example, CSXT's operating plan would require the TPIRR to originate Train A700 on-SARR at Cartersville, service an on-SARR customer at Stilesboro, GA (placing and pulling 21 cars), and then interchange Train A700 with the residual CSXT. While the residual CSXT services off-

[79] *See,* CSXT Reply, p. III-C-18.
[80] *See,* CSXT Reply Exhibit III-C-3, p. 1.
[81] *See,* CSXT Reply, p. III-C-24 (n. 41). CSXT acknowledges that there are approximately 28,000 additional on/off-SARR trains that it does not challenge. Those include local trains that originate at the same classification yards as the objectionable trains, but only make stops to serve off-SARR customers.

SARR customers at Rockmart and Cedartown, GA (placing and pulling nine (9) cars), the TPIRR locomotive and crew sit idle at Stilesboro until the residual CSXT returns to interchange Train A700 back to the TPIRR, which would run the train back to Cartersville.[82] Under CSXT's operating plan, both the TPIRR and residual CSXT must dedicate a locomotive and crew for this service, but the TPIRR receives a terminal revenue credit for the 21 cars placed/pulled at Stilesboro while the residual CSXT receives a terminal revenue credit for only the nine (9) cars placed/pulled at Rockmart and Cedartown. Also, the timing of the interchanges in both directions is unpredictable because these trains do not operate on a schedule due to uncertainty over how much time will be needed to switch the various customer locations, which causes idle down-time for both crews and equipment and/or delays service to both on-SARR and off-SARR customers.[83]

In contrast, TPI's opening operating plan had the residual CSXT operate Train A700 in CSXT's example over the entire round-trip route between Cartersville and Cedartown and provided CSXT with a full ATC terminal revenue share for all 30 cars placed/pulled by the train, without having to duplicate crews and equipment or requiring both carriers to wait for the interchanges. Notably, the TPIRR still provided all of the yard services for these trains even though it received no ATC terminal revenue credit. The residual CSXT only needed to pick up the train, serve the en route facilities, and drop the train off at Cartersville, without incurring any

[82] There would be little purpose in returning the TPIRR locomotive and crew to the Cartersville Yard because they would need to turn around and return to Stilesboro to receive Train A700 in interchange almost as soon as they arrived back at Cartersville. This is another critical distinction between internal cross-over traffic in line-haul service versus local train service. In line-haul service, the crew and equipment can be re-assigned to productive service on other trains after the interchange. In contrast, in local train service, the equipment and crew are completely unproductive while waiting for the return hand-off of the local train. Furthermore, during this idle wait time, the locomotive continues to occupy the mainline, which creates inefficient conflicts with other TPIRR trains.

[83] This is particularly troubling in light of CSXT's own reply testimony that many local trains have difficulty completing their routes today. *See,* CSXT Reply, pp. III-C-175-176. Adding more interchanges to those routes would make such service difficult if not impossible.

of the classification and blocking responsibilities that would precede and follow a local train movement. Although this clearly was a more efficient operation for the residual incumbent, CSXT was willing to impose this burden on the residual CSXT in order to also impose inefficiencies on the TPIRR.[84]

Similarly, CSXT provides the example of Train D762, which operates in turnaround service from CSXT's yard in Lordstown, OH, which is on the TPIRR.[85] Reply Exhibit III-C-3, page 2, shows the lines over which Train D762 operates, including which portions are on-SARR and which portions are off-SARR. CSXT's example describes the route of Train D762 on December 11, 2012. In that example, CSXT's operating plan would require the TPIRR to originate Train D762 on-SARR at Lordstown and move directly to Newton Falls, OH, for the first interchange with the residual CSXT. While the residual CSXT services an off-SARR customer at Niles, OH (placing and pulling five (5) cars), the TPIRR locomotive and crew remain idle on the TPIRR mainline. CSXT then would turn Train D762 at Niles and return to Newton Falls to interchange the train back to the TPIRR, which then would service an on-SARR customer at Ohio Junction (pulling eight (8) cars) before returning to Lordstown where it pulls three (3) cars and cuts ten (10) cars.) As with the preceding example of Train A700, both railroads must dedicate a crew and equipment, but the TPIRR receives a terminal revenue credit

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[84] Elsewhere in its reply evidence, CSXT implicitly acknowledges the inefficiencies associated with interchanging trains after only a very short distance movement. For example, TPI determined that, for road trains that would travel less than 10 miles over the TPIRR from a classification yard to the physical intersection of the TPIRR with the residual CSXT, it would be more efficient to interchange the traffic and divide the revenue at the internal TPIRR yard than to create a new interchange less than 10 miles away. CSXT has applied this logic to its own operating plan for line-haul trains, but inexplicably rejects that same logic when applied to local trains. CSXT Reply, p. III-C-177. In addition, CSXT has not objected to interchanging local trains that only serve off-SARR locations at TPIRR's internal yards rather than at the physical end-points of the TPIRR and residual CSXT. This unexplained inconsistency strongly indicates that CSXT's positions are opportunistic rather than genuine objections based upon real world operating concerns or SAC distortions.

[85] *See,* CSXT Reply, pp. III-C-19-20.

on the 11 cars pulled from Ohio Jct. and Lordstown, while the residual CSXT receives terminal credit only for the five (5) cars placed/pulled at Niles, and service to both customers is degraded.

In contrast, TPI's operating plan had the residual CSXT operate Train D762 over the entire route from Lordstown to Niles to Ohio Junction and back to Lordstown, and provided CSXT with a full ATC terminal revenue share for all of the cars placed/pulled by the train, without having to duplicate crews and equipment or imposing unproductive idle time on either carrier while waiting at interchanges for the other carrier to complete its local service. Again, despite this being a more efficient operation for both the residual CSXT and TPIRR, not to mention their customers, CSXT was willing to punish the residual incumbent in order to impose more costs and inefficiencies upon the TPIRR.

If TPI's opening evidence had proposed the internal cross-over local train operations advocated in CSXT's Reply, CSXT undoubtedly would have pummeled TPI with all the same concerns discussed above that caused TPI to reject that option initially. This is merely a case of CSXT taking the opposite position from whatever TPI advocates. Indeed, the only options TPI could have adopted to avoid CSXT criticism would have been either to drop the off-SARR local traffic from the SARR traffic group altogether, thereby depriving the TPIRR of the same economies of scale scope and density as the real world CSXT, or nearly double the TPIRR by adding 6,200 miles in order to serve the off-SARR traffic directly, thereby creating an unwieldy SAC analysis that is not focused upon the facilities needed to serve the issue traffic. This is a plain "heads I win, tails you lose" scenario.

TPI's Opening evidence applied the cross-over traffic device to local trains by remaining true to the objectives of cross-over traffic to simplify the SAC presentation by keeping the focus on the issue traffic without introducing bias. That resulted in TPI's opening evidence decision to omit the On/Off-SARR Local Trains from its train list—and forego the terminal revenues associated with those shipments despite providing all of the yard services associated with these local trains—in order to produce the most efficient operations for both the TPIRR and residual CSXT consistent with SAC principles. Only because CSXT itself has proposed an inefficient and unrealistic operating plan that requires the interchange of local trains, which TPI initially believed CSXT would attack, is TPI willing to accept all 5,940 On/Off-SARR Local Trains on rebuttal.

ii. TPI's Treatment of On/Off-SARR Local Trains does not Violate SAC Principles

CSXT claims that TPI's opening operating plan for On/Off-SARR Local Trains is unprecedented and violates SAC principles.[86] But it is unprecedented only because the Board has never been called upon to consider service and operational issues associated with local cross-over traffic in prior SAC cases. Furthermore, many of CSXT's arguments are filled with distortions and inaccuracies. When all of the foregoing factors are considered, it is clear that TPI's opening operating plan for On/Off-SARR Local Trains did not violate any SAC principles.

First, CSXT complains that TPI's operations for On/Off-SARR Local Trains violates SAC principles by not providing complete service to all customers physically located on-SARR.[87] CSXT's only support is a generic quote from prior cases that the SARR "must be capable of providing the service required by the SARR's customers."[88] But the SARR's customers include cross-over traffic that the SARR neither originates nor terminates, which means that the SARR is not providing complete service to all of its customers and is not required

[86] *See,* CSXT Reply, pp. III-C-16-26.
[87] *See*, CSXT Reply, pp. III-C-21-22.
[88] *See,* CSXT Reply, p. III-C-21, *quoting Duke/NS* at 99.

by SAC principles to do so.[89] CSXT does not cite to any precedent that applies a different standard for those customers physically located on-SARR from those physically located off-SARR.

In addition, the text quoted by CSXT is from a general discussion of the SAC test in unit train coal cases. It was not in the context of any issue contested by the parties and certainly did not consider the concerns identified by TPI that are unique to local cross-over traffic. Those concerns show that interchanging On/Off-SARR Local Trains, as CSXT proposes, is an inefficient operation that would preclude the SARR from providing the service required by customers for both the on-SARR and off-SARR traffic that moves on the same local train. In other words, CSXT's operating plan for On/Off-SARR Local Trains, by failing to provide the service required by both the TPIRR's on-SARR and off-SARR customers served by those trains, would violate the very SAC principles that CSXT inaccurately claims TPI has violated. TPI, on the other hand, has proposed an operating plan for On/Off-SARR Local Trains that preserves single line local train service ensuring that both on-SARR and off-SARR customers receive the service that they require consistent with SAC principles.

Furthermore, in developing its On/Off-SARR Local Train opening operating plan, TPI made conservative assumptions to ensure that its use of local cross-over traffic to make the SAC analysis more manageable did not bias the analysis against CSXT. By awarding a full ATC terminal revenue credit to the residual CSXT for operating On/Off-SARR Local Trains that provide terminal service to on-SARR customers even though the TPIRR provides all of the yard services, such as classifying, blocking and building departing locals and breaking apart arriving

[89] In contrast, SAC principles do require the SARR to provide complete service to the issue traffic, which is why TPI has interchanged those On/Off-SARR Local Trains that handle a combination of the issue traffic and off-SARR cross-over traffic.

locals, TPI's revenue allocation to the residual CSXT was fair if not conservative. Moreover, the TPIRR also provided those yard services for other local trains that served only off-SARR customers but that originated/terminated in TPIRR yards, a local train operation to which CSXT has not objected. CSXT's acceptance of this similar operating arrangement should alleviate any concern that TPI's solution for On/Off-SARR Local Trains distorts the SAC analysis in favor of TPI.

CSXT's position on this issue creates a no-win situation for carload shippers that would render the SAC analysis useless. Carload shippers essentially have just the following four options for On/Off-SARR Local Trains which handle traffic destined to both on-SARR and off-SARR locations:

1. Exclude the local cross-over traffic on those trains from the SAC analysis;
2. Expand the SARR to include the line segments required to serve the local cross-over traffic on those trains;
3. Interchange those local trains between the SARR and residual incumbent, as CSXT has proposed; or
4. Allow the residual CSXT to operate those local trains over their entire route by interchanging both the on-SARR and off-SARR traffic with the residual incumbent at the yards where those local trains originate and terminate, as TPI has proposed, so that the residual incumbent can provide single line local train service to both the on-SARR and off-SARR customers along the local train route.

The first option would preclude the SARR from achieving the same economies of scale, scope and density that are available to the incumbent.[90] The second option would require a cascading series of SARR expansions that would make the SAC process unmanageable and shift the focus away from the facilities that are necessary to serve the issue traffic.[91] The third option, for all the reasons presented in this Rebuttal Part III.C.2.a, is inefficient, impractical and

[90] *See, Nevada Power II* at 265 (n. 12).
[91] *See, PSCo/Xcel I* at 601-603; *WFA/Basin I*, slip op. at 11.

unrealistic, and would prevent both the SARR and the residual incumbent from providing the service required by both on-SARR and off-SARR customers in violation of SAC principles. That leaves only the fourth option which, if the Board were to conclude that it too violates SAC principles, would leave the carload shipper without a viable means of implementing the SAC test. "[S]uch futility would violate the shipper's statutory right to challenge rates...."[92]

Although TPI will accept CSXT's proposal (option three (3) from the list above) in this case to minimize differences between the parties, TPI nonetheless requests that the Board consider all options and opine as to which it believes is the soundest and most reasonable position for future cases. Should the Board opt not to weigh in on the issue, all future shippers will be caught in a regulatory purgatory as they develop Opening evidence in future cases, and the railroads will again be in a position to simply object to whatever plan the shipper posits. This will in turn place the Board back in the position of deciding an unsettled issue. The only reason why TPI is not faced with the futility described above in this proceeding is because CSXT itself has proposed the inefficient third option which procedurally TPI is permitted to adopt on rebuttal. But even this option imposes inefficiencies on the SARR that bias the SAC analysis in the defendant's favor.

Second, CSXT claims that the On/Off-SARR Local Trains violate SAC principles because on-SARR customers would receive a worse level of service than they currently receive from the real world CSXT.[93] That claim is absolutely false and is inconsistent with the very

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[92] *Consol. Rail Corp. v. U.S.*, 812 F.2d 1444, 1457-58 (3d Cir. 1987) (Becker, J. concurring in part and dissenting in part) (affirming *Coal Rate Guidelines*); *see also, WFA/Basin I*, slip op. at 11 ("we must guard against the SAC process becoming so complex and expensive as to deny captive shippers meaningful access to the rate review provided for under *Guidelines*").

[93] See, CSXT Reply, pp. III-C-22-23.

reasons why TPI determined that the residual CSXT should operate these local trains in the first place. CSXT makes two highly misleading claims to support its argument.

CSXT claims that, by excluding these 5,940 On/Off-SARR Local Trains, "TPI impermissibly reduced the frequency of TPIRR service available to 365 shippers."[94] Even though the TPIRR would not provide the first-mile/last-mile service to these shippers in all instances, those shippers still would receive the same frequency of service overall that they receive today. The only difference is that the TPIRR would provide that service on days that the local train serves only on-SARR locations, and the residual CSXT would provide that service on days that the local train serves both on-SARR and off-SARR locations.

Next, CSXT falsely claims that TPI has interposed an otherwise unnecessary interchange between the TPIRR and residual CSXT that degrades the service those shippers receive from CSXT today.[95] In order to understand the misleading nature of this claim, it is necessary to differentiate between the two groups of customers served by On/Off-SARR Local Trains. The off-SARR traffic is local cross-over traffic that CSXT's own operating plan requires the TPIRR to interchange with the residual CSXT. The on-SARR traffic is traffic that becomes local cross-over traffic under TPI's operating plan only when it moves in On/Off-SARR Local Trains operated by the residual CSXT, but would not be local cross-over traffic when moved in trains operated by the TPIRR. Although TPI's operating plan for On/Off-SARR Local Trains requires an interchange of this traffic with the residual CSXT, that interchange does not require any additional handling beyond what occurs in CSXT's real world service today.

Specifically, in TPI's opening operating plan, the TPIRR builds all of the local trains in its classification yards regardless of whether a train is a local train that will be operated by the

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94 *See,* CSXT Reply, p. III-C-23 [emphasis added].
95 *See,* CSXT Reply, p. III-C-23.

TPIRR or an on/off-SARR local train that will be operated by the residual CSXT. The only variable is whether the locomotive and crew belong to the TPIRR or the residual CSXT. That *train* is never interchanged between these two carriers (although all carloads on that train are interchanged between the two carriers at the yard) because either TPIRR or the residual CSXT will operate the train over its entire round-trip route, depending upon whether the consist contains cars that originate or terminate at off-SARR locations. Because this interchange occurs at the precise same locations where this traffic switches from a road train to a local train in the real world CSXT operations, the interchange does not require any additional activity that could degrade service to either the on-SARR or off-SARR customers. For example, in the case of Train A700 on April 1, 2013, discussed in the preceding section, the real world CSXT local train originates at Cartersville with cars that arrived in Cartersville on other trains for delivery to local customers, runs in turn service placing and pulling cars at three locations, and returns to Cartersville with a consist that is placed on other trains for forwarding. The TPI opening model simply replicated these real world movements, including actual yard and industry switching, imposing no delay or inefficiencies on the traffic. In contrast, CSXT's reply operating plan calls for the introduction of two interchanges that do not occur in the real world (both at Stilesboro).

CSXT's operating plan requires the TPIRR to originate all of these local trains at TPIRR's classification yards, operate them to the point of physical connection with the residual CSXT, and interchange them with the residual CSXT (even though some cars may be placed/pulled at on-SARR locations before this interchange occurs); and requires the residual CSXT to then serve off-SARR customers, return to the point of physical connection with the TPIRR, and interchange the train again back to the TPIRR. In other words, it is CSXT's operating plan, not TPI's, that imposes unnecessary interchanges on every on/off-SARR local train that degrades service to the customers served by those trains. Those multiple interchanges are the major inefficiency in CSXT's operating plan that TPI's opening plan was designed to avoid, even at the expense of allocating terminal revenue credit to CSXT for performing last-mile switching.

The relative efficiencies of TPI's opening operating plan, and the inefficiencies of CSXT's plan are illustrated in the A700 example discussed above, and are depicted in CSXT's Reply Exhibit III-C-3, page 1 of 3. In addition, CSXT's train D762 example discussed in the immediately preceding section (and depicted in CSXT's Reply Exhibit III-C-3, page 2 of 3) also illustrates those same inefficiencies.

Third, CSXT argues that TPI may not assume that the residual CSXT will agree to provide local service to on-SARR customers "for the account of the TPIRR."[96] But, TPI has not made any such assumption. Rather, the On/Off-SARR Local Trains carry cross-over traffic, for which SAC principles do not require an agreement between the SARR and residual incumbent. Indeed, no such agreement could exist in the real world for any type of cross-over traffic because the SARR itself does not exist in the real world. SAC principles provide that the residual incumbent will interchange cross-over traffic with the SARR and receive an ATC revenue share for the service that it provides. Such service is not provided "for the account of the TPIRR" pursuant to any sort of "hypothesized" agreement that does not exist in the real world, as CSXT presumes.[97]

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96 *See,* CSXT Reply, p. III-C-23.

97 Even if such an agreement were required, CSXT disingenuously claims that the residual CSXT would refuse to provide service to on-SARR customer locations. But CSXT already has accepted TPI's operating plan for local trains operated entirely by the residual CSXT to serve off-SARR customer locations. Those trains originate at the same yards as the objectionable On/Off-SARR Local Trains, traverse the same routes as those trains to reach the off-SARR locations, and pass directly by the on-SARR customer locations. It would be irrational for the residual CSXT to refuse to serve those locations in exchange for an additional ATC revenue share, which would increase its economies of scale, scope and density.

Furthermore, CSXT's claim that TPI's opening operating plan for On/Off-SARR Local Trains is inconsistent with the realities of real world railroading is false. Indeed, CSXT's proposal to interchange local trains has no connection to real world railroading. TPI's opening operating plan, in contrast, resembles real world scenarios in which a short line railroad (which often is a spin-off of the Class I line-haul carrier) provides the first-mile/last-mile of service to local customers. The ultimate question for the Board to resolve is which party's operating plan most efficiently handles the unique issues posed by local cross-over traffic, consistent with SAC principles, while keeping the SAC analysis manageable and focused upon the issue traffic. For all of the reasons discussed in this Part III.C.2.a, TPI submits that its opening operating plan best accomplishes these objectives.

Fourth, CSXT describes TPI's opening operating plan for On/Off-SARR Local Trains as an impermissible expansion of the cross-over traffic device because the cross-over movements contemplated by TPI would not extend the SARR's geographic scope.[98] This is a peculiar argument for CSXT to make because its operating plan also handles the On/Off-SARR Local Trains as cross-over traffic. As discussed in Part III.C.2.a.i above, the purpose of both TPI and CSXT in handling these trains as cross-over traffic is to avoid a substantial expansion of the TPIRR's geographic scope.

The disagreement between CSXT and TPI is not over whether cross-over traffic is needed to avoid a substantial expansion of the TPIRR's geographic scope. Rather, the dispute is over the operations of the local trains that must handle that traffic. The critical difference between TPI's handling of this cross-over traffic on opening and CSXT's handling is that TPI interchanged this traffic with the residual CSXT at the classification yard to facilitate more

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[98] *See,* CSXT Reply, p. III-C-24.

efficient single line local train operations, whereas CSXT interchanges the local trains mid-route, which creates inefficiencies for both the SARR and residual incumbent that CSXT refuses to acknowledge or address. Although CSXT accuses TPI of "transparently" attempting to relieve the TPIRR of the obligation to operate thousands of local trains and to avoid the cost of providing local service, TPI explained above that the TPIRR would incur the operating and infrastructure costs associated with the classification and blocking of all local trains in its classification yards regardless of whether the TPIRR or residual CSXT operates those trains. Moreover, despite the fact that the TPIRR would provide this high cost first-mile/last-mile service, TPI assigned the entire ATC terminal revenue share for all cars moving on those local trains to the residual CSXT. Thus, CSXT's claim that TPI's opening operating plan unfairly shifted costs to the residual CSXT is false rhetoric.

b. Industrial Yard Trains

CSXT disingenuously accuses TPI of omitting 28,860 industrial yard trains that CSXT claims also pick up and set off cars at customer facilities.[99] TPI and CSXT both accounted for yard trains through a different analysis that was separate from their development of local train lists. In fact, CSXT used a modified version of TPI's opening workpaper to develop operating statistics and operating expenses for all yard trains, including so-called "industrial yard trains."[100] Thus, to the extent yard trains serve customer facilities, they are accounted for elsewhere in both the TPI and CSXT evidence. Consequently, any addition of industrial yard trains to either party's local train list would by definition double-count an industrial yard train already included in their separate analyses. CSXT clearly knows this because, just as TPI did not include yard

[99] *See,* CSXT Reply, pp. III-C-26-31.

[100] *See,* TPI Opening workpaper "TPIRR Yard Operations.xlsx" and CSXT Reply workpaper "TPIRR Yard Operations_Reply.xlsx".

trains in its opening local train list, CSXT has not included any of the 28,860 allegedly missing yard trains in its reply local train list used to develop local train operating statistics and expenses. In fact, CSXT created two local train lists in its reply evidence: one is a "corrected" TPI Opening train list and the other is a Reply local train list developed by CSXT as part of its MultiRail analysis.[101] Neither CSXT local train list includes any industrial yard trains.[102] Therefore, TPI has not added any of the allegedly missing industrial yard trains to its rebuttal local train list, although TPI has made adjustments to its separate analysis of yard trains in response to CSXT's reply to that analysis.

Although the foregoing paragraph provides all the justification that TPI needs for its decision not to add any industrial yard trains to its local train list,[103] TPI cannot allow CSXT's multiple arguments to go unrebutted, because those arguments demonstrate the lengths to which CSXT has gone to sling baseless criticisms at TPI, in order to create the perception that TPI has no clue what it is doing, but then adopting TPI's methodology and ignoring its own criticisms without acknowledging those facts to the Board.

First, CSXT creates the erroneous impression that TPI "missed" these yard trains because its computerized search criteria of CSXT's car event data did not search for trains with the "Y" symbol, which represents yard trains.[104] CSXT's arguments give the false impression that a

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[101] As discussed in Part III.C.1.a CSXT used both train lists, even though they are completely unrelated, to develop its operating plan. CSXT modeled the TPI "corrected" train list in the RTC simulation, but it used the MultiRail train list for all other SAC purposes.

[102] However, in an effort to make it appear as though CSXT's Reply local train list included these industrial yard trains, CSXT included them in its MultiRail analysis and referenced them in a separate list at the bottom of its local train workpaper. *See,* CSXT Reply workpaper "BaseYearTrainComparison.xlsx," which separately identifies local trains and industrial yard trains. However, CSXT calculates no operating statistics or operating expenses for these industrial yard trains. It is clearly meant to give the false impression that CSXT did something it simply did not do. *See* CSXT Reply workpaper "TPIRR Operating Statistics_Reply.xlsx," which sources back to "TPIRR Reply Train Lists.xlsx," which refers to 60,788 local trains.

[103] *Otter Tail*, slip op. at 19 ("BNSF cannot protest that an input into the RTC model is flawed without showing the consequence of changing that input on the output of the model").

[104] *See,* CSXT Reply, pp. III-C-26-27, 29-30.

simple adjustment to TPI's computer code would have revealed the necessity of adding these trains. The reality is very different. TPI did not carelessly overlook "Y" trains in the car event data. Rather, after laborious evaluation of the "Y" train data, TPI determined that a different analytical construct from that used to identify unit trains, merchandise trains, and local trains, was needed to account for yard trains. That is why TPI, and presumably CSXT too, employed a different analysis to account for yard trains.

Specifically, unlike other train symbols in CSXT's car event data, "Y" train symbols are not unique. CSXT uses the same "Y" train symbols for multiple yard trains and yard jobs in several different locations across its network every day. For example, CSXT claims that proper coding would have enabled TPI to identify Train Y110 as a yard train that handled issue traffic on December 13, 2012.[105] Although this particular Train Y110 operated, as CSXT describes, from Winston, FL along a route that included Lakeland, Griffin, and Galloway, FL, there also were six (6) other Y110 trains that operated around Brunswick, GA; Memphis Jct., KY; New Orleans, LA; Newark, NJ; Pavonia, NJ; and Walbridge, OH on that day. There are two (2) other sets of records that, after extensive manual review, also appear to be on a Y110 train that operates around Baltimore, MD that is not contained in CSXT's profiles data, and another set of records that appear on a Y110 train in Woodbury, NJ that is not in CSXT's profiles data.[106] Consequently, searching for Train Y110 in CSXT's car event data produces jumbled and illogical results that are impossible to decipher when aggregated using the same procedures that TPI used to compile local trains, merchandise road trains, and unit trains.

Further evidence that "Y" train symbols are not unique can be found in CSXT's own reply evidence. For example, CSXT includes six (6) different Y101 Trains in its list of

[105] *See,* CSXT Reply, pp. III-C-27-28.
[106] *See,* TPI Rebuttal workpaper "Y110 from SARRAllShTrnYard.xlsx".

"missing" industrial yard trains, but there are 19 other Y101 trains in CSXT's traffic data that operate around Coosa Pines, AL; Bainbridge, GA; Russell, KY; West Springfield, MA; NY Oak Point, NY; Rochester, NY; Columbus, OH; Lima, OH; Philadelphia, PA (two (2) unique Y101 trains near Philadelphia); Stony Creek, PA; Columbia, SC; Greenwood, SC; Erwin, TN; Knoxville, TN; Nashville, TN; Newport News, VA; Grafton, WV and Huntington, WV.[107] In addition, there are 9,733 shipments on Y101 trains that run in 96 unique cities in the following 20 states: Alabama, Delaware, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Maryland, Michigan, Mississippi, New Jersey, New York, Ohio, Ontario, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia, that do not correspond to the 25 Y101 trains mentioned above.[108] In order to differentiate the six (6) Y101 trains included in CSXT's list of "missing" industrial yard trains, CSXT has given them suffixes that do not exist in the actual traffic data. Specifically, CSXT identifies six (6) separate Y101 trains as follows: Y101(1), Y101(2), Y101(3), Y101(4), Y101(5), Y101(6).[109] CSXT uses similar suffixes to differentiate many other yard trains with identical symbols as well. But none of these trains are differentiated in this manner in CSXT's actual traffic data, nor can they be differentiated without intensive manual manipulation of the multiple records of car event data associated with the roughly 3.6 million cars handled by yard trains annually.

In fact, just evaluating train Y101 involves manually reviewing 137,747 records of car event data. Of these 137,747 records, 9,970, or 7.2 percent, of those records indicate that the carload was originated at a location not included in the Train Profiles data, while 9,905, or 7.2

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[107] *See,* TPI Rebuttal workpaper "Y101 from SARRAllShTrnYard.xlsx".
[108] *Id.*
[109] *See,* CSXT Reply workpaper "RegionStats-byCategory-byTrain.xlsx" Excel rows 650 through 655.

percent, were terminated at locations not included in the Train Profiles data.[110] For this 7.2 percent, there is no way to associate the record with a specific yard train included in the Train Profiles data.

Therefore, TPI used CSXT's car event data only to identify unit trains, merchandise road trains, and local trains. TPI excluded "Y" trains from its car event search criteria because it simply was not feasible to identify all of the yard trains that participated in the TPIRR traffic due to the manner in which CSXT identifies such trains in its data. Nevertheless, TPI did account for yard trains through a separate analysis, just as CSXT did. Consequently, it would be incorrect and illogical for TPI to include "Y" trains in its list of local trains, as confirmed by the fact that CSXT itself has not done so in Reply.[111]

Second, by purporting to have identified some specific yard trains that handled TPIRR traffic in three examples, CSXT gives the false impression that it actually performed the foregoing analysis of its entire car event data in order to create its list of 28,860 supposedly missing industrial yard trains.[112] **But that is not true!** Other than those three examples, CSXT was unable to develop or present a list of actual yard trains that participated in TPIRR traffic. Instead, CSXT developed its list of 28,860 yard trains from its train profiles and then remarkably claims that TPI "missed" them in the traffic data. Although many of the listed trains have train symbols that correspond to actual historical trains that appear in the traffic data, none of the trains listed are actual historical trains. Rather, they are a roster of trains that hypothetically could be called upon to move traffic based on CSXT's train scheduling and planning data. TPI

[110] *See,* TPI Rebuttal workpaper "Y101 from SARRAllShTrnYard.xlsx"

[111] Furthermore, contrary to CSXT's inferences, yard trains are not local trains and thus should not be included in a list of local trains; instead, they are a category unto themselves, which both TPI and CSXT have recognized by calculating yard train statistics apart from local trains.

[112] *See,* CSXT Reply, pp. III-C-29-30.

could not possibly have missed them precisely because they are hypothetical trains, not a list of actual trains that were used to move TPIRR's traffic in the real world, as CSXT boldly and falsely represents them to be.

CSXT's quantification of the number of "Y" trains TPI allegedly left out of its train list is not, and could not be, based upon an evaluation of CSXT's provided traffic data. Although CSXT cobbled together three examples of actual industrial yard train movements for display in its Figure III-C-3 and on pages III-C-28 to 29, the process required for CSXT to do so involved manually piecing together select information from multiple disparate data sources and required several judgment calls. CSXT did not—indeed, it could not—conduct this analysis for the entire TPIRR traffic base, because it would have to perform this laborious manual task for millions of carloads included in its traffic data. This is precisely why neither TPI nor CSXT developed yard train statistics from CSXT's traffic data.

The fact that there is no link between CSXT's list of 28,860 allegedly missing yard trains and any real world trains easily is demonstrated by dissecting one of CSXT's more egregious misrepresentations. Based upon the three industrial yard train examples in its narrative, CSXT states that "864 of the industrial yard trains excluded by TPI originated or terminated 1,286 carloads of TPI's own traffic—fully 39 percent of the 'issue' traffic in this proceeding."[113] Based on this portrayal, the list of 864 industrial yard trains required to move the issue traffic must by definition be a subset of the 28,860 yard trains required to move all TPIRR traffic. **They are not!** The list of 864 yard trains serving issue traffic includes 36 unique yard train symbols.[114] Of the 36 yard train symbols that actually served TPI's issue traffic, only 20 (56 percent) appear in CSXT's list of 28,860 allegedly "missing" industrial yard trains. Thus, CSXT's list of 28,860

[113] *See,* CSXT Reply, p. III-C-30, *citing* CSXT Reply workpaper "IssueTrafficYardTrains.xlsx".
[114] *See,* TPI Rebuttal workpaper "YardJobs_OnSARR_Serving_IssueTraffic v2.xlsx".

yard trains, which CSXT falsely claims "participated in the movement of TPIRR's traffic" and were "intentionally disregarded" by TPI, is just a grossly inflated estimate of the number of available yard trains that possibly could move the TPIRR traffic under the operating scenario CSXT created using MultiRail; it does not reflect trains that actually did move TPIRR's traffic—or CSXT's traffic for that matter—in the Base Year.

Furthermore, CSXT describes the 28,860 allegedly "missing" industrial yard trains as follows:

> While industrial yard trains are assigned a 'Y' (yard) train symbol in CSXT's event data, they operate in essentially the same manner as local trains in 'turnaround' service, traveling to industries located beyond the yard, setting off inbound cars and picking-up outbound cars, and returning to the yard with the outbound shipments.[115]

Notwithstanding the fact that this description of so-called industrial yard train operations was not provided to TPI until it read CSXT's Reply evidence, the vast majority of the 864 yard trains that handled issue traffic according to the traffic data did not provide the type of "industrial yard train service" CSXT described in its Reply narrative. Based on the CSXT traffic data, the 864 yard trains identified by CSXT handled 1,286 issue carloads. However, for 1,040 (81%) of these carloads handled by yard trains, the yard train movement covered 0.0 miles.[116] Therefore, the operations of these yard trains simply do not meet the "industrial yard train" (quasi-local train) operational criteria defined by CSXT. TPI fully accounted for all of the yard trains handling issue traffic (and other TPIRR traffic) in its separate yard train analysis in Opening (as modified in Rebuttal). This is confirmed by the fact that CSXT fully accounted for all of the yard trains handling issue traffic (and other TPIRR traffic) in its revised version of TPI's separate yard train analysis in Reply.

[115] *See,* CSXT Reply, p. p. III-C-26.
[116] *See,* TPI Rebuttal workpaper "YardJobs_OnSARR_Serving_IssueTraffic v2.xlsx".

In addition, the issue traffic trip plans provided by CSXT in discovery show that CSXT's real world operating plan calls for only four (4) percent of TPI's issue traffic to move more than 0.0 miles on yard trains. In an apparent attempt to support its misleading claim that industrial yard trains regularly provide local service for issue traffic, CSXT forced 2,259 issue traffic carloads (69 percent!) onto industrial yard trains in its MultiRail analysis.

CSXT included a handful of cherry-picked examples of issue traffic moves on industrial yard trains in its Reply narrative. In the final example from Reply Figure III-C-3, CSXT shows:

> Train Y120 departed Evansville Yard on July 25, 2012. The crew first worked at the {{[redacted]}} facility at Evansville, where it set off two loaded cars of 'issue' traffic. Train Y120 then traveled to Wansford, IN (located 15.4 miles from Evansville Yard), where it set off 4 loaded cars and 8 empty cars. Upon returning to Evansville, it made a final stop at the {{[redacted]}} facility, where it set off 4 loaded cars and one empty car.[117]

The TPI lane associated with this traffic is Lane B02, which originates in Memphis, TN and terminates in Evansville, IN. In the operations described by CSXT, although the yard train did move some traffic over the CSXT system, the issue traffic was handled only in the Evansville yard, and it could have been handled by any Evansville yard train, which is an operation for which both TPI and CSXT have accounted in their separate yard train analyses. In addition, The Trip Plan for this lane that CSXT provided in discovery indicates that no yard trains are required to serve this traffic, as shown in Rebuttal Figure III-C-1 below.

[117] *See,* CSXT Reply, p. III-C-29.

Rebuttal Figure III-C-1
Discovery Trip Plan – Lane B02
Memphis, TN to Evansville, IN

Trip Plan CSX-TPI-C-028785														
Event	City	State	MM	DD	HHMM	Train	Block	IYSC	LOR	DWELL	ACCTR	Miles	MPH
INT	MEMPHIS	TN	9	20	800		BNSF						
DEP	MEMPHIS	TN	9	21	1030	Q53221	NAS	NAS		2630	2630		
ARR	NASHVILLE	TN	9	22	330	Q53221	NAS		1700		4330	225	13.2
DEP	NASHVILLE	TN	9	23	1000	Q59223	EVL	EVL		3030	7400		
ARR	EVANSVILL	IN	9	23	1830	Q59223	EVL		830		8230	159	18.7

As shown above, not only is train Y120 not part of the Trip Plan for this issue shipment, there are no "Y" trains in this Trip Plan at all, because CSXT planned to handle the shipments in their entirety on two line-haul merchandise trains.[118] In fact, only one train Y120 is found in any of the issue traffic Trip Plans provided by CSXT in discovery, and it is a different Y120 train altogether, operating in the Cumberland, MD yard and serving Lane B20 from Chicago, IL to Cumberland, MD.[119]

Remarkably, CSXT's made-for-litigation MultiRail trip plan[120] for this Memphis-Evansville lane, contradicts both the routes and trains shown in the traffic data and the routes and trains included in the Trip Plans provided by CSXT in discovery. Specifically, in the trip plan provided in Discovery (shown in Figure III-C-1 above), which was presumably developed by CSXT in the normal course of business, two trains, Q532 and Q592 handle the traffic over a 384 mile route with a change of train in Nashville. In the made-for-litigation MultiRail trip plan, as shown in Rebuttal Figure III-C-2 below, the traffic is handled by two trains, again with switching in Nashville, TN. The traffic in the

[118] *See*, TPI Rebuttal workpaper "Trip Plans (CSX-TPI-C-28781 to 28891).pdf" at CSX-TPI-C-028785.
[119] *Id.* at CSX-TPI-C-028803.
[120] *See,* CSXT Reply workpaper "SARR19B_TripPlan_IssueTraffic_Loads.pdf," described in the CSXT Reply workpaper index as "Trip Plan Report detailing Trip Plans for issue traffic designed through multirail operating plan."

MultiRail plan, however, travels on Train Q536 from Memphis, TN to Nashville, TN instead of Q532 and the entire trip covers 399.2 miles, reflecting a route that is 15.2 miles longer than the Discovery trip plan.

Rebuttal Figure III-C-2
MultiRail Trip Plan – Lane B02
Memphis, TN to Evansville, IN

Event	City	State	MM	DD	HHMM	Train	Miles
Pick-up	J_MEMTENYARTN_LMPBNS_BSNF (LMPB	TN	6	18	18:57	Q536 v.1	0.0
Set-out	T_NASHVILLE TN (T_000190)	TN	6	19	12:45	Q536 v.1	244.2
Pick-up	T_NASHVILLE TN (T_000190)	TN	6	20	12:00	Q592 v.1	244.2
Set-out	T_EVANSVILL IN (T_00H323)	TN	6	20	20:00	Q592 v.1	399.2

Source: SARR19B_TripPlan_IssueTraffic_Loads.pdf page 99

CSXT's use of "Y" trains in its reply models clearly contradicts its use of "Y" trains in both its real world operations *and* its real world planning activities, and only serves to intentionally blur the already imprecise "Y" train accounting reflected in CSXT's real world operations and data capture practices.

Third, CSXT implies that TPI's operating plan was completely devoid of yard trains, which simply is not true. Specifically, CSXT asserts that "TPI cannot claim that those 28,860 trains are not necessary to 'provide for full service from each specific origin, through the network, and to each specific destination.'"[121] This statement is patently false. "**Those** 28,860 trains" are not necessary, as demonstrated by the fact that they are not even historical trains that moved in the Base Year. TPI agrees that yard trains generally are necessary, and TPI did account for yard trains, but not in its local train list, because yard trains are different from local

[121] *See,* CSXT Reply, p. III-C-30, *quoting DuPont*, at 38.

trains.[122] More importantly, CSXT adopted the very same model that TPI presented in opening to develop its own reply yard train operating plan and statistics.[123] Thus, both parties have included yard trains in their operating plans, but not as part of their local train lists.

Although CSXT claims that the required correction to TPI's operating plan is to add 28,860 industrial yard trains to TPI's local train list that is not the correction that CSXT itself made in its reply evidence. For example, CSXT alleges that TPI omitted essential yard trains at the TPIRR's Evansville, IN; Augusta, GA; and Winston, FL yards.[124] In order to address those alleged deficiencies, however, CSXT has not added any industrial yard trains to TPI's local train list; rather, CSXT adjusted the number of daily yard jobs, personnel, and locomotives at those locations in the TPI's opening yard train model.[125] CSXT adjusted TPI's opening "yard jobs" analysis to account for all industrial yard train activity throughout its reply evidence. To the extent that TPI agrees or disagree with CSXT's adjustments, TPI addresses them in Part III.C.5.e below and accounts for them in its workpapers.[126]

Fourth, CSXT's own MultiRail analysis proves that these 28,860 industrial yard trains are unnecessary. CSXT input all 28,860 industrial yard trains into MultiRail in an apparent effort to give credence to its false claims. CSXT assigned TPIRR traffic blocks to some of those trains for certain movements, including issue traffic movements. However, for nearly forty percent (11,180) of the trains, no cars were assigned in MultiRail.[127] Moreover, even those trains to which some cars were assigned in MultiRail, that traffic would require far fewer trains than CSXT has posited, because CSXT assigned less than one carload per day to those trains (e.g.,

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[122] *See,* TPI Op. workpaper "TPIRR Yard Operations.xlsx"
[123] *See,* CSXT Reply workpaper "TPIRR Yard Operations_Reply.xlsx".
[124] *See,* CSXT Reply, pp. III-C-30-31.
[125] *See,* CSXT Reply workpaper "TPIRR Yard Operations_Reply.xlsx".
[126] *See,* TPI Rebuttal workpaper "TPIRR Yard Operations_Rebuttal.xlsx".
[127] *See,* TPI Rebuttal workpaper "Review of CSXT Reply Yard Train Analysis.xlsx".

260 annual trains to move 35 annual carloads).[128] Conservatively adjusting CSXT's numbers to run a yard train for each individual annual carload assigned to it in MultiRail, CSXT is shown to have inflated its annual train count by an additional 2,819 trains based on its own user-specified blocking assignment in MultiRail. In total, even if CSXT's MultiRail analysis were sound and reasonable, CSXT overstated the number of industrial yard trains required by 13,999, nearly half of its claimed 28,860.[129]

Regardless, CSXT's MultiRail analysis was merely window dressing—it was not used to generate yard train statistics or costs. To the extent that yard trains are needed to provide service at customer facilities, both TPI and CSXT have accounted for those services in their separate development of yard job statistics, and TPI has made appropriate adjustments in Part III.C.5.e below. This renders moot CSXT's entire criticism of TPI for not counting yard trains in its local train list. Any dispute over the proper number of yard trains must be resolved by the party's development of yard job statistics.

Fifth, CSXT's own RTC simulation also proves that 28,860 allegedly missing industrial yard trains is a hyper-inflated number with no basis in reality. Although CSXT claims that TPI

[128] CSXT generally assumed that every yard train symbol would operate every day of the week indicated in its train profiles data every week of the year. Thus, if the train profile indicated that a yard train is available five (5) days per week, CSXT assumed that train actually would operate 260 days a year (5 days x 52 weeks) even though CSXT's MultiRail analysis demonstrated that just a handful of cars would move on that train over the course of the entire year. For example, because the train profiles data indicated that yard train Y101(2)-Jackson Yard Job was available to run five (5) days per week, CSXT assumed it would run 260 times per year. However, CSXT assigned a total of 35 annual carloads to the train Y101 (2) route over the course of a year. Because MultiRail is based on smoothed out average carload statistics, CSXT assigned 0.13 carloads to each of the 260 trains it assumed would be operated in the Base Year. Therefore, CSXT's MultiRail analysis calls for 260 annual trains and crews to move 35 annual carloads. In fact, CSXT often assumed the yard trains would run at a greater frequency than specified in the train profiles data. Specifically, CSXT assumed 56 industrial yard train symbols would run at profiles-specified frequency, 28 would run at greater than profiles-specified frequency, and 3 would run at less than profiles-specified frequency (5 of CSXT's industrial yard train symbols do not appear in the profiles data.) *See*, TPI Rebuttal workpaper "Review of CSXT Reply Yard Train Analysis.xlsx".

[129] *See*, TPI Rebuttal workpaper "Review of CSXT Reply Yard Train Analysis.xlsx".

disregarded 92 separate industrial yard train symbols representing 555 weekly train starts,[130] CSXT only included 11 industrial yard trains in its peak week RTC simulation.[131] This is less than two (2) percent of the 555 weekly train starts that CSXT claims TPI omitted. Furthermore, extrapolating this peak week number across a whole year results in only 572 annual industrial yard trains, which is a far cry from 28,860 trains. If CSXT could only justify including 11 industrial yard trains in modeling the busiest week of the Peak Year, its claim that TPI should have added 555 such trains per week to its Base Year train list is patently absurd.[132]

Finally, to put an exclamation point on the foregoing misrepresentations, CSXT states that it "corrects this massive deficiency in the TPIRR's local train service plan by adding to the TPIRR's train list those industrial yard trains that handled selected traffic between a TPIRR yard and one or more customer facilities."[133] **This is patently false!** CSXT Reply Workpaper "TPIRR Open Train Lists Corrected.xlsx" does not add a single one of these 28,860 allegedly missing trains to TPI's opening train list. Like TPI, CSXT developed yard train operating statistics apart from its train list in a separate model. TPI's opening evidence local train list included 42,208 actual historical trains that moved actual historical consists. CSXT's "corrected train list" workpaper adds only the 5,940 On/Off-SARR Local Trains discussed in Part III.C.2.a to TPI's opening train lists for a total of 48,148 local trains. There is not a single industrial yard train on that list. Nor for that matter has CSXT added any of the remaining allegedly missing

[130] *See,* CSXT Reply, p. III-C-29.
[131] *See,* CSXT Reply, pp. III-C-173-174. Although CSXT claims to have included 16 trains, it actually only included 11 in its RTC modeling exercise.
[132] Importantly, although CSXT modeled these 11 trains in RTC, it did not use the RTC output to develop yard train statistics. CSXT appears to have included these 11 yard trains simply as a means to interfere with the other trains it modeled and upon which its operating statistics for unit, merchandise, and local trains are based. Although TPI does not believe these 11 trains are necessary in the RTC modeling exercise, TPI has nonetheless included them in order to minimize the number of disputes between the parties.
[133] *See,* CSXT Reply, p. III-C-31.

trains discussed in the next section. A subset of these 48,148 trains are the only local trains that CSXT models in its RTC simulation, along with the 11 industrial yard trains mentioned above.

c. Other Local Trains that Perform First-Mile/Last-Mile Switching

The balance of the allegedly missing local trains are 9,894 local trains that CSXT discusses under the generic heading "Other Local Trains That Perform First-Mile/Last-Mile Switching at Customer Facilities."[134] Despite this generic heading, CSXT actually breaks these trains into four subgroups: (1) No car event locals; (2) Empty car trains; (3) Manually removed trains; and (4) Trains removed for unknown reasons. As with its treatment of industrial yard trains, despite all of its rhetoric, CSXT does not add a single one of these allegedly missing local trains to its "corrected" version of TPI's local train list.[135] That is reason enough for TPI to reject all 9,894 of these local trains.[136] To be conservative, however, TPI added a portion of the first and last subgroups and all of the second and third subgroups to its Rebuttal train list.

i. No Car Event Locals

CSXT identified 5,302 local trains in the sub-group of "no car event locals." This sub-group is so-named because, as CSXT itself acknowledges, those trains do not participate in the movement of TPIRR traffic according to CSXT's own car event data.[137] Nevertheless, CSXT claims that these trains appear in other data sources provided to TPI in discovery. CSXT's overcharged rhetoric, however, is not supported by any hard evidence, just CSXT's assertion that the Board should trust what CSXT claims rather than what its own data demonstrates. Furthermore, as with the industrial yard trains, CSXT's rhetoric is undermined by its actions, or

[134] *See,* CSXT Reply, p. III-C-31 to 35.
[135] *See,* CSXT Reply workpaper "TPIRR Open Train Lists Corrected.xlsx".
[136] *Otter Tail,* slip op. at 19 ("BNSF cannot protest that an input into the RTC model is flawed without showing the consequence of changing that input on the output of the model").
[137] *See,* CSXT Reply, p. III-C-32.

in this case, its omission of these very same trains from its "corrected" TPI Opening train list and its failure to model these trains in its RTC simulation. Although this fact alone is sufficient to warrant rejection of CSXT's criticism, TPI will include 2,069 of these trains in its rebuttal train list—and unlike CSXT, TPI will include them in its RTC model—for the reasons set forth below.

CSXT claims that these trains do not show up in the car event data as handling TPIRR traffic because "many of the trains discarded on that basis are local trains that perform 'switcher' service" that "improve the efficiency of road train service" and enable other types of local trains to serve a greater number of stations during a single shift.[138] In Reply, CSXT implies that its car event data do not consistently capture all traffic handled by these local switchers. CSXT provides just two examples of such service, the "Bowater Switcher" and the "Nissan Shuttle."[139] Although these are the only two concrete examples that CSXT provides, TPI accepts the premise that such trains do operate on the CSXT system and that they enhance the efficiency of the network.[140] TPI, however, does not accept CSXT's implication that all 5,302 trains omitted from TPI's opening train list are in fact local switchers.[141]

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138 *See,* CSXT Reply, p. III-C-32.

139 *Id.* at III-C-32 to 33.

140 TPI did not exclude all local switchers from its opening train list. In fact, TPI included 6,075 of these trains for which the car event data demonstrated that TPIRR traffic moved on those trains.

141 CSXT makes much of the fact that, for non-local trains (*i.e.*, unit and line-haul merchandise trains), TPI used different rules for determining whether to include trains in its opening train list. Specifically, CSXT notes at III-C-33 that TPI included all unit and line-haul merchandise trains that appeared in the train event data even if they did not appear in the car event data, but that it applied different rules for local trains. But CSXT itself provided information in its October 11, 2013 letter (TPI Op. Ex. III-C-1) that clearly indicated different rules should be applied for local trains. Furthermore, TPI's opening evidence demonstrated very different levels of data comparability between the CSXT data sets depending on the train type. Specifically, TPI Opening workpaper "Train Matching Between Car Events And Train Sheets V03 11272013.xlsx" shows that: (1) 99.5 percent of all line-haul merchandise trains identified in the car event data also can be found in the train sheets data, (2) 99.3 percent of all unit trains identified in the car event data can be found in the train sheets data, and (3) only 94.4 percent of all division locals and switchers identified in the car event data can be found in the train sheets data. From this analysis TPI determined that the car and train data were equally reliable for determining whether train

CSXT developed its Reply local train list from train profiles data, and then assigned blocks of cars to some of the local trains included therein using MultiRail. Specifically, CSXT's Reply local train list includes two separate and distinct groups of local trains: (a) 50,440 trains (encompassing 188 unique train symbols) to which it assigned blocks of cars in MultiRail, and (b) a distinctly separate group of 10,348 trains (encompassing 38 different unique train symbols) to which it assigned no blocks of cars in MultiRail. The group of 38 local train symbols (representing 10,348 trains) to which CSXT assigned no blocks of cars in MultiRail includes the two train symbols identified as examples of the critical local switcher service for which TPI failed to account (i.e., the Bowater switcher and the Nissan Shuttle). CSXT offered no other explanation as to why it included and developed operating statistics and operating expenses for a group of 10,348 trains to which it assigned zero car blocks in its MultiRail analysis. TPI, therefore, has inferred that the 38 train symbols to which CSXT assigned zero car blocks in MultiRail perform switching at designated locations rather than move cars along the TPIRR network. In other words, these are the local "switchers" that CSXT has not proven are required to serve the traffic, but instead merely has asserted that they are necessary.

Based on this inference that the 38 train symbols to which CSXT assigned zero car blocks operate as local switchers, TPI has determined that just 2,069 of the 5,302 "no car event locals" moved under any of the 38 local switcher train symbols. TPI therefore has included these 2,069 "no car event locals" in its rebuttal train list. The other 3,233 "no car event locals" moved under one of the 188 other unique local train symbols (*i.e.*, non-switchers) included in CSXT's Reply train list. CSXT has not offered any reason why these other locals that do not appear in the car event data should have been included. Because the ***only*** explanation CSXT has offered

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activity actually occurred for unit and line-haul trains, but that the train sheet data for local trains was significantly less reliable than it was for line-haul and unit trains.

for why "no car event locals" should be included is that "many [*as opposed to all*] of them" perform "local switcher service," the local switchers are the only trains in this subgroup that TPI has added to its Opening train list.

ii. Empty Car Trains

CSXT alleges that TPI omitted 2,558 local trains because they handled only empty cars.[142] But again, CSXT has not added these trains to its "corrected" TPI opening train list or modeled them in the RTC simulation. Nevertheless, on rebuttal TPI will accept all 2,558 local trains that only transported empty cars, and unlike CSXT, TPI includes them in its Rebuttal RTC model.

CSXT has not proven that these trains are necessary to handle the TPIRR's traffic, but as with the "no car event locals" CSXT merely asserts that they are required. Many of these trains handled as few as just one empty car. A least-cost, optimally efficient railroad (or any real world railroad for that matter) would assign the empty car to the next loaded train rather than run a train to move a single non-revenue car. Nevertheless, TPI conservatively adds all of those trains to its Rebuttal train list, and models them in its RTC simulation, in order to avoid the possibility that this single omission might cause the Board to reject TPI's entire operating plan.

iii. Manually Removed Trains

CSXT criticizes TPI for removing 332 local trains from its opening train list as a result of a manual review, but CSXT cannot discern TPI's reason for their omission.[143] TPI manually excluded those trains from its Opening train list because they are On/Off-SARR Local Trains. However, unlike CSXT's treatment of the 5,940 On/Off-SARR Local Trains discussed in Part

[142] *See,* CSXT Reply, p. III-C-33.
[143] *See,* CSXT Reply, pp. III-C-34-35. The foregoing statement belies CSXT's accusations elsewhere that TPI relied primarily upon "a series of 'automated' analyses of CSXT's historical train and car event data." *Id.* at III-C-4.

III.C.2.a above, CSXT has not added these 332 trains to its "corrected" TPI train list or modeled those trains in its RTC simulation. Nevertheless, because TPI has decided to add the On/Off-SARR Local Trains to its Rebuttal train list, consistency requires TPI to also add these 332 trains. Therefore, TPI has added all 332 manually removed trains to its Rebuttal train list and modeled them in its RTC simulation.

iv. Trains Removed for Unknown Reasons

Finally, CSXT has identified 1,702 local trains for which it could not discern any reason for why they were omitted by TPI.[144] Despite this criticism, CSXT again does not add those trains to its "corrected" TPI train list or model them in the RTC simulation, which is reason enough for TPI to reject CSXT's criticisms. Nor does CSXT attempt to explain why those trains should be included. Rather, CSXT merely asserts that these trains participated in handling the TPIRR's Base Year traffic without offering any support for that assertion.

Despite CSXT's unspecific and unsubstantiated claims, these trains were properly excluded from TPI's Opening train list. CSXT repeats its familiar complaint that TPI "fail[ed] to capture" these trains as a result of "both the 'automated' train selection process that TPI employed and a number of decisions made by TPI in compiling and reviewing its train list,"[145] and further that, "TPI's reliance upon 'complicated coding solutions,' 'novel and complex programming solutions,' and 'logic loops,' rather than operating knowledge, to design the TPIRR's train service plan (predictably) resulted in an operating plan with massive deficiencies in local train service."[146] CSXT is categorically wrong in its assertion that TPI simply used

[144] *See,* CSXT Reply, p. III-C-35.
[145] *See,* CSXT Reply, p. III-C-32. Throughout its reply evidence, CSXT attempts to tar TPI for using an "automated" train selection process. This is a bizarre claim because both parties used automation to create a train list for the TPIRR. Indeed, to suggest that either party could develop a list of roughly 200,000 trains from millions of car and train event records in this case using anything other than an automated process is ridiculous.
[146] *See,* CSXT Reply, p. III-C-34.

automated processes and failed to critically review the results of those processes. If CSXT had engaged in more than a cursory review of the data related to the 1,702 trains in question, it would have determined that those trains were properly and logically excluded from TPI's Opening train list. TPI conducted this review in developing its Opening evidence and determined that the trains identified by CSXT have various issues that render them unnecessary for providing service to the TPIRR traffic group.

In contrast, the process used by CSXT to identify these 1,702 "trains" was itself a simple coding exercise that was totally devoid of any review of the data. CSXT simply identified all trains (defined as a combination of train ID plus train suffix (date)) that appear in either the car event data or the train sheets data, regardless of what the car event, train sheets, and train event data say about what the train actually did, if anything. CSXT made no attempt to determine what the train operations were, or why they were critical to providing service to TPIRR customers. If CSXT had bothered to review the data—as TPI did—the reasons for the trains having been "excluded" would have been obvious. CSXT offers no reason why TPI should have included these trains because none exists. Rather, CSXT is attempting to mislead the Board based on false claims about the traffic data and how TPI used it to develop its operating plan.

The following three examples demonstrate that TPI logically and properly excluded these trains from the TPIRR train list.

Example 1 – Train A700 20121031

There are a total of three (3) carloads associated with this train in the car event data. For two of the cars (CSXT 2259 and CSXT 6471), the car event data show that they were handled by 14 different trains over the course of seven (7) days in the same location (Cartersville, GA); there are no link events that show movement of those cars over the CSXT system beyond Cartersville. Twelve (12) of the recorded events are associated with twelve different yard trains; just one (1) of the recorded events is associated with the A700 local train; and one (1) of the recorded events is not associated with any train (TrainID = "UNKNOWN"). The car event data does not indicate that the cars were classified, switched, originated, terminated, interchanged, placed, or pulled.

Therefore, TPI logically concluded that all of the recorded handling shown in the car event data for these two (2) cars showed repositioning of railroad owned cars between shipments, that such repositioning was not necessary to serve the traffic group, and even if it was necessary, that such repositioning could efficiently be handled by the yard jobs TPI included in its operating plan.

For the one (1) other car (GATX 2785) on this train, the car event data shows that this empty car was handled by train A700 from Cartersville to Cedartown, GA, which is not even on the TPIRR. There are nine (9) car events for this car associated with train A700. The first seven (7) car events are associated with train A700 20121024, and show the movement of the empty car from Cartersville to Cedartown on October 24. The last two (2) car events are associated with train A700 20121031 and show that the empty car was handled again at Cedartown a week later. Because no other carloads are associated with this train in the car event data, there is no need for it to serve the TPIRR traffic group.

Example 2 - Train F702 20120807

There are a total of three (3) carloads associated with this train in the car event data. For two (2) of the cars (CSXT 6123 and CSXT 6052), the car event data show that the cars were handled by three (3) different trains at Wadesboro, NC over the course of seven (7) days. All recorded events occurred in the same location and there are no link events that show movement of those cars over the system beyond Wadesboro. Two (2) of the recorded events are associated with F702 trains showing two (2) different Train Suffixes, and one (1) of the recorded events is not associated with any train (Train ID = "UNKNOWN"). The car event data does not indicate that the cars were classified, switched, originated, terminated, interchanged, placed, or pulled. Therefore, TPI logically concluded that all of the recorded handling shown in the car event data for these two (2) cars represented a railroad owned car being repositioned in a yard between shipments, and that such repositioning was not critical to serving the TPIRR customers, and any such handling would be made by yard trains at any rate.

For the one (1) other car (UTLX 202921) on this train, the car event data shows that this empty car shipment was handled by train F702 from Rockingham to Wadesboro, NC. There are eleven (11) car events for this car associated with train F702. The first four (4) car events are associated with train F702 20120726, and show the movement of the empty car from Rockingham to Wadesboro on July 26. The next three (3) car events are associated with train F702 20120807 and show that the empty car moved to Gravelton, NC nearly two (2) weeks later. The last four (4) car events are associated with train F702 20120809 and show that the empty car was moved back to Wadesboro (where it had been placed by F702 20120726 two (2) weeks earlier). TPI handled this shipment in its entirety on train F702 20120726.

There are two (2) reasons why this treatment is logical and correct. First, as documented in CSXT's discovery materials, the train suffix (or date) for a particular (non-unit) train changes while the train is en route.[147] In other words, a train operating over the course of two calendar

[147] TPI Op. Ex. III-C-1, pp. 12-13. CSXT's provided Database Field Decoder for the Car Event Database States: "Train Suffix: the calendar date of the train operation in 'YYYYMMDD' format, but not necessarily the date on which the train first moved."

days will have its train suffix change when the day turns over, but it will still be the same train moving over the system. TPI's opening train list development procedures clearly stated that TPI accounted for this data issue by associating all movements on a given Train ID with the first train suffix (date) that appears in the car event data for that Train ID, and CSXT accepted this data accommodation.[148] Second, it is illogical to develop an operating plan to move a single empty car on three separate trains of the same symbol two weeks apart with no loaded shipment in the meantime. This is demonstrated by the fact that CSXT, in its MultiRail analysis, assumes that a single local train will move all cars assigned to it from interchange/origin to interchange/destination in one run. Requiring three trains to do the job of one would clearly be counter to the notion that the SARR is a least-cost, most-efficient railroad.

Because no other carloads are associated with Train F702 20120807 in the car event data, there is no need for it to serve the TPIRR traffic group. The train data for this train comprises a single train sheet data record showing that it operated out of Wadesboro, and ten (10) related train event records that show the train moving through West Side Jct., NC (near Wadesboro) and Lilesville, NC (near Gravelton.) As noted above, there is no need for this train in the operating plan, because the plan logically assumes that this car is handled on train F702 20120726, which TPI has included in its train list. No rational railroad would plan to run a train simply to move a single empty car out of and back into the same yard between revenue jobs.

Example 3 - Train M703 20120904

There is just one (1) carload associated with this train in the car event data. For this one (1) car (CSXT 1183), the car event data shows that this empty car shipment was handled by train M703 from Mobile to Bay Minette, AL, and then back to Mobile empty. The car event data does not indicate that the car was classified, switched, originated, terminated, interchanged, placed, or pulled. There are seven (7) car events for this car associated with train M703. The first three (3) car events are associated with train M703 20120831, and show the movement of the empty car from Mobile to Bay Minette on August 31. The next two (2) car events are associated with train M703 20120903 and show the empty car again at Bay Minette three (3) days later. The next one

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[148] *See* Exhibit III-C-1 at pp. 12-13 *("Through extensive data testing and evaluation, TPI discovered that for certain train types – most notably line-haul merchandise and certain local trains – the TRAIN_SUFFIX changes en route, despite the fact that the actual train on which the cars are moving does not change. For example, Train ID Q539 is a daily manifest train running between Cincinnati and Atlanta with regular scheduled stops. A car that is first placed on the train in Cincinnati and runs the entire route to Atlanta often will have the TRAIN_SUFFIX change en route when the calendar date turns over. When this happens, the Car Event data will indicate that the car left Cincinnati on Q539 2013010**1**, and arrive in Atlanta on Q539 2013010**2**, for example. In this case, the car will actually have been on the same train from Cincinnati to Atlanta, but the car event data would appear to indicate that it moved on two separate trains. To accommodate this data nuance, TPI associated all car event data records for a given SHIPMENT_KEY&TRAIN_ID combination with the first TRAIN_SUFFIX date included in the car event data for that shipment. In the above example, this would mean that the car would have been considered to be on train Q539 20130101 for the entire movement from Cincinnati to Atlanta.")* and Exhibit III-C-3 at p. 2, footnote 9/ *("Note: TRAIN_SUFFIX sometimes changes for a given train (particularly line-haul merchandise trains, including intermodal, auto, and intercity manifest trains) along a route to reflect the movement date, not the date the train originates (e.g., A car may be reported in the CE data as first moving on TRAIN_ID Q539 with TRAIN_SUFFIX 20130115 and later moving on TRAIN_ID Q539 with TRAIN_SUFFIX 20130116, but the actual train on which it moved will not have changed.)").*

(1) car event is associated with train M703 20120904 and shows the empty car at Mobile the following day. The last one (1) car event is associated with train M703 20120905 and shows the empty car again at Mobile the next day.

TPI handled this shipment in its entirety on train M703 20120831. There are two (2) reasons why this treatment is logical and correct. First, as addressed in the previous example, the train suffix (or date) for a particular (non-unit) train changes while the train is en route. TPI procedures clearly stated that TPI accounted for this data issue by associating all movements on a given Train ID with the first train suffix (date) that appears in the car event data for that Train ID, and CSXT accepted this data accommodation. Second, it is illogical to develop an operating plan to move a single empty car on four (4) separate trains of the same symbol over the span of a week with no loaded shipment in the meantime. This is demonstrated by the fact that CSXT, in its MultiRail analysis, assumes that a single local train will move all cars assigned to it from interchange/origin to interchange/destination in one run. Requiring four (4) trains to do the job of one (1) train would clearly be counter to the notion that the SARR is a least-cost, most-efficient railroad.

Because no other carloads are associated with this train in the car event data, there is no need for it to serve the TPIRR traffic group. The train data for this train comprises a single train sheet data record showing that it operated out of Mobile, and zero (0) related train event records. In other words, there is no record of this train ever having moved over the CSXT system at all in the train event data. Regardless, there is no need for this train in the operating plan, because the plan logically accounts for the car on train M703 20120831. No rational railroad would plan to run four (4) trains to do the job of a single train.

* * *

Despite the fact that manual review of the data associated with the trains in question indicates that none are required to serve the TPIRR traffic group for the foregoing reasons, TPI has added 474 of these trains to its Rebuttal train list because the real world trains move under the 38 zero-car local switcher train symbols included in CSXT's Reply train list developed as part of its MultiRail analysis. Therefore, TPI assumes that these trains are local switchers and includes them in its Rebuttal train list—and unlike CSXT, TPI includes the trains in its RTC model—for the reasons discussed in Rebuttal Part III.C.2.c.i.

3. Internal Cross-Over Traffic

This may be the first SAC case in which the defendant has not challenged, or at least complained about, the complainant's use of cross-over traffic in general. Although CSXT represents that nearly 70 percent of the TPIRR's traffic volume is cross-over traffic, it acknowledges that this case largely does not involve the "hook-and-haul" overhead cross-over traffic that was the focus of railroad objections in prior cases and in the recent *EP715* rulemaking proceeding.[149] Nevertheless, CSXT objects to "internal cross-over" traffic, which CSXT has dubbed "leapfrog" traffic and mischaracterized as "a radical expansion" of cross-over traffic.[150] But this is just another attack by CSXT on the concept of cross-over traffic itself, which CSXT attempts to disguise as something new. The Board should reject CSXT's attempt to carve out an internal cross-over exception to cross-over traffic because internal cross-over movements are the mirror image of long-accepted overhead crossover traffic, they are consistent with SAC principles and Board precedent, they are a part of real world railroading, and they are absolutely essential to a manageable and cost-effective SAC analysis for carload traffic.

a. <u>CSXT's Objections are Inconsistent</u>

Internal cross-over traffic is the mirror image of what CSXT would consider the traditional form of overhead cross-over traffic movements. In the traditional form, the residual incumbent originates and terminates the traffic, and the SARR handles the traffic over a segment in the middle of the incumbent's real world route. Internal cross-over traffic looks <u>exactly the same</u> as traditional overhead cross-over traffic, except that the roles are reversed. The SARR either originates the traffic or receives it in interchange from a third-party carrier <u>and</u> either terminates the traffic or forwards it in interchange to a third-party carrier, while the residual incumbent provides overhead (and sometimes hook-and-haul overhead) service in the middle. Therein lies the irony of CSXT's objections to internal cross-over traffic.

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[149] *See,* CSXT Reply, p. III-A-29.
[150] *Id.* at 30.

CSXT's objection to this traffic is particularly ironic in light of the positions that it, and every other Class I railroad, took in *EP715*. Specifically, CSXT argued that, "[w]hen a SARR inserts itself in the middle of a movement, and handles carload traffic in an overhead fashion, it performs little-to-none of that costly, essential [origination/termination] work."[151] According to CSXT, "this results in an over-allocation of cross-over revenues to the SARR."[152] However, CSXT argues here that, when the roles are reversed and the residual incumbent is the beneficiary of this alleged over-allocation of cross-over revenue and the SARR performs the costly origination/termination work, suddenly the bias is reversed.[153] This is a transparent "heads I win, tails you lose" proposition.

The hypocrisy of CSXT's attack on internal cross-over traffic is also evident when contrasted with other portions of CSXT's proposed operating plan for the TPIRR, which TPI addresses in greater detail in Part III.C.2.a.i above. Although CSXT asserts that internal cross-over traffic is inconsistent with real world railroading and creates inefficiencies, CSXT nevertheless insisted upon creating internal cross-over trains for local traffic in its own operating plan for the TPIRR.

In its Opening Evidence, TPI identified an issue that is unique to a carload SARR involving the operation of local trains. In order to originate or terminate all of the SARR's line-haul carload traffic in keeping with CSXT's historical operations, either TPI would have to expand the TPIRR far beyond the lines needed to serve the issue traffic, or local trains would have to operate as cross-over trains, often with more than one interchange between the TPIRR

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[151] *See,* "Rebuttal Comments of CSX Transportation, Inc. and Norfolk Southern Railway Company," p. 10 (filed Jan. 7, 2013) in Docket No. EP 715, *Rate Regulation Reforms.*

[152] *Id.* at 11 [emphasis added].

[153] TPI disagrees that cross-over traffic of any type creates a bias. What the rail industry has termed a "bias" is merely imprecision that neither advantages nor disadvantages either party on a consistent or predictable basis.

and the residual CSXT.[154] Neither option made any sense when designing and operating a least-cost, most efficient carrier. The former would render the SAC analysis untenable and the latter would be highly inefficient for both the SARR and the residual incumbent, and would result in diminished service levels for the traffic group. Therefore, for local train operations that would require origination and/or termination of TPIRR carloads at locations both on the SARR and on the residual incumbent, TPI assumed that the residual CSXT would provide the local service as it does in the real world, but the TPIRR (to be conservative) would perform the costly switching and building of the local trains at the local train home yard (i.e., "On/Off-SARR local trains"). The TPIRR would operate all local trains that originate and/or terminate traffic only at on-SARR locations. The residual CSXT also would receive a revenue division for originating/terminating all carloads moving in the local trains it operated, regardless of whether the originations/terminations were physically located on the TPIRR or the residual CSXT.

CSXT has rejected TPI's rationale and insisted that the TPIRR and the residual CSXT must operate these trains as interline, and often internal cross-over moves.[155] For sure, CSXT does not call it cross-over traffic, much less "leapfrog" traffic, but that undeniably is what CSXT has created, because the TPIRR originates and/or terminates each local train and interchanges it with CSXT en route, often more than once.[156] Amazingly, CSXT argues that, for long-haul intercity shipments, internal cross-over interchanges would introduce inefficiencies that would be unacceptable to its shippers. Yet, when it comes to short-haul local train operations in

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[154] *See,* TPI Opening Exhibit III-C-1, pp. 29-31 and Exhibit III-C-5.
[155] *See,* CSXT Reply, p. III-C-24 to 25.
[156] CSXT disguises this issue in its RTC Model, which assumes these local trains simply dwell on the TPIRR mainline rather than interchanging them with the residual CSXT to serve customers. *See,* CSXT Reply workpaper "CSXT Reply RTC TPI.zip".

congested urban areas, CSXT assumes away any inefficiencies that multiple en route interchanges would impose on the local trains.

Finally, CSXT's objection to internal cross-over traffic on grounds that it adds interchanges to what is single-line service in the real world is a red-herring.[157] All cross-over traffic, by definition, adds interchanges where none currently exist. Internal cross-over traffic does not impose any more interchanges with the residual incumbent than traditional overhead cross-over traffic. As noted above, the only difference between them is whether the SARR is the bridge carrier and the residual incumbent is the originating/terminating carrier, or vice versa. Furthermore, the interchanges between the SARR and the residual incumbent on line-haul intercity traffic are either (a) highly-efficient hook-and-haul interchanges of entire trains that can be performed using run-through service that requires only a change of crew, or (b) they occur at the same classification yards where those trains already begin, end, or change consist today, and thus would not incur any more switching activity or delay than they incur on the real world CSXT.

For example, an internal cross-over movement from Point A to Point D could encompass any one of the following four scenarios:

1. A-B On-SARR — Classification at B — B-C Off-SARR — Classification at C — C-D On-SARR.
2. A-B On-SARR — Hook-and-Haul Interchange at B — B-C Off-SARR — Hook-and-Haul Interchange at C — C-D On-SARR.
3. A-B On-SARR — Classification at B — B-C Off-SARR — Hook-and-Haul Interchange at C — C-D On-SARR.
4. A-B On-SARR — Hook-and-Haul Interchange at B — B-C Off-SARR — Classification at C — C-D On-SARR.

[157] *See,* CSXT Reply, p. III-C-41.

In each scenario, there are only two types of interchanges. The first type of interchange occurs at the same classification yard where the real world CSXT trains that handle the internal cross-over traffic begin, end, or change consist. This means that the internal cross-over traffic is switched between trains at the same location where it already switches trains along its real world route. The only difference would be that, instead of the real world CSXT operating both trains, TPIRR operates one and the residual CSXT operates the other. In fact, because the interchange occurs at a classification yard located on the TPIRR, the TPIRR performs all of the classification switching associated with the interchange of internal cross-over traffic to the residual CSXT. Thus, the interchange of internal cross-over traffic at a classification yard on the TPIRR does not require the extra handling that CSXT proclaims.

The second type of internal cross-over interchange between the TPIRR and the residual CSXT occurs at a mid-point along the route of the same real world CSXT trains. In this scenario, the entire train would be interchanged intact. In other words, the interchange would be a highly efficient hook-and-haul operation just like traditional cross-over traffic. The additional time required to swap crews and, in some instances, locomotives would be negligible upon total performance.[158]

It is also important to realize that eliminating internal cross-over traffic would prevent the SARR from realizing the same scale economies CSXT enjoys in the real world. Returning to Scenario 1 above, assume two groups of 40 cars each. The first group is internal cross-over

[158] CSXT has attempted to make this interchange inefficient by arbitrarily asserting that the residual CSXT would refuse to accept TPIRR trains with locomotives in a distributed power configuration. CSXT Reply, p. III-C-161 to 162. In light of CSXT's assertion, the TPIRR will operate all trains interchanged with the residual CSXT without distributed power in order to ensure that it is able to provide comparable service for this traffic. *See* Part III.C.11.a.

traffic and the second group is traditional cross-over traffic. The internal cross-over traffic moves in the following manner:

- A-B On-SARR — Classification at B — B-C Off-SARR — Classification at C — C-D On-SARR.

This internal cross-over traffic moves from origin to destination in the following three road trains:

1. SARR Train A-B;
2. Off-SARR Train B-C; and
3. SARR Train C-D.

CSXT's proposed internal cross-over restriction would eliminate this entire group of 40 cars from the SARR traffic group.

The second group of 40 cars is traditional cross-over traffic that moves in the following manner.

- A-B On-SARR — Classification at B — B-C Off-SARR.

Furthermore, this second group of 40 cars moves in the **same** first two trains as the first group of internal cross-over traffic. CSXT's proposed internal cross-over restriction would not affect this group of 40 cars, which would be eligible for inclusion in the SARR traffic group.

In the real world, there would be 40 cars from each group on trains A-B and B-C for a total of 80 cars on those trains. However, CSXT's proposed internal cross-over restriction would allow the SARR to include only the second group of 40 cars on this route. This would prevent the TPIRR from achieving the same scale economies that allow CSXT to run an 80-car A-B train in the real world. The SARR can never attain least-cost, most-efficient status under this restrictive arrangement.

b. Internal Cross-Over Movements are Consistent with SAC Principles

Internal cross-over traffic is justified by the very same considerations as traditional cross-over traffic. Although CSXT suggests that TPI was trying to conceal its use of internal cross-over traffic in its opening evidence,[159] the fact is that TPI does not, nor should it, view internal cross-over traffic any differently from other cross-over traffic. Thus, when TPI declared in its Opening Evidence that it "has included cross-over traffic in the SARR traffic group consistent with the underlying objectives for which cross-over traffic has become an 'indispensable' part of the SAC test," TPI was referring to all cross-over traffic.[160] TPI rejects CSXT's contention that internal cross-over traffic should be treated differently from cross-over traffic in general, and urges the Board to reject CSXT's arguments as well.

CSXT's claim that internal cross-over traffic is inconsistent both with the purpose of cross-over traffic and fundamental SAC principles is simply wrong.[161] Internal cross-over traffic serves the same objectives as cross-over traffic in general by keeping the SAC analysis focused on the portion of the CSXT system that is needed to transport the issue traffic, while permitting the TPIRR to achieve the same economies of scale, scope and density as the real world CSXT without expanding the SARR to an ever larger and more complex system.[162] CSXT identified five (5) reasons why it believes internal cross-over traffic must be disallowed. TPI addresses each of these in turn below.

[159] *See,* CSXT Reply, p. III-A-30 (n. 40), and III-C-38.

[160] TPI Opening at III-A-17, *quoting WFA/Basin I,* slip op. at 11. TPI did, in fact, include internal cross-over segments in its explanation of why its use of cross-over traffic generally was consistent with Board precedent. *Id.* at III-A-22. CSXT's objection is that TPI did not apply the label "leapfrog" to describe this traffic.

[161] *See,* CSXT Reply, p. III-C-48.

[162] *See,* TPI Opening, pp. III-A-17-21, e.*g., Nevada Power II* at 265-66; *PSCo/Xcel I* at 601-03; *WFA/Basin I,* slip op. at 11.

i. Internal Cross-Over Traffic Serves the Same Objectives as Cross-Over Traffic in General

CSXT wrongly claims that internal cross-over traffic is inconsistent with SAC principles because it allows the SARR to achieve greater economies of scale, scope and density than the incumbent enjoys.[163] As a threshold matter, the Board has never held that the SARR may not achieve greater economies than the incumbent. In fact, that is a legitimate objective of the SAC analysis. "The purpose of a SAC analysis is to determine the *least* cost at which an efficient competitor could provide the service, because by so doing we are simulating the competitive price for the market."[164] To accomplish this, the SAC constraint allows the complainant to design a stand-alone system "in which the plant size and traffic base are designed to maximize the efficiencies and production economies"[165] and it grants the complainant "broad flexibility to develop the least costly, most efficient plant...designed to minimize construction...and operating costs and/or maximize the carriage of profitable traffic."[166] Indeed, the SAC concept does not even require the complainant to hypothesize another railroad; but instead the complainant may hypothesize any modal alternative.[167] Moreover, "a stand-alone railroad would attempt to fully utilize plant capacity, adding other profitable traffic in order to reduce the average cost of operation."[168] All of the foregoing principles, which come directly from *Coal Rate Guidelines*, necessarily contemplate—indeed, encourage—development of a stand-alone system with greater economies than the incumbent. The Board clearly accepts this approach as shown by its

[163] *See,* CSXT Reply, Pp. III-C-48-49.
[164] *See, Guidelines* at 542 [emphasis in original].
[165] *Ibid.*
[166] *Id.* at 543
[167] *Ibid.*
[168] *Ibid.*

continued acceptance of internally rerouted traffic, which provides for greater traffic density on certain segments than the incumbent generates.

CSXT's reliance upon *TMPA* to support its argument is misplaced.[169] The Board did not state that the objective of cross-over traffic was to enable the SARR to achieve the same economies of scale, scope and density that the incumbent enjoys, and no more. In fact, the language that CSXT attributes to *TMPA* is itself a quote from *Nevada Power II*.[170] In both decisions, the Board was responding to the defendants' attempts to deny traffic to the SARR that the defendant handled in the real world over the very lines replicated by the SARR, which would have denied the SARR at least the same economies as the defendant. In other words, the quoted language established a floor, not a ceiling, for the efficiencies that the SARR may obtain relative to the defendant in a SAC analysis.

Furthermore, CSXT quotes the *TMPA* decision out of context. Immediately following the quoted phrase, the Board concluded, "[t]herefore, for purposes of a SAC analysis, we assume that the SARR would replace the defendant carrier for the particular segment of the rail system that it would replicate."[171] In other words, the Board's objective was to enable the SARR to achieve the same economies as the incumbent over the lines replicated by the SARR. Internal cross-over traffic does not provide the TPIRR with greater economies than CSXT possesses over the replicated lines. Neither does it reduce density on the off-SARR segments of the residual CSXT. Rather, internal cross-over traffic permits the TPIRR to achieve the same economies as the real world CSXT enjoys over the replicated line segments.

[169] *See,* CSXT Reply, p. III-C-48, *quoting TMPA* at 590.
[170] *See, Nevada Power II* at 265 (n. 12).
[171] *TMPA* at 590.

CSXT's corollary claim that internal cross-over traffic would permit the SARR to "carve out" segments within its network is predicated upon a false assumption that such segments are necessary parts of the SARR's network in the first instance.[172] TPI has designed the TPIRR to serve the issue traffic, just as all prior SAC complainants have done. The TPIRR handles the issue traffic from origin to destination as the SAC analysis requires. In replicating the CSXT lines needed for 88 issue movements, however, the resulting SARR inevitably will leave gaps in the real world CSXT system that are not covered by the SARR, which CSXT incorrectly calls "leapfrog" segments. TPI has not "carved out" those line segments; those segments simply are not needed to serve the issue traffic that is the focus of the SAC analysis.

CSXT's real objection is to the fact that TPI has not expanded the TPIRR to lines that are not needed to handle the issue traffic. But this is precisely why cross-over traffic has become such an essential and well-established part of the SAC analysis. All cross-over traffic, including internal cross-over traffic, "keeps the SAC analysis properly focused on the core inquiry—whether the defendant railroad is earning adequate revenues on the portion of its rail system that serves the complaining shipper."[173] Instead of focusing upon the portion of CSXT's rail system that handles the issue traffic, the TPIRR would have to grow significantly in size and scope to accommodate internal cross-over traffic without employing internal cross-over movements.[174] In fact, according to CSXT itself, the internal cross-over segments on the TPIRR add up to 4,500 miles, which would increase the size of the already more than 7,300 mile TPIRR by over 60 percent.[175]

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[172] *See,* CSXT Reply, p. III-C-48.
[173] *PSCo/Xcel I* at 601 [emphasis added].
[174] *See, e.g., Id.* at 601 (the 400 mile SARR would need to be 10 times larger); *Nevada Power II* at 263 (the 1,400 mile SARR would double to 2,800 miles).
[175] *See,* CSXT Reply, p. III-C-38.

CSXT gives TPI only two choices: either build those 4,500 miles or exclude the internal cross-over traffic from the SAC analysis. But the Board adopted the cross-over traffic device precisely to avoid imposing such choices upon SAC complainants:

> [T]his device has become an indispensable part of administering a workable test. Without cross-over traffic, the SARR would need to replicate the entire service provided by the defendant railroad for all of the traffic included in the SAC analysis....Such an expanded SAC analysis, however, could be impracticable and would not allow us to meet our regulatory objectives, and we must guard against the SAC process becoming so complex and expensive as to deny captive shippers meaningful access to the rate review provided for under Guidelines.[176]

These principles do not differentiate between internal cross-over traffic and cross-over traffic in general, and there is no basis for the Board to create such a distinction now.

ii. Internal Cross-Over Movements Significantly Reduce the Geographic Scope of the TPIRR

CSXT claims that internal cross-over traffic does not reduce the geographic reach of the TPIRR.[177] This is a bizarre claim because, as discussed above, CSXT itself admits that the internal cross-over segments on the TPIRR add up to 4,500 miles.[178] That is 4,500 miles of geography to which the TPIRR would have to extend its reach, according to CSXT, in order to eliminate internal cross-over segments.

By CSXT's logic, if the SARR were a circle with a radius of 1,000 miles, every point within that circle would be within the SARR's geographic reach. CSXT Reply Exhibit III-C-5 illustrates this very scenario on the TPIRR. Over half of the internal cross-over segments are bounded by a large circle created by the TPIRR around most of Ohio, West Virginia, Virginia

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[176] *WFA/Basin I*, slip op. at 11 [emphasis added] [footnote omitted]; *see also, PSCo/Xcel I* at 603 ("Without cross-over traffic, captive shippers might be deprived of a practicable means by which to present their rate complaints to the agency...[which] would be contrary to the policy directives set by Congress....").

[177] *See,* CSXT Reply, p. III-C-49.

[178] *Id.* at III-C-38.

and North Carolina, and portions of Pennsylvania, Kentucky, Tennessee, Georgia, and South Carolina. Although the TPIRR does not need to operate anywhere inside that circle to serve the issue traffic, CSXT insists that the TPIRR must extend its lines hundreds of miles across the middle of this circle or forego handling any of the cross-over traffic that also travels over the circumference lines that are replicated by the TPIRR, because this entire territory is supposedly within the TPIRR's "geographic reach."

CSXT employs a radically expanded notion of the SARR's "geographic reach." The geographic reach of the SARR always has referred to the territory directly served by the SARR, not to territory situated between SARR lines that are hundreds of miles apart. The Board has never applied such a definition in SAC cases and it should not do so now because that would require carload shippers to radically expand their SAC presentations to the point that a SAC analysis no longer would be feasible or cost-effective, which is precisely the point of permitting cross-over traffic.[179]

iii. Internal Cross-Over Movements Do Not Complicate the SAC Analysis

CSXT asserts an equally bizarre claim that internal cross-over traffic should be treated differently from all other cross-over traffic because it complicates, rather than simplifies, the SAC presentation.[180] The only complication that CSXT identifies, however, is the need to create interchanges between the TPIRR and residual CSXT at points that do not exist in the real world. But that argument is not unique to internal cross-over traffic; all cross-over traffic requires the creation of new interchanges. As demonstrated in Part III.C.3 above, internal cross-over traffic is exactly the same as traditional overhead cross-over traffic, except that the roles played by the

179 *E.g., WFA/Basin I*, slip op. at 11; *PSCo/Xcel I* at 603.
180 *See,* CSXT Reply, pp. III-C-49 to 50.

SARR and residual incumbent as bridge carrier and origin/termination carrier are reversed. The number of interchanges is the same in both scenarios. Furthermore, the additional track facilities needed for these interchanges pales in comparison to the 4,500 mile expansion that CSXT would require the TPIRR to undertake in order to eliminate the internal cross-over segments.

iv. Internal Cross-Over Movements Do Not Implicate, Much Less Violate, the Board's Rules for Rerouting Non-Issue Traffic

CSXT claims that internal cross-over movements violate the Board's rules for re-routing non-issue traffic.[181] This argument is undermined by the fact that CSXT isn't objecting to TPI reroutes of non-issue traffic, but rather, CSXT objects to the fact that TPI did not reroute non-issue traffic. More precisely, CSXT argues that, if internal cross-over traffic cannot be rerouted consistent with SAC principles, neither can the SARR participate in that traffic as a cross-over movement.[182] CSXT creates this argument from whole-cloth without demonstrating that any SAC principle would be violated.

The only SAC principle cited by CSXT is the Board's prohibition against off-SARR reroutes of non-issue traffic that "inappropriately shift a greater share of the revenues from the movement onto the SARR and/or shift costs of serving that traffic off of the SARR onto the residual railroad."[183] But CSXT has not demonstrated that internal cross-over movements have shifted any costs or revenues between the TPIRR and the residual CSXT in violation of this SAC principle because none of the internal cross-over traffic is part of an off-SARR reroute.

In order to contend that there has been cost shifting, CSXT misrepresents the Board's discussion of cost shifting in its rerouting precedent. The cost shifting that concerned the Board

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[181] *See,* CSXT Reply, pp. III-C-50 to 52.
[182] *Id.* at III-C-51 to 52.
[183] *Id.* at III-C-52, *quoting CP&L* at 253.

was the imposition of additional costs upon the residual incumbent for handling rerouted cross-over traffic outside of its normal route, *e.g.*, so-called external (off-SARR) reroutes. The Board identified its concerns in the context of off-SARR operating and cost issues and summarized its rerouting principles as follows:

> [T]hus, to reroute non-issue traffic, the complainant's SAC analysis must either take responsibility for the entire movement from origin to destination or fully account for the ramifications of requiring the residual carrier to alter its handling of the traffic.[184]

If there is no external (off-SARR) rerouting, there cannot be any of the cost shifting that is proscribed by the Board's rerouting principles.

CSXT's reliance upon *CP&L* quotes the Board out of context. The full context is:

> In *Duke/NS*, 7 S.T.B. at 112-13, the Board refined and clarified SAC policy regarding rerouting of (non-issue) cross-over traffic in a manner that would change the routing of that traffic on the residual carrier. As explained there, rerouting can be an appropriate means of removing inefficiencies from a system. However, when a rerouting involves cross-over traffic and the SARR would not operate over all of the rerouted portion of the move, concerns can arise that the rerouting is designed not to remove inefficiencies but rather to inappropriately shift a greater share of the revenues from the movement onto the SARR and/or to shift costs of serving that traffic off of the SARR onto the residual railroad. Therefore, the Board must look at a proposed rerouting to ensure that it is consistent with SAC principles.[185]

CSXT quotes only the underlined portion of the foregoing text. But the predicate to the underlined text is that there is a reroute of cross-over traffic that is external to the SARR (*i.e.*, off-SARR), where the residual incumbent would be forced to change the routing over its portion of the movement, thereby incurring additional costs. Since TPI has not rerouted internal cross-over traffic, much less rerouted it over off-SARR segments, this principle is not implicated.

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[184] *TMPA* at 595; *see also, Duke/NS* at 115-16 ("Duke would have had the Board simply assume that off-SARR revenues would be sufficient to cover whatever additional off-SARR costs there might be.")

[185] *CP&L* at 253 [underline added].

Nevertheless, CSXT claims that internal cross-over traffic violates this principle by shifting the costs associated with constructing and operating the facilities needed to handle that traffic to the residual incumbent.[186] CSXT's definition of cost shifting is untenable, however, because the nature of internal cross-over traffic does not impose any more costs upon the residual incumbent over internal cross-over segments than CSXT already incurs in the real world. Moreover, the costs and revenues associated with internal cross-over movements are allocated between the SARR and residual incumbent in exactly the same manner as for cross-over traffic in general. As discussed in Part III.C.3.a above, the only difference between internal cross-over traffic and traditional overhead cross-over traffic is that the SARR and residual incumbent switch places. Because the total costs and revenues attributed to each route segment remain the same, there is no cost shifting. CSXT's cost shifting claim would apply equally to all overhead cross-over traffic in general, which confirms that CSXT's objection to leap-frog traffic is just a disguised attack on all cross-over traffic.

Finally, CSXT implies that TPI is acting nefariously because it rerouted some of the issue movements from certain internal cross-over segments onto higher density alternative routes,[187] while leaving non-issue traffic on the real world routes.[188] This argument is a red-herring because it implies the existence of only a single route for carload traffic. As the Board recognized in the *Market Dominance Decision*, "TPI's shipments move in carload traffic rather than unit trains, and...CSXT uses a dynamic network."[189] "In a dynamic network, for maximum efficiency traffic moving between the same origin and destination pair may be routed differently

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[186] *See,* CSXT Reply, p. III-C-52.

[187] This particular CSXT objection to internal cross-over traffic appears to apply only to those segments that the TPIRR will not construct because issue traffic has been rerouted to other lines. This effects just 2 of the 25 internal cross-over segments identified by CSXT: Flomaton, AL to Baldwin, FL and Indianapolis, IN to Hamilton, OH. *See* CSXT Reply, p. III-C-51.

[188] *See* CSXT Reply, p. III-C-52 (n. 80).

[189] *Market Dominance Decision*, slip op. at 33-34.

at different times."[190] Consequently, the Board rejected TPI's "predominant route" approach to calculating route miles for variable costs in favor of CSXT's weighted average approach. As TPI noted in its opening evidence, CSXT itself has handled several of the "rerouted" issue movements over the same routes as the TPIRR.[191] Therefore, the concept of rerouting carload traffic is nuanced; it is more accurate to say that TPI reduced the number of route options for, instead of rerouted, some of the issue traffic.

By reducing the routing options, TPI was doing what SAC not only permits, but encourages. In *Guidelines*, at 543-44, the agency declared that "the stand-alone railroad may not represent the shortest route for the captive shipper, but the one with the highest traffic densities." TPI's limited route reductions for certain issue traffic were to achieve greater density consistent with that principle. That fact should not foreclose TPI from relying upon internal cross-over movements to the extent that traffic continues to share other facilities with the TPIRR, because excluding that traffic "would weaken the SAC test" by "depriv[ing] the SARR of the ability to take advantage of the same economies of scale, scope and density that the incumbents enjoy over the identical route of movement."[192] If the SARR may not select from the same traffic that is available to the incumbent, including <u>all</u> cross-over traffic, then the SAC analysis cannot truly replicate a contestable market because the SARR would suffer a disadvantage relative to the incumbent.[193]

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[190] *Id.* at 34 (n. 89).
[191] TPI Op. Ex. III-C-1, pp. 36-38 (explaining that TPI reroutes of traffic on Lanes B-12, 18, 84, 109 and 110 all have historical movements over the alternate route selected for the TPIRR).
[192] *Nevada Power II* at 265 (n. 12).
[193] *See, Nevada Power II* at 266, *citing Guidelines* at 528 ("A contestable market is one into which entry is absolutely free and exit absolutely costless where the new entrant suffers no disadvantage relative to the incumbent.").

v. TPI is Not "Gaming" the SAC Analysis

CSXT claims that internal cross-over traffic would create opportunities to "game" the SAC analysis.[194] The examples provided by CSXT, however, are all impossible or improbable worst-case scenarios that would be obvious if such abuse actually occurred. Furthermore, CSXT has not provided any legitimate examples of "gaming" by TPI.

Principally, CSXT claims that complainants could game the SAC analysis "to avoid building and operating integral portions of a SARR network that have high construction costs and/or low traffic densities."[195] The potential for this to occur, however, is not nearly so great as CSXT suggests and would be patently obvious if attempted. The SARR must include all of the lines necessary to serve the issue traffic. It does not matter how much those lines cost or what is their density; without those lines, the SAC analysis must fail. Therefore, it would be impossible for a complainant to leap over low density line segments or to avoid tunnels, bridges or other high cost segments needed to serve the issue traffic by leaving those to the residual incumbent. The only potential for such gaming to occur would be on line segments that the SARR chooses to construct, but that are not used by the issue traffic. Such abuse would be blatantly obvious, however, because there would be few such line segments and any costly infrastructure missing from those segments would immediately stand out. Thus, the Board need not ban internal cross-over traffic in order to prevent its abuse.

Although CSXT claims that TPI has used internal cross-over traffic to game its SAC analysis, the facts do not support its position. For example, CSXT claims that TPI used internal cross-over segments to avoid constructing CSXT's Northeast Corridor line between Baltimore,

[194] *See,* CSXT Reply, pp. III-C-52 -54.
[195] *Id.* at III-C-52.

MD and Orangeburg, NJ through high cost real estate areas, and CSXT's Mountain Subdivision through difficult terrain.[196] But, TPI did not build those lines because they are not required to serve the issue traffic, which does not use those lines in the real world. Furthermore, TPI did build many other line segments through expensive areas and/or challenging terrain, including major urban centers like Chicago, Washington, DC, Baltimore, Atlanta and Indianapolis, and mountainous terrain between Pittsburgh and Washington, DC and around Clarksburg, WV. Thus, to draw any inference of gaming from the fact that the TPIRR does not include line segments that are not needed to serve the issue traffic would be arbitrary and unsupported.[197]

CSXT also claims that internal cross-over traffic could be used to "game" the RTC simulation.[198] First, CSXT's claim that a complainant could carve out segments of its SARR network where modeling failures occur due to unrealistic inputs or inadequate facilities is just a variation on the same theme discredited above that the SARR could avoid costly bridges and tunnels by converting them to internal cross-over segments. Moreover, CSXT does not allege that TPI has gamed the RTC simulation in this manner.

However, CSXT does claim that TPI has gamed the results of its RTC simulation "by masking the impact of internal cross-over traffic on service quality."[199] That claim is baseless, as discussed in Part III.C.14 below.

Although CSXT criticizes TPI for not modeling the "through" operations of internal cross-over trains, including operations over the residual CSXT, neither does CSXT. The Board has never required the parties to model the off-SARR operations of cross-over traffic and CSXT

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[196] *Id.* at III-C-52 to 53.

[197] To the extent that CSXT claims TPI gamed the SAC analysis by rerouting issue traffic from low to high density line segments, TPI has addressed that claim in Part III.C.3.b.v in response to CSXT's fourth argument, that internal cross-over traffic violates the Board's rules for rerouting traffic.

[198] *Id.* at III-C-53.

[199] *Id.* at III-C-53.

has not provided any reason for requiring such an unwarranted expansion and complication of the SAC analysis, which would defeat the simplifying objective of cross-over traffic. Furthermore, CSXT's own evidence in this case calls into question the importance of transit time as a measure of equivalent service for carload traffic:

> As an initial matter, service quality for general freight traffic is not (as TPI appears to assume) simply a function of "cycle times" or "train transit times." Indeed, "cycle time" is not a meaningful concept in evaluating "carload" rail service.[200]
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> Moreover, even if train transit time were an accurate measure of service quality for carload traffic—and it is not—the transit time comparison proffered by TPI is entitled to no evidentiary weight…[201]

Thus, CSXT's concern that internal cross-over traffic could be used to game the RTC simulation is not credible.

c. Internal Cross-Over Movements Exist in the Real World

CSXT's claim that internal cross-over movements are inconsistent with real world railroading is unsupported and contrary to fact.[202] CSXT offers a general statement that railroads try to minimize the number of interchanges required to move traffic. But even if that is true, it does not prove that real world railroads do not provide internal cross-over service. The only actual evidence that CSXT offers is a review of its own traffic data, which suggests that less than one hundredth of one percent of CSXT waybill records indicate an internal cross-over movement.[203] There are multiple holes in CSXT's evidence.

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200 *Id.* at III-C-197.
201 *Id.* at III-C-198.
202 *See* CSXT Reply, p. III-C-41.
203 *See* CSXT Reply, p. III-C-42. CSXT then attempts to demonstrate that most of those records are data errors rather than actual internal cross-over movements. *Id.* at 42-45.

First, internal cross-over traffic inevitably will be less common in today's highly-concentrated U.S. rail network. The enormous networks that the past 30 years of rail mergers have created in the United States means that there are very few situations where internal cross-over traffic would be more efficient than a single line movement from origin to destination when both are served by the same railroad. Thus, there is less need and opportunity for internal cross-over movements in today's rail network.

Second, CSXT is not the only railroad in the United States, and other railroads do provide internal cross-over service to cover gaps in their networks. A well-known example is the movement of BNSF east-west traffic over the Montana Rail Link network, which serves as an internal cross-over bridge for that traffic. Another example is Pan Am Railways' service as an internal cross-over carrier for CP shipments of Bakken crude oil originating in the Williston Basin.[204] In Docket No. 42125, the Complainant, DuPont, provided several examples where the Defendant, NS, provides internal cross-over service.[205] This included internal cross-over service between NS and another Class I railroad, CP, in New York and Pennsylvania.[206]

Third, CSXT's assertion that railroads try to minimize the number of interchanges required to move traffic is belied by the Class I railroads' common practice of selling off low-density branch segments to short-line and regional railroads. When this occurs, the Class I's retain the downstream portions of the movements, but they hand over the operations and/or ownership of the branch lines to another carrier, thereby creating interchanges that did not formerly exist.

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[204] *See Bakken Oil Business Journal,* Nov/Dec 2012, Jan 2013, p. 36 (TPI Rebuttal workpaper "Bakken Oil Business Journal_NovDec 2012.pdf".

[205] *See,* Rebuttal Evidence of E.I. du Pont de Nemours and Company, at III-A-5 to 22 (filed April 15, 2013) (Public Version).

[206] *Id.* at III-A-17.

Fourth, CSXT's claim that it does not provide any internal cross-over service in the real world is unproven. Merely evaluating whether another carrier appears in the provided car and train event data will not identify all internal cross-over movements. Yet this is all CSXT did. Because internal cross-over traffic commonly is provided through haulage arrangements, whereby either the terminal or bridge carrier is not reported in the event data, simply searching for carrier reporting in a medium where it is not present will miss haulage arrangements. The fact that internal cross-over service cannot be identified from materials provided in discovery does not prove that it does not occur.

d. Banning Internal Cross-Over Movements Would Effectively Deny Captive Shippers an Effective Remedy for Unreasonable Rates

In Opening, TPI argued that any restrictions upon the use of cross-over traffic in SAC cases would deprive carload shippers of a practical means by which to present rate complaints because the SAC process will have become so impracticable, complex, and expensive that the pursuit of regulatory rate remedies would be futile.[207] That argument applies to all cross-over movements, including internal cross-over movements. Indeed, a rejection of internal cross-over traffic would slam the door on the ability of carload shippers to pursue rate challenges under the SAC constraint.

CSXT insists that TPI either expand the TPIRR to include all internal cross-over line segments or forego reliance upon any traffic that traverses those line segments and also shares facilities with the issue traffic on the TPIRR. But, as CSXT itself acknowledges, the internal cross-over segments on the TPIRR add up to 4,500 miles.[208] The first choice, thus, would expand

[207] *See,* TPI Opening at III-A-25.
[208] *See,* CSXT Reply, p. III-C-38.

the TPIRR by over 60 percent to approximately 12,000 route miles, making it by far the largest SARR ever contemplated. According to CSXT's own evidence, it maintains 17,248 route miles in the real world,[209] which means that the TPIRR would have to replicate about 70 percent of CSXT's real world network. The Board previously concluded that "[c]urtailing the geographic scope of the SARR greatly simplifies the operating plans that must be developed, thus limiting the complexity of what is nevertheless still a dauntingly large and detailed task."[210] Thus, forcing TPI to expand the TPIRR is a completely unrealistic and untenable choice.

The second choice would "weaken the SAC test" by depriving the TPIRR of "the ability to take advantage of the same economies of scale, scope and density" that CSXT "enjoys over the identical route of movement."[211] Because a contestable market is one "where the new entrant suffers no disadvantage relative to the incumbent,"[212] the SAC analysis cannot truly reflect a contestable market if the Board prohibits internal cross-over movements. Thus, CSXT's second choice is as equally untenable as its first choice.

The Board does not require complainants to make this choice for traditional cross-over traffic because, "[w]ithout cross-over traffic, captive shippers might be deprived of a practicable means by which to present their rate complaints to the agency."[213] Cross-over traffic enables the Board to "guard against the SAC process becoming so complex and expensive as to deny captive shippers meaningful access to the rate review provided for under *Guidelines*."[214] If that were to occur, the SAC constraint may no longer be defensible.[215] Internal cross-over movements serve

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209 *Id.* at III-D-180.
210 *PSCo/Xcel I* at 603.
211 *Nevada Power* at 265 (n. 12).
212 *Id.* at 266.
213 *PSCo/Xcel I* at 603.
214 *WFA/Basin I*, slip op. at 11.
215 *See Consol. Rail Corp. v. U.S.*, 812 F.2d 1444, 1457-58 (3d Cir. 1987) (Becker, J. concurring in part and dissenting in part).

the same objectives as traditional cross-over traffic by keeping the SAC analysis focused on the portion of the CSXT system that is needed to transport the issue traffic, while permitting the TPIRR to achieve the same economies of the real world CSXT without expanding the SARR to an ever larger and more complex system.[216] Consequently, any restrictions upon internal cross-over movements are unwarranted, especially in this case where the alternative is to expand the SARR by over 60 percent.

4. Car Classification and Blocking Plan

CSXT criticizes TPI for not developing a car classification and blocking plan for the TPIRR and then proceeds to use this alleged deficiency to justify the creation of its own plan using the MultiRail software.[217] CSXT's criticism is unfounded. As TPI stated in Opening, because its operating plan runs the same trains with the same blocks through the same yards as the real world CSXT operated in the Base Year, TPI has adopted CSXT's actual blocking and train service plans during that time period.[218] According to TPI witness John Orrison, there is no need to develop new trip plans or blocking plans because TPI has mirrored CSXT's current train operations. Although it clearly is possible to create new and different blocking and train service plans, as CSXT has done with MultiRail, it is not necessary to do so. It is irrelevant that different plans could be developed; the question is whether CSXT's historical real world plans are feasible for the TPIRR, which they clearly are because those plans provide complete service to the TPIRR's customer group in the real world.[219]

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[216] *See,* TPI Opening at III-A-17 to 21, e.g., *Nevada Power* at 265-66; *PSCo/Xcel I* at 601-03; *WFA/Basin I*, slip op. at 11.

[217] *See,* CSXT Reply, p. III-C-55 to 74.

[218] TPI Op. at III-C-12.

[219] *See, Coal Rate Guidelines* at 543, "Indicia of the required rail assets are given by the existing facilities. Furthermore, potential uses of a stand-alone facility can be identified by referring to the railroad's existing

If the Board accepts the fact that CSXT's Base Year blocking and train service plans provided complete service for all of CSXT's historical traffic that moved over the lines replicated by the TPIRR—as it must, absent evidence from CSXT that its real world plan failed—then that plan also will provide complete service for the TPIRR's Base Year traffic because it is a subset of the same traffic. By handling this traffic in the same blocks and on the same trains that move through the same yards as the real world CSXT, the TPIRR by definition is providing the same complete transportation service for each rail car that moves over its system. There is no need to use MultiRail to demonstrate the TPIRR's ability to provide for full service from each origin to each destination, as CSXT claims.[220]

CSXT does not seriously contest this fact with respect to the Base Year traffic. Rather, CSXT claims that "adjustments to CSXT's actual Base Year train service and car blocking plan...*would be required* to handle the TPIRR's Peak Year traffic volumes."[221] TPI's alleged failure to make such adjustments is CSXT's rationalization for using MultiRail.[222]

Although the TPIRR's Peak Year volumes are higher than its Base Year volumes, the customer origins and destinations themselves do not change in a SAC analysis.[223] Volume growth (or decrease) projections are applied to the Base Year traffic to determine the Peak Year traffic for the same customer base. As a result, the TPIRR's Peak Year traffic can move in the same blocks and on the same trains as the Base Year traffic and receive the same complete service. Regardless of whether block sizes and train lengths increase (or decrease), the basic

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customer list, and the feasibility of providing a service which meets the shipper's requirements is proven." (emphasis added)

220 *See,* CSXT Reply, p. III-C-73.

221 *See,* CSXT Reply, p. III-C-57 [emphasis added].

222 *Id.* at III-C-57.

223 CSXT inaccurately claims that the TPIRR's general freight traffic volumes would grow by 20% between the Base Year and the Peak Year. CSXT Reply, p. III-C-56 to 57, 59. According to TPI's opening evidence, the TPIRR's Base Year and Peak Year volumes for general freight traffic increased by just 16.8% on a carload basis and only 13.1% on a gross ton basis. *See,* TPI Opening at III-C-6 and 12.

flow and pattern of traffic remains the same. Larger blocks can continue to move on the same trains until the maximum train length is exceeded. In the few instances where that has occurred, TPI has added trains to accommodate the blocks containing the overflow traffic. Thus, there is no foundation for CSXT's claim that TPI must develop different classification, blocking, and train service plans for the Peak Year.

According to TPI witness John Orrison, who has worked for CSXT, NS and BNSF, traffic volumes, which are constantly fluctuating, typically do not trigger significant changes to basic blocking plans. The base plans of any railroad remain more or less the same over time unless there are significant changes to the network (e.g., mergers, trackage rights) or customer base (e.g., emerging markets such as crude-by-rail). Although railroads are constantly tweaking their plans to address temporary phenomena (e.g. weather, track maintenance, service disruptions, and yard congestion) and seasonal traffic patterns, the underlying plan remains constant. Indeed, Mr. Orrison recognizes large portions of CSXT's 2012 blocking plan as the same plan that he helped to create upon CSXT's partial acquisition of Conrail over a decade ago. In fact, CSXT's blocking plan for the Hamlet, NC hump yard, where Mr. Orrison was Assistant Terminal Trainmaster from June 1985 to June 1986, is practically the same today—nearly 20 years later—with the exception of a single new block added after the Conrail acquisition. Thus, CSXT's claim that TPI is required to modify CSXT's 2012 blocking plan merely to accommodate the TPIRR's Peak Year traffic volume difference is inaccurate and unrealistic.

Mr. Orrison also testifies that, by moving Peak Year traffic in the same blocks as the historical Base Year traffic, there is less risk of an adverse impact to rail service because changing the composition of blocks, by definition, changes the movement pattern of shipments which has the potential to adversely affect the service provided by the TPIRR. Indeed, the Board has rejected complainants' operating plans in the past precisely because they assumed a changed level of service to suit their proposed configuration and operating plan without showing that the affected shippers, connecting carriers, and receivers would not object.[224] By keeping the same blocking plans as the real world CSXT, TPI has demonstrated that the TPIRR will provide service that will be acceptable to shippers, receivers, and connecting carriers. In contrast, CSXT is unable to show that its modified blocking plan will be acceptable.

CSXT merely hypothesizes that, in order to handle larger block sizes efficiently:

> a least cost, most efficient railroad would evaluate a variety of potential adjustments to its yard operations, including changing the blocks to which cars were assigned, changing the trains to which blocks were assigned (to avoid trains of excessive length),[225] adding more trains to accommodate growth traffic, and perhaps even changing the yards at which certain blocks were built....[226]

From that hypothesis, CSXT leaps to the conclusion that a new classification and blocking plan is required and then proceeds to offer its MultiRail-based alternative plan. Although hypothesizing what steps an optimally efficient railroad *might* take to adjust its classification and blocking plan, CSXT did not—and could not—claim that using the Base Year blocking plan is infeasible, because it is CSXT's own real world plan for serving the TPIRR's traffic. A SARR operating plan is required to be feasible, not optimal, for the Board to accept it.

Furthermore, CSXT's hypotheses are a red-herring because they are predicated upon a railroad with sunk infrastructure that may be incapable of accommodating larger blocks of traffic in the future that are the result of both volume growth and changing traffic patterns, thus perhaps warranting the types of adjustments hypothesized by CSXT. In the real world, a railroad must

[224] *See, Duke/CSXT* at 426-27.

[225] CSXT did not do this consistently in MultiRail. For example, Train Q386 – Chicago, IL to Selkirk, NY - is scheduled to operate in MultiRail with 157.20 cars/day between Chicago, IL and Willard, OH when the MultiRail model shows that the maximum number of cars that can be scheduled to Q386 from Chicago, IL to Willard, OH (excluding segment 3 – WILOCREEK, IN) is 150 cars.

[226] *See,* CSXT Reply, p. III-C-57.

adapt its operating plan to its infrastructure as traffic patterns change, whereas the SAC analysis, in contrast, allows the SARR to build its infrastructure to fit its operating plan for the Peak Year. Thus, the TPIRR is designed with the optimal infrastructure to enable it to apply CSXT's real world classification and blocking plan from the Base Year to the TPIRR's Peak Year traffic, which has the same customer base and traffic flows as the Base Year. For example, both CSXT and TPI have re-designed CSXT's real world classification yards based upon the TPIRR's Peak Year traffic volume.

CSXT also challenges the adequacy of TPI's reliance upon CSXT's real world classification and blocking plan on two additional grounds. First, CSXT suggests that modifications are required to its historical classification and blocking plans to account for "crossover" and "leapfrog" shipments.[227] But CSXT offers no explanation whatsoever as to how or why such shipments require changes to the TPIRR's classification and blocking plans. That is because there is no impact. The TPIRR interchanges cross-over traffic, including internal cross-over traffic, in one of two ways. Cross-over traffic may be on a train that is interchanged in its entirety between the TPIRR and residual CSXT in a hook-and-haul operation that does not require any re-blocking or classification at interchange. Alternatively, cross-over traffic is interchanged between the TPIRR and residual CSXT at the same classification yards where those shipments are switched (and may be classified and re-blocked) between two different real world CSXT trains. The only difference in the SAC analysis is that one of those trains is now operated by the TPIRR and the other by the residual CSXT. The TPIRR still can employ the same blocks to interchange cross-over traffic with the residual CSXT. Thus, neither type of cross-over traffic interchange requires a different classification and blocking plan. Importantly, TPI did develop

[227] *See,* CSXT Reply, pp. III-C-57-58.

alternate trip plans for internally rerouted issue traffic (i.e., traffic removed from real world cross-over routes)[228].

Second, CSXT points to TPI's rerouting of some general freight trains in order to consolidate traffic from parallel lines in various urban areas, although CSXT again fails to explain how or why this impacts the TPIRR's classification and blocking plan.[229] Those reroutes do not have an impact because they are short reroutes of trains that still originate and terminate at the same classification yards as they do in CSXT's real world blocking plans.

Ultimately, the only pertinent argument that CSXT makes is that, "if a complainant adopts the incumbent railroad's car classification and blocking plan, and the complainant modifies or removes a facility, or reduces staffing from the incumbent's classification and blocking plan, it would need to establish that the SARR could still adequately serve the traffic group."[230] This quote from the *SunBelt* decision is significant because it accepts the proposition that TPI may rely upon CSXT's real world classification and blocking plan, even in the Peak Year, so long as the TPIRR maintains sufficient infrastructure and staffing to implement that plan. Most of the foregoing CSXT arguments are primarily an attack on this Board precedent by suggesting that it is inappropriate for TPI to adopt CSXT's real world classification and blocking plan for the TPIRR's Peak Year traffic.

In the final two paragraphs in this section of its narrative, CSXT states its real contention, based upon the foregoing *SunBelt* quote, that the TPIRR lacks the infrastructure and staffing to implement the CSXT's real world classification and blocking plan (*e.g.*, inadequate classification

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[228] *See*, TPI Opening workpaper "Lane B62 and B113 Train Operation Selection.xlsx".
[229] *See*, CSXT Reply, p. III-C-58. *See also*, CSXT Reply, p. III-A-1 and Reply Ex. III-A-4 for CSXT's description of this rerouted traffic.
[230] *See*, CSXT Reply, p. III-C-56, *quoting SunBelt*, slip op. at 16.

track capacity, receiving and departure tracks, yard crews and yard locomotives).[231] With the exception of classification track capacity, however, CSXT addresses those alleged deficiencies in other sections of its narrative, as does TPI in this Rebuttal. TPI demonstrates that it has provided sufficient classification tracks, departure and receiving tracks, yard crews and yard locomotives in Part III.C.5 below.

5. Yard Service Plan

CSXT claims that TPI's proposed yard facilities are inadequate to enable the TPIRR to perform essential yard functions.[232] Specifically, CSXT asserts that TPI has provided insufficient classification tracks and receiving and departure tracks in the TPIRR's hump and flat yards, has omitted some essential yards, and has insufficient RIP and support tracks. TPI responds to each of these assertions in the following subsections.

a. Classification Tracks

In Rebuttal, TPI accepts CSXT's reply evidence on the number and length of classification tracks required at each yard primarily because the impact of doing so is insignificant.[233] To be clear, however, while TPI accepts some of CSXT's criticisms of TPI's opening methodology as leading to an understatement of classification tracks, it does not agree with CSXT's gold-plated methodology for calculating classification tracks.

First, TPI disagrees with CSXT's assumption that a classification track would turn over only once every 24 hours merely because there is only one "outlet" (departing train) per day for

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[231] *See,* CSXT Reply, pp. III-C-58-59.
[232] *See,* CSXT Reply, pp. III-C-74-76.
[233] Although CSXT emphasizes the design of the TPIRR's yards, that ultimately has very little impact on the SAC analysis. Regardless of whether the TPIRR has 50 blocks (and 50 tracks) of 20 cars each or 25 blocks (and 25 tracks) of 40 cars each, the total length of track, and consequently the amount of land, ties, steel, etc., remains the same.

each block.[234] According to TPI witness John Orrison, as trains are built and blocks pulled, classification tracks will open up throughout the course of the day for use by new blocks. For example, if one block departs on a morning train and another on an evening train, it is possible for two blocks to use the same classification track in a 24 hour period. An optimally-efficient railroad would look for those opportunities to use classification tracks efficiently in this manner. The approach employed by CSXT's witness, Jeremiah Dirnberger, is purely academic and not a real world railroad practice.

Second, TPI rejects CSXT's claim that "the number and the length of the classification tracks in the yard must be tailored to accommodate the specific blocks contemplated by the railroad's train service plan."[235] As noted in the preceding paragraph, CSXT's assumption of only one block per track per 24 hours is unrealistic and academic gold-plating. In addition, real world railroads do not—indeed, they cannot—design their classification tracks for block lengths in any single time period, which can and do vary. Mr. Orrison would always choose a yard with more short tracks over one with fewer long tracks because the former offers much greater operating flexibility. He concludes that TPI's opening proposal to have classification tracks of equal lengths is preferable to CSXT's reply proposal for different track lengths that are determined by the blocks that move in the peak period. In the real world, if a block exceeds the track length, the railroad swings the extra cars onto an adjacent track. Although CSXT contends that this process is inefficient due to increased switching time and yard congestion, Mr. Orrison responds that this is a routine and established practice that does not significantly interfere with

[234] *See,* CSXT Reply, p. III-C-90.
[235] *See,* CSXT Reply, p. III.-C-85.

efficient yard operations.[236] It is much more important to have flexibility to adjust to shifting traffic patterns.

Third, TPI disagrees with CSXT's application of a 15 percent "swing track" capacity factor for hump yard classification tracks. Although CSXT's witness Jeremiah Dirnberger does not provide any support for his 15 percent figure, Mr. Orrison agrees that 15-20 percent is an industry standard fluidity factor for classification track. However, because the TPIRR's classification yards are designed for Peak Year volume, TPI believes that a swing factor already is built into its analysis.[237] Adding swing capacity for a handful of trains at a few yards in the Peak Year is needless gold-plating. Without this "swing factor," CSXT's Reply hump yard classification tracks are less than TPI's opening evidence.[238]

Furthermore, Mr. Dirnberger, in a 2006 report given at the AREMA annual conference in Louisville, KY, identified a series of production management techniques that can improve yard capacity an estimated 15-30 percent.[239] Through a process dubbed "Lean Railroading," Mr. Dirnberger identifies the following actions that can be employed either individually or in combination to increase the throughput capacity in a yard during traffic surges:[240]

1. Add another pull-down engine;
2. Use the hump engine when idle to build trains by pulling blocks from the hump end of the yard;
3. Increase crew performance;

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[236] *See*, CSXT Reply, p. III-C-87 (n. 136).

[237] This is no different from determining mainline and siding capacity based upon peak traffic for which the SAC analysis has never required a "surge," "fluidity" or "swing" factor.

[238] *See*, CSXT Reply, p. III-C-94, Fig. III-C-10 (240.53 Reply yard miles – 15% =204.45 yard miles < TPI's 223.29 Opening yard miles).

[239] Jeremiah R. Dirnberger and Christopher P.L. Barkan, "Improving Railroad Classification Yard Performance Through Bottleneck Management Methods," *Proceedings of the AREMA 2006 Annual Conference*, Louisville, KY (Sept. 2006), p. 3. *See*, TPI Rebuttal workpaper "Dirnberger AREMA Presentation.pdf."

[240] *Id.*, pp. 11-14.

4. Eliminate the need to rework cars by keeping the track clean;
5. Better coordination of pull-down engines to reduce interference and conflict potential;
6. Decrease cycle times by eliminating unnecessary yard movements, throwing fewer switches, increasing engine speed, preventing engine breakdown, and using experienced crews; and
7. Decrease coupling time through better retarder control, humping multiple car cuts when possible, more accurate track inventory control, and equipment to help crews correct out-of-alignment drawbars more quickly.

These options have been employed by TPI's own Rebuttal Witnesses Orrison and Sullivan at hump yards that they managed in order to handle surges in yard activity. Based upon a time study of these options at CP's Bensenville yard, Mr. Dirnberger estimated that a combination of options 2 and 4-7 would increase capacity by 28 percent.[241] In fact, he concluded that pull-down capacity could be increased by up to 36 percent without adding any engine or labor expenses.[242] The resulting reduction in rail car dwell times in the yard allows for greater use of the classification track capacity without building a 15 percent "swing factor."

Fourth, TPI disagrees with CSXT's application of a 1.67 fluidity factor for flat yards.[243] A "fluidity factor" is just another term for "swing factor." A 1.67 fluidity factor equates to a 40 percent swing factor. Mr. Dirnberger, however, offers no explanation as to why he used a 15 percent swing factor for hump yards and a 40 percent factor for flat yards. In the experience of TPI witnesses Orrison, Sullivan and McLaughlin, all of whom have supervised real world classification yards, 20 percent more closely resembles real world railroad operations. In fact, according to Mr. Orrison, CSXT itself assumed a threshold yard peaking factor of 15-20 percent when determining whether to include expansion capital for yards as part of the service plan that

[241] *Id.* pp. 14-15.
[242] *Id.* p. 19.
[243] *See,* CSXT Reply, pp. III-C-95-96.

it submitted in the Conrail acquisition proceeding. Railroads do not invest capital in rail yards to allow them to be only 60 percent full.[244]

Despite misgivings over CSXT's gold-plated Reply evidence, TPI accepts CSXT's determination of classification tracks for both hump and flat yards on the TPIRR.

b. Yard Receiving and Departure Tracks

CSXT posits a lengthy and unnecessary process for determining the number of yard departure and receiving tracks required by the TPIRR. In Opening, TPI determined the appropriate number of yard departure and receiving tracks for each yard based upon the RTC model results. TPI constructed a sufficient number of tracks to hold arriving and departing trains in the RTC simulation of the TPIRR's peak week. In contrast, CSXT has engaged in a multi-step process, completely disconnected from its RTC simulation, that gold-plates the TPIRR with more receiving and departure tracks than it would need even for its peak week traffic.[245] Indeed, CSXT's own RTC simulation proves that the TPIRR would not use 55 of the receiving and departure tracks that CSXT modeled, for a total of 107 miles of unnecessary track investment.[246]

[244] CSXT relies upon a State of Washington Rail Capacity Study's reference to Tacoma Rail as support for its 1.67 fluidity factor. CSXT Reply at III-C-84. According to Mr. Orrison, however, Tacoma Rail requires more capacity than either CSXT or the TPIRR would require because it is a port railroad that is switched by an independent contractor with trackage rights for both BNSF and UP to enter the port with unit trains. The Port has a critical bottleneck called "Bullfrog Junction" where only a single train can enter or exit. Furthermore, port traffic is prone to ship transit delays, Pacific storms during which grain trains cannot be unloaded, and bunching of BNSF and UP trains moving over 1,500 miles that may be delayed due to a variety of service disruptions. As a consequence of these factors, and because the Port is a public authority that must compete with other ports in the Pacific Sound, it has a strong business case for maintaining reserve capacity to manage these many known and unknown variables

[245] *See,* CSXT Reply, pp. III-C-118-124.

[246] *See,* TPI Rebuttal Exhibit III-C-1.

Therefore, TPI continues to apply its opening methodology for determining the receiving and departure tracks at each TPIRR yard based upon the RTC simulation.[247]

TPI, however, does accept one of CSXT's criticisms, which affects the number of yard receiving and departure tracks determined by the RTC Model. Specifically, in order for the RTC Model to produce a reasonable estimate of departure and receiving tracks, the dwell time input into the model for arriving and departing trains must be reasonable. In opening, TPI relied upon the same dwell times for arriving and departing trains that have been used by the parties in prior SAC cases, without dispute, including the recent *DuPont* and *SunBelt* cases involving mostly carload traffic. Thus, it did not occur to TPI that this was even an issue until CSXT raised it for the first time in any SAC case on Reply. After reviewing CSXT's Reply evidence, TPI agrees that its opening dwell times are understated.

Therefore, in Rebuttal, TPI continues to determine the number of yard departure and receiving tracks for the TPIRR based upon its RTC simulation. But TPI has adjusted its Rebuttal RTC dwell times for receiving and departure tracks to match the dwell times in CSXT's Reply RTC simulation.[248]

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[247] As with its modification of TPI's classification tracks, CSXT revises the receiving and departure tracks in only 22 of the 80 TPIRR yards included in TPI's Opening evidence. CSXT accepts TPI's receiving and departure tracks in the remaining 58 yards.

[248] CSXT's Reply RTC dwell times are not always consistent with those in its narrative. For hump yards, CSXT has consistently used the same dwell times developed by Mr. Dirnberger. For flat yards, however, CSXT's RTC dwell times vary considerably. As discussed below, CSXT has not clearly identified the source of all the flat yard dwell times in its narrative or even developed flat yard dwell times at all for arriving trains. Therefore, TPI accepts CSXT's RTC dwell times because they are the only complete set of dwell times presented in CSXT's Reply evidence and that CSXT has modeled to demonstrate the feasibility of its operating plan. Moreover, because a defendant "cannot protest that an input into the RTC model is flawed without showing the consequence of changing that input on the output of the model," the only dwell time evidence that the Board may consider are the dwell times that CSXT actually has modeled, which are the dwell times that TPI also has adopted on rebuttal. *See Otter Tail*, slip op. at 19.

i. The RTC Simulation is an Appropriate Means to Determine the Yard Receiving and Departure Tracks

CSXT criticizes TPI's reliance upon the RTC model to determine the number and length of receiving and departure tracks at the TPIRR's merchandise yards, because the RTC Model is not a yard sizing tool.[249] Although the RTC Model does not simulate all yard activity, it does include yard receiving and departure tracks in the simulation. Those tracks must be available to stage departing trains and receive arriving trains as needed in order for the RTC simulation to run to completion. Therefore, by inputting to the RTC Model reasonable estimates of the amount of time required to perform the activities that occur on the receiving and departure tracks, it is possible to account for those activities in the RTC Model and thereby generate a realistic and reasonable determination of the required receiving and departure tracks in each yard.

An RTC simulation will yield a reasonable picture of receiving and departure track utilization and, by extension, the number of tracks required. For departing trains, the RTC simulation will "initialize" the departing train on the first available track. If there are an insufficient number of departure tracks available, the departing train will not be "built" until a departure track is available and will incur a delay. In the case of a train entering a receiving yard, the user models the train in the RTC model with the following activities:

- When building the train's profile in RTC, the user enters the scheduled train stops at yards along the route where the train will dwell and the yard in which the train will terminate (if terminating in a yard).
- The train's profile contains a Dwell Time field that indicates the time the train will dwell on a track within the yard before departing for its next location or terminating in the yard. In the event a train encounters a conflict while departing for its next scheduled stop, the dwell will be extended until the delay is cleared.

[249] *See,* CSXT Reply, pp. III-C-98-100.

- When entering an intermediate or terminating yard, the RTC software will route the train into a receiving yard track based upon which tracks are clear at the time the train arrives, assuming that the user has correctly modeled the yard in the RTC network to allow dwell on alternate tracks within that yard.

- Trains which encounter a conflict due to traffic congestion, broken rail, or other factors may also be directed by the RTC model to occupy a receiving or departure yard track until the conflict is clear even when the train was not scheduled to stop in that yard. This is another yard capacity factor which CSXT's yard sizing model does not anticipate and is another reason why the RTC simulation is a superior model for determining receiving and departure tracks necessary to handle the proposed operations of a SARR.

The above is standard procedure for dwelling a train anywhere on an RTC network, and the same process can be applied by RTC to originate a train on a departure track in a yard. Thus, the RTC software will demonstrate that the network has a sufficient number of receiving and departure tracks of sufficient length in each yard in order to accommodate the simulated traffic based upon the required dwell time estimates for each train.

CSXT has identified a total of six reasons why the RTC simulation should not be used to determine the required receiving and departure tracks. Those reasons are that the Model does not account for:

1. The time those tracks are occupied by yard switching activities such as the transfer of blocks from receiving tracks to the hump track;
2. The required time to build outbound trains on the departure tracks;
3. The time those tracks are occupied by road engines moving "light" from arriving trains to the locomotive servicing area;
4. Delays caused by conflicting train movements;
5. Delays caused by "bunching" of trains or yard congestion; and
6. Other operating conditions such as weather.[250]

[250] *See,* CSXT Reply, pp. III-C-99-100.

The first two reasons are accounted for by a proper dwell time estimate. In fact, CSXT's Reply testimony claims that its own RTC simulation can "account for the time that a departure track would be occupied by the process of building and inspecting an outbound train" which "includes the time required to switch multiple blocks of cars from the classification bowl to the departure track, to couple air hoses and perform an FRA-mandated inspection, to attach locomotives to the outbound cars, and to complete paperwork and prepare the train for departure."[251] Therefore, reasons number one and two are contradicted by CSXT's own testimony. The third reason would not cause a noteworthy delay and light engines could "shadow" departing trains as they leave the yard.[252] The fourth reason is accounted for in the RTC simulation to the extent conflicts are created by road trains; to the extent the conflict is created by yard trains, that is a variant of the third reason. With regard to the fifth reason, the RTC model specifically accounts for yard congestion caused by bunching of arrival and departing trains and is simulating the peak week of the Peak Year in the 10 year DCF period, which means that the TPIRR's yards are designed at the outset for Easter Sunday. Except for the peak week, the TPIRR will seldom use most of the capacity that CSXT would add to the TPIRR's yards. Furthermore, reasons four and five are examples of why the RTC model is superior to CSXT's yard sizing model which does not account for these factors. The sixth and final reason is predicated upon speculative and infrequent occurrences that probably would not even occur during the peak week, in order to justify a gold-plated yard.

Furthermore, TPI Witnesses Orrison, Sullivan, and McLaughlin all have experience either managing or analyzing operations at classification yards, including several on the real

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[251] *See*, CSXT Reply, pp III-C-192-193.

[252] According to TPI Witness Orrison, a light engine moving at 10 mph through a 7,000 foot track requires less than eight (8) minutes to clear the track.

world CSXT network. According to those Witnesses, there are a multitude of ways for yardmasters to address temporary peaks and surges when they do occur, without all the surplus infrastructure that CSXT would impose upon the TPIRR. Such options include:

- Add additional crews at the pull out end of the yard to clear classification tracks more quickly.
- Call additional road trains and extra trains to handle additional train departures.
- Pull and set departure tracks from the hump end of the yard to assist the pull out crews.
- Change classification track designations/blocking to handle additional capacity and to avoid misclassified or re-humped cars.
- Add car inspectors in the receiving and departure yards.
- Add engine servicing employees.
- Build outbound trains in the classification yard.
- Add yard masters and supervision to coordinate increased activities.

Although it would be nice to have the excess tracks proposed by CSXT, those would be unnecessary luxuries that a least-cost, optimally efficient railroad would shun. Therefore, TPI continues to rely upon the RTC Model (with revised dwell times accepted from CSXT's Reply RTC Model) to determine the receiving and departure tracks required by the TPIRR to efficiently handle its traffic.

ii. CSXT's Methodology for Determining Yard Receiving and Departure Tracks is Gold-Plated

As discussed in the preceding section, TPI's reliance upon the RTC model to determine the required receiving and departure tracks in the TPIRR's yards is reasonable and realistic. CSXT, in contrast, has applied a methodology that is designed to burden the TPIRR with unnecessary infrastructure. Indeed, CSXT's own RTC simulation of the peak week does not use

55 of the receiving and departure tracks that CSXT has added to the TPIRR, for a total of 107 miles of unnecessary added investment.[253] This fact is even more remarkable in light of CSXT's claim that it conservatively has understated track capacity requirements because its analysis is based upon an average week rather than the peak week.[254] CSXT's separate process for calculating receiving and departure tracks suffers from several flaws.

First, CSXT's addition of a 1.67 "fluidity factor" is inappropriate and unsupported for receiving and departure tracks.[255] CSXT introduced this fluidity factor in the context of classification tracks.[256] CSXT's rationale was that, without a fluidity factor, there is no track for yard crews and locomotives to operate within the classification bowl or to move cars around as required during the blocking process, or in other words, the yard would become a parking lot.[257] But unlike classification yards, where cars may need to be shuffled around in order to pull cars stuck behind other cars, such shuffling is not a routine activity for receiving and departure tracks where trains are built and broken down sequentially, arrive intact, depart intact, and are inspected intact. CSXT's only explanation for adding a fluidity factor is to account for congestion and "bunching."[258] But TPI has designed the TPIRR's yards to accommodate the longest trains that originate or terminate at those yards in the peak week, which means there will be excess capacity nearly all of the time to absorb the occasional disruption. Moreover, the RTC simulation of the peak week includes random outages of the type that could create congestion or bunching. The congestion or bunching posited by CSXT is gold-plating for speculative and infrequent events. Even if a fluidity factor were appropriate for receiving and departure tracks, it is inconceivable

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[253] *See,* TPI Rebuttal Exhibit III-C-1, columns (9) and (10), Line "Total".
[254] *See,* CSXT Reply, p. III-C-119 (n. 185).
[255] *Id.* p. III-C-120.
[256] *Id.* pp. 82-85.
[257] *Id.* p. 83.
[258] *See,* CSXT Reply, p. III-C-120.

that 40% more capacity above the peak period would be necessary. While CSXT claims that "[t]his fluidity factor is also consistent with the methodologies utilized by CSXT in conducting real world yard capacity analyses,"[259] it offers no evidence whatsoever to document this claim. All three of TPI's witnesses with Class I railroad experience reject the need to apply a fluidity factor to receiving/departure tracks.[260]

Second, CSXT adds an extra receiving and departure track for light engine movements, yard switchers, and switch engines.[261] This is the ultimate in gold-plating. TPI Witness Sullivan who has supervised a major classification yard on a Class I railroad, testifies that these various engine movements typically occur on unoccupied receiving and departure tracks or, if necessary, over the hump. This extra track is not consistent with real world railroading practice.

Third, the dwell times used by Mr. Dirnberger in his calculation of receiving and departure tracks are unreliable. The largest block of time for both arriving and departing trains in Mr. Dirnberger's analysis is the time required to inspect each train. But that clearly depends upon the length of the train and the size of the inspection crews, which are two factors that Mr. Dirnberger virtually ignores. At one point, Mr. Dirnberger acknowledges that the "required number of hand brakes depends upon the length and weight of the train," but he never extends that observation to include the time required for train inspections.[262] Nor does he consider the size of the TPIRR's inspection crews, which determines how fast a train can be inspected. Those inspection crews vary across the TPIRR from two (2) to four (4) people at hump yards, which

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[259] *Id.*

[260] Moreover, even for classification tracks, as discussed above, TPI's witnesses maintain that real world railroads use only a 15-20% swing capacity.

[261] *See,* CSXT Reply, p. III-C-121.

[262] *See,* CSXT Reply, p. III-C-109.

means that the largest crews can inspect cars at a rate two times faster than the smallest crews.[263] In essence, Mr. Dirnberger's analysis assumes trains of a set length and inspection crews of a set size but he never reveals his assumed train length and crew size so that they can be compared against the TPIRR.

Mr. Dirnberger's estimate of 2.0 hours to inspect both inbound and outbound trains also does not bear up to scrutiny.[264] An MIT case study of CSXT's Radnor Yard, in 1992, observed that inbound and outbound trains were inspected at an average rate of 0.40 and 0.41 cars per inspector per minute, respectively.[265] At that rate, a single inspector could inspect 48 cars in the two (2) hour window estimated by Mr. Dirnberger.[266] Because TPI has staffed the TPIRR with anywhere from 2-4 person crews, their average inspection rate within a two (2) hour period would range from 96 to 192 cars. In other words, Mr. Dirnberger's estimate of two (2) hours may be reasonable for two (2) person crews inspecting 100 car trains, but it significantly overstates the time required for shorter trains and/or larger crews. Furthermore, the inspection rates observed in the MIT study are low in the opinion of TPI's Rebuttal Witness Schuchmann, who estimates that 0.5 cars per inspector per minute is typical.[267]

The ultimate proof of CSXT's gold-plating lies in the results of CSXT's own reply RTC simulation. There is an unexplained disconnect at 43 of the TPIRR's yards, including 10 of its 11 hump yards, between (a) the receiving and departure tracks that CSXT developed based upon

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263 *See,* Opening workpaper "Trains to be Inspected.xlsx".

264 *See,* CSXT Reply, pp. III-C-109 and 115.

265 *See,* TPI Rebuttal workpaper "MIT Study.pdf." Michael A. Duffy, "Statistical Process Control Applied to Rail Freight Terminal Performance: A Case Study of CSX's Radnor Yard," Massachusetts Institute of Technology, pp. 36, 58 (1992).

266 120 minutes x 0.4 cars per inspector per minute = 48 cars per inspector in two (2) hours.

267 The FRA's "Railroad Classification Yard Technology Manual" that CSXT submitted as part of its Reply evidence estimates inspection rates of 0.5 minutes per car for both arriving and departing trains, but does not indicate the size of the inspection crew upon which that estimate is based. *See,* CSXT Reply workpaper "Wong, Railroad Classification Yard Tech Manual.pdf" at 49, 52, 54. This equates to two (2) cars per minute, which would equal 0.5 cars per inspector per minute if based upon a four (4) person crew.

the foregoing methodology (which is what CSXT uses to determine SAC investment), (b) the receiving and departure tracks that CSXT modeled in the RTC simulation, and (c) the tracks actually used by the trains in the RTC simulation. TPI Rebuttal Exhibit III-C-1 shows all three (3) of these CSXT track counts for each of these 43 yards. For only 10 yards did CSXT actually model the same number of receiving and departure tracks in its RTC simulation that it has included in the TPIRR's investment base. For 14 yards, CSXT modeled fewer tracks. For 19 yards, CSXT modeled more tracks. There is no rhyme or reason for the number of yard receiving and departure tracks that CSXT chose to include in its RTC simulation. Nor is there any explanation as to why CSXT did not model the same number of receiving and departure tracks that its formula-driven methodology determined are required to serve the TPIRR's traffic base.

At a minimum, the number of receiving and departure tracks in CSXT's RTC simulation should have matched the number of tracks that CSXT has included in the TPIRR's investment to demonstrate that those tracks are capable of handling the TPIRR's traffic base. In fact, Column 9 of TPI Rebuttal Exhibit III-C-1 shows that CSXT's formula-driven method **understated** the number of receiving and departure tracks required by nine (9) out of the 43 yards because CSXT's own RTC simulation required more tracks than CSXT's investment. In other words, CSXT's own RTC simulation proves the inadequacy of CSXT's infrastructure investment for over 20% of these 43 yards.

On net, however, TPI Rebuttal Exhibit III-C-1 shows that CSXT's formula-driven methodology **overstates** the total number of receiving and departure tracks required by the TPIRR as a whole. The receiving and departure tracks that CSXT includes in the TPIRR's investment base match the tracks actually utilized in the RTC simulation at only a single yard.[268] In 33 of the 43 yards, the RTC simulation used anywhere from one to eight fewer tracks than CSXT included in the TPIRR's investment base.[269] In total, after netting out the overstated track counts against the understated track counts, CSXT's RTC simulation used 55 fewer receiving and departure tracks than CSXT has included in the TPIRR's investment base. **This is all based upon CSXT's own reply evidence!**

iii. CSXT's Development of Dwell Times and Receiving/Departure Tracks Is Inconsistent with Its RTC Simulation

CSXT's reply evidence on dwell times for trains occupying the TPIRR's receiving and departure tracks is confusing, inconsistent, and in several instances, unsupported. Much of the confusion and inconsistency arises because CSXT has employed different dwell times in different parts of its Reply evidence. First, dwell times are the major component in the formula that CSXT Witness Dirnberger uses to determine the number of receiving and departure tracks for the TPIRR's yards.[270] Second, both dwell times and the number of receiving and departure tracks in each yard are important inputs to CSXT's RTC Model. But CSXT's RTC simulation does not consistently model either the dwell times estimated by Mr. Dirnberger or the receiving and departure tracks determined by Mr. Dirnberger based in large part upon his dwell time estimates. In other words, there is no relationship whatsoever between Mr. Dirnberger's testimony and CSXT's RTC simulation. Nor does CSXT acknowledge or attempt to explain this complete disconnect. This fact alone is fatal to CSXT's operating plan.[271]

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[268] The Folkston Interchange, at Folkston, GA, in TPI Rebuttal Exhibit III-C-1.
[269] TPI Rebuttal Exhibit III-C-1, Column (9).
[270] *See,* CSXT Reply, pp. III-C-100-117, 120, and 123.
[271] *See, Otter Tail*, slip op. at 18-19.

As a threshold matter, CSXT has been less than clear as to the support for its dwell time calculations. For hump yards, CSXT states that it has assumed a 5.0 hour dwell time for arriving trains "[b]ased upon witness Dirnberger's experience, and the real world dwell time data set forth in Figure III-C-16."[272] CSXT makes an identical claim for trains departing hump yards.[273] Although CSXT claims that Mr. Dirnberger's estimates are supported by CSXT's Hump Yard Simulation System ("HYSS"),[274] CSXT refused TPI's request to provide the HYSS to TPI on grounds that "neither the HYSS model nor the results of any HYSS simulation were relied upon as support for the 5-hour dwell times used in CSXT's Reply RTC model."[275] But in subsequent correspondence, CSXT acknowledged that Figure III-C-16 "sets forth outputs from CSXT's Hump Yard Simulation System…,"[276] which CSXT's Reply claims is the basis for its dwell time estimates, along with Mr. Dirnberger's experience. Based upon these conflicting statements by CSXT and its refusal to provide the HYSS model and the data underlying Figure III-C-16, the Board must disregard Figure III-C-16 as support for CSXT's dwell times.

Furthermore, because CSXT appears to rely solely upon its hump yard dwell time estimates for its flat yard dwell time estimates without any additional support, CSXT also may not rely upon Reply Figure III-C-16 to support those dwell time estimates. This is appropriate in light of the aforementioned post evidentiary representations by CSXT to TPI that it has not relied upon the HYSS model which is the source for Reply Figure III-C-16.

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[272] *See,* CSXT Reply, p. III-C-112 [underline added].
[273] *See,* CSXT Reply, p. III-C-117.
[274] *See,* CSXT Reply, p. III-C-111.
[275] *See,* TPI Rebuttal workpaper "MJWarren Aug 26 Letter.pdf."
[276] *Id.*

(1) **Hump Yard Dwell Times**

CSXT's often confusing and inconsistent dwell time evidence is more consistent for hump yards than for flat yards. Mr. Dirnberger has estimated hump yard dwell times of 5.0 hours for both departing and arriving trains[277] and CSXT has used 5.0 hours in its RTC simulation at hump yards.[278] Mr. Dirnberger did not attempt to develop dwell times for intermediate trains passing through hump yards. CSXT, instead, has accepted TPI's Opening dwell times for these intermediate trains and modeled them in its RTC simulation.

Although CSXT has used Mr. Dirnberger's hump yard dwell time estimates in the RTC simulation, it inexplicably has not modeled the receiving and departure tracks that Mr. Dirnberger determined to be necessary based upon those dwell times as discussed above. CSXT's own RTC simulation has exposed an inherent weakness in Mr. Dirnberger's formula for determining receiving and departure tracks at the TPIRR's yards. Even modeling his own dwell time estimates in the RTC simulation, Mr. Dirnberger's receiving/departure track counts for the Willard and Radnor hump yards were **deficient** by five (5) tracks apiece. At eight (8) other hump yards, the RTC simulation demonstrates a cumulative **overstatement** of 37 tracks. The Board should disregard Mr. Dirnberger's subjective, formula-driven receiving/departure track counts at hump yards in favor of those objectively determined by TPI's rebuttal RTC Model using CSXT's Reply RTC dwell times for hump yards.

(2) **Flat Yard Dwell Times**

CSXT's evidence is most convoluted when it comes to receiving and departure tracks at the TPIRR's flat yards. Mr. Dirnberger has not performed the same analysis of flat yard dwell times that he has for hump yards. In fact, he has only presented testimony as to departure dwell

[277] *See,* CSXT Reply, p. III-C-120.
[278] *Id.* p. III-C-112, 117.

times for trains originating at flat yards. He has not presented any testimony of dwell times for trains arriving at flat yards. Nor has CSXT consistently modeled any of Mr. Dirnberger's flat yard dwell times, or the receiving/departure tracks based upon those dwell times, in the RTC simulation. Ultimately, the only flat yard dwell times with any modicum of support in CSXT's reply evidence, and modeled in its RTC simulation, are the dwell times for intermediate trains both with and without a consist change, although those times are excessive according to TPI's witnesses.[279]

For departing trains, Mr. Dirnberger assumes the same 5.0 hours that he has developed for hump yards because the process supposedly is the same whether the train originates at a flat or hump yard.[280] TPI's Rebuttal operating Witnesses Orrison, Sullivan and McLaughlin contest that assertion. According to these Witnesses, most trains that originate at flat yards are assembled on and depart directly from the classification tracks. As such, they never occupy the yard receiving/departure tracks at all, and thus no dwell time is needed or appropriate.

For arriving trains, CSXT has not presented any narrative evidence of a dwell time. However, CSXT Reply workpaper "CSX Response—Regional Flat Yard Sizing Calculations.xlsx" uses 5.0 hours of dwell time for arriving trains to calculate the number of receiving and departure tracks at 11 of 74 flat yards on the TPIRR. This dwell time is unsupported by any discussion in CSXT's narrative. Nor has CSXT used that dwell time to develop receiving/departure tracks beyond just those 11 flat yards. Rather, CSXT has passively accepted TPI's opening evidence.

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[279] *See,* CSXT Reply, p. 123 and Reply Exhibit III-C-7.
[280] *See,* CSXT Reply, p. 123 (n. 188).

For intermediate trains with and without consist changes, Mr. Dirnberger assumes dwell times of 2.0 and 0.5 hours, respectively.[281] CSXT's RTC Model, however, uses 2.0 hours for intermediate trains with consist changes only at flat yards where CSXT's real world dwell time averages 2.0 hours or greater.[282] CSXT does not indicate what dwell time it uses at yards that average less than 2.0 hours. Although CSXT claims that 2.0 hours is a realistic dwell time, TPI witness John Orrison contends that it is absurdly long. According to him, BNSF's RTC simulations employed a standard 30-45 minute dwell times for trains making either a set-out or pick-up and 45-1:45 minutes if doing both.[283] Mr. Orrison also used those dwell times when he was CSXT's Vice President of Service Design.

CSXT has not consistently applied the foregoing flat yard dwell time estimates for all trains in the RTC model. In fact, CSXT changed TPI's Opening RTC dwell times for arriving and departing trains at flat yards to 5.0 hours for just 141 flat yard train events, which is just 8% of such train events in the RTC simulation.[284] CSXT modeled the same dwell time as TPI for all other flat yard train originations and terminations in the RTC Model. In fact, CSXT's RTC Model is the **only** source of dwell times in its Reply evidence for trains arriving at flat yards.

As with hump yards, TPI Rebuttal Exhibit III-C-1 shows that CSXT did not model in the RTC simulation the number of receiving/departure tracks developed by Mr. Dirnberger based upon his flat yard dwell time estimates and that CSXT has included in the TPIRR's investment. Sometimes CSXT modeled more tracks and sometimes it modeled less, never with any rhyme or reason. At seven (7) flat yards, the RTC model demonstrated a need for **more** tracks than CSXT

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[281] *See,* CSXT Reply, p. III-C-123.
[282] *See,* CSXT Reply, p. III-C-75 (n. 106).
[283] Mr. Orrison also has observed that CSXT used different dwell times in its MultiRail analysis from its RTC Model. CSXT's MultiRail has "standard" times for processing events at yards of: 30 minutes for set-out; 45 minutes for pick-up; and 30 minutes for crew change.
[284] *See,* TPI Rebuttal workpaper "CSXT RTC Dwell Frequency by Yard Type and Stop Type.xlsx".

included in its investment costs, but every other flat yard needed **fewer** tracks. On net, the RTC Model demonstrates that CSXT has overstated the receiving and departure tracks required at the TPIRR's flat yards.

For all of the foregoing reasons, the Board should disregard Mr. Dirnberger's subjective, formula-driven receiving/departure track counts at flat yards in favor of those objectively determined by TPI's rebuttal RTC Model using CSXT's Reply RTC dwell times.

c. Missing Yards

CSXT added five (5) yards to the TPIRR system in Reply located at: Curtis Bay, MD; Oakworth, AL; Cartersville, GA; Calera, AL; and Ivorydale, OH. TPI accepts the addition of these yards in Rebuttal and the number of tracks and track miles proposed by CSXT.

d. RIP Tracks

CSXT added a total of 1.326 miles of RIP track at five (5) locations, including: Atkinson, KY; Evansville, IN; Buffalo, NY; East St. Louis, IL; and New Orleans, LA. TPI accepts the addition of RIP track at these locations and the assignment of inspectors at these locations.

e. Yard Jobs and Yard Locomotives

CSXT argues that TPI's yard jobs and yard locomotives are infeasible because the daily yard jobs and yard locomotive assignments are consistently below those actually employed by CSXT in the real world.[285] CSXT claims TPI failed to support its assumptions with any evidence and indicates TPI did not provide any yard crews or yard locomotives at several locations where CSXT has yard jobs in the real world.[286] Each of CSXT's allegations regarding yard jobs and yard locomotives are addressed below.

[285] *See,* CSXT Reply, p. III-C-128.
[286] *Id.* p. III-C-130.

i. TPI Yard Classification Job Assignments are Consistent with CSXT's Actual Staffing Levels

CSXT compares TPI's 421 yard classification jobs for the TPIRR to CSXT's actual staffing in 2010 of {{[redacted]}} classification yard jobs at yards included on the TPIRR.[287] From that comparison, CSXT concludes that TPI's yard operating plan is infeasible, because TPI's yard assignments are "consistently below those actually employed by CSXT in the real world."[288] This argument is designed to mislead the Board because, based on CSXT's own calculations, the TPIRR classifies far fewer cars on a daily basis than does the actual CSXT, and therefore does not require the same number of yard crews actually employed by CSXT. CSXT's approach assumes that the number of yard classification crews has no variability based on the amount of cars classified. But that assumption is illogical and contrary to the Board's Uniform Rail Costing System for CSXT in 2012, which shows that yard switch crew wages are 84 percent variable with changes in traffic levels.[289] Furthermore, according to TPI Witness Orrison, when he worked for CSXT, they used a metric called cars/yard job switched to determine the level of yard job assignments based on changes in volume.

CSXT's misleading claims are designed to impose far lower productivity on the TPIRR than CSXT itself enjoys as measured by the cars classified per yard job per day. The table below demonstrates that TPI's assignment of yard jobs produces nearly identical productivity to CSXT's actual experience in 2010 and 2013 in hump yards. Further, TPI's assigned yard jobs represent significantly lower productivity than CSXT's actual productivity in 2013. Thus, TPI's assignment of yard classification jobs is clearly feasible and supported, compared with CSXT's

[287] *See,* CSXT Reply Figure III-C-20 and Table III-C-30, p. III-C-133.
[288] *See,* CSXT Reply, p. IIIC-128.
[289] On the STB's website, electronic file "URCS_2012_Worktables.zip", STB Phase II and Support URCS 2012 Worktables "CSXT 2012.pdf", Regression Number 11, page 250.

actual experience in both 2010 and 2013, when measured against the number of cars classified on a daily basis by TPIRR.

Importantly, Rebuttal Table III-C-1 below demonstrates that CSXT's Reply evidence would impose an unrealistically low level of productivity on the TPIRR by insisting that it maintain the same number of crew assignments as CSXT in 2010, when according to CSXT's Reply evidence the TPIRR classifies less than {{[redacted]}} percent of the actual cars CSXT classified in hump yards in 2010[290] and less than {{[redacted]}} percent of the actual cars CSXT classified in 2013.[291] Further, Rebuttal Table III-C-1 shows that, in 2013, CSXT increased its productivity over 2010 levels by classifying {{[redacted]}} cars per yard job in hump yards, but in Reply CSXT nevertheless assumes that the TPIRR would achieve productivity of only {{[redacted]}} cars per yard job in hump yards.[292]

Rebuttal Table III-C-1
Hump Yard Job Productivity – CSXT Actual, CSXT Reply and TPI Opening
Cars Classified and Yard Classification Jobs per Day

		CSXT Actual							
		2010		**2013**		**CSXT Reply**		**TPI Opening**	
	Hump Yard	**Cars**	**Jobs**	**Cars**	**Jobs**	**Cars**	**Jobs**	**Cars**	**Jobs**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	Willard	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,214	{{[redacted]}}	1,069	{{[redacted]}}
2.	Selkirk	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,293	{{[redacted]}}	1,558	{{[redacted]}}
3.	Indianapolis	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,321	{{[redacted]}}	1,256	{{[redacted]}}
4.	Nashville	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,123	{{[redacted]}}	1,187	{{[redacted]}}
5.	Atlanta	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	755	{{[redacted]}}	784	{{[redacted]}}
6.	Cumberland	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	857	{{[redacted]}}	911	{{[redacted]}}
7.	Cincinnati	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,035	{{[redacted]}}	1,355	{{[redacted]}}
8.	Louisville	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	965	{{[redacted]}}	1,060	{{[redacted]}}
9.	Birmingham	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	717	{{[redacted]}}	899	{{[redacted]}}
10.	Hamlet	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	983	{{[redacted]}}	1,251	{{[redacted]}}
11.	Waycross	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,312	{{[redacted]}}	1,594	{{[redacted]}}
12.	Total	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	11,575	{{[redacted]}}	12,924	{{[redacted]}}
13.	**Cars Classified Per Hump Job**	{{[redacted]}}		{{[redacted]}}		{{[redacted]}}		{{[redacted]}}	

Source: TPI Rebuttal workpaper "Yard & Support Job Comparison.xlsx".

290 Rebuttal Table III-C-1, Line12, Column (6) ÷ Line 12, Column (2).
291 Rebuttal Table III-C-1, Line 12, Column (6) ÷ Line 12, Column (4).
292 Rebuttal Table III-C-1, Line 13, Column (4) and Column (6).

As shown in Rebuttal Table III-C-1, in TPI's Opening evidence, the TPIRR classifies {{[redacted]}} cars per hump yard job, which is equivalent to the productivity achieved by CSXT in 2010 and less than the productivity achieved by CSXT in 2013, thus demonstrating that TPI's yard classification crew assignments are both realistic and feasible. A similar analysis of flat yard productivity is not presented because CSXT's Reply evidence only includes data on cars classified for 12 of the 74 flat yards on the TPIRR.

CSXT cherry-picks two examples of yards where it contends that TPI's Opening yard classification job assignments are infeasible, and misleadingly implies that the same issue exists in every yard on the TPIRR. Specifically, CSXT argues that TPI assigns only one yard job to classify 75 cars per day and 90 cars per day in Hawthorne (Indianapolis) and Demmler, PA yards, respectively.[293] By comparison, CSXT, in 2010, actually assigned {{[redacted]}} crews per day to classify {{[redacted]}} cars per day[294] in the Hawthorne flat yard and {{[redacted]}} crews per day to classify {{[redacted]}} cars per day in the Demmler flat yard.[295] In Rebuttal, TPI accepts CSXT's yard jobs in Hawthorne and Demmler, adjusted to reflect the same productivity (i.e., cars classified per crew) as CSXT actually achieved in 2013, increasing the crews assigned per day in these two flat yards to {{[redacted]}} crews per day in Hawthorne and {{[redacted]}} crews per day in Demmler.[296] TPI also makes similar adjustments to other TPIRR yards where there was a similar discrepancy between CSXT actual yard job assignments and TPI's Opening yard job assignments.[297]

Finally, CSXT claims that TPI's yard classification job assignments are infeasible because TPI has not assigned any yard jobs or yard locomotives to some TPIRR yards, including

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[293] *See,* CSXT Reply, p. III-C-130.
[294] *See,* CSXT discovery spreadsheet "Yard Matrix.xls".
[295] *Id.*
[296] For Hawthorne Yard {{[redacted]}} For Demmler Yard {{[redacted]}}
[297] TPI identified 16 additional yards where a similar mismatch exists. *See*, TPI Rebuttal workpaper "Yard & Support Job Comparison.xlsx".

Grafton, WV, Danville, IL and Plant City, FL.[298] Again, CSXT's argument is designed to mislead. CSXT's Reply workpapers show that, in both 2010 and 2013, CSXT itself had numerous yard locations where it did not assign any yard crews.[299] For example, information that CSXT produced in discovery shows that, in 2010, CSXT classified cars on a daily basis in {{[redacted]}} yards located on the TPIRR to which CSXT did not assign any yard crews or locomotives. According to CSXT's historical data, it classifies an average of {{[redacted]}} cars per day in these yards, and {{[redacted]}} cars per day in the busiest yard, without assigned yard jobs.[300] Moreover, in its Reply, CSXT itself has added five (5) yards to the TPIRR network but assigned yard crews and yard locomotives to only three (3) of these five (5) yards.[301]

As with TPI's operating plan, CSXT's operating plan must assume that cars in these yards are classified by local train crews rather than yard crews. This approach is common in the industry and is recognized by CSXT's own statement that, "[t]o the extent that TPI takes the position that any required switching would be performed by road train locomotives and crews, its operating plan does not account for the additional time required for road crews to do so…"[302] There are 24 yards where the TPIRR classifies cars but has not assigned any yard crews. In Reply, CSXT has accepted TPI's dwell times for local trains at all of these yards but added yard crew assignments at only eight of them. TPI accepts CSXT's yard crew assignments at these eight yards and continues to use local train crews to classify cars at the remaining yards just as CSXT has done. In Rebuttal, TPI scales the TPIRR yard classification jobs to reflect the same

[298] *See,* CSXT Reply, pp. III-C-130-131.
[299] *See,* CSXT Reply workpaper "Yard Matrix Update.xls" and discovery spreadsheet "Yard Matrix.xls."
[300] *See,* CSXT Discovery spreadsheet "Yard Matrix.xls".
[301] *See,* CSXT Reply workpaper "TPI Yard Operations Reply.xlsx."
[302] *See,* CSXT Reply, p. III-C-130.

productivity levels achieved by CSXT in 2013 based on the information provided by CSXT in Reply.[303]

ii. Yard Support Jobs

CSXT is correct that TPI omitted yard support jobs on the TPIRR.[304] TPI accepts this criticism in Rebuttal by adding yard support jobs in each yard where CSXT has assigned them in Reply. However, rather than blindly assigning the same number of support jobs that CSXT actually had in 2010, as CSXT did in Reply, TPI has scaled the number of support jobs to reflect the actual cars classified in yards on the TPIRR based on CSXT actual crew assignments and cars classified in 2013 as shown in CSXT Reply workpapers.[305] The results are summarized in Rebuttal Table III-C-2 below.

Rebuttal Table III-C-2
CSXT Actual, CSXT Reply and TPI Rebuttal
Hump Yard Cars Classified and Yard Support Jobs per Day

	CSXT Actual							
Hump	**2010**		**2013**		**CSXT Reply**		**TPI Rebuttal**	
Yard	**Cars**	**Jobs**	**Cars**	**Jobs**	**Cars**	**Jobs**	**Cars**	**Jobs**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Willard	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,214	{{[redacted]}}	1,069	{{[redacted]}}
2. Selkirk	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,293	{{[redacted]}}	1,558	{{[redacted]}}
3. Indianapolis	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,321	{{[redacted]}}	1,256	{{[redacted]}}
4. Nashville	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,123	{{[redacted]}}	1,187	{{[redacted]}}
5. Atlanta	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	755	{{[redacted]}}	784	{{[redacted]}}
6. Cumberland	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	857	{{[redacted]}}	911	{{[redacted]}}
7. Cincinnati	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,035	{{[redacted]}}	1,355	{{[redacted]}}
8. Louisville	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	965	{{[redacted]}}	1,060	{{[redacted]}}
9. Birmingham	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	717	{{[redacted]}}	899	{{[redacted]}}
10. Hamlet	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	983	{{[redacted]}}	1,251	{{[redacted]}}
11. Waycross	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	1,312	{{[redacted]}}	1,594	{{[redacted]}}
12. Total	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	{{[redacted]}}	10,820	{{[redacted]}}	11,668	{{[redacted]}}
13. **Cars per Hump Support Job**	{{[redacted]}}		{{[redacted]}}		{{[redacted]}}		{{[redacted]}}	

Source: TPI Rebuttal workpaper "Yard & Support Job Comparison.xlsx".

[303] *See,* CSXT Reply workpaper "Yard Matrix Update.xlsx" and TPI Rebuttal workpaper "Yard & Support Job Comparison.xlsx".
[304] *Id.*, pp. 131-32.
[305] *See,* CSXT Reply workpaper "Yard Matrix Update.xls" The CSXT workpapers show yard crew assignments on a quarterly basis. To reflect daily yard assignments, the yard crew data is divided by 91 days in the quarter.

As shown in Rebuttal Table III-C-2 above, by assigning the real world CSXT's actual 2010 support jobs to the TPIRR in Reply, without regard to the fact that the TPIRR handles less traffic, CSXT reduces the productivity on the TPIRR from {{[redacted]}} cars handled per support job[306] by CSXT in 2010 to only {{[redacted]}} cars handled per support job[307] on the TPIRR. This level of productivity is far less than the level of {{[redacted]}} cars handled per support job achieved by CSXT in 2013.[308] Thus, CSXT imposes an unrealistic reduction in productivity on TPIRR.

In Rebuttal, TPI includes 409 yard classification job assignments per day in hump yards and flat yards combined and 60 support crew job assignments per day in hump yards and flat yards combined,[309] compared with the {{[redacted]}} classification job assignments and {{[redacted]}} support job assignments included in CSXT's Reply evidence.[310]

iii. Yard Locomotives

In Opening, TPI included 181 SW1500 yard locomotives, including spares, and 22 SD40 locomotives used to push cars over the humps at eleven hump yards, for a total of 203 yard locomotives. In Reply, CSXT rejected TPI's use of SW1500 switch locomotives on the TPIRR and instead assumed all switch locomotives would be SD40 locomotives.[311] In addition, based on the increased number of switch crews, CSXT increased the number of switch locomotives from 203 switch locomotives to 245 switch locomotives (including spares).[312] In Rebuttal, TPI accepts the use of SD40 locomotives for all switch locomotives instead of the SW1500 locomotives, but rejects CSXT's locomotive count.

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306 Rebuttal Table III-C-2, Line 13, Column (2).
307 Rebuttal Table III-C-2, Line 13, Column (6).
308 Rebuttal Table III-C-2, Line 13, Column (4).
309 *See,* TPI Rebuttal workpaper "Yard & Support Job Comparison.xlsx.".
310 *See,* CSXT Reply workpaper "TPIRR Yard Operations_Reply.xlsx".
311 *See,* CSXT Reply, p. III-C-147.
312 *See,* CSXT Reply workpaper "TPIRR Yard Operations_Reply.xlsx".

CSXT criticizes TPI's operating plan for not providing a locomotive at every TPIRR yard.[313] But as discussed in Part III.C.5.e.i above, neither has CSXT. Moreover, neither does the real world CSXT. This is just one example of how CSXT has been disingenuous in the presentation of its evidence by making statements implying that TPI has overlooked very basic operating requirements that turn out not to be so basic after all, and then adopting the same alleged deficiencies in its own reply evidence without acknowledging that fact.

As evidenced by CSXT's determination of the number of yard locomotives, CSXT adopted TPI's method for calculating the required number of yard locomotive units, including the number of spare units determined by TPI, with one exception. In Opening, TPI calculated the number of locomotives required in each hump yard by calculating the number of units needed for crews assigned, then adding a unit for crews pushing cars over the hump. In contrast, CSXT calculates the number of units needed for the crews assigned then adds two (2) units for crews pushing cars over the hump, thereby overstating the units needed in each hump yard by one unit.

In addition to the above overstatement, CSXT has overstated the number of yard crew assignments by failing to recognize that the TPIRR classifies fewer cars and therefore requires fewer yard crews and thus fewer locomotives.

In Rebuttal, TPI continues to calculate yard locomotive requirements as it did in Opening, adjusted to reflect the addition of the flat yard crew assignments discussed above. In doing so, TPI accepts CSXT's addition of 17 flat yard switch locomotives plus four (4) additional spares, for a total of 224 yard locomotives.

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[313] *See,* CSXT Reply, p III-C-138.

6. Customer Lead Tracks

In Opening, TPI used an estimate of 200 feet of track for all industry leads. On Reply, CSXT added 24 lead tracks totaling 63.71 miles to access 52 customers on the TPIRR.[314] TPI has included these track miles on Rebuttal.[315]

7. Peak Year Train Development

a. Merchandise Trains

CSXT generally accepts TPI's selection of historical intermodal, automotive, and general freight manifest traffic for inclusion in its MultiRail analysis. CSXT also generally accepts TPI's identification of the historical local and line-haul merchandise trains carrying that traffic for inclusion in its RTC analysis. However, because CSXT's MultiRail analysis assigned the TPIRR traffic to different trains than those that actually moved the traffic historically, CSXT created a disconnect between the historically based trains it (and TPI) modeled in RTC and the MultiRail-generated trains to which CSXT assigned the traffic in developing its operating plan. Therefore, CSXT failed to model the trains it identified in its operating plan in its RTC analysis. As a result, CSXT failed to demonstrate that its posited operating plan is feasible.

For the historical trains CSXT (and TPI) modeled in their respective RTC analyses, CSXT made a few adjustments to certain intermodal trains, which TPI has accepted in Rebuttal. Specifically:

- CSXT added a third locomotive to trains moving expedited traffic;[316]
- CSXT adjusted train routing through Chicago,[317] and;

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[314] *See,* CSXT Reply workpaper "Customer Lead Tracks.xlsx."
[315] As CSXT included the customer tracks as yard tracks, TPI has added them to its Rebuttal Yard Matrix. *See* TPI Rebuttal workpaper "TPIRR Yard Matrix Rebuttal Grading.xlsx," tab "TPIRR Yards."
[316] *See,* CSXT Reply, p. III-C-136.
[317] *Id.* p. III-C-137.

- CSXT added three additional intermodal facilities, at Marion, OH, North Baltimore, OH and Louisville, KY.[318]

b. <u>Local Trains</u>

As discussed in Part III.C.2 above, CSXT alleges that TPI failed to account for over 44,000 local trains it claims are required to serve the TPIRR traffic group. CSXT's allegations consist of a series of exaggerations and false statements designed to mislead the Board into believing something that is simply not true. CSXT claims to have "corrected this major deficiency in TPI's Opening RTC model" by adding just 5,940 (about one seventh) of the allegedly missing trains to its Peak Year train count for RTC modeling purposes.[319] CSXT's modest "correction" speaks volumes about the credibility of its exaggerated claim of more than 44,000 "missing" local trains.

CSXT's analysis is disjointed and deficient. Specifically, CSXT's RTC model peak period train list is based on adding 5,940 "On/Off-SARR" local trains and 11 weekly industrial yard trains to TPI's Opening train list.[320] Thus, the total local and yard trains that CSXT has modeled add up to just 48,720 trains per year,[321] which is just slightly more than the 42,208 local trains that TPI modeled in its opening evidence and a far cry from the 86,902 local trains that CSXT claims TPI should have included in its Opening local train list.[322] In addition, CSXT's MultiRail-derived local train list included 60,788 local trains and zero (0) industrial yard trains. Therefore, CSXT modeled only 80%[323] of the total number of local trains it included in its operating plan in its RTC model, which means CSXT failed to demonstrate that its operating

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318 *Id.*
319 *See,* CSXT Reply, pp. III-C-173-174.
320 Although CSXT claims to have added 16 weekly industrial yard trains to its RTC model train list at Reply page III-C-174, its workpapers show that it only added 11 such trains to the RTC train list.
321 42,208 local trains in TPI Opening, plus 5,940 "On/Off" local trains, plus 572 (11 x 52) industrial yard trains.
322 42,208 local trains in TPI Opening plus 5,940 "On/Off" local trains, plus 28,860 (555 x 52) industrial yard trains, plus 9,894 other local trains.
323 48,720 ÷ 60,788 = 80%.

plan was feasible. Furthermore, CSXT used its RTC model outputs based on operating roughly 49,000 annual local trains to develop operating statistics for over 60,000 *different* local trains moving different consists over different routes than CSXT included in its MultiRail operating plan. CSXT's utter failure to model the operating plan it costed renders its entire operating plan unverified and is grounds for the Board to disregard CSXT's operating plan in its entirety. CSXT simply did not demonstrate that its operating plan is feasible.

c. Unit Train Traffic

CSXT accepted TPI's identification of traffic moving in unit trains, and TPI's identification of the trains moving that traffic based on historical traffic data. CSXT incorporated the historical movement of unit trains in its RTC analysis just as TPI did in Opening. TPI continues to use the historical unit train routing in Rebuttal.

d. Peak Year Train Development

i. Growth Trains

CSXT makes a baseless claim that "TPI's RTC model understated the number of 'growth' trains that would be required to handle TPI's projected increase in the TPIRR's traffic in the Peak Year [which] … affected all categories of trains."[324] But aside from making the result-oriented assertion that TPI's growth train assumption is "nonsensical," CSXT does not explain why it believes TPI's methodology is incorrect or how CSXT proposes to correct TPI's alleged understatement. Instead, CSXT boldly asserts, without explanation, that TPI "should have added" 17 more unit trains and 94 more merchandise trains in its RTC peak week simulation.[325] TPI's review of CSXT's Reply workpapers indicates that CSXT altered one of the

[324] *See,* CSXT Reply, p. III-C-174.
[325] *See,* CSXT Reply, pp. III-C-174-175.

analytical parameters in TPI's peak period train forecasting model without explanation in a transparent attempt to inflate the Peak Year train requirement.

Specifically, in Opening, TPI determined that the peak week of the Base Year was December 10-16, 2012. TPI's peak period model assumed the train distribution reflected in the Base Year would hold for all years, and that train growth would follow the distribution pattern reflected in the Base Year. CSXT accepted this model, and both parties agree that the peak period in the Peak Year will be December 10-16, 2019.

As documented in TPI Opening Exhibit III-C-1, TPI used the following process to determine the trains required in the Peak Year.

- First, TPI identified the appropriate growth factor applicable to each subgroup of trains.
- Next, TPI applied the projected aggregate volume change from 2012-2019 to carloads moving in Base Year trains that moved between July and December 2012 to generate the July-December 2019 portion of the Peak Year traffic carload growth.
- Next, TPI determined the number of available carload growth slots on historical trains that moved between July and December 2019, and subtracted the available slots from the Peak Year carload growth requirements to determine whether additional trains within each distinct train group would be required to handle the Peak Year volume growth.
- If additional peak trains were required, the excess growth cars were divided by the Peak Year average car count per train to determine the number of growth trains required to serve the TPIRR traffic group, and this number of trains was ratably applied to the July-December 2019 time period based on the distribution observed in the Base Year.[326]

CSXT accepted TPI's model in its entirety, except for one change. Specifically, CSXT inexplicably reduced the analysis period from July-December to just December. This change inflated the number of trains required in the Peak Year for three (3) reasons.

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[326] *See,* TPI Opening Exhibit III-C-1 at pp. 40-43.

- First, TPI derived the maximum train size to determine the number of slots available to accommodate projected growth based on a six-month base period. In CSXT's truncated model, the maximum train size was determined based on evaluation of only December trains. Therefore, if the longest historical train moved in any month but December, CSXT artificially deflated the maximum train size, which artificially reduced the per-train growth slot availability, and forced growth trains to be added prematurely.

- Second, TPI derived the average train size to determine the number of slots available to accommodate projected growth based on the same six-month base period. In CSXT's truncated model, the average train size was determined based on evaluation of only December trains. Therefore, if December trains deviated from the six-month average, CSXT artificially adjusted the average train size, which artificially adjusted the per-train growth slot availability.

- Third, CSXT reduced the number of historical trains with available slots from the six-month total train count to a one-month train count.

A simple example illustrates the impact of CSXT's unjustified modification. Assume a 110 car maximum train size and a 100 car average train size in a given lane based on 20 trains over the historical six-month period from July to December 2012. This equates to 20 historical trains, 2,000 historical carloads, and 200 growth slots. Further assume 20% projected carload growth, or 2,400 Peak Year carloads. In the TPI model, 200 of the 400 growth carloads would be moved in available historical train slots and two (2) growth trains would be added to move the 200-car overflow.

Now, assume that the maximum train size is reduced to 105 cars and the average train size is reduced to 99 cars in a given lane based on just three (3) trains that moved in December 2012. This equates to three (3) historical trains, 297 historical carloads, and 18 growth slots. Retaining the 20% projected carload growth assumption results in 357 Peak Year carloads. In the CSXT model, 18 of the 60 growth carloads would move in available historical train slots and a growth train would be added to move the 42-car overflow.

TPI's model would add two (2) growth trains over six months, while CSXT's model would add a growth train every single month for a total of six growth trains, which is more than is needed to accommodate the projected growth.

CSXT's entire rationale for this undisclosed adjustment is a dismissive statement that the results of TPI's model are somehow "not credible."[327] CSXT argued that TPI's addition of merchandise growth trains approximating 1% of the Base Year total merchandise train count is "nonsensical."[328] But CSXT's own adjustment only adds merchandise growth trains approximating just 3% of the Base Year total merchandise train count—hardly a change that warrants CSXT's hand-wringing. Because CSXT has not offered any explanation as to why its adjustment is necessary or superior to TPI's Opening model, which CSXT otherwise incorporated in its entirety, TPI retains its Opening train forecasting model and parameters in Rebuttal.

Furthermore, the volume forecast index used by both parties was developed based on expected aggregate growth from the last six months in 2012 to the last six months in 2019. Therefore, CSXT created a mismatch by applying this index to only one month of train data in its model. CSXT would need to have developed a December-specific forecast index for its December-only model framework to ensure congruity. By applying a 2H12-2H19 index to December 2012 shipments, CSXT disregarded seasonal variations in traffic volumes and traffic mix.

ii. Outlawed Trains

CSXT also inflated its peak period local train count based on an assertion that, because certain local trains sometimes "outlaw" in the real world, they could not possibly move a single

[327] *See,* CSXT Reply, p. III-C-175.
[328] *Id.*

additional car in the Peak Year.[329] This argument suffers from several flaws. First, because TPI's forecast model is based on adding carload volume to existing blocks, adding carloads to local trains does not change the historical blocks, cuts, stops, or customers served by the TPIRR local trains, and thus would not add to their time. Second, CSXT's analysis of trains timing out is based on real world performance and completely ignores the RTC results, which show that the local trains in question do not time out in the RTC modeling exercise.

However, as discussed in preceding sections, TPI added some of the local trains CSXT alleges were missing from the TPI Opening train list and are required to serve the TPIRR traffic group. Unlike CSXT, TPI added these trains to its peak period train list and modeled them in RTC. Therefore, TPI's Rebuttal RTC train list contains 129 more local trains than CSXT's Reply RTC list.[330]

iii. TPI Selection Criteria

CSXT removed 66 road trains it claimed did not meet TPI's selection criteria that required road trains to traverse the SARR for 10 miles to be included in the TPIRR train list.[331] CSXT correctly identified a programming glitch that resulted in TPI inadvertently including a few dozen trains it should not have included in the peak week. However, the determination of which trains should not have been included is based on references to the SARR network definition file that flags locations (stations) and links (segments) as On- and Off-SARR. TPI reviewed CSXT's Reply network definition file and made a few minor adjustments. As a result, TPI accepts removal of 54 of the 66 trains identified by CSXT, and TPI also has identified an additional nine (9) trains for removal based on this train selection criteria. Therefore, TPI

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[329] *See,* CSXT Reply, pp. III-C-175-176.
[330] TPI added 151 local trains but removed the 22 unnecessary "growth" locals that CSXT added. *See,* CSXT Reply, p. III-C-176.
[331] *See,* CSXT Reply, p. III-C-177.

removed a total of 63 road trains from its Opening RTC train list. In summary: 1) TPI did not change its train forecasting model or parameters for either local or road trains in Rebuttal; and 2) TPI removed 63 road trains that did not meet TPIRR's selection criteria but that were inadvertently included in opening due to a minor coding error.

8. Train Size and Equipment Issues

a. Train Sizes

TPI developed Peak Year train sizes in Opening based on the maximum size of comparable Base Year trains for all train groups. As discussed above, although CSXT claims to have accepted TPI's maximum train sizes in Reply, CSXT actually reduced the maximum train size it allowed for forecasting purposes by restricting its train size analysis period to include only trains moving in December 2012. However, CSXT did not restrict its maximum train sizes for RTC modeling as it did for forecasting, so CSXT created yet another disconnect in its operating evidence. TPI continues to use its Opening maximum train sizes for all purposes in Rebuttal.

b. Locomotives

In Reply, CSXT accepts TPI's use of ES44AC locomotives for road train service and helper service and TPI's use of SD40 locomotives in local train service. CSXT objects to TPI's use of SW1500 locomotives for switch service in yards and replaces these locomotives with SD40 locomotives. As discussed in Rebuttal Part III-C-4, *supra*, TPI accepts the use of SD40 locomotives in switch service in this Rebuttal evidence. CSXT also claims that TPI understates the number of locomotives required by the TPIRR for both road and local trains and the number of locomotives used in switch service. Finally, CSXT objects to TPI's use of a 1/1 distributive power ("DP") locomotive configuration on road trains. Each of CSXT's objections and arguments are addressed below.

i. Road Locomotives

In Reply, CSXT claims that TPI understated the number of road locomotives required by the TPIRR due to unrealistic dwell times in its RTC model that have resulted in understated transit times.[332] As discussed in Part III.C.5.b.iii above, TPI accepts the train dwell times from CSXT's RTC model. Other modifications to TPI's RTC model in Rebuttal are discussed in Part III.C.13 below.

CSXT claims that TPI understates the locomotive spare margin for both ES44AC locomotive and SD40 locomotives by including time that was not allocated to a specific activity and was identified only as "unknown CSX on-line days."[333] CSXT makes the unsupported assumption that locomotives are not available for service during this time, and therefore, the time must be assumed to be included in the "bad order/shop" category for the purpose of spare margin calculations. In order to reach this conclusion, however, CSXT disregards the fact that the very title of this time category contains the descriptor "on-line." CSXT also assumes that, because it does not know where locomotives are during this time category, they must be unavailable for service. As CSXT obviously tracks the time that locomotives are unavailable for service and logs this time in one of five categories where locomotives are not available for service, if "unknown *on-line* days" were part of unavailable time, it would be logged as such. Thus, TPI appropriately excluded this time from its spare margin calculation.

CSXT also objects to TPI's use of DP locomotive configurations on grounds that TPI's assumption is both "unrealistic and highly inefficient."[334] CSXT argues that the cost of outfitting locomotives for DP operations and the extra time and expense is simply not justified. CSXT

[332] *See,* CSXT Reply, p. III-C-139.
[333] *See,* CSXT Reply, p. III-C-141.
[334] *See,* CSXT Reply, p III-C-140.

asserts that Eastern railroads do not favor DP because it does not work given the average length of haul and operating parameters in the East. Contrary to CSXT's self-serving statements, the December 2010 issue of *Progressive Railroading* reports on statements by a CSXT spokesperson that "CSXT will request that builders pre-wire all new locomotives to accommodate PTC, as well as include DP capability as a feature on many newly acquired units."[335] One can only conclude that, as CSXT is ordering new locomotives with DP capability, the use of DP on CSXT trains must be realistic and economically justified. In Rebuttal, TPI continues to use DP, except on trains interchanged between the TPIRR and the residual CSXT, as discussed in Part III.C.11.a below. In Rebuttal, TPI includes 852 ES44AC locomotives in road train service and 209 SD40 locomotives in local train service.

ii. Helper Locomotives

TPI has identified helper service districts on the TPIRR at 12 locations and specifies both the number of additional locomotives used in helper service at each location and the number of trains helped per day during the peak period.[336] In Reply, CSXT accepts TPI's helper service.[337] In Rebuttal, TPI continues to include 16 ES44AC locomotives in helper service.

iii. Switch/Work Train Locomotives

As fully addressed in Part III.C.5.e.iii above, TPI accepts CSXT's use of SD40 locomotives in switch service on the TPIRR and CSXT's assignment of switch locomotives at flat yards. However, TPI does not accept CSXT's overstatement of yard locomotive assignments at hump yards, which results from CSXT's overstatement of the number of yard crews assigned

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[335] *See* http://www.progressiverailroading.com/mechanical/article/Freight-Locomotive-Market-Update--25245 and TPI Rebuttal workpaper "Progressive Railroading mechanical update.pdf".
[336] *See,* TPI Opening Table III-C3 and Exhibit III-C-6.
[337] *See,* CSXT Reply, p. III-C-142.

at hump yards and by double counting the number of units required for pushing cars over the hump. In Rebuttal, TPI includes 224 SD40 locomotives in yard service.

Rebuttal Table III-C-3, below compares the number of locomotives on the TPIRR as proposed in Opening, Reply and Rebuttal.

Rebuttal Table III-C-3
Comparison Of TPIRR to
CSXT Proposed Locomotives

Locomotive Type (1)	TPI Opening (2)	CSXT Reply (3)	TPI Rebuttal (4)
1. ES44AC	709	882	852
2. SD40-2	167	515	433
3. SW 1500	181	0	0
4. Total	1,057	1,397	1,285

Sources: "TPIRR Operating Statistics_Open.xlsx", TPIRR Operating Statistics_Reply.xlsx" and "TPIRR Operating Statisitics_Rebuttal.xlsx".

c. **Rail Cars**

CSXT states that TPI's ownership percentages are consistent with those developed by CSXT and CSXT does not challenge TPI's mix of system cars and shipper-provided equipment.[338] CSXT, however, does argue that TPI's car requirements are understated as they are based on the operating statistics generated by TPI's allegedly faulty RTC simulation. CSXT addresses the specifics of its allegations in Part III-D as does TPI.

9. **Crew Districts and Crew Requirements**

In Opening, TPI's operating plan assigns road crews to 111 crew-district home terminal locations, and in Reply, CSXT accepts those locations with minor modifications, which are

[338] *See,* CSXT Reply, p. III-C-148.

addressed in Part III-D.[339] Consistent with the Board's decision in every stand-alone proceeding as early as *FMC*, TPI assumes train crews will work 270 shifts per year. In Reply, CSXT argues that this assumption is unrealistic and instead assumes 251 shifts per year for road crews. As fully addressed in Part III-D, road crews working 270 shifts per year is feasible and consistent with STB precedent. TPI continues to rely on 270 shifts per year in Rebuttal.

a. <u>Road Crews</u>

CSXT claims that TPI's road crews are understated because TPI: 1) failed to include all of the necessary local trains needed to provide complete service to the TPIRR customers; 2) didn't adequately account for directional imbalances; 3) assumed a re-crew rate that is lower than CSXT's actual re-crew rate; and 4) assumes that TPI's crews run longer crew districts with fewer crew changes than do CSXT actual crews. Each of CSXT's road crew related arguments are fully addressed in Part III-D-3 of this Rebuttal.

b. <u>Helper Crews</u>

In Opening, TPI assigns helper service at twelve locations on the TPIRR and uses engineer-only helper crews. These crews are staffed by a total of 65 employees.[340] As CSXT correctly points out, TPI failed to include these employees in its operating expense calculations in Opening. As stated previously, CSXT accepts TPI's helper district assignments and also accepts TPI's 65 employees to staff this helper service.[341] In Rebuttal, TPI includes the cost associated with the 65 helper service employees in its operating expense calculations.

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339 *Id.* p III-C-149.
340 *See,* TPI Opening, p. III-C-11.
341 *See,* CSXT Reply, pp. III-C-150-151.

10. Repair, Inspection, Fueling and Communication Functions

a. Car Repair Facilities

CSXT accepts TPI's use of full service car leases for the railcars provided by the TPIRR, and thus the underlying concept that the lease payments include maintenance costs. However, CSXT states that TPI failed to provide the facilities required to perform the necessary railcar maintenance functions, such as running repairs to foreign and private equipment.[342] In spite of CSXT's arguments, it does not add any car repair shops to its investment for the TPIRR. Instead, CSXT adds a total of 1.3 miles of RIP track in five (5) locations, including: Atkinson, Buffalo, Evansville, East St. Louis and New Orleans. As stated previously, TPI accepts the addition of the RIP track in these locations and includes them in Rebuttal.

b. Locomotive Inspections and Fueling

In Opening, TPI included four (4) locomotive repair shops on the TPIRR. In Reply, CSXT accepts TPI's four "heavy" locomotive repair shops and adds eight (8) more locomotive servicing and inspection facilities for a total of 12 locomotive shops.[343] CSXT justifies the additional shops as necessary to service the "tens of thousands missing local trains" from the TPIRR system. As discussed in Part III.C.2 above, CSXT has significantly exaggerated the trains "missing" from the TPIRR system and therefore, the need for additional locomotive servicing and inspection facilities. Thus, there is no need for the additional eight (8) inspection and servicing facilities CSXT adds to the TPIRR.

The excessive nature of the 12 locomotive shops proposed by CSXT is further evidenced by the fact that the entire NS system has only eight (8) locomotive shops, with nearly 20,000

[342] *Id.* pp. 151-52.
[343] *See,* CSXT Reply, p. III-C-153.

system route miles and more than 4,000 locomotives compared with TPIRR's 6,982 system route miles and 1,285 locomotives.[344]

In Opening, TPI included fixed fueling platforms at 16 locations on the TPIRR and assumed direct to locomotive ("DTL") fueling at 15 additional locations. In Reply, CSXT argues that TPI did not provide sufficient track at these facilities to service and inspect all the TPIRR locomotives and adds servicing and inspection facilities at 12 TPIRR yards.[345] CSXT's workpapers, however, show that CSXT did not add these facilities and therefore has accepted the 31 fueling facilities included in TPI's Opening evidence.

c. Train Control and Communications

CSXT accepts TPI's use of a functioning, but not interoperable, PTC system in 2010. CSXT assumes this system must be upgraded in 2015 to meet the Rail Safety Improvement Act interoperability requirements. The PTC system and CSXT's concerns regarding TPI's PTC system are addressed in Part III-F-6.

11. Reciprocal Obligations

The TPIRR interchanges traffic with six (6) Class I railroads and 75 Regional and short lines which require reciprocal agreements. In Reply, CSXT claims that TPI did not properly account for its reciprocal obligations with its connecting carriers and makes assumptions about relationships that do not exist in the real world with regard to three (3) specific issues. These issues include: DP configurations of TPIRR's trains, car classification and pre-blocking of cars, and locomotive fueling. CSXT's arguments regarding each of these issues either are not

[344] *See* http://www.nscorp.com/content/nscorp/en/get-to-know-norfolk-southern/about-ns/corporate-profile.html and TPI Rebuttal workpaper "NS locomotive shops.pdf."
[345] *See,* CSXT Rely, pp. III-C-153-154.

significant or are inconsequential and inconsistent with CSXT's own calculations of the TPIRR's operating expenses.

a. <u>Distributive Power</u>

CSXT argues that the TPIRR's connecting railroads are unlikely to adopt DP locomotive configurations and TPI cannot assume they will. CSXT argues that TPI's DP assumption is inconsistent with CSXT's existing interline service agreements and that Eastern carriers have not embraced DP the way Western carriers have. CSXT adds that it would not accept trains in interchange in DP configuration from the TPIRR. In Reply, therefore, CSXT added a 45 minute dwell at the interchange to all trains interchange forwarded from the TPIRR to CSXT to account for reconfiguring TPIRR trains from DP to head end only power. CSXT also claims that, as a result of TPI's DP assumption, "TPI would be required to bear the massive cost of equipping the locomotive fleet of each of its connecting carriers with DP capability."[346]

Notwithstanding CSXT's extensive rhetoric related to TPI's use of DP configuration, CSXT accepts the DP configuration for the TPIRR, with only one adjustment to accommodate DP power in its Reply evidence, i.e., the previously mentioned addition of a 45 minute dwell at interchange of TPIRR trains to CSXT. Because CSXT makes this assertion on behalf of the residual CSXT for the first time in Reply, TPI accepts the notion that the residual CSXT would refuse to accept TPIRR trains in interchange with DP power; however, rather than adding the inefficient 45 minute dwell at interchange to reconfigure power on these trains in Rebuttal, TPI uses a head-end power configuration for the entire route of movement on all trains TPIRR interchanges to CSXT.

[346] *Id.* p. III-C-160.

b. Car Classification and Blocking

CSXT claims that TPI's classification and blocking assumptions are inconsistent with CSXT's real world practices.[347] In Opening, TPI identified all cars classified by CSXT at each of TPIRR's interchange locations. TPI then estimated that only 25 percent of cars received in Chicago require classification and 10 percent of cars received in St. Louis, New Orleans and Buffalo require classification based on the assumption that TPIRR's connecting carriers would pre-block cars forwarded to the TPIRR at these locations. Further, TPI assumed that the TPIRR would be required to classify all cars received and forwarded at all other locations on the TPIRR.

In Reply, CSXT states that TPI's assumptions are wrong and do not reflect CSXT's actual agreements. CSXT also claims that TPI's approach ignores CSXT's obligations to pre-block cars for its connecting carriers at specific locations. CSXT states that it must classify approximately 60 percent of the traffic it receives at New Orleans and 100 percent of all traffic received in Buffalo. Further, CSXT pays the BRC to classify all traffic received and forwarded in Chicago.

In Rebuttal, TPI removes all of its opening evidence adjustments to the number of cars CSXT actually classified at these four (4) locations. As stated previously, TPI accepts CSXT's assignment of yard jobs at all flat yards on the TPIRR, including the four (4) yards where TPI had adjusted the number of cars classified by CSXT for pre-blocking by its connecting carriers. TPI also has accepted CSXT's determination of the number and length of classification tracks in these yards. Therefore, CSXT's arguments regarding the TPIRR's failure to meet its reciprocal classification and blocking obligations are rendered moot.

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[347] *See,* CSXT Reply, pp. III-C-162-164.

c. Locomotive Fueling

In Opening, TPI stated that the TPIRR will inspect and fuel locomotives used in interline service to fulfill the reciprocity arrangements with its connecting carriers. CSXT objects to TPI's assumptions and claims that they are not in accord with common practice. CSXT states that "[i]f TPI assumes that locomotives tendered to other carriers are not full of fuel, it also must assume that locomotives received from those carriers would likewise be less than fully fueled."[348] CSXT uses this as a springboard to claim that, somehow, TPI's operating plan does not meet it reciprocal obligations regarding fuel equalization with its connecting carriers.

CSXT's argument is a red herring used only to muddy the record in this proceeding as is evidenced by the fact that CSXT calculates the locomotive fuel requirements of the TPIRR in exactly the same manner as does TPI. In fact, CSXT accepts TPI's fuel consumption rate and initial fuel price.[349] Stated differently, CSXT disparages TPI's evidence regarding fueling locomotives used in interline service, while accepting TPI's methodology for calculating fuel costs for these locomotives.

12. Crude Oil Practices

CSXT claims in its Reply testimony that crude oil trains should run at maximum speeds of 50 mph, not 60 mph and that they also require enhanced safety including route selection similar to TIH traffic. "Key Trains" carry 20 or more carloads of crude oil and use a maximum speed of 50 mph. According to the DOT, "on February 21, 2014, the Secretary of Transportation sent a letter to the President and Chief Executive Officer at the AAR requesting that he and his members subscribe to voluntary actions to improve the safe transportation of crude oil by rail. These include: speed restrictions, braking signal propagation systems, routing analyses,

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[348] *See,* CSXT Reply, p. III-C-165.
[349] *See,* CSXT Reply, pp. III-D-26-28.

additional track and rail integrity inspections, more frequent mechanical inspections, development of an emergency response inventory, funding for emergency responder training, and continued communication with communities about the hazards of crude oil being transported by rail."[350] By the time the Secretary of Transportation had sent this letter, TPI already had filed its opening evidence. Consequently, the crude oil trains in TPI's opening evidence were not limited to these restrictions. For its Rebuttal evidence, however, TPI is aware of this "voluntary" set of restrictions, and has elected to restrict its crude oil trains accordingly. In the peak period, 11 TPIRR trains are affected.

a. Dedicated Personnel

In Rebuttal, TPI has accepted CSXT's one (1) manager and seven (7) compliance officers that have responsibility for haz-mat transportation planning.

13. Rail Traffic Control Model ("RTC")

TPI's Rebuttal RTC simulation represents a conservative effort to minimize differences between TPI's Opening RTC model and the workable parts of CSXT's Reply RTC model. As explained below, some of the component parts of CSXT's Reply RTC model and its critique of TPI's Opening RTC model are in error and were rejected by TPI accordingly. Specifically CSXT alleged that TPI in its Opening evidence:

1. Used an outdated version of the RTC model;
2. Failed to include all trains required to serve the selected traffic;
3. Failed to model road and local trains completely and accurately;
4. Incorporated unrealistic dwell times;
5. Operated crude oil trains and loaded grain trains too fast;
6. Understated random outages; and
7. Contained significant input errors (e.g., negative number of cars).

[350] *See*, United States Department of Transportation Docket No. DOT-OST-2014-0067.

Each of CSXT's claims are discussed below along with any adjustments TPI incorporated in Rebuttal based on valid criticisms.

a. Outdated Version of the RTC Model

CSXT states that RTC version 69E used by TPI "contained a number of flaws that adversely affected the Model's ability to generate accurate results," and that the newer version 69P provides more precise results.[351] TPI agrees that the previous version of the RTC model contained various problems. In fact, TPI attempted to run (unedited) CSXT's Reply RTC simulation in version 69E, and the model failed at 44 percent completion. At the time TPI was developing its opening evidence, version 69E was the latest version of RTC and was actually a "beta" release. TPI discussed a number of bugs it encountered during the modeling of its opening evidence with the developers at Berkeley Simulation Software (the creators of the RTC model). The developers recommended updating to version 69E even though it was in beta stage. While CSXT was developing its Reply evidence, Berkeley Simulation Software worked through eleven (11) version updates during CSXT's Reply time schedule. This would include versions 69F, 69G, 69H, 69I, 69J, 69K, 69L, 69M, 69N, and 69O before settling with version 69P. The failure of version 69E to run CSXT's Reply RTC simulation, along with the number of version updates, indicates that there is a significant difference between RTC version 69E and 69P. This is typical of software; newer versions improve upon older versions once the publisher gets bug reports from end users. TPI uses version 69P for this Rebuttal RTC simulation as it is still the newest version of the RTC available.

[351] *See,* CSXT Reply, pp. III-C-171-172, fn. 254.

b. All Trains Required to Serve the Selected Traffic

In TPI's Rebuttal Simulation, TPI accepted CSXT's addition of certain local and yard trains to the RTC train list, and added another 151 local trains to the RTC model that CSXT identified as missing from TPI's opening RTC train list but that were not added to the train list CSXT modeled in RTC. Where TPI has added local trains, TPI experts applied CSXT's methodology to determine which of the new trains would dwell on the mainline at industry and has modeled them accordingly.

c. Model Road and Local Trains

CSXT claimed that TPI failed to model road trains completely and accurately at multiple locations along the TPIRR system.[352] TPI discusses CSXT's claims below.

i. Mobile, AL

CSXT claims that TPI failed to move trains through Mobile to the McDuffie Island Coal terminal. TPI accepts CSXT's revision of this route, although TPI corrected an error where the turnout was placed on the incorrect side of the track, thus allowing trains to properly reach the terminal docks.

ii. Chicago, IL

CSXT claims that TPI assumed UP and CN interchange at BARR Yard. CSXT actually delivers UP trains to Proviso Yard, and delivers CP trains at Bensenville Yard over IHB tracks. CSXT also claims expedited intermodal trains do not originate/terminate at BARR Yard, but instead originate and terminate at Bedford Park after moving over the IHB.

TPI accepts CSXT's revision of these routes.

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[352] *See CSXT Reply*, pp. 179-84.

iii. East St. Louis

The TPIRR network ends at West Rose Lake Yard. CSXT claims that CSXT operates 2.3 miles further to the TRRA's Madison Yard. CSXT chose to extend the TPIRR to achieve this interchange. TPI accepts CSXT's revision of this route.

iv. Tampa, FL

CSXT claims that TPI must add two (2) hours of dwell for each train to travel to the end of a line that was not modeled. TPI accepts CSXT's revision of this dwell time to reflect the additional travel time to service the industry.

v. Augusta, GA

TPI did not include the TPIRR Beech Island, SC interchange with residual CSXT in its Opening TPI RTC model. CSXT added Beech Island track in its Reply RTC model to allow for this interchange. TPI accepts CSXT's revision of the RTC network.

vi. Local Train Mainline Dwell

TPI did not stop local trains on the mainline in order to serve the industry at certain locations. CSXT revised TPI's Opening RTC model so that local trains would occupy the mainline where applicable. TPIRR is under no obligation to occupy the mainline while serving these locations because it would build (or require the industry to build) sufficient facilities so that the mainline could remain unobstructed. However, because this adjustment has minimal impact, and because TPI is making a conservative effort to minimize differences, TPI accepts CSXT's revised local trains dwelling on the mainline, except for the two runaround trains L119OGLOGL and L142FAIFAI.

vii. "Growth" Local Trains

CSXT added 22 new "growth" local trains it claims were necessary to accommodate the Peak Year traffic volumes. However, the process CSXT used to calculate these 22 growth trains was completely disconnected from the traffic volumes and operations of the TPIRR. CSXT used its own "real world" 2013 traffic data to identify "22 different local train symbols in TPI's train list that currently average 11+ hours"[353] in transit time. This data, and the performance of CSXT's actual 2013 trains, has no bearing on the local trains contained in TPI's RTC simulation. In fact, if CSXT had utilized its own Reply RTC simulation to calculate the number of local trains that incurred 3+ hours of overtime it would have determined that only two (2) trains met this arbitrary threshold.[354] Furthermore, based on TPI's Opening and Rebuttal RTC simulations, only one (1) local train went over three (3) hours of overtime by 0.06 and 0.03 hours, respectively.[355] Regardless of this meaningless calculation, adding an entirely new local train to the TPIRR is not necessary to serve a crew expiring by a few minutes. TPI's (and CSXT's) RTC simulation takes into account expiring crews, which is built into the logic of the RTC model. Any train that requires a relief crew is also taken into account in TPI's operating expenses. By no means do expiring crews on local trains justify the addition of 22 local trains to serve the TPIRR Peak Year traffic volumes. Clearly, CSXT's calculation of the 22 "growth" local trains it added in Reply is another attempt to artificially inflate operating expenses and mislead the Board in regard to "missing trains." These 22 overtime local trains have not been included in TPI's Rebuttal RTC simulation.

viii. Unrealistic Dwell Times

CSXT's Reply dwell times are vastly overstated. CSXT uses a five (5) hour dwell time for all trains classified in TPIRR hump yards. TPI analyzed the supporting data relied upon by CSXT and found that this time includes trains with only one (1) car, and hundreds of trains with

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[353] *See,* CSXT Reply, p. III-C-176.
[354] *See,* TPI Rebuttal workpaper "TPI_Locals_with_Overtime_in_RTC_Model_Rebuttal.xlsx".
[355] *Ibid.*

fewer than ten (10) cars. However, because TPI acknowledges that it is proper to include additional time at hump yards, TPI accepts CSXT's inflated hump yard RTC dwell times in an effort to minimize differences.

In Rebuttal, TPI accepts and incorporates all of the dwell times CSXT input into in its Reply RTC simulation for hump yard dwell times, flat yard dwell times, coal train dwell times, and local train mainline dwell times. *See* Part III.C.5.b.iii above

However, rather than dwelling trains bound for interchange with the residual CSXT on the TPIRR in order to remove distributed power ("DP"), TPI removed distributed power from those trains for the entirety of their movement, thus eliminating the need to stop and remove the DP configuration.

ix. <u>Crude Oil and Loaded Grain Trains</u>

CSXT indicated that crude oil and loaded grain trains should be limited to 50 mph per TPI's operating plan. The reduction to the speed of loaded crude oil trains is a very recent development, so it was not included in TPI's Opening RTC simulation as it was not required prior to the submission of TPI's Opening evidence. TPI reviewed CSXT's claim and found that it inadvertently input the speed for loaded grain trains as 60 mph. TPI accepts these two (2) corrections to the maximum train speeds in its Rebuttal RTC simulation.

x. <u>Random Outages</u>

TPI accepts and incorporates CSXT's revised random outages except where CSXT has included outages that took place outside of the TPIRR network. There were 42 outages included by CSXT for which the location is flagged as "adjacent" to the SARR.[356] This error is illustrated

[356] *See*, TPI Rebuttal workpaper "11 – OnSARR & Applicable Delays – TPI Rebuttal.xlsx".

clearly in Rebuttal Exhibit III-C-2. TPI corrected this error by excluding these 42 outages and including the remainder in this Rebuttal RTC simulation.

xi. <u>Other Input Errors</u>

CSXT claims that TPI input a train with a negative number of cars in its consist.[357] While it is true that TPI Opening train L321CLACLA showed -1 loaded cars at a location where it was meant to have zero loaded cars, this was an "impossible" input that is not permissible in the latest RTC version. This error has been corrected in TPI's Rebuttal RTC simulation along with other errors that TPI discovered in CSXT's Reply RTC simulation.

Specifically, TPI identified a number of trains that were improperly routed, causing them to travel hundreds of miles unnecessarily. Also, while rerouting local trains in order to force them to dwell on the mainline, CSXT caused train L119OGLOGL to travel more than 860 miles beyond its designated route. CSXT committed a similar error with train L142FAIFAI, causing it to unnecessarily circumnavigate the city of Atlanta. This type of error wreaks havoc on the RTC simulation. Trains that are incorrectly routed in this way cause congestion and delays along the entire span of the misroute, driving up cycle times and operating expenses for any other trains it encounters.

Moreover, TPI discovered hundreds of input errors in CSXT's Reply model where CSXT input new track. For example, CSXT modeled a new section of mainline track where it had input the distance as 177.65 miles in length, which was only supposed to be 0.7 miles in length. These track input errors and train input errors are all detailed in TPI's Rebuttal electronic workpapers.[358] All of these errors have been corrected in TPI's Rebuttal RTC simulation.

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[357] *See,* CSXT Reply, p. III-C-171.

[358] *See,* TPI Rebuttal workpaper "Track and Train changes to CSXT Reply RTC.xlsx".

TPI's Rebuttal RTC simulation properly includes and models all trains required to move the TPIRR traffic group, including additional local trains that CSXT failed to model in its own RTC simulation.

In summary, TPI's Rebuttal RTC Simulation utilizes the following inputs:

1. Dwell times as modeled in CSXT's Reply RTC simulation (with the exception of interchange forwarded DP-removal dwell);
2. Routing adjustments used in CSXT's Reply RTC simulation;
3. Network revisions as modeled in CSXT's Reply RTC simulation;
4. Local train mainline dwell adjustments used in CSXT's Reply RTC simulation;
5. Corrected speed limits for crude oil and loaded grain trains;
6. Random outages as modeled in CSXT's Reply RTC simulation (minus the 42 outages located outside the SARR)
7. All of the trains from TPI's Opening RTC simulation plus;
   a. 95 local trains added by CSXT;
   b. 11 industrial yard trains added by CSXT;
   c. 151 additional local trains identified by TPI; and
   d. 63 fewer unit and line haul merchandise road trains removed for failure to meet TPI's stated requirement (which CSXT accepted) that road trains travel a minimum of 10 miles on TPIRR track to be included. This group corresponds to, but is in lieu of, the 66 road trains removed by CSXT in Reply for the same reason.
8. Corrected hundreds of various input errors identified in CSXT's Reply RTC Simulation.

The net result of the above RTC input adjustments yields a simulation that conservatively accepts most of CSXT's Reply modeling assumptions, while correcting for various errors. TPI's Rebuttal RTC simulation also connects directly to its Rebuttal investment and operating plan (unlike CSXT's Reply RTC simulation) and represents the only accurate simulation of either party's operating plan for the TPIRR in this record. TPI's Rebuttal RTC simulation should be accepted by the Board as the best evidence of record.

14. Transit Times

In Opening, TPI presented a transit time comparison to detail the differences between CSXT actual transit times for the 2012 peak week movements and the 2019 peak week train transit times from its opening RTC outputs. In Reply, CSXT claims that this analysis is "meaningless"[359] for four (4) reasons. Below, TPI addresses each of CSXT's claims regarding the transit time comparison, and describes the adjustments TPI made to its transit time comparison analysis in Rebuttal.

CSXT's first critique of TPI's transit time comparison is that "the TPIRR train transit times proffered by TPI are the product of an operating plan and RTC simulation that are fatally deficient." As TPI has explained in great detail above, CSXT's claims that TPI's operating plan is fatally deficient are erroneous and the transit times proffered by TPI in rebuttal are valid transit times for the TPIRR peak week trains.

CSXT also reiterates its position that "TPI failed to account for more than half of the local trains that the TPIRR would need to operate" and that this alleged failure demonstrates that TPI's transit time comparison is deficient. As discussed in detail in Part III.C.2 above, this statement by CSXT is grossly misleading and predicated on misstatements of fact. TPI did, in fact, account for all of the local trains needed to serve the TPIRR.

Furthermore, CSXT's lament that "TPI did not include any local trains in its transit time analysis," is belied by its own failure to demonstrate that local train transit times met or exceed real world local train transit times in CSXT's Reply. In fact, CSXT did not provide any evidence whatsoever, in Reply, that demonstrated the local train operations posited in its plan could "meet

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[359] *See,* CSXT Reply, p. III-C-198.

the transportation needs of the traffic the SARR proposes to serve."[360] The only "evidence" that CSXT offers is rhetoric that its MultiRail analysis "constitutes the only record of evidence that documents the complete movement of the TPIRR's selected traffic."[361] However, as discussed in Part III.C.1.a above, CSXT failed to model the trains from its MultiRail analysis in its RTC simulation. In fact, CSXT modeled TPI's trains in its RTC simulation. Therefore, CSXT did not demonstrate that its operating plan is even feasible, and could not possibly have demonstrated that its operating plan would provide equivalent transit times.[362] This disconnect is a critical flaw and by itself provides sufficient grounds for the Board to discard CSXT's entire operating plan as unsubstantiated. CSXT's simple statement that its operating plan and the trains serving the TPIRR provide adequate service to its customers is empty grandstanding.

Despite its rhetoric, CSXT implicitly accepts the local train operations included in TPI's opening RTC model because CSXT applied the RTC average speeds for TPI's local trains to the MultiRail local trains CSXT used to calculate operating expenses in Reply. For reasons discussed in Part III.C.1.a above, this created a disconnect that renders CSXT's operating expense calculation meritless.

CSXT's second critique of the transit time comparison is that "the TPIRR transit times generated by TPI's RTC model include only the nonsensically short 30 minutes of dwell time that TPI input to the Model to account for trains stopping to pick up and set off cars at intermediate yards."[363] As stated in Part III.C.5.b.iii above, TPI accepted CSXT's Reply dwell

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[360] *See WFA/Basin I* at 15 "the operating plan must be able to meet the transportation needs of the traffic the SARR proposes to serve."

[361] *See,* CSXT Reply, p. III-C-197, fn. 291.

[362] Indeed, CSXT could not do so because, as TPI demonstrates in Part III.C.2.a.i, CSXT's insistence upon interchanging cross-over local trains mid-route is a far less efficient operation than TPI posited on Opening. TPI has accepted this less efficient operation on Rebuttal only to remove this as a point of dispute.

[363] *See,* CSXT Reply, p. III-C-198.

times and has accounted for them in its Rebuttal RTC simulation and resulting train speed and transit time calculations. Therefore CSXT's second point is moot.

CSXT's third critique of the transit time comparison is that "TPI simply removed those [internal cross-over] trains [that were modeled as two separate trains in RTC] from its analysis on the grounds that they were "outliers."[364] CSXT mischaracterized TPI's reason for excluding these trains from TPI's transit time analysis. The trains were excluded because it was often not possible to link the RTC train On-SARR and/or Off-SARR location and time with corresponding CSXT traffic data event records containing time stamp data. Therefore, TPI excluded all internal cross-over trains in order to avoid selection bias in the analysis results.

CSXT's fourth critique of the transit time comparison is that, "in many instances, TPI compared complete CSXT train movements with small segments of those same movements on the TPIRR."[365] CSXT identified three (3) specific examples in support of its statement, which represents only 0.12 percent of the 2,403 trains included in TPI's Opening transit time comparison for which CSXT alleges TPI compared non-corresponding segments. Nowhere in its workpapers or the remaining Reply narrative did CSXT provide any additional examples of these "non-comparable" trains.

In TPI's Opening transit time comparison, TPI attempted to remove any trains where it was not comparing apples-to-apples in the analysis to avoid skewed results. Specifically, TPI removed: (1) trains that traversed different segments on the TPIRR when compared to CSXT actual traffic data ("non-matching segments"); and (2) trains that had an abnormally high

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[364] *Id.* p. III-C-199.
[365] *Ibid.*

difference (greater than 36 hours) in transit time when compared to CSXT actual traffic data ("36-hour difference").[366]

Trains that were excluded under the heading "non-matching segments" were excluded when the RTC On-SARR or Off-SARR location did not match with the event location in CSXT's train data. In Opening, TPI excluded 29 merchandise trains under this flag so as not to compare apples to oranges. Two (2) of CSXT's three (3) examples pointed out in its Reply evidence (trains M3192COORBIR and U922CORLAT) should have been flagged under the "non-matching segments" flag, but were missed by TPI in Opening. These have been corrected in TPI's Rebuttal transit time comparison.[367]

Trains that were excluded under the heading "36-hour difference" were excluded when the CSXT transit time was greater than the RTC transit time by 36 hours or more, as it was assumed this was the result of data anomalies in the CSXT event data. In Opening, TPI excluded 31 unit trains and 11 merchandise trains from its transit time comparison so as to not overstate the difference. CSXT's third example pointed out in Reply (train M33390CLIHAM) was actually excluded by TPI under the "36-hour difference" flag. Therefore TPI did not rely upon this train in its transit time comparison and CSXT's critique of TPI's transit time comparison analysis has no merit.

In TPI's Rebuttal transit time analysis, an additional 141 merchandise trains and 27 unit trains were excluded from the analysis due to "non-matching segments" or greater than "36-hour difference" in transit times.[368] Similar to TPI's Opening evidence, when accounting for these exclusions from the transit time comparison overall, the TPIRR 2019 peak-week Rebuttal train

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366 TPI opening workpaper "TPIRR Peak Week Transit Time Comparions.xls" shows "Non-matching segments" and "36-hour difference" in columns (6) and (7).
367 *See*, TPI Rebuttal workpaper "TPIRR Peak Week Transit Time Comparions_Rebuttal.xls".
368 *See*, TPI Rebuttal workpaper "TPIRR Peak Week Transit Time Comparions_Rebuttal.xls".

transit times are equivalent to or faster than the real world CSXT transit times for the comparable trains moved during the 2012 peak week.[369] Furthermore, CSXT claims that "TPI systematically distorts the analysis in TPIRR's favor."[370] As TPI's Rebuttal transit time comparison analysis shows, this claim is false and there is an even distribution in transit time differences both greater than and less than CSXT actual transit times.[371]

Ultimately, despite the effort that CSXT makes to discredit TPI's transit time analysis, CSXT itself questions the relevance of transit time as a measure of service for carload traffic:

> As an initial matter, service quality for general freight traffic is not (as TPI appears to assume) simply a function of "cycle times" or "train transit times." Indeed, "cycle time" is not a meaningful concept in evaluating "carload" rail service.[372]
>
> * * *
>
> Moreover, even if train transit time were an accurate measure of service quality for carload traffic—and it is not—the transit time comparison proffered by TPI is entitled to no evidentiary weight...[373]

If CSXT is correct, the Board should not be examining transit times at all and all of CSXT's criticisms are moot.

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369 *Id.*
370 *See,* CSXT Reply III-C-199.
371 *See* TPI Rebuttal workpaper "TPIRR Peak Week Transit Time Comparions_Rebuttal.xls", tab "Summary Page 2".
372 *See,* CSXT Reply, p. III-C-197.
373 *Id.*, p. III-C-198.

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III. STAND-ALONE COST

D. OPERATING EXPENSES

CSXT begins its discussion of the TPIRR's annual operating expenses by repeating several of its attacks on TPI's operating plan. In Part III-C of this Rebuttal, TPI responded to CSXT's unwarranted criticisms of its operating plan and made corrections, where necessary, to address a few valid criticisms. In Part III-C, TPI also demonstrated that CSXT's operating plan for the TPIRR, which is based on MultiRail and made-for-litigation assumptions, bears no relationship to reality. CSXT's operating plan assumes that the cars on the TPIRR's merchandise trains are completely divorced from the CSXT trains that actually carried the TPIRR's traffic over the replicated lines during the base year, and move in hypothetical blocks in new, hypothetical trains, which are demonstrated to be less efficient and more costly than CSXT's actual operations.

A comparison of the parties' calculations of the TPIRR's annual operating expenses for its first year of operations is shown in Rebuttal Table III-D-1 below.

Rebuttal Table III-D-1
TPI Opening, CSXT Reply and
TPI Rebuttal TPIRR 2010 Operating Expenses
($ Millions)

	Item	TPI Opening	CSXT Reply	TPI Rebuttal
	(1)	(2)	(3)	(4)
1.	Locomotive Lease	82.8	113.0	100.8
2.	Locomotive Maintenance	113.2	181.9	140.5
3.	Locomotive Operations	860.6	800.8	878.7
4.	Railcar Lease	217.4	364.1	229.1
5.	Materials & Supply Operating	4.8	6.7	5.1
6.	Train and Engine Personnel	394.9	457.2	401.8
7.	Operating Managers	96.0	145.0	97.7
8.	General & Administrative	91.6	166.6	99.6
9.	Loss & Damage	8.8	8.2	8.6
10.	Ad Valorem Tax	41.3	62.4	41.6
11.	Maintenance-of-Way	209.8	404.3	213.0
12.	Trackage Rights	23.6	28.2	27.7
13.	Intermodal Lift and Ramp	67.2	104.1	65.2
14.	Insurance	31.5	40.8	32.9
15.	Startup and Training	78.0	105.3	81.9
16.	Motor Vehicles	22.8	22.6	22.3
17.	BULK Transfer	---	18.8	18.8
18.	Total	2,344.4	3,030.1	2,465.1

Source: "TPIRR Operating Expense_Open.xlsx," TPIRR Operating Expense Reply.xlsx" and TPIRR Operating Expense _Rebuttal.xlsx."

Of the $565.0 million total remaining differences in the parties' calculations of annual operating expense, the bulk ($393.3 million) is accounted for by three (3) categories, including: maintenance of way, general & administrative and railcar lease expenses. Most of the difference in these items results from CSXT's more complex operating plan for the TPIRR, which involves more locomotives, more crews, and excessive G&A personnel than TPI provided in its operating plan. As discussed in Part III-C-1 above, CSXT's operating plan must be rejected by the Board because it does not meet customer service requirements and because it does not provide an appropriate basis for determining the TPIRR's annual operating expenses.

TPI responds below to CSXT's Reply evidence for each category of expense shown in Rebuttal Table III-D-1.

1. Locomotives

In Opening, TPI provided the TPIRR with three (3) types of locomotives, including; ES44AC locomotives used in road and helper service, SD40 locomotives used in local train and yard hump service, and SW1500 switch locomotives used in yard switching service. In Opening TPI provided a total of 1,057 locomotives.

In Reply, CSXT accepted the use of ES44 locomotives in road and helper service and the use of SD40 locomotives in local train and yard hump service. CSXT rejected the use of SW1500 switch locomotives in yard switching service and instead used SD40 locomotives for this purpose. As stated in Part III-C.5.e.iii., TPI accepts the use of SD40 locomotives in yard service in Rebuttal. CSXT provided the TPIRR with 1,397 locomotives in Reply, or 340 more locomotives than provided by TPI in Opening.

CSXT overstates the number of locomotives required by the TPIRR, the cost of acquiring of ES44 locomotives and the cost to maintain the TPIRR's locomotives. Each of these items is addressed below.

a. TPIRR Locomotive Requirements

In Opening, TPI supplied the TPIRR with 709 ES44 road units, 145 SD40 local and switch units and 203 SW1500 switch locomotives. In Reply, CSXT supplied the TPIRR with 1,397 ES44 units, 270 SD40s in local train service and 245 SD40 units in switch service.

CSXT argues that TPI has understated the number of units required by the TPIRR because:

1. TPI failed to include all local trains required to the serve the TPIRR traffic group;

2. TPI's RTC simulation is faulty as it does not properly account for train dwell times;

3. TPI's assumption of three (3) hours dwell in yards for servicing locomotives and assignment to a subsequent train is unrealistic;

4. TPI has failed to properly account for imbalances in train flows and the need to reposition locomotives;

5. TPI did not include sufficient locomotive power on high priority intermodal trains; and

6. TPI improperly calculated the spare margin requirements for locomotives.

Each of these items is discussed below.

i. <u>Missing Trains</u>

As fully addressed in Part III-C.2, CSXT argues that TPI failed to include 44,694 local trains required to serve the TPIRR traffic group.[1] In Rebuttal Part III-C, TPI demonstrates that the majority of the alleged missing trains are imagined by CSXT either though its faulty MultiRail analysis or by assuming that CSXT's trains shown it its train profiles for planning purposes are trains that actually run on the CSXT system. In Opening, TPI carefully chose only those trains CSXT actually operated in serving the TPIRR traffic and omitted trains that CSXT actually operated but were not needed to serve the traffic group. In Rebuttal, out of an abundance of caution, TPI added 11,373 local trains to the TPIRR Base Year train list, which given the benefit of doubt, might be required to serve the traffic. The locomotives required to serve the local trains that TPI has added to the TPIRR system are included in this Rebuttal evidence.

ii. <u>RTC Simulation</u>

CSXT argues that TPI's RTC simulation suffers from numerous errors and cannot be relied upon. These alleged errors are the result of unrealistic train dwell times in yards and the

[1] See, CSXT Reply, p. III-D-7.

trains which CSXT argues have been omitted from TPI's analysis. As noted above and fully discussed in Part III-C of this Rebuttal evidence, TPI includes an additional 11,373 local trains in its Base Year train list in Rebuttal. TPI also accepts CSXT's origin, departure and intermediate train dwell times in yards in Rebuttal. All of the revisions made to TPI's RTC model in response to CSXT's Reply evidence are addressed in Rebuttal Part III-C, *supra*. In Rebuttal, the road locomotive requirements for the TPIRR are based on statistics produced by TPI's revised RTC model.

iii. <u>Locomotive Dwell in Yards</u>

In Opening, TPI allowed three (3) hours from the time locomotives are removed from an inbound train in a yard for them to be fueled and serviced and then added to the subsequent train for departure from the yard. In Reply, CSXT argued that this dwell time is insufficient and increased the locomotive dwell to nine (9) hours per locomotive between each train assignment. CSXT offers an analysis of the time between inbound and outbound train flows in hump yards from data in the RTC model submitted in TPI's Opening evidence as support for the nine (9) hours.[2] However, CSXT's analysis has a fatal flaw as it double counts the time required to reposition TPIRR locomotives. In addition, data provided by CSXT in discovery, shows that the nine (9) hour dwell time significantly exceeds the locomotive dwell time actually experienced by CSXT from 2007 through 2013.

CSXT's locomotive dwell time includes time for servicing locomotives and time waiting for assignment for a train: however, it also includes the time required to reposition locomotives

[2] This locomotive dwell time is not to be confused with the five hour origin or departure train dwell CSXT incorporates in its Reply evidence and TPI accepts in Rebuttal. The train dwell times are related to the amount of time required to disassemble an arriving train or assemble a departing train. Those activities are performed by yard locomotives, especially in hump yards and large flat yards. The locomotive dwell, at issue here, relates to the period road locomotives spend between train assignments. During this period, locomotives are removed from an arriving train, fueled, serviced, and placed on a departing train.

between yards. In doing so, it double counts the time require to reposition locomotives on the TPIRR system. CSXT's locomotive yard dwell analysis assumes 360 minutes, or six (6) hours, to reposition locomotives from one yard to another yard every time there is a locomotive power deficit for a specific train. However, as discussed in the next section, CSXT includes a separate expense for exactly this same operation, i.e., locomotive repositioning or locomotive rebalancing. By including the time required for locomotives to be repositioned between yards in its locomotive dwell time analysis CSXT has duplicated the time included for locomotive rebalancing thereby overstating the TPIRR's operating cost.

In addition to this double count of locomotive repositioning time, the unrealistic and unsupported nature of CSXT's nine (9) hour locomotive dwell is revealed by the data CSXT provided in discovery. CSXT produced a spreadsheet titled "Loco stats-Update.xlsx," which both TPI and CSXT use to calculate locomotive spare margins. This data also includes actual CSXT information related to locomotive dwell time in yards. Specifically, this database accumulates locomotive dwell time by type of locomotive in the following categories: {{[redacted]}}. The aggregate of these categories equals the actual CSXT locomotive dwell time. The discovery spreadsheet includes this locomotive data on a weekly basis for years or partial years, 2007 through 2013, by locomotive type.

Using this data, TPI estimated the average dwell time per locomotive for each year, 2007 through 2013, on an annualized basis for the aggregate of all CSXT locomotives with 3,500 horsepower or greater.[3] TPI applied the resulting average dwell per locomotive to the number of locomotives in manifest service in CSXT's Reply evidence to determine total locomotive dwell time in yards. TPI then compared this amount {{[redacted]}} to the total locomotive yard dwell time CSXT included in its Reply evidence (2,250,384 hours), which is based on CSXT's self-serving made-for-litigation analysis rather than from CSXT's actual experience available from materials provided in discovery.[4] CSXT's made-for-litigation locomotive yard dwell is {{[redacted]}} times greater than CSXT's actual locomotive dwell time. CSXT's Reply locomotive yard dwell time clearly is unrealistic, the assumptions underlying its analysis are unsupported, and it double counts the cost of repositioning locomotives on the TPIRR.

iv. Repositioning Locomotives

In Reply, CSXT states that "TPI's locomotive fleet evidence did not address the imbalance in train (and locomotive) flows that would inevitably occur across the TPIRR's 7,300-mile network."[5] CSXT's statement completely ignores the fact that, in Opening, TPI performed an analysis of the need to reposition locomotives in nine (9) specific regional areas of the TPIRR[6] and concluded that a net total of 204,483 locomotive unit miles[7] were required to reposition units on the TPIRR system. Based on the average transit time of 21.9 miles per hour, this equals 9,346 locomotive unit hours and is the equivalent of one ES44 unit.

In Reply, CSXT performed an analysis of TPI's RTC simulation of locomotive flows by direction for merchandise, intermodal, and multilevel trains and estimated that those imbalances

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[3] As the locomotive dwell time is added only to road trains, locomotives with less than 3,500 horsepower were excluded from the study in order to remove all switch locomotives and units that are used in local service. This analysis is shown in TPI Rebuttal workpaper "Loco stats Update_Spare Margin_Rebuttal.xlsx".

[4] CSXT's reply locomotive yard dwell hours were derived from CSXT's Reply workpaper "TPIRR Reply Train List.xlsx". The calculation of CSXT's locomotive yard dwell hours is shown in TPI's Rebuttal workpaper "TPIRR Reply Train List with dwell calc.xlsx".

[5] *See,* CSXT Reply, p. III-D-11.

[6] *See,* TPI Opening workpaper "Crew Rebalancing Diagram1.pdf" and "Crew Rebalancing.xlsx".

[7] *See,* TPI Opening workpaper "Train Imbalance LUM.xlsx".

would require a 3.1 percent increase in TPIRR locomotive run-times for those train types to account for the need to reposition units. After reviewing CSXT's analysis, TPI accepts CSXT's 3.1 percent factor for locomotive repositioning.

v. **Intermodal Trains**

In Opening, TPI included certain "expedited" intermodal trains in the TPIRR traffic. TPI's operating plan assumes these trains are powered by two (2) locomotives and its RTC simulation demonstrates that this power configuration is adequate to move the trains in a timely manner over the TPIRR. In Reply, CSXT argues that it powers these time-sensitive trains using {{[redacted]}} locomotive units to ensure that they meet applicable service requirements and transit time and to ensure that the train can meet commitment schedules in the event of a locomotive failure.[8] In Rebuttal, TPI accepts the use of a third locomotive on expedited intermodal trains.

vi. **Local Trains**

In Opening, TPI provided 145 SD40 locomotives (including both the peaking factor and spare margin) to power the TPIRR's local trains. TPI also assigned 42,208 local trains in the Base Year to 60 various yards on the TPIRR, and assumed all local trains operate seven (7) days per week. In Reply, CSXT objects to TPI's calculations and estimates that 243 SD40 locomotives are required to power the TPIRR's local trains. The primary differences between the parties' calculations are attributable to two (2) factors. First, CSXT states that it operates only {{[redacted]}} percent of its local trains in seven (7) day per week service and instead nearly all local trains operate {{[redacted]}} days per week. Second, CSXT states that TPI improperly

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8 *See,* CSXT Reply, p. III-D-14.

excluded tens of thousands of local trains from the TPIRR that CSXT claims are required to service TPIRR customers.

In Rebuttal, TPI reviewed CSXT's supporting workpapers and finds that CSXT does operate only a small percentage of trains in seven (7) day per week service, which results in more trains operating on weekdays than TPI assumed in Opening. This requires more CSXT to own more locomotives than it would need if it provided seven day a week service because it requires more local trains to be operated on a given day. In Rebuttal, TPI rejects this adjustment to local train service and number of locomotive units required to operate local trains. The TPIRR as a least cost most efficient railroad chooses to provide seven-day per week local train service, thereby resulting in higher utilization of its locomotive fleet.

As fully addressed in Part III-C.2, CSXT substantially overstates the number of missing local trains that TPI allegedly omits from the TPIRR system. In fact, even CSXT does not include in its Reply evidence all of the trains it argues that TPI omitted. As also discussed in Part III-C.2, TPI does add 11,373 local trains to the TPI system in Rebuttal. As TPI adds 11,373 local trains, it includes 191 SD40 locomotives to provide power to TPIRR's local trains.

vii. <u>Yard Switching Assignments</u>

As fully addressed in Rebuttal Part III-C-5.e.iii, CSXT overstates the number of yard locomotives required by the TPIRR in hump yards. This is a result of CSXT's failure to adjust the number of yard job assignments and resulting locomotive requirements to reflect the fact that, by CSXT's own calculations, the TPIRR classifies significantly fewer cars than does CSXT. CSXT's overstatement is also due to its double counting the number of locomotives required to push cars being classified over the hump in TPIRR's 11 hump yards. TPI includes two (2) SD40 locomotives for hump crews in its calculations, and CSXT's calculation effectively increases this to three (3) units at each hump yard. Three (3) SD40's generating a total of 9,000 horsepower are not required to push cuts of cars over the hump at TPIRR yards.

viii. <u>Locomotive Spare Margin</u>

In Opening, TPI developed locomotive spare margin rates of {{[redacted]}} percent and {{[redacted]}} percent for ES44 locomotives and SD40 locomotives, respectively, from information provided by CSXT in discovery. In Reply, CSXT argues that TPI understates the locomotive spare margin for both ES44 and SD40 locomotives by including locomotive time identified only as "unknown CSX on-line days" as active locomotive time. CSXT makes the unsupported assumption that locomotives are not available for service during this time and, therefore, this time should be excluded from the spare margin calculations. By excluding this "unknown on-line" time from the spare margin calculation, CSXT increases the spare margin percent to {{[redacted]}} percent and {{[redacted]}} percent for ES44 and SD40 locomotives, respectively.[9]

CSXT's argument ignores the "on-line" description in the title of this time category and assumes that, because it does not know where locomotives are during this time category, it should be excluded from the calculation of the spare margin percent. CSXT obviously tracks the time locomotives are unavailable for service and logs this time in one of five (5) categories of time where locomotives are not available for service. If "unknown *on-line* days" were part of unavailable time, it would be logged as such. Therefore, TPI assumes locomotive time in this category should be considered an active on-line time even if CSXT is not able to specifically account for the locomotive's on-line activity at this time. Contrary to CSXT's unsupported assumption, TPI believes it is appropriate to exclude this time from the spare margin calculation.

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[9] *See,* CSXT Reply III-C-141.

Rebuttal Table III-D-2 below summarizes the Base Year locomotive requirements for the TPIRR.

Rebuttal Table III-D-2
Comparison Of TPIRR to CSXT Proposed Locomotives

Loco Type	TPI Opening	CSXT Reply	TPI Rebuttal
(1)	(2)	(3)	(4)
1. ES44AC	709	882	852
2. SD40-2	167	515	433
3. SW 1500	181	0	0
4. Total	1,057	1,397	1,285

Sources: "TPIRR Operating Statistics_Opening.xlsx", "TPIRR Operating Statistics_Reply.xlsx" and "TPIRR Operating Statistics_Rebuttal.xlsx".

b. Locomotive Lease Cost

i. ES44AC Locomotives

CSXT did not provide any lease information to TPI in discovery related to its current acquisition of high powered road locomotives. As a result, TPI developed 2010 locomotive lease costs for ES44AC locomotives from information contained in the STB's decision in *AEPCO*[10] and the public version of the defendants' reply statement in that proceeding. The annual lease expense developed from this data equals $97,881 per unit.[11] This amount is also supported by the public version of UP's Reply evidence in *IPA* which shows that UP's 2011 annual cost to lease ES44AC locomotives equals $95,851.[12]

In Reply, CSXT argues this lease rate should be rejected for two (2) reasons. First, CSXT claims it should not be bound by the litigation decisions made by other parties in previous

[10] *See, AEPCO* at 40-41.

[11] The STB's decision in *AEPCO* provides total investment in locomotives at page 40, and the number of units by type of unit at page 41. Defendants' Reply statement (public version) in *AEPCO* provides the lease price for switch locomotives at page III.D-3, thereby providing the information necessary to determine UP's average annual lease price for ES44-AC locomotive in 2009. *See* TPI Opening workpaper "III-D-1 Loco Cost.pdf."

[12] *See,* TPI Opening workpaper "III-D-1 Loco Cost.pdf."

cases, because neither CSXT nor TPI has had access to the lease to evaluate its terms and applicability in this proceeding.

Second, after claiming the lease information from *AEPCO* should not be relied upon, CSXT nevertheless accepts this information and increases it by a factor of seven (7) percent based on the difference in price between UP's and CSXT's purchase price for the acquisition of these locomotives in 2011.[13] CSXT claims the higher price it paid for these units is related to equipment and components required for efficient operation in the difficult mountainous terrain in the eastern United States as well as the need to maintain tight operating schedules moving a variety of different types of freight at different speeds thought densely populated areas.

CSXT's upward adjustment to the ES44AC purchase price used by TPI in Opening should be rejected. CSXT compared the acquisition price for similar units for only 2011 based on information provided in each carrier's R-1 Annual Report for that year.[14] In contrast, comparing similar information for the 2011 through 2013 period shows that UP actually paid a higher purchase price for comparable locomotives during this period. From 2011 through 2013, UP paid an average of $2.46 million per unit for these locomotives compared with CSXT's purchase price of $2.40 million per unit. Thus, CSXT's cherry-picked locomotive pricing from 2011, in order to justify its upward adjustment of TPI's Opening evidence, is not accurate when considering the 2011 through 2013 three (3) year average period. TPI believes the actual lease prices paid by UP for ES44 locomotives in 2010 represents the best information in the record for ES44AC lease rates available in the market place in 2010.

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[13] *See,* CSXT Reply, p. III-D-20-23.

[14] CSXT states that UP purchased 60 C45AC units at an average cost of $2.23 million per unit compared to CSXT's purchased of 50 ES44AC units for an average price of $2.39 million per unit in the same time period. *See,* CSXT Reply, p. III-D-20 to -21.

ii. SD40 Locomotives

In Opening, TPI relied on information provided by CSXT in discovery to determine the lease cost per unit of {{[redacted]}} for SD40 locomotives. This amount was accepted by CSXT in Reply and is used by TPI in Rebuttal.

iii. SW1500 Locomotives

In Opening, TPI provided SW1500 locomotives for most switching services. CSXT rejected the use of SW1500 locomotives and instead proposes SD40 locomotives for all switching service on the TPIRR. As stated previously, TPI accepts the use of SD40 locomotives for all switching services in Rebuttal.

c. Locomotive Maintenance Cost

In Opening, TPI relied on a {{[redacted]}} provided by CSXT in discovery to determine the locomotive maintenance cost for the TPIRR. Based on this agreement, TPI includes a daily rate of {{[redacted]}} for ES44 and SD40 locomotives, respectively. The {{[redacted]}}.[15] CSXT accepts these daily rates in Reply, but adjusts them for five (5) factors which CSXT argues are actual additional costs it incurs for maintaining these locomotives. Each of the maintenance costs added by CSXT is discussed below.

The first additive is {{[redacted]}} per day for maintenance for ES44 locomotives equipped with DP power. TPI accepts this additional charge.

The second additive is a {{[redacted]}} per day management fee applied to both ES44 and SD40 locomotives. According to CSXT's workpapers, this fee is related to adding and removing

[15] *See,* TPI Rebuttal workpaper "Locomotive Maintenance Agreement.pdf".

locomotives from the {{[redacted]}} and recalculating the associated daily rates and fees as changes to the fleet occur. TPI does not include this management fee as it has only two locomotive types in its fleet rather than the {{[redacted]}} different types included in CSXT's {{[redacted]}}. Further, TPIRR's locomotive fleet is stable and the types of locomotives included in the fleet do not change, nor are units added to the agreement on a frequent basis, and no units are removed from the agreement.

Third, CSXT includes an accident repair additive of {{[redacted]}} per day for ES44 locomotives for repairs resulting from accidents that are performed by the contractor and are billed back to CSXT. TPI accepts this additive in Rebuttal.

Fourth, CSXT includes an additive for Event Recorder Automated Download ("ERAD") for the communications management unit on the ES44 locomotives of {{[redacted]}} per day, which TPI accepts in Rebuttal.

Finally, CSXT includes an additive of {{[redacted]}} per day for upgrading the ES44 locomotives acquired by the TPIRR in 2010 from Tier 2 to Tier 3 EPA emissions compliance. New locomotives acquired in 2010 are required to meet Tier 2 emission standards when delivered. TPI rejects CSXT's additive for upgrading from Tier 2 to Tier 3 compliance for two reasons. First, CSXT's workpapers reveal that CSXT based its emissions additive on the cost CSXT incurred for upgrading locomotives from Tier 0 to Tier 2 compliance, not its cost of upgrading from Tier 2 to Tier 3 compliance. CSXT has provided no evidence showing that the upgrade cost from Tier 0 to Tier 2 is in any way similar to the cost of upgrading from Tier 2 to Tier 3. In fact, when the emission requirements for the these Tiers are compared, it is immediately evident that the difference in the standard from Tier 0 to Tier 2 is substantial and that there is no difference in the emissions requirements from Tier 2 to Tier 3. Rebuttal Table

III-D-3 below, provides the Tier 0, Tier 2, and Tier 3 emission standards. CSXT's actual cost of upgrading from Tier 0 to Tier 2 standards is not a substitute for the actual cost of upgrading from Tier 2 to Tier 3 standards. Thus, CSXT's cost to upgrade from Tier 2 to Tier 3 emissions standard is not supported.

Rebuttal Table III-D-3
Federal Line-Haul Locomotive Emission Standards

Year of Original Manufacture	Tier of Standards	Standards (g/bhp-hr) NOx	PM	HC	CO
(1)	(2)	(3)	(4)	(5)	(6)
1. 1973-1992	Tier 0	8.0	0.22	1.00	5.0
2. 1993-2004	Tier 1	7.4	0.22	0.55	2.2
3. 2005-2011	Tier 2	5.5	0.10	0.30	1.5
4. 2012-2014	Tier 3	5.5	0.10	0.30	1.5
5. 2015 or later	Tier 4	1.3	0.03	0.14	1.5

Source: 40 C.F.R §1033.101

In Reply, CSXT used locomotive maintenance costs per day of {{[redacted]}} for ES44 and SD40 locomotives, respectively. In Rebuttal, TPI uses locomotive maintenance cost per day of {{[redacted]}} for ES44 and SD40 locomotives, respectively.

d. Locomotive Servicing (Fuel, Sanding and Lubrication)

Locomotive servicing comprises three (3) issues: (1) the cost of fuel; (2) fuel consumption rates; and (3) the cost of servicing locomotives. Each of these issues are discussed below.

i. Fuel Cost

In Opening, TPI determined that locomotive fuel costs per gallon equal $2.17 based on the amount CSXT paid for fuel in the third quarter 2010 ("3Q10"), which is the quarter when the TPIRR commenced operations. CSXT accepted this fuel cost for 3Q10, while commenting that this fuel price was exceptionally low and has increased substantially since that time. CSXT then explains that, rather than indexing this fuel price within the discounted cash flow model ("DCF") in the manner accepted in previous proceedings, CSXT modified this approach to use CSXT's actual fuel price in each quarter through 4Q13 and then adjusted the fuel cost values using the Board's hybrid RCAF index for the remaining life of the DCF model. As fully explained in Rebuttal Part III-G, TPI rejects CSXT's approach.

ii. Fuel Consumption

In Opening, TPI based fuel consumption for ES44 locomotives on information provided in discovery and for SD40 locomotives on system average fuel consumption developed from CSXT's 2010 R-1 Annual report. In Reply, CSXT accepted TPI's fuel consumption rates and TPI continues to use these fuel consumption rates in Rebuttal.

iii. Locomotive Servicing

In Reply, CSXT accepted TPI's locomotive servicing costs, which TPI developed from information reported in CSXT's 2010 Annual Report Form R-1, with one exception. CSXT notes that TPI's development of locomotive servicing costs omitted the fringe-benefit costs associated with the salary component of these costs. In Rebuttal, TPI has revised its locomotive servicing cost to include fringe benefits.

CSXT also states that TPI failed to include in its capital costs all of the necessary facilities for fueling and servicing locomotives in the TPIRR yards. As fully addressed in Part III-B and Part III-C.10.b, TPI has included all the necessary locomotive fueling facilities for the TPIRR system.

2. Railcars

In Opening, the TPIRR's acquisition costs are based on a combination of car rental data from CSXT's Annual Report Form R-1, publicly available lease cost information, and information provided by CSXT in discovery. CSXT generally accepts TPI's approach to determining freight rail car costs; but makes several adjustments to these costs to correct certain alleged errors. Each of these items are discussed below.

a. Lease Rates

In Opening, TPI assumed all TPIRR-provided cars would be acquired using full service leases and based its lease rates for TPIRR general freight rail cars on the use of five (5) car types: (1) box cars; (2) covered hoppers; (3) gondolas; (4) open-top hoppers; and (5) flat cars. In Reply, CSXT generally accepts TPI's approach to determining rail car costs; but argues that TPI understated the lease rates on box cars, covered hoppers, and coal-service open-top hoppers.

In each instance where CSXT rejected TPI's full service lease rate, CSXT uses a rail car lease rate from 2008 rather than 2010, even though 2010 is the start date for the TPIRR and CSXT had lower 2010 lease rates available. CSXT claims that TPI selected 2008 as the representative time period and merely accepts this time period for car lease rates, stating that TPI selected 2008 as it properly reflects the lease rates the TPIRR would pay. This is not correct. Although TPI did use a 2008 full service lease rate for box cars from *Railway Age 2008 Guide to Equipment Leasing*, it did so only because neither the CSXT discovery materials nor the 2010 *Railway Age* Equipment Leasing Guide had any information available for 2010 box car lease rates. CSXT's use of the 2008 lease rates to represent the 2010 marketplace is not appropriate when 2010 lease rates are available, because they do not represent the lease rates available to the TPIRR in the 2010 marketplace.

i. Box Cars

TPI included a full service lease rate for box cars of $250 per month based on information published in *Railway Age* for 2008 for 50-foot, 100-ton capacity cars. CSXT rejected this lease rate and instead used a 2008 net lease rate for box cars found in a January 2014 report prepared by RailSolutions, Inc. titled "*Railroad Equipment Historical Database*."

CSXT then increased the net lease rate for box cars reported in the RailSolutions' database to reflect a full service lease. The adjusted full service lease rate used by CSXT equals $575 per car, per month. As stated above, CSXT used the 2008 lease rate from RailSolutions, even though that publication contains a 2010 lease rate for box cars, which when adjusted to reflect a full service lease rate is only $462 per month, or $113 per month less than the 2008 rate used by CSXT.

CSXT claims that TPI's box car rate is understated as it relates only to 50-foot, 100-ton capacity box cars, when CSXT moves 29 percent of its carloads in 60 foot box cars. CSXT points out that the *Railway Age* publication also includes a 60-foot box car rate that TPI could have used which equals $550 per month.[16] Instead of using an average of the 50-foot and 60-foot box car lease rates in the record, CSXT uses the RailSolutions box car lease rate even though RailSolutions does not provide any description related to the length of the car, which CSXT deems the appropriate measure of which box car lease rates should be used.

In Rebuttal, TPI uses an average full service lease rate for 50-foot box cars and 60-foot box cars from *Railway Age*, weighted by the number of shipments by size of car, which equals $337 per month. As stated in the previous paragraph, CSXT introduced the 60-foot full service lease rate from *Railway Age* in its Reply evidence.[17] This average full service lease rate covers 100 percent of the TPIRR box car shipments shown in CSXT's Reply Table III-D-4.

ii. <u>Covered Hoppers</u>

TPI included a full service lease rate for covered hopper cars of $299 per car found in the 2010 *Railway Age Guide to Equipment Leasing*. CSXT rejects the use of Railway Age's 2010 lease rate for covered hoppers and instead substitutes a 2008 net lease rate from *RailSolutions*

[16] *See* CSXT Reply, p. III-D-34.
[17] *Id.*

Railroad Equipment Historical Database, adjusted to represent a full service lease. CSXT's lease rate equals $573 per car. CSXT rejected TPI's 2010 *Railway Age* lease rate based on the questionable claim that *Railway Age* did not provide a sufficient description of the type of covered hopper to which the lease rate applied. Contrary to CSXT's statement, *Railway Age* does identify the size of the covered hopper by both size in cubic feet capacity and commodity usage in its 2010 publication.

Further review of CSXT's covered hopper lease rates reveals that it includes lease rates for "pressure differential covered hoppers" a covered hopper car type not used to transport any traffic on the TPIRR. As this covered hopper car type is the most expensive of all covered hoppers in CSXT's calculation, its inclusion inappropriately increases the overall covered hopper lease rate CSXT charges to the TPIRR.[18] In Rebuttal, TPI continues to rely on the 2010 lease rate of $299 per month from *Railway Age* for covered hoppers.

iii. <u>Coal Service Open-Top Hoppers</u>

In Opening, TPI relied on a full service lease rate of {{[redacted]}} derived from a lease amendment provided by CSXT in discovery for coal service steel open-top hoppers. For general service open-top hoppers, TPI used an average full service lease rate for steel and aluminum from the 2008 *Railway Age Guide to Equipment Leasing* of $433 per month. In Reply, CSXT explains that the lease rate used by TPI for coal service hoppers is from the third amendment to a 2004 lease it has with {{[redacted]}}. CSXT rejects the use of this full service lease rate, asserting that TPI "cherry picked" from a short-term amendment that would not be available to the TPIRR. Instead, CSXT uses the 2008 general service open-top hopper lease rate from Railway Age of $433 per month for open-top hoppers used in coal service on the TPIRR.

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[18] *See,* CSXT Reply workpaper "2008 RailSolutions lease data converted to full service.xlsx".

CSXT overlooks a significant issue when accepting the *Railway* Age general service open-top hopper lease rate, i.e., it is an average lease rate for both steel and aluminum open-top hoppers.[19] *The Official Railway Equipment Register* shows that CSXT owns only steel hoppers and, therefore, use of an average rate for steel and aluminum hoppers does not match the service needs of the TPIRR.

Further, CSXT's claim that its Third Amendment lease rate of {{[redacted]}} for coal steel open-top hoppers is short term in nature and therefore is not available to TPIRR is not valid, because the lease rate was available to, and used by, CSXT. Were CSXT really concerned about the short term nature of the Third Amendment lease rates, it should have used the average lease rate for coal service steel open top hoppers from the {{[redacted]}} lease, which is calculated from the lease rates for the five amendments shown in CSXT Reply Table III-D-5 to equal {{[redacted]}} per month, which is {{[redacted]}} per month less than the amount used by CSXT in Reply. These amendments were entered into at various dates between {{[redacted]}}.

In Rebuttal, TPI continues to rely on the Third Amendment lease rate of {{[redacted]}} per month which reflects the market rate for steel hoppers in 2010, and is clearly supported and feasible as it is a lease rate enjoyed by CSXT for cars used in coal service. Were the Board to accept CSXT's claim that this rate is not appropriate, TPI suggests it rely on the average lease rate of {{[redacted]}} per month from the various amendments to the {{[redacted]}} agreement.

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[19] *See,* CSXT Reply Table III-D-5.

b. Transit Time

CSXT argues that TPI's railcar requirements are understated because its RTC simulation produces understated transit times. As fully addressed in Part III-C.13, most of CSXT's claims regarding errors in TPI's RTC simulation are incorrect and those which have merit have been corrected in Rebuttal. TPI relies on the transit times produced by its Rebuttal RTC simulation to calculate the TPIRR car requirements for this Rebuttal.

c. Dwell Time in Yards

CSXT argues that TPI significantly understated yard dwell time for railcars on the TPIRR system. CSXT attributes the alleged understatement to two (2) factors. First, CSXT claims that TPI inappropriately relied on the railcar dwell in yards for the most efficient carriers reported by CSXT's consultant, Oliver Wyman, rather than CSXT's actual yard dwell time which is greater than the more efficient carriers. CSXT claims that using the dwell time of these efficient carriers is inappropriate because these carriers are smaller than the TPIRR, which handles 88 percent of the cars that CSXT carries. Further, CSXT argues that TPIRR cannot be as efficient as the other carriers because the TPIRR would use the same blocking and classification as does CSXT.

As shown previously, using CSXT's own calculations from its MultiRail analysis, the TPIRR classifies only 63.5 percent of the actual cars CSXT classified in yards in 2013. Because the TPIRR handles significantly fewer cars, it would experience lower dwell times even though it moves the cars in the same blocks as does CSXT.

Second, CSXT's claim that the more efficient carriers are smaller than the TPIRR is not correct. The efficient carriers in Oliver Wyman's analysis, which produce the lower dwell times, are the Kansas City Southern and the U.S. operations of Canadian Pacific ("CP") and Canadian National ("CN"). CN provides the predominant dwell time in the efficient carrier analysis and it originated an average of 1.7 million carloads annually in 2010, 2011 and 2012. In comparison, the TPIRR originated 908,242 carloads in the Base Year, or less than those of the U.S. operations of CN.

In addition to arguing that CSXT's inefficient yard dwell times should be used by the TPIRR, CSXT claims that, on average, each "TPIRR load will traverse the network on a combination of three different trains (a local train originating the shipment and moving it to a TPIRR yard, one road train, and a local train delivering the car at destination), and the same would occur in the empty direction."[20] Based on this, CSXT assumes each car will experience four (4) yard dwell events in its round trip cycle on the TPIRR rather than the single yard dwell event included in TPI's Opening evidence.

CSXT's assumption is unsupported and incorrect for at least two (2) reasons. First, CSXT applies four (4) yard dwells to all traffic, including coal, grain and bulk unit train traffic. By definition, unit train traffic does not change trains between origin and destination, and thus it is improper to assume that loaded or empty cars moving in unit train service would incur yard dwell time for moving between trains. Second, pre-blocked cars received or delivered in interchange from connecting carriers would not incur yard dwell time at interchange.[21] CSXT's unsupported assumption ignores the reality of yard dwell time on these shipment types.

In Rebuttal, TPI accepts CSXT's assumption of four (4) yard dwell events for local trains on the TPIRR system, except that TPI applies two (2) yard dwell events to all interchange received and interchange forwarded traffic. TPI does not include yard dwell events on unit train traffic which, by definition, does not change trains and does not include yard dwell events on overhead traffic.

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[20] *See,* CSXT Reply, p. III-D-41.

[21] This is especially true of cars interchanged between the TPIRR and CSXT where entire trains are interchange intact in 30 minutes and with no yard dwell

d. Dwell Time for Foreign Cars

In Reply, CSXT argues that TPI failed to account for the ownership expense of foreign owned railcars dwelling at customer facilities and in TPIRR yards. CSXT is correct that TPI inadvertently omitted this time, which is now included in TPI's Rebuttal evidence.

e. Calculation of Per Diem Time and Mileage Rates

CSXT claims that TPI miscalculated the per diem time and mileage rates paid when foreign owned equipment is on the TPIRR by incorrectly including in the denominator the miles and hours for all railroad equipment, i.e., CSXT-owned and foreign-owned equipment, rather than just the foreign-owned equipment. In doing so, CSXT claims TPI understates the per diem time and mileage rates. TPI relied on the combined data because CSXT reports only the aggregate time and mileage data for railroad owned equipment rather than for foreign-owned equipment and system owned equipment separately. In Reply, CSXT analyzed the 2010 car event data produced to TPI in discovery to separate the operating car miles between those incurred by cars owned by CSXT and those generated by foreign cars moving over the CSXT. CSXT used the resulting percentage split to revise TPI's calculations. In Rebuttal, TPI accepts CSXT's calculation of the split between CSXT-owned and foreign-owned equipment but disagrees with CSXT's calculation of the resulting per diem rates.

CSXT makes a formulaic error when calculating the per diem time rates in its Reply spreadsheet titled "TPIRR Car Cost_CSXT Reply.xlsx". In this spreadsheet, CSXT's formula incorrectly points to and uses the foreign-owned car percentage for 40-foot box cars when calculating the per diem time rates for 50-foot box cars. This incorrect formula is then copied down to all subsequent lines in the spreadsheet, with each line calculating the per diem time rate for a different car type. As a result, per diem rates for each car type are calculated using an incorrect foreign owned car percentage. It should be noted that, in calculating the per diem mileage rates, CSXT's formula correctly matched the foreign owned car percent to each car type. TPI corrected CSXT's error in calculating the per diem rates in Rebuttal.[22]

When correcting TPI's calculation of per diem rates to include only foreign-owned equipment, CSXT also erred by calculating per diem "payable" rates rather than "net" per diem rates for foreign-owned equipment. The TPIRR revenues do not include per diem payments received from foreign carriers while its system-owned railcars are on foreign lines and yet CSXT's calculation of per diem rates only account for per diem payments made to foreign carriers when their equipment is on the TPIRR. To properly reflect "net" per diem, TPI accepts CSXT's use of only foreign equipment in the denominator of the calculation, but uses the net per diem in the numerator rather than CSXT's use of per diem payable.[23]

f. Railcar Peaking Factor

In Opening, TPI used a peaking factor of 5.3 percent, which is equal to the average number of train starts per day in the peak week of the peak year divided by the average number of train starts per day in the peak year.[24] The method TPI used to calculate its peaking factor is the same as that first prescribed by the Board in *PSCO/Xcel II*[25] and used in every stand-alone cost proceeding since that decision.

In Reply, CSXT abandons the railcar peaking factor used by the Board and claims "[t]he TPIRR would have to accommodate the varying demand for each type of freight car, as CSXT does in the real world."[26] In order to accommodate this varying demand, and "[t]o capture more

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[22] *See,* TPI Rebuttal workpaper "TPIRR Car Costs_CSXT Reply_Formula Corrections.xlsx".
[23] *See,* TPI Rebuttal workpaper "TPIRR Car Costs_Rebuttal.xlsx"".
[24] *See,* TPI Opening at III-D-4.
[25] *See, PSCo/Xcel II* at 13.
[26] *See,* CSXT Reply, p. III-D-45.

accurately the ebb and flow of car supply requirements in a carload network, CSXT developed peaking factors for each type of TPIRR freight car."[27] Using the peaking factor for each different car type, CSXT claims that "the system fleet for general merchandise traffic needs to be increased by 43%, while the hopper and gondola fleet for coal service needs to be increased by 67%."[28] CSXT's approach, while claiming to meet demand, is requiring the TPIRR to carry enough railcars by car type to meet a maximum possible demand event for each car type. This unrealistic assumption, as well as other flawed aspects of CSXT's peaking factor calculation, are discussed below.

First, CSXT's approach defies precedent. The methodology proposed by TPI on Opening has been used and accepted by the Board in numerous cases, beginning with *PSCo/Xcel II*, where the Board stated:

> A more reasonable expectation would be for the SARR to have sufficient locomotives available to handle the forecasted peak week demand. Using BNSF's evidence, we have calculated total train starts using a 7-day rolling average. The average number of train starts per day during the peak week would be 23.9. The overall average for train starts per day would be 19.9. Dividing 23.9 by 19.9 yields a peaking factor of 20.1%. BNSF's evidence shows that over the course of a year, only 30 days would require more than 24 locomotive starts. For these 30 days, it is reasonable to assume that the orders would be deferred to later in the same week when locomotives would be available. We revise our SAC analysis accordingly.[29]

The same approach was accepted by the Board in *AEPCO*, where the Board also found that, for a defendant to deviate from Board precedent, it must justify departure from that precedent:

> AEPCO followed our precedent by dividing the number of train starts in the peak week of the peak traffic year by the number of train starts in the peak traffic year...Where, as here, a complainant has followed established agency precedent, defendants carry the burden to justify a

[27] *See,* CSXT Reply, p. III-D-43.
[28] *See,* CSXT Reply, p. III-D-45.
[29] *See, PSCo/Xcel II* at 13.

> departure from that methodology. In this case, defendants have not justified a departure from the Board's established approach to calculating the peaking factor. The fact that it might be "difficult" to assess whether AEPCO properly followed the established approach does not, standing alone, provide a reasoned basis to throw out the approach entirely. Moreover, defendants do not provide any support for their claim that the effort is too difficult to undertake, and their bald assertions are insufficient. Nor have defendants offered any explanation for why their new approach is superior to the established approach followed by AEPCO in this case. Accordingly, we will accept the peaking factor submitted by AEPCO.[30]

PSCo/Xcel II and *AEPCO* are just two examples of where the methodology TPI used in Opening was accepted by the Board. Looking at the most recent decisions, the Board has followed suit and has not departed from its preferred methodology. In *DuPont*, the Board states:

> In recent SAC cases, the peaking factor was calculated by forecasting the average number of train starts during the peak week of the peak year for traffic volume. This number is divided by the average number of weekly train starts during the forecasted peak year to yield the peaking factor...DuPont followed this precedent by dividing the average number of train starts in the peak week of the peak traffic year by the average number of train starts in the peak traffic year...Because DuPont followed Board precedent, and NS did not provide adequate explanation for the Board to accept new procedures for this calculation, we will accept DuPont's peaking factor of 5.4% as the best evidence of record.[31]

In *SunBelt*, the parties agreed to a peaking factor which was based on the complainant's Opening evidence.[32] The methodology used by the complainant is similar to that used in *DuPont*, and is as follows:

> In addition to using the spare margin, SunBelt's experts determined the SBRR's locomotive peaking factor by dividing the average number of train starts per day in the peak week of the Peak Year by the average number of train starts per day in the Peak Year. This is the same process as that approved by the Board..."[33]

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[30] *See, AEPCO* at 33.
[31] *See, DuPont* at 71.
[32] *See, SunBelt* at 35.
[33] *See, SunBelt* Opening narrative at III-C-11.

So, while TPI followed Board precedent in calculating the TPIRR peaking factor, CSXT has strayed from past decisions and come up with a methodology that no highly efficient, Class I Railroad would follow.

Not only should CSXT's methodology be rejected based on past cases, it also should be discredited based on CSXT's results. As discussed above, CSXT's attempt to calculate a peaking factor for each type of freight car results in a general freight peaking factor of 43 percent and a hopper/gondola fleet peaking factor of 67 percent, with the Plain Gondola peaking factor reaching as high as 146 percent. A peaking factor of 146 percent means that, for every 100 Plain Gondola cars needed in the "average week", TPIRR will also have available an additional 146 cars for use only in the weeks above the average. This is unreasonably high and results in very inefficient operations.

CSXT's unreasonably high peaking factors are primarily the result of CSXT's flawed assumption that the TPIRR must acquire enough cars by car type to meet 2012 historical demand peaks by car type. CSXT does not describe why TPI must have available enough cars to meet a 2012 peak event. Railcar shortages are a fact of life in railroading and no railroad carries enough cars to meet a possible maximum demand event. In comments recently made by BNSF to the Board regarding grain shipments, BNSF states:

> It is not feasible or economically reasonable to maintain a car fleet capable of meeting the highest level of seasonal demand, which would leave equipment sitting idle much of the year.[34]

BNSF, recognizing the unreasonableness of maintaining excess cars, developed a program named Certificate of Transportation ("COT") to address demand seasonality and volatility. The COT program allows shippers to bid for guaranteed placement of a railcar in a future time

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[34] *See,* Comments of BNSF Railway Company, *Rail Transportation of Grain, Rate Regulation Review*, STB Ex Parte No. 665 (Sub-No. 1) at 11 (June 26, 2014).

period.[35] The presence of such a program reinforces the understanding that sizing fleets to a maximum need is an unreasonable and unrealistic requirement.

Proof of this comes from the fact that many customers of real world Class I railroads see delays in shipments due to the railroad's shortage of railcars. Every September the Board requests railroads to submit a brief summary of the railroad's ability to meet the expected demands for rail service during the end of the year, also known as the "fall peak." Looking at the 2013 fall peak correspondence, it can be seen that BNSF's goal for past due cars was 5,022, along with an "Avg Days Late" of 14.0. BNSF was far from meeting this goal. Through June 27, BNSF's actual number of past due cars was 9,599, 91.1 percent higher than BNSF's goal. BNSF's "Avg Days Late" was also higher than expected, coming in at 29.7 days, 112.1 percent higher than the goal.[36]

The mere fact that BNSF had a "Past Due Cars" *goal* shows that BNSF does not maintain the equipment necessary to handle *all* orders at peak periods of operations as CSXT would require TPIRR to do. In order to remain an efficient carrier, railroads must maintain the appropriate number of cars based on routine daily operations, not just for one week of the year.

To better understand how CSXT's methodology is flawed, and thus should be rejected by the Board, TPI examined the percentage of each fleet that will not be needed during the year. Based on the CSXT peaking factor and seven day rolling average loadings calculated by CSXT, TPI has calculated the percentage of Covered Hopper cars that will not be needed by TPIRR.[37] Rebuttal Figure III-D-1 below provides an illustration:

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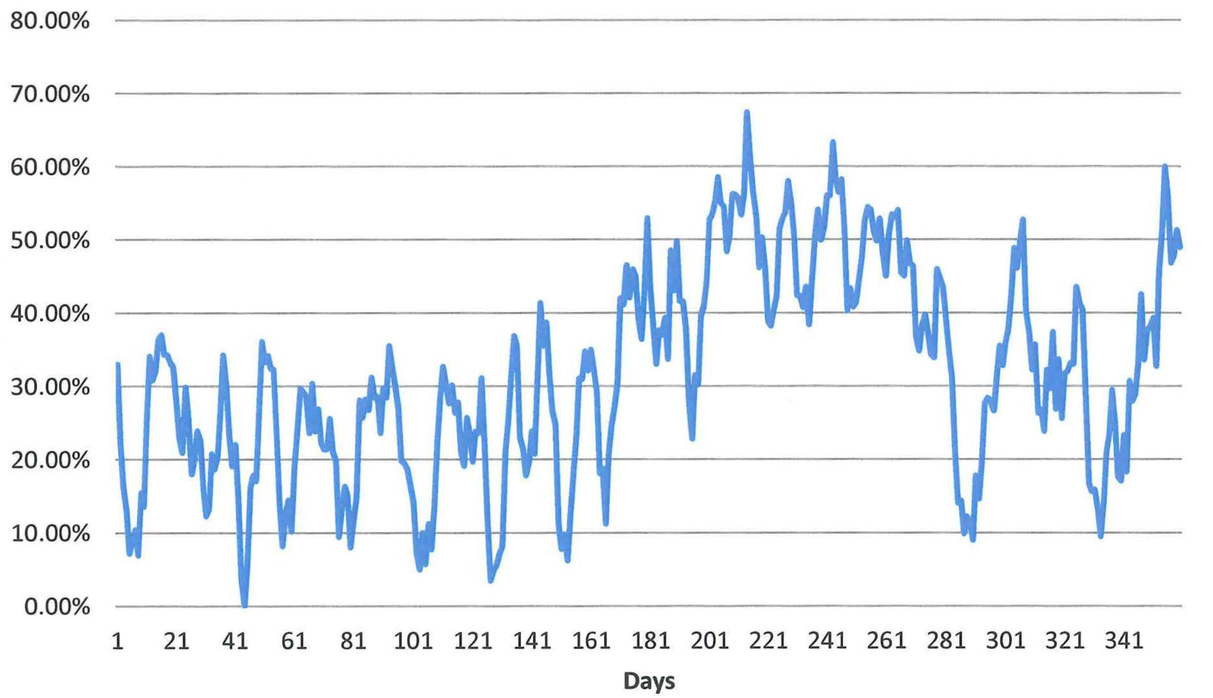
35 *Id.* at 12.
36 *See* TPI Rebuttal workpaper "STB Deck Network Velocity Service 07-02-2014.pdf"
37 *See* TPI Rebuttal workpaper "TPIRR 2012 Rev Carloads_SystemEqpt_PeakingFactor_Rebuttal.xlsx".

Rebuttal Figure III-D-1

Percent of Covered Hopper Cars Not Needed

(based on CSXT 7-day rolling average)



Rebuttal Figure III-D-1 above, shows that, for the majority of the year, 30 percent or more of the Covered Hopper fleet will not be needed.[38] The percent of Covered Hopper cars not needed reaches as high as 67.32 percent. This leads to the TPIRR needing extra track and extra yard capacity for these cars to simply sit around for much of the year. From both an operations standpoint, and a financial standpoint, this is highly inefficient and is not the way Class I railroads operate.

CSXT's approach to calculating peaking factors deviates from that used by TPI and the Board in several ways. First, CSXT relies on 2012 waybill data rather than forecasted peak year data. Variations in demand for a year that is not a peak year do not necessarily correspond with variations in demand in the peak year. CSXT does not explain how 2012 better reflects

[38] *See,* TPI Rebuttal workpaper "TPIRR 2012 Rev Carloads_SystemEqpt_PeakingFactor_Rebuttal.xlsx".

variations in demand than an actual peak year. Secondly, CSXT measures peaking factors off of carloads, rather than trains, on a seven (7) day rolling average basis. This approach disregards the actual movement of cars, which have cycles on average much longer than seven (7) days. Regardless, number of trains are a better measure of demand and for planning capacity needs.

In summary, CSXT develops peaking factors that defy Board precedent and require unrealistic and uneconomical car fleets. CSXT's approach is not proven to correlate to TPIRR's forecasted peak year traffic and focuses on carload counts rather than train counts. As a result, TPI continues to rely on the peaking factor used in Opening, which is consistent with the peaking factor the Board has accepted in every stand-alone decision since *PSCo/Xcel II*.

3. Operating Personnel

a. T&E Personnel

i. Road Crews

CSXT states that TPI's road crews are understated because: 1) TPI assumed TPIRR road crews would work 270 shift per year; 2) TPI failed to include all of the local trains needed to provide complete service to the TPIRR customers; 3) TPI didn't adequately account for directional imbalances; and 4) TPI's re-crew rate is lower than CSXT's actual re-crew rate

(1) Crew Shifts per Year

Consistent with Board precedent, in Opening TPI assumed train crews work 270 shifts per year. On Reply, CSXT accepts TPI's assumption that yard crews could average 270 shifts per year. However, CSXT claims that road crews working 270 shifts per year is not realistic and should not be used. Instead, CSXT claims to use "the number of shifts achieved by the top five percent of CSXT's train crews {{[redacted]}}."[39] While CSXT claims to use {{[redacted]}} shifts per year,

[39] *See* CSXT Reply, p. III-D-58.

this in fact is not the number used in CSXT's personnel calculations. Instead, CSXT uses 251 crew starts per year to calculate road and local crews.[40]

CSXT's restriction of road crews to 251 shift starts per year is inconsistent with the conclusion reached by the Board in all previous decisions dating back to *FMC*.[41] The Board has consistently rejected the use of 250 shifts per year and has accepted 270 shifts in all of the previous cases cited below. Moreover, as stated in the T&E compensation section, TPI determined the wages for T&E personnel based on the actual wages paid by CSXT to engineers and conductors that worked 270 shifts or more in 2010. This information is based on wage information produced by CSXT in discovery.[42] Based on the fact that CSXT has T&E personnel working 270 shifts per year and more, TPI's use of 270 shifts per year is feasible.

TPI has followed Board precedent and will continue to use 270 shifts per year for yard crews, as well as road and local crews. The TPIRR's operating plan makes it a highly-efficient railroad. TPI's road train crews work six (6) days per week, 45 weeks per year, and therefore work up to 270 shifts per year. The TPIRR crew districts have been drawn up precisely so that the crews can get back and forth in the allotted time. Further, it is very realistic to assume the TPIRR's road crews will actually work six (6) days per week, 45 weeks per year. In most instances the crew begins its week on duty at home, travels to the other end of the district in one (1) shift, rests a minimum of ten (10) hours, and travels back home on its next shift. Each crew member makes three (3) such roundtrips per week, 45 weeks per year, thus leaving seven (7) weeks per year for time off, vacations, holidays, personal leave, etc.

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[40] *See,* CSXT Reply workpaper "TPIRR Reply Train Lists.xlsx", tab "Totals"

[41] *See, e.g., FMC* 833, *TMPA* 667, *CP&L* 291, *Duke/CSXT* 456, *PSCo/Xcel I* 644, *WFA/Basin I* 40, *AEPCO* Rebuttal III-D-26, *DuPont* Opening III-D-10 and Reply III-D-42, *SunBelt* Opening III-D-10 and Reply III-D-37.

[42] *See* TPI Rebuttal workpaper "T&E Salary Roster Update.xlsx".

(2) **Missing Trains**

As discussed in Part III-C.2, TPI has added 11,373 local trains to the TPIRR Base Year train list in response to CSXT's allegations that TPI has omitted trains.

(3) **Crew Rebalancing**

In Opening, TPI accounted for crew imbalances that occur as train flows differ by direction, which results in crews deadheading from one location to another. Based on its analysis of train flows, TPI increased the number of train crews by a factor of 1.5 percent to account for crew imbalances.[43] Rather than accepting TPI's crew rebalancing percent, CSXT relies on its locomotive rebalancing percent of 3.1 percent and applies it to train crews.[44] However, CSXT's locomotive rebalancing percent is inappropriate for crew rebalancing because it computes the number of locomotives that must be repositioned, not the number of crews that must be repositioned. Because trains have varying numbers of locomotives, depending on the weight of the train and the terrain over a particular route, the number of locomotives that must be rebalanced is not the same as the number of crews that must be rebalanced. Therefore CSXT's crew rebalancing factor of 3.1 percent overstates the crew rebalancing for the TPIRR and is unsupported and unrealistic.

(4) **Re-Crew Rate**

A re-crew rate is the frequency that train crews exceed their hours of service and must be replaced by a relief crew. In Opening, TPI determined a re-crew rate of 0.7 percent based on the number of trains that exceed the hours of service limitations in the RTC simulation. In Reply, CSXT replaces TPI's re-crew rate with a {{[redacted]}} percent re-crew rate allegedly based on

[43] *See,* TPI Opening Exhibit III-D-1, p. 2; TPI Opening Workpapers "Crew Rebalancing Diagram.pdf" and "crew Rebalancing.xlsx".
[44] *See,* CSXT Reply, p. III-D-48.

CSXT's actual experience in the past three (3) years.[45] In Rebuttal, TPI continues to develop its re-crew rate from the number of crews that expire from its RTC simulation. Based on TPI's Rebuttal RTC simulation, the re-crew rate equals 1.4 percent.[46]

ii. Helper Crews

In Opening, TPI assigns helper service at twelve (12) locations on the TPIRR and uses engineer-only helper crews. These crews are staffed by a total of 65 employees.[47] As CSXT correctly points out, TPI failed to include these employees in its operating expense calculations in Opening. As stated previously, CSXT accepts TPI's helper district assignments and also accepts TPI's 65 employees to staff this helper service.[48] In Rebuttal, TPI includes the cost associated with the 65 helper service employees in its operating expense calculations.

iii. Local Train Crews

As fully discussed in Rebuttal Part III-C.2, TPI has added 11,373 local trains to the TPIRR Base Year train list in Rebuttal. To operate these trains, TPI includes 84 more T&E personnel than it included in Opening.

iv. Yard Crews

As fully discussed in Rebuttal Part III-C-5-e, CSXT significantly overstates the yard crew jobs in the TPIRR yards by simply assigning the same number of yard jobs as CSXT actually had in these yards in 2010 without regard to the fact that, based on its own calculations, the TPIRR classifies only 67.6 percent of the cars CSXT classified in 2010 in these yards.[49] In doing so, CSXT imposes significantly lower productivity standards on the TPIRR than CSXT itself enjoys.

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45 *See,* CSXT Reply, p. III-D-51.
46 *See,* TPI Rebuttal workpaper "TPIRR Base Year Manifest Train List_Rebuttal Statistics.xlsx".
47 *See,* TPI Opening p, III-C-11.
48 *See,* CSXT Reply, pp. III-C-150-151.
49 *See,* TPI Rebuttal workpaper "Yard & Support Job Comparison.xlsx", tab "YardJob-Daily".

In Rebuttal, TPI includes 409 yard classification job assignments per day in hump yards and flat yards combined and 60 support crew job assignments per day in hump yards and flat yards combined,[50] compared with the {{[redacted]}} classification job assignments and {{[redacted]}} support job assignments included in CSXT's Reply evidence.[51] TPI's 469 total yard job assignments in Rebuttal are operated by a total of 634 train and enginemen personnel.[52]

b. T&E Personnel Compensation

i. Salaries

In Opening, TPI included T&E salaries based on actual wages CSXT paid to engineers and conductors working 270 shifts or more in 2010, based on information provided by CSXT in discovery.[53] The average wage for T&E personnel included by TPI in Opening equals {{[redacted]}} per year, excluding fringe benefits. In Reply, CSXT calculates T&E wages using the same method as TPI; however CSXT included all T&E personnel working 238 shifts or more per year in 2010, which equals an average wage of {{[redacted]}}. In Rebuttal, because TPI continues to assume train crew work 270 shift per year, it continues to rely on the average wage calculation from Opening.

ii. Fringe benefits

CSXT develops fringe benefits for all TPIRR employees by averaging NS and CSXT values realized for 2010 through 2012, resulting in 50.2 percent. TPI relies on a 2010 average of fringe benefits across all Class I carriers of 43.5 percent. CSXT claims that TPI's approach is flawed for two (2) reasons: (1) TPI uses data from railroads that are not in the same geographic

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50 *See,* TPI Rebuttal workpaper "Yard & Support Job Comparison.xlsx".
51 *See,* CSXT Reply workpaper "TPIRR Yard Operations_Reply.xlsx".
52 *See,* TPI Rebuttal workpaper "Yard & Support Job Comparison,xlsx".

53 *See,* TPI Opening workpaper, "T&E Salary Roster Update_Revised.xlsx".

region as the TPIRR; and (2) TPI's use of only 2010 data conflicts with the Board's decision in *DuPont*, which allows for a multi-year average. CSXT's arguments are discussed below.

Use of Nationwide Average. CSXT claims that TPI's use of a nationwide average is improper because TPIRR will not be competing with other railroads nationwide for employees; rather, the TPIRR will be competing with CSXT and NS for employees.[54] This assumption implies: (1) employees are unwilling to move for jobs; and (2) an alternative job with CSXT or NS will be in close proximity to an employee's existing job on the TPIRR. These assumptions are unreasonable as employees clearly do move for jobs; to assume they don't is unrealistic.

Further, CSXT's own evidence shows that there is no need for competitive fringe benefits among railroads. CSXT's comparison of NS and CSXT fringe benefits,[55] for 2010 shows that NS's fringe benefits were {{[redacted]}} percent while CSXT's were {{[redacted]}} percent, a difference of 8.5 percent.[56] Since NS's fringe benefit costs are clearly lower than CSXT's, then by CSXT's logic the NS should not be able to attract employees. This clearly is not the case. A more likely assumption is that NS has a more efficient benefits structure than CSXT. In fact, CSXT's use of its own higher fringe benefits rate goes against SAC principles. Because the TPIRR is entitled to the least feasible cost, that would be the NS fringe benefits only, which are significantly more efficient than CSXT's fringe benefits.

Use of Multi-year Average. CSXT's use of a multiple year average for fringe benefits is inconsistent with its use of 2010 wage data. Because 2010 salaries are grossed-up using a fringe benefits percentage, ***then*** indexed for subsequent years, CSXT is overstating fringe benefits expenses. This can be demonstrated by comparing the effective fringe benefit paid on the

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[54] *See,* CSXT Reply, p. III-D-59.
[55] *See,* CSXT Reply Table III-D-12.
[56] Ironically, this difference is greater than the difference in the fringe benefits ratios of 6.7 percent that exists between TPI's Opening evidence and CSXT's Reply.

average CSXT crew wage calculated using CSXT's three (3) year average fringe benefit ratio for each year 2010, 2011 and 2012, with the fringe benefit calculated using the fringe benefit ratio in effect each year for the same three (3) year period. This comparison conclusively demonstrates that CSXT's method of applying a three (3) year average fringe benefit ratio overstates the fringe benefits paid in each year. The three (3) year cumulative overstatement for the three (3) year period equals $6,660 per CSXT T&E employee.[57]

iii. Taxi and Hotel Expense

CSXT accepts TPI's methodology and unit costs for calculating taxi and hotel expenses and increases them to include the additional train crew members that CSXT claims the TPIRR would require. TPI retains the methodology used for these expenses and adjusts them to reflect staff provided in Rebuttal.

c. Non-Train Operating Personnel

In Opening, TPI provided a total of 874 non-train operating personnel. CSXT proposes to increase this number to 1,274, an increase of 400 employees or 46 percent. A comparison of Opening, Reply, and Rebuttal non-train operating personnel headcount is shown below in Rebuttal Table III-D-4.

[57] *See,* TPI Rebuttal workpaper "Fringe Benefit Double Count.xlsx".

Rebuttal Table III-D-4
Summary of Rebuttal
Non-train Operating Personnel Headcount

Department (1)	TPI Opening (2)	CSXT Reply (3)	TPI Rebuttal (4)
1. Executive	6	6	6
2. Customer Service & Support	30	176	39
3. Transportation	529	624	534
4. Mechanical	309	468	308
5. Total	874	1,274	887

Source: TPI Rebuttal workpaper "TPIRR Rebuttal Comp NTO.xls."

The main drivers of CSXT's increases in Reply are customer service, intermodal facility management, and car inspectors. These functions and others are discussed below.

i. Operations Executive Office

In Opening, the head of TPIRR's operations carries the title of VP–Operations, reports to the President-CEO, and is a member of the TPIRR Board of Directors. In Rebuttal, to remain consistent with the executive compensation evidence presented by CSXT in Reply, TPIRR's head of operations will be an Executive Vice President ("EVP")–Operations and have the role of Chief Operating Officer. Consistent with Opening evidence, the COO/EVP-Operations is responsible for all operating functions and supervises the VP–Transportation, VP–Engineering, and the VP–Mechanical. Also reporting to the EVP–Operations is the Assistant VP ("AVP")–Stations and Customer Service, a Director–Operations Planning and Joint Facilities, and a Director–Budgets. The Operations department is supported by five (5) Administrative Assistants.

While CSXT agrees with the structure provided by TPI for the Operations Executive Department, it substantially increases the Customer Service and Support staff from 30 to 176. This and other CSXT changes are described below.

(1) **Customer Service**

To develop the TPIRR staff, CSXT relies on staffing from the actual CSXT without scaling this staff to the TPIRR's size. Despite CSXT's claims of being conservative and including less staffing than the actual CSXT, CSXT proposed Customer Service staffing of 150 is almost exactly equal to CSXT's 2013 actual staffing of {{[redacted]}}.[58]

Many roles within CSXT's own Customer Service staff are either unnecessary for, or included in, other areas of the TPIRR. These roles and staffing include:

- {{[redacted]}} Business Systems personnel.[59] These staff are unnecessary on the TPIRR because the TPIRR's IT group and contractors handle this staff's Business System responsibilities.
- {{[redacted]}} Process Optimization personnel.[60] Process Optimization personnel are unnecessary on the TPIRR, because it is a newly staffed, least-cost, most-efficient railroad. Thus, business processes are already optimized on the TPIRR.
- {{[redacted]}} Customer Operations personnel. TPI and CSXT already account for these employees in TPIRR's Transportation Department.

Eliminating these staff leaves only 69 CSXT Customer Service employees in positions necessary on the TPIRR—46 percent of the Customer Service staff that CSXT proposes for the TPIRR! Thus, CSXT's proposed Customer Service staffing for the TPIRR is completely out of line with its own staffing.

Because CSXT does not adequately describe the responsibilities and activities of Customer Service personnel in Reply, many of its proposed personnel have no clear role. When describing Intermodal and Automotive Customer Service staff, CSXT provides no specific

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[58] *See* TPI Rebuttal workpaper "TPIRR Rebuttal 2013 Org Chart.xls". CSXT claims in Reply at III-D-61 that CSXT has {{[redacted]}} customer service employees. An examination of employees in CSXT's discovery workpaper "2013 Org Chart.xls" shows only {{[redacted]}} customer service employees focused on operations.

[59] *Id.*

[60] *Id.*

activities for the staff at all.[61] CSXT's description of General Freight Customer Service staffing reveals that staff is "primarily responsible to ensure that trains are handled according to plan and that there is adequate power allocated to maintain schedules".[62] These are responsibilities already managed by the Transportation Center.

CSXT's failure to clearly identify the role of its proposed Customer Service staff prevents TPI from determining if this staff handles customer-service type functions already handled by other TPIRR staff. For example, both TPI and CSXT include 20 staff in Operations Control dedicated to monitoring on-line and off-line shipments for general freight, intermodal and coal customers.[63] In addition, CSXT describes elsewhere how Marketing staff is "dedicated to handling the TPIRR effort to facilitate customer use of EDI [electronic data interface] for all functions including billing, **car orders, and car and shipment tracing**".[64] Clearly, Operations and Marketing staff and resources are involved in customer service, and it is necessary to ensure that CSXT has not duplicated their roles with its proposed Customer Service staff. This is impossible, however, with the vague or non-existent position descriptions in CSXT's evidence.

TPI, in Rebuttal, agrees to establish two (2) Customer Service teams as CSXT does in Reply. There will be one (1) team for Intermodal and Automotive and one (1) team for General Freight. Given CSXT's excess staffing of Customer Service as compared to the actual CSXT and given the Operations and Marketing functions that support Customer Service on the TPIRR, TPI reduces the staffing proposed by CSXT. Specifically, both teams will do without an AVP and be led instead by one (1) Director, each reporting to the existing AVP–Stations and

61 *See,* CSXT Reply, p. III-D-64.
62 *See,* CSXT Reply, p. III-D-65.
63 *See,* TPI Opening workpaper "TPIRR Operating Expense_Open.xlsx" and CSXT Reply workpaper "TPIRR Operating Expense_Reply.xlsx".
64 *See,* CSXT Reply, p. III-D-115 [emphasis added].

Customer Service. Each team will have three (3) Managers. TPI's Customer Service staff in Rebuttal totals 31 personnel, an increase of nine (9) over the staff provided in Opening.

(a) Intermodal & Automotive Customer Service

TPI accepts the establishment of an Intermodal & Automotive Customer Service team, but only assigns 12 Customer Service Representatives to it, half the amount proposed by CSXT in Reply.

(b) Bulk & General Freight Customer Service

TPI accepts the establishment of a Bulk & General Freight Customer Service team, but only assigns 10 Customer Service Representatives to it, half the amount proposed by CSXT.

(c) Customer Service Stations Support

CSXT's team of 84 people in Reply within the Customer Service Stations Support Group is clearly excessive because it is larger than the entire Customer Services function for CSXT, adjusted, as described above, to enable an apples-to-apples comparison.[65] Moreover, the functions performed by this staff, which include scheduling customer set outs, placements, and setouts; reporting on car and train movements, and interline reporting, are already handled by other TPIRR personnel that TPI has proposed.

TPI rejects the inclusion of 66 support staff to monitor handoffs between the TPIRR and other railroads. The Intermodal and Automotive and General Freight Customer Service teams will already provide these same functions under TPI's proposed staffing. CSXT has not indicated that these teams would be unable to perform these functions—it has failed to describe

[65] CSXT's narrative in Reply at III-D-66-67 identifies 85 staff in Customer Service Stations Support. However, CSXT's Reply e-workpaper "TPIRR Operating Expenses_Reply.xls" shows only 84 people, which is the basis for CSXT's expense calculation.

the responsibilities for its proposed Intermodal and Automotive and General Freight Customer Service teams altogether.

TPI rejects the inclusion of ten (10) managers and two (2) technical support staff for supporting conductors' handheld devices. Technicians in the Communications and Signals Department, which are described in Exhibit III-D-2, already adequately support conductors' handheld devices, and CSXT has not identified this staffing as deficient for this purpose.

TPI rejects the inclusion of seven (7) Process Improvement staff. This staff performs an unnecessary "watchdog" function. All personnel have a core responsibility to identify inefficiencies and potential process improvements.

(2) Operations Planning and Joint Facilities

Joint Facilities. CSXT proposed one (1) Director and three (3) Managers for TPIRR's Joint Facilities group. This proposal exceeds TPI's Opening staffing by one Manager. CSXT's own testimony says that the existing CSXT uses two (2) Managers and that TPIRR steps into a "substantial" amount of CSXT's joint facilities.[66] CSXT's claim that TPIRR steps into a substantial amount of CSXT's joint facilities is overstated. In fact, both TPI and CSXT agree that TPIRR has 506 miles of trackage rights,[67] while the actual CSXT has 6,607 total miles of Class 5 track.[68] As CSXT's addition to the joint facilities staff is unsupported, TPI retains one (1) Director and two (2) Managers.

Operations Planning. CSXT proposes staffing the Operations (or Service) Planning group with two (2) Directors and 16 Managers. TPI relied on a Director (sharing time managing Joint Facilities) and two (2) Analysts. CSXT claims that the actual CSXT employs {{[redacted]}}

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[66] *See,* CSXT Reply, p. III-D-67.
[67] *See,* CSXT Reply workpaper "TPIRR Route Miles CSXT Reply.xlsx".
[68] 2010 CSXT Annual Report Form R-1, Schedule 700.

Service Planning personnel. A close examination of CSXT's cited workpaper, as well as the core records CSXT used to rely on this count, shows that CSXT actually only had {{[redacted]}} personnel in its Service Planning group in 2013.[69] CSXT claims a substantial planning staff is needed to meet customer expectations and respond to the "customer churn" that is inherent in areas like general freight traffic.[70] CSXT infers that planning is a function requiring constant minute by minute updates, where only certain people can handle particular types of traffic. This assumption is unreasonable and unrealistic. Initially, patterns for all traffic are established by Service Planning and updated as necessary in recorded plans, or manuals. The manuals are provided to Operations and Marketing personnel involved with car movements over the TPIRR. As new customers are added or changes are made to existing traffic, Service Planning is responsible for revising the "manual". Service Planning personnel are also responsible for monitoring compliance with the established patterns. Given these responsibilities, a staff of 18 would spend much of its time with nothing to do. Because CSXT does not support the need for so many staff, TPI retains its staffing for Service Planning.

(3) <u>Budgets</u>

CSXT accepts TPI's inclusion of one (1) Director and two (2) Analysts to manage the Operations group budgeting activities. CSXT includes this staff dedicated to developing budgets for the Operations group despite including personnel in its Cost and Economic Analysis group within Finance to "assist" TPIRR departments with the development of their budgets. This redundancy is discussed in the Finance and Accounting section of Rebuttal Exhibit III-D-1.

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[69] *See,* CSXT Reply, p. III-D-68 and CSXT Reply workpaper "CSXT Organization Spreadsheet.xlsx".

[70] *See,* CSXT Reply, p. III-D-68.

ii. Transportation Department

In Reply, CSXT includes 624 employees in TPIRR's Transportation Department. This headcount is 95 more than the 529 Transportation Department employees included by TPI in Opening. CSXT's changes to TPI's Opening headcount for the Transportation Department include the placement of two (2) Environmental Control Directors into G&A, the addition of 23 staff to the Purchasing group, and the addition of 74 staff for a new group to manage intermodal and automotive terminals. These changes are discussed below.

(1) Assistant Vice President–Transportation Center

The AVP–Transportation Center is responsible for managing and coordinating Operations Control, Dispatching, Crew Management, Intermodal, and Coal Operations. Reporting to the AVP–Transportation Center are the Director–Operations Control, two (2) Chief Dispatchers, Director–Crew Management, Director–Coal Operations, and Director–Intermodal Operations.

CSXT in Reply accepts TPI's staffing of the Transportation Center within the Transportation Department.

(2) Assistant Vice President–Safety and Materials

(a) Rules, Safety and Training

CSXT accepts TPI's staffing of the Rules, Safety and Training function.

(b) Environmental Controls

TPI, in Opening, included two (2) Directors–Environmental Controls. CSXT, in Reply, accounts for Environmental personnel in G&A and thus removes them from non-train operating personnel. TPI, in Rebuttal, also includes Environmental personnel in G&A.

(c) Purchasing and Material Management

CSXT increases TPI's staffing of Purchasing and Material Management by adding three (3) Directors, removing four (4) Managers–Purchasing and Inventory Control, and adding 24 Managers–Material Management. CSXT claims that the actual CSXT has {{[redacted]}} Purchasing staff.[71] An examination of 2013 CSXT staffing data shows {{[redacted]}} Managers in the Purchasing and Materials group.[72] While CSXT in Reply properly adjusts the number of managers for the size of the TPIRR, CSXT errs by not further reducing the number of managers to reflect the TPIRR's lack of development and capital investment beyond construction, given that it is newly designed and constructed. In addition, CSXT included six (6) Managers that it says will be responsible for other support functions such as purchasing systems, process improvement, supplier relations, and material logistics.[73] These Managers are performing responsibilities that should already be in the job descriptions of the other managers, who are the ones doing the work. Excluding these six (6) managers from CSXT's manager headcount results in 22 managers focused on purchasing and materials management activities. Given that TPIRR will have far less purchasing and material management activity than the actual CSXT, considering size differences and the lack of development on the TPIRR, TPI in Rebuttal reduces the number of managers further to 15, which is seven (7) more than provided in Opening. Including the Director – Purchasing and Materials Management, which TPI retains from Opening, TPIRR's Rebuttal Purchasing and Materials Management group includes a total of 16 people.

[71] *See,* CSXT Reply, p. III-D-70.
[72] *See,* TPI Rebuttal e-workpaper "TPIRR Rebuttal 2013 Org Chart.xls".
[73] *See,* CSXT Reply, p. III-D-70.

(3) General Managers–Transportation

The General Managers–Transportation for the Northern and Southern Regions are responsible for all transportation field operations and supervise the TPIRR's Directors–Field Operations on their respective territories.

CSXT accepts TPI's staffing of the General Managers' groups, which combined include a total of 260 employees.

(4) Intermodal and Automotive Terminals

In Reply, CSXT claims that TPI excludes personnel needed to manage intermodal and automotive terminals and that the cost of such employees are not included in the intermodal lift and ramp costs and the automotive handling costs provided by TPI in Opening. In all, CSXT adds 74 employees to manage operations at TPIRR intermodal and automotive terminals.

In Rebuttal, TPI accounts for the expenses related to intermodal facilities personnel in Intermodal Lift and Ramp expenses included in Rebuttal Part III-D-10, *infra*.

iii. Mechanical Department

CSXT accepts TPI's staffing of the Mechanical Department with two (2) exceptions: (1) CSXT increases TPI's 281 Car Inspectors to 441 by adding yard-based Car Inspectors; and (2) CSXT removes the Manager–Testing and Environmental because CSXT includes environmental personnel in G&A.

CSXT's additional yard-based Car Inspector staffing should be rejected, because it is excessive given the inspection workload at the TPIRR yards. Although CSXT's "top down" approach of assigning inspectors is based on a calculation of the annual average number of hours worked by CSXT inspectors at yards located on the TPIRR in 2010 through 2013, this approach does not reflect that the TPIRR requires significantly fewer inspections than CSXT. For example, CSXT's analysis shows that, in 2013, CSXT had the equivalent of {{[redacted]}} inspectors in yards which are located on the TPIRR.[74] In Reply, CSXT assigns 417 car inspectors at these yards or {{[redacted]}} percent of CSXT's actual inspectors. But, according to CSXT"s own calculations, the TPIRR classifies only {{[redacted]}} percent of the cars classified by CSXT in 2013.[75] {{[redacted]}} Based on the smaller number of cars classified by the TPIRR, the number of inspectors included in TPI's Opening evidence is realistic.

A close analysis of how CSXT assigned its additional inspectors confirms that they are unnecessary. CSXT assigned its additional yard-based Car Inspectors to three (3) yard categories—yards with 15 or more trains per day; 10 to 14 trains per day; and four (4) to five (5) trains per day—and five (5) locations where TPI did not provide Car Inspectors.[76] TPI addresses each of these assignments below.

Yards with 15 or More Trains per Day. For yards with 15 or more trains per day, CSXT claims that the TPIRR will need six (6) Car Inspectors per shift, two (2) inspectors more per shift than TPI proposed.[77] This additional staffing is unnecessary because four (4) Car Inspectors working in pairs can inspect on average two trains simultaneously per hour, amounting to 48 trains per day in a three-shift configuration. At most, 23 trains per day will need to be inspected at the largest yards.

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[74] *See,* CSXT Reply workpaper "CSX Inspection and Repair Update_CSXT Reply.xlsx"

[75] CSXT's Reply evidence provides the number of cars classified in 23 of TPIRRs 85 yards to equal a total of 14,889 cars per day. CSXT Reply information shows that at these same 23 yards that CSXT classified 23,447 cars per day in 2013, thus the TPIRR classifies only 63.5 percent of the cars CSXT classifies. *See* CSXT Reply workpaper "sarr19_Yard_Volume_minmax_summary_7-7-14.xlsx" and discovery spreadsheet "Yard Matrix Update.xls"

[76] *See,* CSXT Reply, p. III-D-72.

[77] *See,* CSXT Reply, p. III-D-72.

Moreover, CSXT provides no support for its use of a six-person inspection team. Indeed, a team of this size is inconsistent with the size of inspection teams in previous proceedings. For example, in *AEPCO*, the Board accepted the use of four-person inspection teams.[78] As shown in the preceding paragraph, a single four (4) person inspection team is all that is necessary to adequately manage the volume of trains that require inspection on the TPIRR.

Yards with 10 to 14 Trains per Day. For yards with 10 to 14 trains per day, CSXT claims that the TPIRR will need four (4) Car Inspectors per shift, one to two (2) more than TPIRR proposed.[79] This additional staffing is unnecessary because three Car Inspectors can easily inspect up to six (6) trains per shift, allowing for adequate coverage for up to 14 trains per day. Two of the inspectors can inspect one train per hour acting as a team. The remaining inspector can inspect up to one train every two (2) hours acting alone.

Yards with Four (4) to Five (5) Trains per Day. For yards with four (4) to five (5) trains per day, CSXT proposes two Car Inspector shifts with a single Car Inspector each, rather than one shift as TPI proposes.[80] This additional staffing is excessive because one inspector on his/her own can inspect up to three (3) trains per shift and can cover any remaining inspection needs with the assistance of train crews, who typically inspect trains in smaller yards. In addition, because TPI grosses up inspector staff to account for vacations and sick time, yards with four (4) to five (5) trains per day are actually assigned two (2) inspectors.

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[78] *See, AEPCO* at 51.

[79] *See,* CSXT Reply, p. III-D-72. TPI in Opening included two (2) inspectors per shift for yards with 10 to 12 trains per day and three (3) inspectors per shift for yards with 13 to 14 trains per day.

[80] *See,* CSXT Reply, p. III-D-72.

Miscellaneous Locations. CSXT also adds Car Inspectors at five (5) locations[81] where TPI did not have a Car Inspector.[82] But these are locations where train crews can inspect their own train prior to their departure, because there is no more than, and usually less than, one train per eight-hour shift at these locations. Employing a Car Inspector that is capable of inspecting two trains per shift at locations that often do not even have a single train per shift is not justified.

In Rebuttal, TPI retains its use of 281 Car Inspectors because this quantity is sufficient to meet the needs of the TPIRR.

d. Non-Train Personnel Compensation

In Reply, CSXT accepts TPI's approach using CSXT's Wage Form A and B data to calculate salaries for non-executive personnel. This approach is maintained in Rebuttal and is used for any new non-executive positions added to Opening headcounts. CSXT does not agree with compensation levels for Executives. As discussed in detail in Rebuttal Exhibit III-D-1, CSXT develops Vice President compensation based on three (3) KCS Executive Vice Presidents and applies an amount of $1,537,272 as annual compensation to all VP's on the TPIRR. As discussed in Rebuttal Exhibit III-D-1, TPI accepts CSXT's approach for executive compensation, as corrected, for the EVP/COO, or Executive Vice President–Operations as described above. For the reasons described in Rebuttal Exhibit III-D-1, TPI continues to use Opening compensation for all other Operations VP's.

e. Materials, Supplies and Expenses

CSXT generally accepted TPI's approach to calculating material, supplies and equipment expenses and made adjustments to most expenses based on its Reply TPIRR headcount.

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[81] *See,* CSXT Reply, p. III-D-72. CSXT does not identify the five (5) locations on page 72 or in its Reply workpaper "CSX Inspection and Repair Update_CSXT Reply.xls".

[82] *See,* CSXT Reply, p. III-D-72.

4. **General and Administrative**

In this sub-part, TPI provides a brief overview of its general and administrative ("G&A") Rebuttal evidence. A detailed explanation, including support for TPI's position and a critique of CSXT's Reply Evidence, is provided in Rebuttal Exhibit III-D-1.

In Opening, TPI included a cost of $91.6 million for the TPIRR's general and administrative ("G&A") department, which was comprised of 304 individuals.[83] In Reply, CSXT included a cost of $166.6 million and staffing of 760 personnel for G&A, including outside directors.[84] The staffing level proposed by CSXT is based on a "top down" approach that utilizes the existing CSXT as a starting point. Inherent in this approach is the inclusion of inefficiencies and characteristics of a very large Class I staff developed through years of consolidations and technology shifts to serve varied types of traffic and countless lower density rail lines and branch lines. [85] This approach also completely ignores the fact that the TPIRR is a new, startup railroad that will not be faced with many of the same costs and burdens as an existing railroad that was established over time and has been through many different mergers and acquisitions. Moreover, the TPIRR will not replicate most of the real-world CSXT's lower density rail lines. In contrast to CSXT's top-down approach, TPI relies on a "bottom up" approach to determine the actual needs of a new, least-cost, most-efficient railroad.

CSXT's excessive staffing of the TPIRR leads to increased total G&A costs of $166.6 million, or $75 million more than TPI's Opening total G&A costs of $91.6 million. Much of the difference in the parties' G&A expenses is due to CSXT's excessive staffing, outsourcing costs,

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[83] *See,* TPI Opening workpaper "TPIRR Operating Expenses_Opening.xls".
[84] *See,* CSXT Reply, p. III-D-76.
[85] *See* Part I, Counsel's Argument and Summary of Evidence, for more information.

as well as start-up costs. The overall annual G&A expense estimates provided by the parties are shown in Rebuttal Table III-D-5 below.

Rebuttal Table III-D-5
TPI Opening, CSXT Reply and
TPI Rebuttal 2010 G&A Expense
($ in millions)

Source	2010 G&A Expense
(1)	(2)
1. TPI Opening	$91.6
2. CSXT Reply	$166.6
3. TPI Rebuttal	$99.6

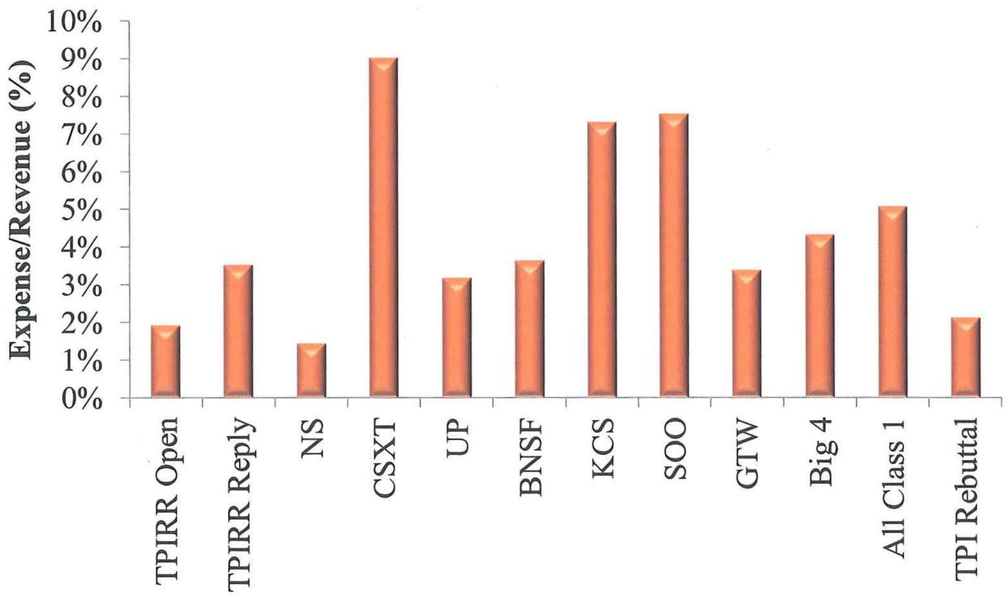
Sources: TPI workpaper "TPIRR Rebuttal Comp G&A.xlsx", "TPIRR Operating Expense_Open.xlsx", "TPIRR Operating Expense_Reply.xlsx" and "TPIRR Operating Expense_Rebuttal.xlsx".

In its Reply, CSXT attempted to compare the G&A expenses proposed by TPI to those of other Class I carriers.[86] Specifically, CSXT compared Opening and Reply G&A expenses for the TPIRR as a percent of revenues to that of Class I carriers, including the actual CSXT. However, as described in Rebuttal Exhibit III-D-1, CSXT's composition of G&A expenses includes errors as well as expenses not in the TPIRR numbers, such as Casualties & Insurance, Writedown of Uncollectible Accounts, Other Taxes Except on Corporate Income or Payrolls, Joint Facility–Debit, Joint Facility–Credit, and Other. None of these expenses are included in the TPIRR numbers presented by CSXT in its comparison, thus overstating the G&A for Class I carriers in the comparison. When CSXT's errors are corrected and the expenses mentioned above are excluded for Class I carriers, a true comparison to the TPIRR can be made. Rebuttal Figure III-D-2 below makes such a comparison, including also TPI's Rebuttal G&A expenses as a percent of revenues.

[86] *See,* CSXT Reply, Table III-D-14 at page III-D-78.

Rebuttal Figure III-D-2

2010-12 Avg. G&A Benchmarking - Expense



Source: Workpaper "TPIRR Rebuttal CSXT Benchmarking–GA (corrected and restated).xls".

Rebuttal Figure III-D-2 highlights two (2) very important points related to both TPI's and CSXT's G&A expenses. First, CSXT's 2010 through 2012 G&A expenses, as a percent of revenue, far exceed those of any other carrier. This is evidence that CSXT is not nearly as efficient as other Class I carriers in its G&A spend. This is an important fact in this case as CSXT relies on its own system for much of its G&A staffing of the TPIRR. The second important point made by Rebuttal Figure III-D-2 is that TPI's Rebuttal G&A expenses (as a percent of revenue) are not out of line with the more efficient Class I carriers, especially considering TPI developed its staffing for the TPIRR with a bottom up approach for a new, least-cost, most-efficient carrier.

The G&A expenses for the TPIRR have been developed on the basis of the experience of TPI's Witnesses Hunter, McDonald, Kruzich, and Burris. Mr. Hunter, in particular, has extensive experience, 36 years, in management and has been involved in several railroad mergers. Also, Mr. McDonald has held a number of senior management positions at Class I railroads and has 35 years of experience in railroad operations, engineering, and management.

TPI's other two (2) G&A witnesses include Mr. Kruzich, who has 38 years of experience in railroad accounting, executive administration, and information technology, and Mr. Burris, who has more than 30 years of consulting experience related to railroad economics.

a. <u>Staffing Requirements</u>

To ensure that TPI develops G&A staffing to meet the needs of the TPIRR, TPI carefully examined the Reply evidence provided by CSXT. While this examination uncovered many unnecessary, unsupported, redundant, and sometimes excessive aspects of CSXT's Reply evidence, TPI did identify reasonable arguments in certain areas for increasing the TPIRR staffing that it had proposed in its Opening Evidence. Rebuttal Table III-D-6, below, shows staffing on the TPIRR in Opening, Reply and Rebuttal.

Rebuttal Table III-D-6
Summary of Rebuttal G&A Headcount

Department (1)	TPI Opening (2)	CSXT Reply (3)	TPI Rebuttal (4)
1. Outside Directors	5	6	5
2. Executive	25	53	28
3. Sales & Marketing	56	215	60
4. Finance & Accounting	100	242	109
5. Law	45	155	73
6. IT	73	89	73
7. Total	304	760	348

Source: TPI Rebuttal workpaper "TPIRR Rebuttal Comp G&A.xls."

i. Executive Department

In its Opening Evidence, TPI proposed an Executive Department consisting of 25 individuals headed by the President.[87] This department includes administrative functions, such as Corporate Communications, Government Affairs, Quality Improvement/Assurance, and Human Resources. In Reply, CSXT more than doubles this staff to a count of 53.[88] Included in this Reply headcount is the addition of a Vice President ("VP") to oversee administrative functions. TPI accepts this addition of a VP–Administration as well as some minor additions elsewhere in the department, but many of CSXT's additions are not needed on the TPIRR. Overall, TPI increases the Executive Department staffing by three (3) over the Opening count.

ii. Board of Directors

In its Opening Evidence, TPI included seven (7) members of the Board of Directors: the President, the Vice President–Operations, and five (5) outside directors.[89] The outside directors include two (2) representatives of the TPIRR's customer group, two (2) representatives of its investors group, and an independent director with no other connection to the TPIRR.[90] CSXT suggests the Board of Directors include 10 members as established in *DuPont,* which included five (5) SARR executive directors and five (5) outside directors.[91] TPI accepts CSXT's suggestion and adds three (3) TPIRR executive directors for a total of ten (10) directors. TPI rejects CSXT's proposal that the number of outside directors be increased to six (6) because such a proposal deviates from the Board's *DuPont* decision.

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[87] *See,* TPI Opening Exhibit III-D-2, Table 1.
[88] *See,* CSXT Reply, p. III-D-106.
[89] *See* TPI Opening Exhibit III-D-2, Table 1.
[90] *See,* TPI Opening Exhibit III-D-2 at 12-13.
[91] *See,* CSXT Reply, p. III-D-106.

iii. Sales & Marketing Department

TPI included a Sales and Marketing staff of 56 in Opening.[92] In Reply, CSXT utilizes a Sales and Marketing staff of 215,[93] a count that is almost four (4) times greater than TPI's Opening headcount. As with staffing elsewhere across the TPIRR, CSXT relies on the actual CSXT as a benchmark for much of the Sales and Marketing staff. As discussed above and in Rebuttal Exhibit III-D-1, CSXT is not an efficient benchmark from which to establish G&A staffing for the TPIRR. In particular, CSXT relies on a large, outdated Sales staff to serve the TPIRR. TPI retains a smaller Sales staff located in the field to assist with the management of customer relationships. TPI, in Rebuttal, does address needs in Marketing, E-Business, and contract management brought to light by CSXT's Reply evidence. As a result, TPI adds 4 personnel to the Opening Sales and Marketing staff, which in Rebuttal totals 60 people.

iv. Finance & Accounting Department

In its Opening Evidence, TPI proposed a Finance and Accounting Department consisting of 100 employees.[94] CSXT substantially increases the Finance & Accounting Department staffing to 242, a level that is more than double that of TPI's Opening staffing.[95] The staffing proposed by CSXT for the TPIRR is quite excessive when compared to the actual CSXT for several of the Finance and Accounting groups. These instances are described in detail within Rebuttal Exhibit III-D-1. TPI makes minor adjustments to Finance and Accounting staffing in Rebuttal that result in the addition of nine (9) personnel to the Opening headcount, taking the total for the Finance and Accounting department to 109 people.

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[92] *See,* TPI Opening Exhibit. III-D-2, Table 1.
[93] *See,* CSXT Reply, p. III-D-120.
[94] *See,* TPI Opening Exhibit III-D-2, Table 1.
[95] *See,* CSXT Reply, p. III-D-137.

v. Law Department

In Opening, TPI proposed a Law Department consisting of 45 employees.[96] In Reply, CSXT proposes a much larger Law Department made up of 155 individuals,[97] more than three times the staffing proposed by TPI on Opening. This increase is due largely to CSXT's police staff, as well as CSXT's claims and environmental groups. A review of CSXT's Reply evidence resulted in TPI making adjustments in the police department and environmental group. Overall, TPI increases its Law Department headcount by 28 personnel in Rebuttal for a total of 73 people.

vi. Information Technology

In its Opening Evidence, TPI proposed an IT department consisting of 73 individuals.[98] CSXT mostly accepted TPI's method for addressing IT staffing and proposed an IT department made up of 89 employees.[99] CSXT's increases are made to several functions to address the larger TPIRR staffing CSXT provided in Reply. Given the efficient size of the IT staff and less than significant TPIRR staffing increases in Rebuttal, TPI retains the Opening staffing levels for the IT group.

b. Compensation

CSXT accepted TPI's use of CSXT's Wage Forms A and B to calculate non-executive employee compensation.[100] However, CSXT did not accept TPI's approach to developing executive salaries. CSXT develops salaries based on the President and select Executive Vice Presidents ("EVP") from KCS that include non-salary compensation such as stock and stock options grants.[101] CSXT incorrectly applies compensation for the select KCS EVPs to all the

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[96] *See,* TPI Opening Exhibit III-D-2, Table 1.
[97] *See,* CSXT Reply workpaper "TPIRR Operating Expenses_Reply.xls".
[98] *See,* TPI Opening Exhibit III-D-2, Table 1.
[99] *See,* CSXT Reply, p. III-D-159.
[100] *See,* CSXT Reply, p. III-D-159.
[101] *See,* CSXT Reply, p. III-D-159 to -160.

VPs on TPIRR. While TPI accepts the inclusion of KCS President and EVP compensation for comparable positions on the TPIRR, it rejects the application of KCS EVP salaries to all TPIRR VPs.

c. Material, Supplies, and Equipment

CSXT generally accepts TPI's approach to calculating material, supplies and equipment expenses and has made adjustments to most expenses based on its revised Reply TPIRR headcount.[102] The exception to this adjustment was automobile expenses, where CSXT significantly increases the number of automobiles in Reply.[103] In Rebuttal, TPI retains the approach used in Opening to calculate expenses for materials, supplies, and equipment, making adjustments based on Rebuttal changes in the overall TPIRR headcount.

d. Other

i. IT Systems

TPI's expert Witness Kruzich is responsible for developing the TPIRR's IT systems. A significant portion of the TPIRR's technology (82 percent of IT Operating Cost) would be through RMI systems and outsourcing. The IT systems proposed by TPI for the TPIRR are very similar to those used by real-world Class I railroads and would allow TPIRR employees to work efficiently and effectively.[104]

The total Capital and Operating Costs for IT and Communications Systems proposed by CSXT in Reply are 12 percent higher than TPI's Opening costs, due largely to CSXT's higher headcount for the TPIRR in Reply.[105] In Rebuttal, TPI makes some minor adjustments to the

[102] *See,* CSXT Reply, p. III-D-165.
[103] *See, e.g.*, CSXT Reply, p. III-D-170 (n.387).
[104] *See,* TPI Opening Ex. III-D-2 at 42-52.
[105] *See,* TPI Rebuttal workpaper "TPIRR Rebuttal Comp G&A.xls".

costs it proposes for the IT and Communications Systems, but otherwise maintains the methodology it used in its Opening Evidence.

ii. Other Out-Sourced Functions

In Opening, the TPIRR functions that were outsourced included payroll processing, internal and external auditing, and outside counsel.[106] CSXT agrees with the approach used by TPI for calculating payroll and internal/external auditing service costs. However, CSXT disagrees with TPI's approach for calculating outside counsel expenses. Specifically, CSXT relies on a higher percent of revenue adjuster to calculate total legal fees, which results in higher outside counsel expenses.[107] In Rebuttal, TPI maintains the approach used in Opening to calculate expenses for outside counsel.

iii. Start-up and Training Costs

In Reply, CSXT accepts TPI's calculations of the average cost to train individual employees, but makes three adjustments: 1) CSXT adjusts total training costs to incorporate additional staff; 2) CSXT uses its incorrect fringe benefit ratio of 50.2 percent; and 3) CSXT modifies TPI's attrition rates.[108] TPI's position on each adjustment is discussed in detail in Rebuttal Exhibit III-D-1.

iv. Travel and Entertainment Expenses

In its Reply, CSXT included $3.5 million for travel expenses and $0.2 million for entertainment expenses.[109] The travel expenses proposed by CSXT exceed TPI's Opening travel expenses by $2.5 million.[110] TPI did not include entertainment expenses in Opening. CSXT

[106] *See* TPI Opening Ex. III-D-2 at 29-30 and 52-54.
[107] *See* CSXT Reply III-D-138 to -139.
[108] *See* CSXT Reply III-D-167 to -168.
[109] *See* CSXT Reply Table III-D-32.
[110] *See,* TPI Opening Exhibit III-D-2 at 55.

claims TPIRR travel and entertainment expenses are understated due to too few employees traveling, too low of a cost per traveling employee, and the exclusion of entertainment expenses.[111]

TPI, in Rebuttal, makes several changes to TPIRR travel and entertainment expenses. As discussed in Rebuttal Exhibit III-D-1, TPI increases the number of employees traveling to include the groups cited by CSXT in Reply.[112] However, TPI retains its development of travel costs per employee because CSXT proposed a multi-year average cost that does not include proper indexing. TPI also includes entertainment costs based on information consistent with its development of average travel costs per employee. CSXT developed entertainment expenses based on its own experience.

When the changes to travel and entertainment expenses described in Rebuttal Exhibit III-D-1 are incorporated, Rebuttal expenses increase to $2.1 million.

v. **Bad Debt**

In Opening, TPI assumed that zero percent of revenue would go unpaid.[113] This percentage was based on CSXT's actual bad debt experience from 2009 through 2011.[114] In Reply, CSXT rejects TPI's bad debt calculation and includes a percentage of 0.08, which is based on CSXT's 2010 through 2012 experience.[115] CSXT also claims that its bad debt figure for 2009 reflects a one-time adjustment made because of improved collections and a stabilizing economic environment.[116] In Rebuttal, TPI rejects CSXT's calculation and submits that the bad debt percentage should be 0.07 percent, which is based on years 2010 through 2013, as CSXT

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[111] *See,* CSXT Reply, p. III-D-168.
[112] *See,* CSXT Reply, p. III-D-169.
[113] *See,* TPI Opening Exhibit III-D-2 at 55-56.
[114] *See,* TPI Rebuttal workpaper "TPIRR Rebuttal Bad Debt.xls."
[115] *See,* CSXT Reply, p. III-D-174.
[116] *See,* CSXT Reply, p. III-D-173.

benefited from improved collection beginning in 2009. There is no reason to ignore data from 2013–the most recent year–as CSXT did.

5. **Maintenance-of-Way**

CSXT designed a MOW plan for the TPIRR that ignores CSXT's own real-world staffing and fails to account for differences between the TPIRR and real-world CSXT. It assails TPI's reasonable reliance on CSXT's own MOW staffing data produced during discovery to determine appropriate TPIRR staffing levels, claiming the data contained errors. But it uses this very data it claims is too erroneous for TPI's use to justify its own proposed staffing at a high level, ignoring the different job-level needs of the TPIRR. CSXT also uses an invalid comparison between CSXT and the TPIRR to support its staffing. The comparison artificially inflates CSXT's actual MOW staffing in comparison to the TPIRR by assuming CSXT's MOW staff appear responsible for less infrastructure than they maintain in the real world and including CSXT staff that are unnecessary on the TPIRR or are already accounted for in another aspect of the SAC analysis. Also, CSXT does not explain how it accounts for the new infrastructure of the TPIRR when determining its proposed staffing. Instead, it appears to have simply assumed that the TPIRR will have the same infrastructure issues as the real-world CSXT, even though most of CSXT's infrastructure is antiquated, laid many years (some over a century!) before the TPIRR is built. The result of CSXT's misguided approach is a gold-plated MOW plan that does not reflect the TPIRR's actual needs.

TPI addresses CSXT's proposed MOW plan in detail in Rebuttal Exhibit III-D-2. A comparison of the parties' MOW staffing is provided in Rebuttal Table III-D-7 below.

Rebuttal Table III-D-7
TPI Opening, CSXT Reply and
TPI Rebuttal MOW Staff

Source (1)	MOW Staff (2)
1. TPI Opening	1,146
2. CSXT Reply	1,966
3. TPI Rebuttal	1,144

Source: "TPIRR Rebuttal Comp MOW.xls".

A comparison of the parties 2010 MOW expenses is provided in Rebuttal Table III-D-8 below.

Rebuttal Table III-D-8
TPIRR Opening, CSXT Reply and
TPIRR Rebuttal 2010 MOW Expense
($ in millions)

Source (1)	2010 MOW Expense (2)
1. TPI Opening	$209.8
2. CSXT Reply	$404.3
3. TPI Rebuttal	$213.0

Source: "Rebuttal Exhibit III-D-2 TPIRR MOW.xls".

6. Leased Facilities

CSXT generally accepts TPI's Opening evidence on leased (joint) facilities, but includes certain corrections to TPI's development of costs and includes additional facilities. The result of CSXT's changes are total leased facility costs of $28.2 million in Reply,[117] which is $4.6 million higher than TPI's expenses in Opening. As a result of the changes described below, TPI calculates Rebuttal operating expense for joint facility segments equal to $27.7 million, an

[117] *See,* CSXT Reply, pp. III-D-4, and 237-239.

increase of $4.1 million over Opening expenses. Each of CSXT's adjustments and inclusions are discussed below.

a. Bedford Park, IL to Bensenville, IL

CSXT added {{[redacted]}} miles over the IHB to interchange with the UP at Proviso, IL and to interchange with the CP at Bensenville, IL. In Rebuttal, TPI accepts this additional joint facility mileage and expense.[118]

b. Bedford Park IM Terminal and Blue Island

CSXT accepts TPI's approach in Opening but alters a reference in a formula. In Rebuttal, TPI accepts this change.[119]

c. BRC Puller Service

CSXT added a fee for Belt Railway Company of Chicago ("BRC") service to move trains to and from CN's Hawthorne Yard in Chicago, IL. In Rebuttal, TPI accepts these charges but restates CSXT's calculation to account for the average monthly cost for the full 12-month period ending with July 2010 as opposed to the average of just seven (7) months calculated by CSXT in Reply.[120]

d. IHB Dispatching

CSXT added a fee for Indiana Harbor Belt Railroad ("IHB") dispatching of the Blue Island to McCook, IL segment. In Rebuttal, TPI accepts this expense but restates CSXT's

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[118] *See,* TPI Rebuttal workpaper "TPI Joint facility charges 2010 REBUTTAL.xlsx", Tab "IHB", rows 20 - 23.
[119] *See,* TPI Rebuttal workpaper "TPI Joint facility charges 2010 REBUTTAL.xlsx", Tab "IHB", cell E18.
[120] *See,* TPI Rebuttal workpaper "TPI Joint facility charges 2010 REBUTTAL.xlsx", Tab "BRC", cells R220 to U38 and TPI Rebuttal workpaper "Aug 09 to Jul 10 BRC201 invoices.pdf".

calculation to account for the average monthly cost for the full 12-month period ending with May 2010 as opposed to the average of just seven (7) months calculated by CSXT in Reply.[121]

e. **Interlocker at Dolton, IL**

CSXT added the CSXT fee for IHB maintaining and operating the Dolton interlocker. In Rebuttal, TPI accepts this charge but restates CSXT's calculation to account for the average monthly cost for the full 12-month period ending with May 2010 as opposed to the average of just seven (7) months calculated by CSXT in Reply.[122]

f. **McDuffie Island Terminal**

CSXT added a "Dump Charge" equal to {{[redacted]}} per loaded car paid by CSXT to the Terminal Railway Alabama State Docks. In Rebuttal, TPI accepts this charge but uses the July 2010 rate rather than the December 2010 rate used by CSXT, because that is when the TPIRR begins operations.[123]

7. **Loss and Damage**

In Opening, TPI estimated the TPIRR loss and damage expense based on CSXT's actual 2010 loss and damage costs by commodity. CSXT accepts TPI's methodology in Reply, with some adjustments to the SARR miles used to allocate revenues between the TPIRR and residual CSXT.[124] As discussed in Rebuttal Part III-A, TPI has evaluated these adjustments and revised the miles where appropriate. In Rebuttal, TPI recalculates the TPIRR loss and damage expense

[121] *See,* TPI Rebuttal workpaper "TPI Joint facility charges 2010 REBUTTAL.xlsx", Tab "IHB", cells M32 to P49 and TPI Rebuttal workpaper "Aug 09 to Jul 10 IHB203 invoices.pdf".
[122] *See,* TPI Rebuttal workpaper "TPI Joint facility charges 2010 REBUTTAL.xlsx", Tab "IHB", cells I32 to L49 and TPI Rebuttal workpaper "Aug 09 to Jul 10 IHB201 invoices.pdf".
[123] *See,* TPI Rebuttal workpaper "TPI Joint facility charges 2010 REBUTTAL.xlsx", Tab "TASD", TPI Rebuttal workpaper "B0-107-H1003.pdf", and CSXT Reply workpaper "TPI Joint facility charges 2010 Reply.xlsx", tab "TASD".
[124] *See*, CSXT Reply, p. III-D-239.

using the same methodology used in Opening and accepted by CSXT in Reply applied to the revisions to traffic and miles addressed in Rebuttal Part III-A.

8. Insurance

In Opening, TPI used an insurance ratio of 1.35 percent of operating expense based on CSXT's actual experience over a three (3) year period. CSXT accepted TPI's insurance percent in Reply,[125] and TPI continues to use this insurance percent in Rebuttal.

9. Ad Valorem Tax

CSXT's unit-value approach is based on the underlying assumption that the SARR, as a highly-efficient new market entrant, is presumptively more profitable than the incumbent carrier, and would therefore pay higher taxes than the incumbent when calculated on a unitary basis. CSXT defined profit in its Ad Valorem analysis as a Net Revenue from Railway Operations ("Net Revenue") determined using the STB's Schedule 210 Net Revenue approach.[126] CSXT asserts that dividing the TPIRR's Net Revenue by the incumbent's Net Revenue allows for the development of a unit value modifier that can be applied to the incumbent's state-specific Ad Valorem tax calculations to develop a profit-adjusted, state-specific SARR Ad Valorem tax per mile. The profit-adjusted SARR Ad Valorem tax per mile was then applied against the SARR route miles by state to develop the SARR's aggregate Ad Valorem tax.

There is a fundamental flaw in CSXT's approach that make its development of a unit value modifier nonsensical. In addition, CSXT's claim that the TPIRR is a hyper-profitable corporation for Ad Valorem tax purposes is completely contradictory to its claim that the TPIRR

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[125] *Id.*

[126] *See,* Annual Report Form R-1, Schedule 210, Line 15. Namely, a railroad's Net Revenue is equal to its railway operating revenues less railway operating expenses, including financial depreciation. CSXT's work papers incorrectly call this Net Railway Operating Income ("NROI"), which is a different financial metric altogether. *See*, CSXT Reply workpaper "TPIRR Reply Ad Valorem.xlsx," worksheet "Modifier."

is a financially deficient operation when it comes to a rate reasonableness standard. These issues are discussed further below.

a. CSXT's Unit Multiplier Values Are Based on Two Different Accounting Standards

CSXT developed its unit multiplier by dividing what it claims is the TPIRR's 2011 Net Revenues by CSXT's 2011 Net Revenues from its Schedule 210. But the TPIRR Net Revenue calculated by CSXT is not comparable to CSXT's Net Revenue in its Annual Report Form R-1 due to a fundamental difference in accounting methods used to develop the numbers. Specifically, CSXT's Net Revenue figures contained in its Annual Report Form R-1 are developed using accrual accounting methods adhering to Generally Accepted Accounting Principles ("GAAP"), while CSXT's calculation of the TPIRR Net Revenue appears to be calculated using a mix of accrual and cash accounting methods. This results in CSXT's and TPIRR's Net Revenue not being comparable.

There are fundamental differences in the amount of income and expenses reported for financial reporting purposes using GAAP and tax accounting methods. The objective for financial reporting under GAAP is to report the economic activities of the entity during a specific period. To meet this objective, large companies use the full accrual method of accounting to report revenues and expenses. This means that a company records events that change the accounting statements in the periods in which the event occurs rather than only in the periods in which it receives or pays cash. For example, if the railroad completes and invoices a shipment on December 26, 2013, but is not paid until January 10, 2014 of the following year,[127] it would still show the revenue as being earned in the year 2013 under accrual accounting. Similarly, if

[127] Net 15 day billing in which final payment is due 15 days after the invoice statement date is a common practice in the transportation industry.

the railroad incurred an operating expense as of December 31 but does not pay for the expense until the following January, it would still reflect the expense on its financial statements as if it occurred on December 31.

The objective for tax accounting, on the other hand, is for governments to raise revenues. This means companies record revenues and expenses pursuant to Federal and state tax rules and regulations in order to determine the amount of taxes to pay. There are many differences between GAAP and tax reporting, and because of these differences, the amount of tax expenses shown in a company's financial statements may be extremely different from the taxes paid shown in a tax statement.

The fundamental flaw in CSXT's Ad Valorem tax analysis is that it compared CSXT's 2011 Net Revenue calculation from its Annual Report Form R-1, which CSXT prepared using accrual accounting methodologies, to its calculation of the alleged TPIRR Net Revenue using some undocumented hybrid of accrual and tax accounting methodologies. The railroad's Annual Reports are developed using accrual accounting methods.[128] In contrast, CSXT did not completely follow accrual accounting methods when it developed the TPIRR Net Revenues. Instead, CSXT began with TPIRR 2011 revenues and cash operating expenses from its DCF model and subtracted what it claims are the TPIRR's annual depreciation expenses calculated on a straight-line basis.[129] Simply stated, CSXT did not account for any accrued revenues or expenses in developing its TPIRR Net Revenues, which makes its comparison to CSXT's Net Revenues calculated under accrual accounting an invalid comparison.

[128] *See, Simplified Standards For Rail Rate Cases – Taxes in Revenue Shortfall Allocation Method*, STB Ex Parte No. 646 (Sub-No. 2) slip op. at 4 (served Nov. 21, 2008) ("*EP 646-Sub No. 2*") ("In the railroads' financial reporting in the R-1 reports, tax liabilities are recognized on an accrual basis, consistent with GAAP, not on a cash basis.")

[129] The calculation of the depreciation on a straight-line basis is consistent with a financial accounting approach. In contrast, except in a few situations, tax accounting uses accelerated depreciation methods.

b. CSXT's Allegation That the TPIRR is Hyper-Profitable Contradicts Its Evidence

Intuitively, CSXT's approach is suspect. Although CSXT argues that a SARR such as the TPIRR is a least-cost, most efficient competitor with a high net income and therefore should be expected to pay higher ad valorem taxes than CSXT, its evidence concludes that the TPIRR's revenue is insufficient to cover the combination of its operating expenses and required return on investment. Stated differently, CSXT claims that this proceeding should be dismissed because the TPIRR is not viable, but when ad valorem taxes are calculated, CSXT would have the Board believe that the TPIRR is a highly profitable entity that would necessarily pay higher ad valorem taxes than does CSXT. Based on this alone, CSXT's arguments should be dismissed as it relates to ad valorem taxes.

TPI continues to prorate the actual ad valorem taxes paid by CSXT in each state to the TPIRR as a method of calculating ad valorem taxes on Rebuttal. Based on the significant flaws in CSXT's methodology, it is the best evidence of record in this proceeding.

10. Other

a. Intermodal Lift and Ramp Costs

In Reply, CSXT substantially increases the TPIRR intermodal lift and ramp costs over the $67.2 million included by TPI in Opening. Specifically, CSXT includes $104.1 million for lift and ramp costs and adds another $9.0 million for management personnel, for a total of $113.2 million, or nearly double the costs included by TPI in Opening.[130] In Opening, TPIRR contracted out intermodal terminal services, including lift and ramp costs. To estimate fees that would be charged by a container lift provider, TPI used actual CSXT terminal expenses to

[130] *See,* CSXT Reply workpaper "TPI Operating Expense_Reply.xls".

develop a cost per container. CSXT basically follows this same approach, but makes several errors in the development of its intermodal lift costs. First, CSXT unnecessarily includes 74 TPIRR personnel to oversee contract terminal services. Second, CSXT unnecessarily includes clerical staff in its costs. Third, CSXT incorrectly includes equipment charges in the lift fees. Finally, CSXT mistakenly "corrects" the development of lift fees for the Bedford Park and North Baltimore facilities. Each of CSXT's errors in the development of lift fees is described below.

i. Inclusion of Unnecessary TPIRR Employees and Contractors

CSXT includes 74 TPIRR staff at the various third-party intermodal facilities to supervise the work of contractors and ensure communications between contractors and TPIRR personnel,[131] even though TPI's proposed staffing accounts for these functions. CSXT proposes that these 74 people provide on-site supervision of the contracted terminal and lift operations to ensure TPIRR policies and procedures are followed, and serve as liaisons between contract terminal operators and the railroad transportation personnel.[132] These "watchdog" positions are unnecessary because CSXT fails to identify any responsibilities these personnel have that are not already provided by contractor personnel as well as TPIRR Operations and Marketing personnel. CSXT is merely attempting to intermingle its own confusing CSX Transportation, CSX Intermodal, and CSX Intermodal Terminals relationships in an attempt to add unnecessary costs to intermodal lift operations. Because CSXT has not supported the need for these 74 personnel, TPI excludes these management positions from the TPIRR in Rebuttal.

[131] *See,* CSXT Reply, p. III-D-249.

[132] In workpaper "TPIRR Intermodal Cost and Volume Update lift 2010.xls", which is based on CSXT's discovery document "Intermodal Terminal Costs and Volume Update.xls", TPI includes the labor costs necessary to operate lift operations, including supervision of terminal managers as these costs are not reflected separately within CSXT's file.

ii. Inclusion of Unnecessary Clerical Costs

CSXT improperly charges the TPIRR with all intermodal facility clerical costs at facilities on the TPIRR, even for intermodal services that the TPIRR does not use and for those where costs are passed on to customers. At intermodal terminals, the TPIRR receives loading and unloading services only. It does not receive or incur the expense of the various other services performed at these facilities. Moreover, because the TPIRR does not own these facilities or share in the revenue from these facilities, it would not incur costs associated with services that these facilities perform but the TPIRR does not receive. Thus, the TPIRR should not be burdened with overhead costs to run an entire facility. TPI included lift labor costs and purchase labor costs, which should be sufficient for inclusion in lift-only costs. Thus, TPI excludes clerical costs from its calculation of lift fees.

iii. Unsupported Inclusion of Excess Utility Costs

CSXT includes facility utility costs in the development of its intermodal lift costs. As with its inclusion of all clerical costs, CSXT is attempting to force all utility costs for intermodal facilities on TPIRR, when the TPIRR is only seeking to recover lift costs associated with its ramp-to-ramp revenues from intermodal shippers. Since the TPIRR does not receive terminal revenues for all terminal activities, it cannot be forced to bear the burden of all facility costs. Thus, TPI excludes utility costs from its calculation of lift fees.

iv. Incorrect Inclusion of Lift Equipment Costs

CSXT includes $12.8 million in equipment lift costs in its development of the fees TPIRR would pay a contractor for intermodal lift and ramp costs. CSXT again attempts to burden lift fees with costs that would be borne by a facility owner. TPI included equipment rents in its development of lift costs, which should be sufficient given that TPI does not own nor receive revenues from the intermodal facilities. Thus TPI rejects CSXT's inclusion of additional equipment costs in the development of lift fees.

v. CSXT Mistakenly "Corrects" Bedford Park and North Baltimore Lift Cost

CSXT claims that TPI erred in the development of lift costs for Bedford Park and North Baltimore. Specifically, for the Bedford Park facility, CSXT claims TPIRR must pay the full operating expenses.[133] First, this is a departure from the approach used by both parties to calculate lift costs. Second, as stated above, because TPIRR does not collect any revenue for intermodal facilities, it should not bear the full burden of a facility's costs. TPI is merely developing an estimate of lift fees per container to enable the inclusion of ramp-to-ramp line-haul revenues for TPIRR intermodal traffic. TPI rejects the inclusion of all Bedford Park facility costs as unreasonable and unsupported and maintains its approach to the development of Bedford Parks lift costs using information provided by CSXT in discovery.

As for the North Baltimore facility, CSXT claims that lifts will substantially increase after 2010, the year upon which TPI develops lift costs for the facility. As a result, CSXT significantly increases lift costs for North Baltimore beyond 2010. The approach used by TPI, and for the most part accepted by CSXT, involves the development of Base Year 2010 costs per container which are then applied to TPIRR 2010 container counts. As with other operating expenses, these Base Year expenses are inflated over time. CSXT, however, selectively picks one facility it expects to have more traffic in subsequent years and adjusts its cost without regard for decreases that may occur at other facilities. By contrast, containers decrease at 14 of the

[133] *See* CSXT Reply, p. III-D-250.

facilities between 2010 and 2012.[134] For CSXT to depart from the lift cost development for just one facility compromises its approach as a whole and ignores decreases at other facilities. TPI rejects CSXT's increased costs for the North Baltimore facility.

TPI in Rebuttal maintains the intermodal lift and ramp unit costs developed in Opening.

b. Automotive Handling Cost

CSXT makes slight adjustments to TPI's Opening automotive handling costs to arrive at a Base Year expense of {{[redacted]}}.[135] The adjustments reflect different levels of traffic and the inclusion of automotive facility utility costs. TPI, for reasons discussed above in the discussion of utility costs for intermodal facilities, excludes utilities costs for automotive facilities. CSXT does not provide any support for why TPIRR should be burdened with all the utilities costs for automotive handling facilities. In Rebuttal, TPI restates automotive handling costs to equal $22.3 million.

c. Bulk Transfer Terminal

In Reply, CSXT includes almost {{[redacted]}} to cover expenses related to bulk transfer facilities on the TPIRR.[136] In Opening, TPI built bulk-handling facilities and captured certain revenues that are related to bulk transfers, therefore, TPI includes bulk terminal operating expenses in Rebuttal. In addition, TPI agrees with CSXT's calculation of bulk transfer terminal costs and includes the amount calculated by CSXT in Rebuttal operating expenses.

d. Calculation of Annual Operating Expenses

To develop the TPIRR's First Year operating expenses in Opening, TPI relied on the statistical inputs used to develop the TPIRR's annual operating expenses (equipment and

[134] *See,* TPI Opening and CSXT Reply workpapers "Intermodal Terminal Cost and Volume Update.xls".
[135] *See,* CSXT Reply, p. III-D-253.
[136] *See,* CSXT Reply, p. III-D-254.

operating-personnel needs, locomotive unit miles, crew starts, etc.) combined with the annual salaries, equipment, and operating unit costs.[137] The development of these expenses included indexing train data and operating statistics from the July 2012 to June 2013 period to the first year in the DCF analysis, i.e., July 2010 to June 2011, based on car miles. TPI then calculated operating expenses using 2010 unit costs and First Year operating statistics.

CSXT generally followed TPI's procedures for the calculation of annual operating expenses, using the statistics it developed from MultiRail and its RTC simulation and also indexing operating statistics to the First Year in the DCF model.

In Rebuttal, TPI continues to use the same procedures used in Opening to calculate annual operating expenses in the First Year of the DCF model.

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[137] *See,* TPI Rebuttal workpaper "TPIRR Operating Expense_Open.xlsx."

III. STAND-ALONE COST

E. NON-ROAD PROPERTY INVESTMENT

TPI's Opening evidence describes Non-Road Property Investment as including locomotives, railcars and other equipment, including company vehicles, maintenance-of-way equipment and computer system needs. As stated in Opening, locomotives and railcars are acquired through leases, the cost of which is included in the TPIRR operating expenses. Further the cost of other equipment such as highway vehicles, maintenance-of-way equipment and computer systems are either purchased or leased. If purchased, the purchase price is annuitized and included with operating expenses. If leased, the lease costs are included with operating expenses.

In Reply, CSXT addressed Non-Road Property Investment only by indicating that all of these items are addressed elsewhere in its evidence. Review of CSXT's Reply evidence demonstrates that it accepts TPI's acquisition of locomotives and railcars though lease agreements and lease or annuitization of the purchase price of other equipment and inclusion of these costs as operating expenses.

In Rebuttal, TPI continues to lease locomotives and railcars and lease or purchase other equipment, and to include the associated expenses in operating costs. Differences in the costs associated with locomotive, railcar and other equipment leases and acquisitions are addressed in Rebuttal Parts III-C and III-D.

In addition to the above, TPI stated in Opening Part III-B, that it operates over 490.97 miles of track owned by others via either trackage rights or joint facility agreements and includes the associated joint facility costs in its operating expenses. In Reply, CSXT adjusted these miles to equal 505.57 miles, and also included the trackage rights payments associated with these trackage rights and joint facilities in operating expenses. In Rebuttal, TPI accepts CSXT's adjustment to the miles of trackage rights and joint facilities. Differences in the application of the trackage rights expenses are addressed in Rebuttal Part III-D.

CSXT also alleges that the TPIRR is required to share in the cost of ownership of lines that are partially owned by CSXT and used by TPIRR via trackage rights or joint facility agreements. This ownership is fully addressed in Rebuttal Part III-F.

III. STAND-ALONE COST

F. ROAD PROPERTY INVESTMENT

In Opening, TPI presented feasible and well supported road property investment costs for the TPIRR. TPI's Opening costs included real world costs for common earthwork and several other roadbed preparation items, all of which were lower than comparable Means Handbook unit costs. Otherwise, TPI's Opening road property investment costs were generally consistent with those presented in other SAC cases.

Typical of the approach taken by defendant railroads in other SAC cases, CSXT asserts that TPI's road property investment costs are greatly understated. As explained below, CSXT's Reply investment costs are grossly overstated and, in many instances, are not adequately supported. For all of the reasons set forth in this Part, the Board should reject CSXT's road property investment costs and accept those presented by TPI in Rebuttal and shown in Rebuttal Table III-F-1.

Rebuttal Table III-F-1
TPIRR Road Property Investment Costs
($ in millions)

	Item (1)	TPI Opening (2)	CSXT Reply (3)	TPI Rebuttal (4)
1.	Land	$ 3,956.40	$ 5,412.20	$3,807.37
2.	Roadbed Preparation	3,746.38	6,138.86	3,781.16
3.	Track Construction	8,494.26	10,990.38	9,233.87
4.	Tunnels	1,595.70	1,629.80	1,629.80
5.	Bridges	3,437.91	5,270.55	3,924.94
6.	Signals & Communications 1/	1,554.15	2,853.69	1,878.04
7.	Buildings & Facilities	984.85	1,492.43	921.59
8.	Public Improvements	226.01	463.34	359.18
10.	Subtotal	$23,995.66	$34,251.25	$25,535.95
11.	Mobilization	541.06	880.71	586.67
12.	Engineering	2,003.93	2,864.67	2,172.86
13.	Contingencies	2,258.42	3,239.21	2,448.81
14.	Total Road Property Investment Costs	$28,799.07	$41,235.84	$30,744.29

Source: TPI Rebuttal Exhibit III-F-1.
1/ CSXT's Reply amount includes $192.36 million in PTC costs phased in 2011-2015.

1. Land

In Opening, TPI's land acquisition costs for the TPIRR were developed by Richard R. Harps, MAI, CRE, John C. Pinto CRE, Elizabeth W. Vandermause, MAI, Daniel C. Vandermause and their project team (collectively "Team"). Mr. Harps has over 35 years of experience as an appraiser and consultant. He holds the MAI designation from the Appraisal Institute and the CRE designation from the Counselors of Real Estate. In addition, he was President of the Washington, D.C. Association of Realtors in 1985. The team he has put together for this assignment brings an extensive background in real estate appraisal and experience in appraisal of transportation right of way including valuation of rail properties throughout the United States and Canada.

In Opening, TPI's real estate Team estimated that the TPIRR's right-of-way, excluding easements, would cost $3.96 billion to acquire.[1] The Team's valuation considered all segments of the railroad, particularly the major urban centers. In addition, the Team inspected significant portions of the route, and reviewed other data such as aerial maps.[2] They also consulted with various local appraisers. In Reply, CSXT raised the land acquisition costs well beyond what TPIRR would actually need to spend. In addition, as explained below and in detail in the Team's Report attached as Rebuttal Exhibit III-F-2, CSXT uses a flawed methodology in its land valuation. This flawed methodology produces skewed and unreliable land valuation results.

The TPI real estate experts conclude that their original land valuation, presented in TPI's Opening evidence, is the best representation of the value of the land required for the TPIRR. However, based on CSXT's Reply, three (3) adjustments are required for the land valuation. First, TPI adds 219.88 acres in five (5) locations to account for the route miles added to the TPIRR in Rebuttal. Second, TPI modifies the land required for yards and other supporting facilities.[3] Third, one incorrect land-use designation in the Chicago area was corrected, resulting in an increase in land value of $4.65 million.

In addition, as explained in detail in Rebuttal Part III-F-7, TPI removed all of the land associated with the intermodal terminals served by the TPIRR as these facilities are not owned by CSXT and, therefore, do not need to be constructed by TPIRR.

Taking these four (4) modifications into account, Rebuttal Table III-F-2 below summarizes TPI's valuation of the land required for the TPIRR.

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[1] *See,* TPI Opening, p. III-F-3.

[2] *Id.* pp. III-F-4-6.

[3] Acres in yards were modified in Rebuttal in order to accommodate increased yard sizes as a result of the addition of classification and other tracks. In addition, yard acres were increased to reflect acres for yards added by CSXT, auto distribution yards and bulk transfer facilities.

Rebuttal Table III-F-2
TPIRR Land Acquisition Acreage and Costs

Item	Total Acres	Cost (in millions)
(1)	(2)	(3)
1. Land Valuation for TPIRR (Opening)	80,927.4	$3,956.3
2. Additions to TPIRR (5 Locations)	219.9	56.6
3. Modifications to Yards/Supporting Facilities	(429.1)	(205.6)
4. Total Land Valuation for TPIRR	80,718.2	$3,807.3
5. Easements (Opening)	Xxx	$0.1
6. Total Including Easement Fees	88,831.3	$3,807.4

Source: TPI Rebuttal Exhibit III-F-2 and TPI Opening workpaper "TPIRR Easements_Open.xlsx".

a. CSXT's Criticism of TPI's Appraisal is Without Merit

CSXT states that it "generally accepts TPI's valuation approach and results,"[4] but CSXT disagrees with TPI's appraisal in several ways, thereby leading to the inflated CSXT valuation. CSXT contends that TPI erred in its valuations for eight (8)[5] urban areas by relying on a "desktop appraisal methodology" to determine land use instead of on-the-ground inspections.[6] However, TPI did engage in inspections of sixteen areas, including five (5) of the eight (8) areas mentioned by CSXT, and TPI's consultants have intimate familiarity with two (2) other areas mentioned by CSXT.[7] Moreover, as described further below, TPI's use of aerial imagery and other software tools made its appraisal more accurate. The eight (8) urban areas disputed by CSXT are Chicago, Atlanta, Baltimore, Chattanooga, Jacksonville, Nashville, Pittsburgh, and Washington DC.

4 *See,* CSXT Reply, p. III-F-2.

5 CSXT initially omits Baltimore from its urban area list. *See,* CSXT Reply, p. III-F-4. However, based on the repeated later references, it appears that CSXT meant to include Baltimore in its initial list.

6 *See,* CSXT Reply, p. III-F-4.

7 *See,* TPI Opening, Exhibit III-F-2, pp. 20-22.

CSXT's inspection of five (5) of the eight (8) urban disputed areas actually took place in 2009 in support of another case, by an appraiser who has since passed away.[8] CSXT did not re-inspect these five (5) urban areas for the TPIRR. This leaves only Atlanta, Baltimore and Chicago as areas of the TPIRR that were physically inspected for this case.

One apparent result of these disparate inspections is that CSXT applied two (2) totally-different techniques to produce land values – one technique for the five (5) areas inspected in 2009 for another proceeding, and an entirely different technique for the three (3) areas inspected for this case.[9] CSXT did not offer an explanation or rationale for employing two (2) totally-different techniques in the same land appraisal.

The characterization that TPI performed a "desktop" inspection of the TPIRR is misleading and incorrect. TPI performed on-the-ground inspections in 16 urban areas, covering 452 miles of the hypothetical railroad right-of-way. Over 1,700 geo-coded photographs documented the on-the-ground inspections.[10] In contrast, CSXT provided no photographic evidence of its inspections or resulting land use designations.

CSXT contends that its "appraisers' more extensive, thorough and detailed physical inspections produced more accurate land classifications."[11] However, TPI did not stop with on-the-ground inspections in its effort to correctly classify the land uses for the SAR. On-the-ground inspections were enhanced by use of online aerial photography, and through use of readily-available online tools such as Federal flood maps, and county online mapping ("GIS") systems. The Board recently recognized the value of using both computer tools and on-the-

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8 *See,* CSXT Reply, p. III-F-5 (n. 6).

9 *See,* TPI Rebuttal Exhibit III-F-2, p. 78.

10 *See,* TPI Opening Exhibit III-F-2, pp. 19-22. Photos are fond in TPI's Opening workpapers in the III-F-1 sub-folder titled "TPI photos"

11 *See,* CSXT Reply, pp. III-F-4-5

ground inspection to create the most accurate designations.[12] Interestingly, CSXT zeroed in on TPI designations of "restricted" lands that were, according to CSXT "clearly developable."[13] However, of the four (4) cases cited by CSXT in Reply, CSXT was in fact incorrect in three (3) of them, due to CSXT's insufficient research using readily-available tools.

Specific locations where CSXT challenges TPI's land classification are addressed below.

i. <u>Atlanta</u>

CSXT claims that TPI erroneously identified a 0.56 mile segment that abuts a house and a farm in the Atlanta area as "restricted." CSXT labels this land "industrial" and values it at $5.389 million vs. TPI's $1.1 million.[14]

The TPI land classification in this instance is correct. The land classified as "restricted" by TPI includes floodplain, which CSXT failed to identify. TPI was able to make this determination using readily-available online tools. TPI Rebuttal Exhibit III-F-2 provides a detailed description and maps that support the TPI classification.

ii. <u>Nashville</u>

CSXT claims that TPI erroneously identified a 0.28 mile segment that abuts the Cumberland River as "restricted", whereas CSXT claims the land uses to be industrial and commercial.[15]

Again, CSXT failed to take advantage of readily-available online resources, which identify this land as being located in a flood zone, with development restrictions. The TPI land categorization is correct.[16]

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[12] *See, SunBelt* at 99.
[13] *See,* CSXT Reply, pp. III-F-5-6.
[14] *Id.* p. III-F-6.
[15] *See,* CSXT Reply Exhibit III-F-2, pp. 10-12.
[16] *See,* TPI Rebuttal Exhibit III-F-2.

iii. Anne Arundel

CSXT claims that the land adjacent to Laurel Racetrack in Anne Arundel County, MD is "clearly developable."[17] CSXT values this 0.91 mile segment at $5.130 million vs. TPI's $0.830 million.

The TPI land classification in this instance is correct. The land classified as "restricted" by TPI includes floodplain, which CSXT failed to identify.[18]

iv. Chicago

CSXT claims that TPI treated land adjacent to a Golf Course as "restricted" land and that this land is more appropriately identified as residential and commercial.[19] TPI valued this 1.3 mile segment at $2.166 million while CSXT valued it at $8.384 million.

The TPI land classification for this portion of the TPIRR has been changed to residential and commercial, and an additional $4.653 million in land value has been added to the TPIRR.

Although errors, such as the Chicago example above, can be made in any process as extensive as defining land uses for almost 7,000 miles of railroad right-of-way ("ROW"), the TPI land classification process made the best use of both extensive on-the-ground inspections and available online tools and resources.

As TPI explains further in Rebuttal Exhibit III-F-2, CSXT has not demonstrated that its land use designations are more accurate than the TPI land use designations. CSXT is incorrect as to three (3) of the four (4) alleged classification errors made by TPI. Moreover, CSXT itself made a significant land classification and land value error in Baltimore. TPI Rebuttal Exhibit III-F-2 provides further information on these and other land classification issues.

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[17] *See,* CSXT Reply, p. III-F-6.
[18] *See,* TPI Rebuttal Exhibit III-F-2.
[19] *See,* CSXT Reply, pp. III-F-5-6.

v. Valuation Units

CSXT states that "[f]ailure to identify these discreet valuation units contributed to TPI's unreliable appraisal."[20] For example, CSXT indicates that in Nashville, TPI identified only 11 valuation units compared with CSXT's 22 units, while in Burnham, IL, TPI identified 9 valuation units compared with CSXT's 24 units.[21] CSXT makes the case that its land use categorizations were more accurate by virtue of the fact that, in the 5 percent of the TPIRR valued by CSXT, more line segments were created by CSXT than by TPI. CSXT then applies significantly-varying land values to these segments, even when the land use does not change, and even within a small geographic area. With such focus on creating small valuation segments and changing land values rapidly (often among wildly different dollar values) between such segments in short stretches of the ROW, one would expect that CSXT must have had extensive land sales data available, with many sales in proximity to the TPIRR, in order to be able to discern so many changes in land value as CSXT proceeded along the TPIRR.

This expectation would be incorrect. As documented in detail in TPI Rebuttal Exhibit III-F-2, the location and number of sales provided by CSXT were insufficient to enable such "micro valuations." No documentation or support was provided by CSXT for these frequently-changing land valuations. No documentation was provided by CSXT to define the connection between the actual sales, and the value conclusions applied to the TPIRR. For example, in Chicago, CSXT developed 24 different residential valuations for the TPIRR land, even though CSXT found only three (3) residential sales within one-quarter mile of the TPIRR route. In valuing the 34.9-mile ROW in Chicago, CSXT alternated among these 24 values with 182 value

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[20] *Id.* p. III-F-7.
[21] *Id.* pp. III-F-6-7.

changes in the 34.9 miles. CSXT did not explain how these 24 different values were created, nor did CSXT explain how it decided which of the 24 values to assign to each segment of the ROW.

CSXT states that it "relied entirely upon the Sales Comparison Approach."[22] By definition, in an appraisal, the Sales Comparison Approach requires comparison of the sales to the property being valued. No such comparative information was provided in evidence by CSXT, rendering the results unreliable and unsupported.[23]

b. Partially Owned Lines

CSXT adds $89.5 million for what it claims are partially owned lines including: (1) 100 percent of the added Baltimore and Ohio Chicago Terminal ("BOCT") lines; and 25 percent of the added Belt Railway Company of Chicago ("BRC") lines.[24] CSXT valued the land for these segments using the same methodology used for segments of land for which the TPIRR must acquire ownership. The cost was then apportioned based on the pro rata share of ownership. In Rebuttal, TPI accepts that the TPIRR must acquire the land for these partially owned lines and the pro rata share allocated to the TPIRR. However, rather than accepting CSXT's valuation of these line segments, TPI utilizes land values included in its Opening Evidence to value these line segments.[25]

c. Yards and Communications Facilities

According to CSXT, "the yard facilities posited by TPI are inadequate to meet the needs of the TPIRR's customers."[26] TPI includes 7,328.81 acres of land for yards while CSXT proposes 10,855 acres. CSXT modifies the land acres in all of TPIRR's 80 yards, adds five (5) additional flat yards, three (3) intermodal yards, seventeen interchange yards, two (2) partially

[22] *See,* CSXT Reply Exhibit III-F-1, pp. 11-12.
[23] *See,* TPI Rebuttal Exhibit III-F-2 for a detailed description and analysis.
[24] *See,* CSXT Reply, pp. III-F-9-10.
[25] *See,* TPI Rebuttal Exhibit III-F-2, p. 179.
[26] *See,* CSXT Reply, p. III-F-10.

owned yards and one coal pier facility. CSXT also modifies the land acres at the TPIRR bulk transfer facilities. CSXT accepts TPI's land values for microwave communications sites.[27]

As fully explained in Rebuttal Part III-B, TPI accepts some of CSXT's modifications to the yards and other facilities. Specifically, TPI revised the yard acres in 38 yards; accepted CSXT's addition of five (5) additional flat yards and the two (2) partially owned yards; accepted CSXT's revisions to the acres at the bulk transfer facilities; and accepted the coal pier facility.

While TPI accepts some of the additional interchange locations proposed by CSXT, TPI does not accept the additional land acres for the new interchange facilities nor does TPI accept the acres CSXT added at interchange facilities that were included in TPI's Opening evidence and accepted in CSXT's Reply. In Opening, TPI provided for a 100 foot right-of-way for most of the TPIRR and CSXT accepts this right-of-way width. A 100 foot right-of-way width is sufficient to accommodate up to five (5) tracks, including main tracks and sidings.[28] Of the 96 total additional interchange locations included by TPI in Rebuttal, 85 have a single interchange track, ten (10) have two (2) interchange tracks and a single location, New River Junction, OH, has three (3) interchange tracks.[29] At New River Junction there are two (2) mainline tracks, for a total of five (5) tracks in the 100 foot right-of-way. Based on this information additional land acres are not required for interchange facilities and have not been included in this Rebuttal.

d. <u>Easements</u>

CSXT argues that easement prices should be indexed to the value of land,[30] which historically increases in value with time (at an annualized rate of 2.8 percent to 4.7 percent between 1840 and 2008). CSXT's argument is incorrect as no correlation exists between

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27 *Id.* pp. III-F-10-11.
28 *See,* TPI Rebuttal workpaper "Interchange Yard Roadbed Width.xlsx".
29 *See,* TPI Rebuttal workpaper "TPIRR Yard Matrix Rebuttal Grading.xlsx," tab "TPIRR Yards".
30 *See,* CSXT Reply, pp. III-F-8-9.

easement fees and the passage of time. To impose the incorrect assumption that easement values increase with time on the TPIRR creates a significant barrier to entry for TPIRR. TPI recognizes that the Board recently disagreed with a complainant's contention that there is no general trend of easements increasing in value.[31] However, the evidence offered herein by TPI is different than that offered in relevant prior cases.

To demonstrate that no correlation exists between easement values and time, as asserted by CSXT, TPI performed a regression of observed easement fees per acre on time. This analysis produces a slope of 0.1332 and an R-Squared value of 0.000006. An R-Squared value is simply correlation squared and serves as a measure of how well variations in the x-variable (year) explain variations in the y-variable (easement fees), with a value of 0 indicating virtually no correlation between the two (2) variables and a value of 1.0 indicating perfect correlation. That the regression's R-Squared value is 0.000006 shows that essentially no relationship between the passage of time and easement fees per acre exists.

Further, removing the three (3) high outliers from the regression (easement fees per acre of \$6,039.51, \$32,111.57, and \$6,907.22; the fourth-highest value is \$458.03) produces a slope of -0.2774 and an R-Squared value of 0.0239. This indicates a slightly negative relationship between easement fee per acre and time (i.e. easement fees per acre actually decrease with time), and the higher R-Squared value in this regression indicates that this serves as a better fit for the data. Regardless, the R-Squared value is still extraordinarily low, further suggesting little to no relationship between easement values and time. The low R-Squared values in both regressions demonstrate that no relationship between easement fees per acre and the passage of time exists. Moreover, the contradictory slopes in each regression indicate that even if a relationship did exist, it would be unclear what that relationship was, making any arguments that easement fees

[31] *See, e.g., SunBelt* at 103.

per acre increase with time as implied by CSXT's index especially unconvincing. CSXT's indexing of the price of easements to 2008 is unrealistic and not supported.

e. Real Estate Acquisition Costs

CSXT includes costs for Title work, surveys, appraisals, negotiating and closing costs.[32] CSXT contends that inclusion of these costs is necessary because its appraisal did not include costs for brokerage fees, legal and accounting fees, insurance, surveys, appraisals, title searches, transfer taxes, etc.[33] These additional real estate acquisition costs amount to $104 million, or $13,000 per parcel for 8,000 parcels.[34] These costs should be excluded from the TPIRR Road Property investment costs.

Moreover, CSXT's predecessors acquired the land which comprises the TPIRR right-of-way in the mid to late 1800's. At that time, the transaction costs associated with the acquisition of the land would have amounted to a railroad clerk entering into a ledger information regarding the transaction such as the date of the transaction, the parcel number, the name(s) of the seller and the dollar value of the transaction. A disbursement clerk would then pay the agreed-to purchase price to the seller and the transaction would be complete. Inclusion of these transaction costs are in effect a barrier to entry. A barrier to entry is defined as "[a] cost of producing which must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry."[35] As CSXT's predecessors would not have incurred the types of transaction costs to acquire land which CSXT imposes on the TPIRR, it would be a barrier to entry and should not be included in the investment cost. In *DuPont* and *SunBelt*, the Board rejected the concept that land transaction costs are a barrier to entry. Based on the definition of barrier to entry shown

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[32] *See,* CSXT Reply, p. III-F-13, Table III-F-3.

[33] *Id.* pp. III-F-11-12, n. 11.

[34] *Id.* p. III-F-13, Table III-F-3. TPI notes that CSXT included $107.24 million for these costs and included them as mobilization costs. *See,* CSXT workpaper "III-F Total CSXT Reply.xlsx."

[35] *See,* Stiegler, George J., "Barriers to Entry, Economics of Scale and Firm Size," in *The Organization of Industry*, Chicago: University of Chicago Press, 1968, 67-70.

above and the fact that these costs would not have been borne by CSXT's predecessors, TPI does not add land transaction costs in Rebuttal.

f. CSXT Valuation is Unreliable and Inappropriately Overstates TPIRR Land Values

CSXT's land valuation for the eight disputed urban areas is based on numerous methodological flaws and is otherwise unreliable. As described in Rebuttal Exhibit III-F-2, the methodological flaws and other significant errors include:

1. Failure by CSXT to account for significant variations in the size of land parcels, both in the TPIRR and in the CSXT sales data, leading to over-representation of smaller parcels in the CSXT land valuation, and resulting over-statement of land values for the TPIRR;

2. Use of an averaging technique by CSXT that tends to over-state land values, often by a significant amount;

3. Inconsistent handling of "outlier" sales by CSXT, leading to significant volatility in the resulting land valuations;

4. CSXT applied full land value to water crossings, creating a significant over-statement of the cost of water crossings for the TPIRR;

5. CSXT uses a seven-jurisdiction average land value in the Washington area, leading to mixing of land values across state lines, and mixing of urban land values with suburban and even rural-suburban land values. The seven-jurisdiction average was then applied selectively, leading to even more mixing of the resulting land valuation for the TPIRR;

6. The only portion of the TPIRR that CSXT valued in the Pittsburgh, PA area was in a rural area, but CSXT created land values using sales in the urban portion of Pittsburgh, leading to an overstatement of land values for the TPIRR;

7. CSXT applied high-value commercial land values to an older industrial area of Baltimore, which has shown no signs of land use change along the TPIRR route;

8. Combining land sales for two (2) distinct urban areas (Nashville, TN and Chattanooga, TN). These urban areas are over 100 miles apart. The land values produced by this Nashville/Chattanooga mix were then applied to value land in both urban areas. Mixing land values from two (2) distinct real estate markets results in land value conclusions that are appropriate for neither urban area; and

9. Unexplained errors of omission, including missing a 2.9-mile portion of the TPIRR in the center of Chattanooga, TN. Also, CSXT valued a rural portion of the TPIRR in the Pittsburgh area, while not developing land values for the urban portion of Pittsburgh.

Error numbers 1 and 2 listed above deserve special mention because of how they combine to create a serious methodological flaw in CSXT's appraisal. CSXT ignored the simple fact that, as parcel size decreases, the per-unit price increases.[36] In other words, all other things being equal, smaller parcels tend to have a higher per-acre price than larger parcels. In developing a per acre price for each land classification, CSXT used a straight average for each sale in its data, regardless of parcel size. Thus, CSXT gave equal weight to all sales. Of course, the TPIRR would buy more property from larger land-owners, on a parcel-by-parcel basis. As just a simple example, if there is a ROW segment where TPIRR needs to buy property from eight (8) property owners, four (4) of which have 30-acre sites and four (4) of which have one-acre sites, then the TPIRR will generally need to buy more acres of land from the four (4) owners of the 30-acre parcels rather than the four (4) owners of one-acre parcels. Consequently, the land values of representative sales must be weighted by parcel size.

A second example illustrates the flawed nature of CSXT's methodology. CSXT calculated a straight-average price for Nashville commercial land of $515,451 per acre, based on 115 sales. Using CSXT's straight-average, to "purchase" all 115 parcels would result in an aggregate purchase price of $463 million, which is almost four (4) times the actual property value of $117 million. Use of an average price weighted by parcel size (as TPI did) results in a correct valuation. More information is provided in TPI Rebuttal Exhibit III-F-2.

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[36] *See, e.g., The Appraisal of Real Estate* at 198, The Appraisal Institute (14th ed. 1998) ("Size differences can affect value and are considered in site analysis…Generally, as size increases, unit prices decrease. Conversely, as size decreases, unit prices increase.").

CSXT's treatment of water crossings (error number 4 listed above) also deserves mention. CSXT proposed that the TPIRR spend $94.5 million to acquire the riverbed of 14 water crossings. The vast majority of this dollar figure involves the riverbed of the Potomac River between Washington, DC and Virginia. As explained in Rebuttal Exhibit III-F-2, the TPIRR should not be required to "buy" the Potomac riverbed. The U.S. government holds fee title to the riverbed, subject to a public trust for navigation and fisheries.[37] It would be highly unlikely for the U.S. Government to "sell" the riverbed to a private entity like the TPIRR. Moreover, CSXT provided no evidence that it owns the riverbed under its Potomac River Bridge. Outside of Washington, DC, the states have title to the riverbed of navigable and tidally-influenced rivers in order to similarly preserve navigability.[38]

The TPI land valuation provided in Opening, as modified in this Rebuttal, is a better-documented, more reasonable and more reliable estimate of land costs for the TPIRR.

2. <u>Roadbed Preparation</u>

Rebuttal Table III-F-3 below shows the differences in the parties' Opening, Reply, and Rebuttal roadbed preparation costs.

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[37] *See, e.g.*, *United States v. Robertson Terminal Warehouse, Inc.*, Civ. Action No. 73-01903, slip op. at 8 (D.D.C. Sept. 3, 2008) ("The United States holds fee title…to the bed of the Potomac River."), aff'd by *United States v. Old Dominion Boat Club*, 630 F.3d 1039 (D.C. Cir. 2011).

[38] The United States also retains any title it may have had before statehood to land under non-navigable and non-tidally influenced waters. *PPL Montana, LLC v. Montana*, 132 S.Ct. 1215, 1228-1230 (2012) ("*PPL Montana")* 132 S.Ct.

Rebuttal Table III-F-3
Comparison of TPIRR Roadbed Preparation Investment Costs
($ in millions)

	Item	TPI Opening[1/]	CSXT Reply[2/]	TPI Rebuttal[3/]
	(1)	(2)	(3)	(4)
1.	Earthwork			
	a. Common	$679.31	$2,199.80	$683.20
	b. Loose Rock	405.26	451.46	406.79
	c. Solid Rock	1,053.46	1,126.70	1,056.29
	d. Borrow	792.77	891.74	818.72
	e. Subtotal	$2,930.80	$4,669.70	$2,965.00
2.	Clearing & Grubbing	97.57	154.02	93.88
3.	Lateral Drainage	69.35	69.92	69.92
4.	Culverts	124.89	136.64	127.33
5.	Retaining Walls	223.90	311.12	223.90
6.	Rip Rap	76.80	77.92	76.92
7.	Road Surfacing for Detours	4.33	4.33	4.33
8.	Relocation of Utilities	0.74	0.74	0.74
9.	Topsoil Placement / Seeding	1.48	1.48	1.48
10.	Land for waste quantities	215.64	532.28	216.76
11.	Environmental Compliance	0.89	0.89	0.89
12.	Subgrade Preparation	0.00	75.16	0.00
13.	Fine Grading	0.00	104.66	0.00
14.	Total	$3,746.39	$6,138.86	$3,781.15

1/ TPI Opening at III-F-8, Table III-F-4.
2/ CSXT Reply at III-F-16, Table III-F-5
3/ TPI Rebuttal workpapers "TPIRR Rebuttal Grading.xlsx" and "TPIRR Culvert Construction Rebuttal.xlsx."

The major areas of difference in the development of these costs include TPI's use of the Trestle Hollow Project unit costs; CSXT's addition of track to accommodate its operating plan; and CSXT's use of increased costs for land for waste quantities. Each of these issues, along with CSXT's other modifications to TPI's Opening evidence, are discussed below.

a. Earthwork Costs

The main driver behind CSXT's excessive roadbed preparation costs is CSXT's use of the R.S. Means ("Means Handbook") costs rather than the real world Trestle Hollow costs.

CSXT opens its roadbed preparation section with a discussion of Means Handbook costs, a critique of the Trestle Hollow Project costs and a comparison of the Authorities for Expenditures ("AFE") provided in discovery to both the Means Handbook and Trestle Hollow Project costs.[39] TPI responds to CSXT's Reply below. TPI recognizes that the Board recently declined to use Trestle Hollow costs in two (2) SAC cases.[40] However, the specific evidence in this case shows that Trestle Hollow, as a real world example of recent rail line construction, is preferable to Means Handbook costs.

i. R.S. Means Unit Costs

CSXT states that the Board has long applied the Means Handbook "cost data as the appropriate, authoritative source for earthwork costs."[41] Means Handbook unit costs have been used in most prior SAC proceedings because the defendant railroads failed to provide any representative earthwork cost data from actual projects. *WFA I* was the first proceeding where meaningful earthwork cost data for actual projects was provided by the defendant railroad in discovery. That trend was continued in *AEPCO*. This trend was broken by Norfolk Southern Railway Company ("NS") in *DuPont* and *SunBelt* and by CSXT in this proceeding.

The Means Handbook is one of many ways to project costs for a planned rail project. Crouch Engineering, the firm founded by Crouch Engineering President and one of TPI's expert engineering Witnesses, Harvey Crouch, typically uses a combination of its historical tabulated prices and those developed by various state Departments of Transportation ("DOT"). For example, when Crouch Engineering developed its excavation unit cost estimate for the Trestle Hollow Project, it assumed that the cost per cubic yard ("CY") would be $1.75 based, in part, on the Tennessee DOT average of $1.50 per CY in 2005. Crouch Engineering added $0.25 per CY

[39] *See,* CSXT Reply, pp. III-F-16-31.
[40] *See, DuPont* at 148-149; *SunBelt* at 107.
[41] *See,* CSXT Reply, p. III-F-18.

over the Tennessee DOT figure to account for the increased difficulty of the project. In the end, two (2) contractors, including the successful bidder, both provided bids where the cost per CY for excavation was $1.65.

The Means Handbook costs are a surrogate for actual costs. Means Handbook unit costs cannot be deemed to be representative of the earthwork costs that will be incurred by the TPI as they do not recognize the economies of scale of a large railroad project such as the TPIRR because the railroads have not constructed new rail lines of any consequence since the original construction of the Orin Line in the Powder River Basin ("PRB"), WY in 1979. For this reason, costs derived from direct experience (when available) are significantly more useful. In particular, the Means Handbook states that "[t]he size, scope of work, and type of construction project will have a significant impact on cost. Economies of scale can reduce costs for large projects."[42] Clearly, the TPIRR's construction would be classified as a large project resulting in reduced unit costs (*i.e.*, lower than those shown in the Means Handbook). In fact, TPI already significantly overstated the earthwork costs of the TPIRR by using Means Handbook unit costs for loose rock excavation, solid rock excavation, and borrow.

TPI's reliance on unit costs derived from other projects (such as the Trestle Hollow Project), vendor quotes or discovery documents is equally as valid as (if not preferable to) reliance on Means Handbook unit costs. Mr. Crouch's direct experience with railroad projects supports TPI's contention that actual project unit costs are lower than those found in the Means Handbook. In Rebuttal, TPI continues to use unit costs derived from the actual Trestle Hollow Project and Means Handbook unit costs where direct project costs are not available.

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[42] *See,* TPI Rebuttal workpaper "Means Handbook project size.pdf."

ii. Trestle Hollow Project

Prior to addressing CSXT's specific complaints regarding TPI's use of the Trestle Hollow Project costs, listed below are some of the relevant facts pertaining to the Trestle Hollow Project:

1. Mr. Harvey Crouch, one of TPI's engineering experts, was the Engineer of Record for the project;
2. The project was bid "lump sum," but the contractors were informed at the job showing that they would be required to submit a schedule of unit prices for each quantity listed in order to substantiate progress payments. The winning contractor completed the unit cost schedule prior to the first invoice;
3. The second lowest contractor bid was within $6,000 of the low bid; therefore, the low bid price is supported, reasonable, and realistic;
4. The contractors were informed at the job showing that the grading costs would include excavation and embankment; providing water for dust control and compaction; drying material; roadbed compaction; and, shaping slopes, ditches and the roadbed to the proposed cross-sections (fine grading);
5. The project was designed in a similar fashion to many other railroad capital construction projects and followed AREMA design guidelines;
6. The terrain was very difficult, and steep, with a rise of nearly 200 feet vertically over 6,000 track feet;
7. The clearing and roadbed construction was difficult due to the steep terrain; access was difficult as the project was in a rural area without direct connection to a public road;
8. The roadbed was constructed primarily using scrapers and excavators with large capacity dump trucks; and
9. The cross-sections used for the project were very similar to the TPIRR typical roadbed sections.

CSXT claims that the Board's recent decisions in *DuPont* and *SunBelt* require the Board to reject TPI's use of costs from the Trestle Hollow Project.[43] TPI disagrees. The Board has, in

[43] *See,* CSXT Reply, pp. III-F-17-18.

the past, decided items differently in different SAC proceedings depending on the evidence presented in each proceeding.

CSXT claims that *WFA I* and *AEPCO* do not support TPI's use of the Trestle Hollow Project because, unlike those cases, the Trestle Hollow Project was not conducted by CSXT, is not on the CSXT system (or the TPIRR) and was tiny in size and scope.[44] But *WFA I* and *AEPCO* support the concept that actual earthwork costs bid by contractors for actual railroad projects are lower than average costs from the Means Handbook. Therefore, current real world costs, when available, are preferred over the Means Handbook.

While CSXT may not have constructed the Trestle Hollow Project, it was overseen by a former railroad employee, Mr. Crouch, who was a Track Supervisor and Project Engineer for NS and has also designed over 30 capital projects for NS.[45] While the Trestle Hollow Project may not be on the CSXT system, it is located within 34 miles of the TPIRR and is located on a line formerly owned by the L&N railroad which connects to the TPIRR at Colesburg, TN.[46] Furthermore, CSXT certainly employs contractors to do earthwork on many projects and CSXT simply oversees the work, just as Crouch Engineering did for the South Central Tennessee Railroad. CSXT's position that the Trestle Hollow Project was not on the CSXT system is irrelevant to whether those costs are an accurate representation of the costs to construct the TPIRR.

CSXT's claim that the Trestle Hollow Project is "tiny in size and scope in comparison to the TPIRR"[47] also carries no weight. Any recent railroad construction project, including all of the other projects identified by CSXT in Reply, would be "tiny in size and scope" when

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44 *Id.* pp. III-F-19-20.
45 *See,* TPI Opening, pp. IV-5-7.
46 *See,* TPI Rebuttal workpaper "Trestle Hollow Location Information.pdf."
47 *See,* CSXT Reply, p. III-F-20.

compared to the 6,900-mile TPIRR.[48] Furthermore, this argument also undermines CSXT's use of the Means Handbook which, as noted above, does not reflect the economies of scope or scale of a project the size of the TPIRR.

CSXT does not accept TPI's use of costs from the Trestle Hollow Project because of the obvious reason – the costs are too low to suit CSXT's object of artificially inflating the construction costs of the TPIRR.

To support its much higher Means Handbook unit costs, CSXT attempts to discredit the Trestle Hollow Project by suggesting that the project was a "small, and atypical short-line construction project."[49] CSXT's position is that, because the Trestle Hollow Project is a short-line project, it is therefore substandard or not relevant to what the TPIRR is building or is atypical of the unit costs TPI could expect if it bid out this project. Building a railroad, with complications such as those on the Trestle Hollow Project, is still building a railroad. The Trestle Hollow Project simply proves, as the Walker to Shawnee (Wyoming) project used in *WFA I* proved, that the SARR can expect to beat Means Handbook unit costs by using real world project costs.

CSXT states that the low unit cost from the Trestle Hollow Project "is a function of high concentration of excavation volumes within a small geographic area."[50] CSXT claims that the Trestle Hollow Project quantities are much higher than the per-mile averages on the TPIRR and that the economies realized by the Trestle Hollow Project contractors would not be available to the TPIRR contractors.[51]

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[48] This would also hold true for all of the projects used by R. S. Means to develop the unit costs in the Means Handbook.
[49] *See,* CSXT Reply, pp. III-F-20-21.
[50] *Id.* p. III-F-21.
[51] *Id.*, pp. III-F-21-22.

While it is true that the concentration of cubic yards was higher on the Trestle Hollow Project than the average on the TPIRR, the Trestle Hollow Project was complicated. Moving high volumes such as those encountered on the Trestle Hollow Project requires careful coordination, particularly the proper staging of culvert and grading work, the ability to move large volumes of material in a short amount of time, and the ability to spoil, or waste, excavated material offsite. The Trestle Hollow Project was more difficult than what the TPIRR would encounter on many of the lines that it is replicating; yet TPI only applied the Trestle Hollow cost to non-adverse common excavation. Therefore, the application of the unit cost to easier territory is justified despite the lower volume per mile, especially when considering that the total cubic yards of common earthwork for the TPIRR project exceeds 365 million CY (*i.e.*, TPI can and will realize economies of scale).

CSXT's use of average quantities per mile is misleading. Many locations on the TPIRR will not require much grading while some locations will resemble the conditions of Trestle Hollow. The ICC Engineering Reports only provide total quantities for each valuation section. These quantities were reduced to averages per mile because the TPIRR does not always traverse the entirety of a particular valuation section. The earth which needs to be moved still requires the same effort regardless of quantities with the only difference being the time it takes to move the quantities. CSXT's comment regarding shorter equipment cycles on the Trestle Hollow Project than on the TPIRR has no merit. If anything, the hauls on the Trestle Hollow Project would probably be longer, especially with regard to waste pits since much of the earthwork from the Trestle Hollow project was not needed to be reused for embankment.

CSXT claims that there is no evidence that the Trestle Hollow project was particularly complicated or unusually challenging. CSXT is incorrect. TPI Witness Crouch oversaw the

Trestle Hollow Project. The Trestle Hollow Project involved constructing a complicated, new alignment for the South Central Tennessee Railroad. The Trestle Hollow Project was constructed in difficult conditions, including steep terrain, with slopes in excess of 2:1, requiring deep cuts and high fills. The purpose of the project was to bypass several large timber bridges that had been built at the turn of the 20th century. The alignment was designed to improve the vertical grade and reduce curvature. The curvature was reduced from nine (9) degrees and six (6) degrees to curves with a maximum of four (4) degrees. The original alignment skirted hilly terrain running west from Centerville, TN to Hohenwald, TN. The new alignment was designed and built on an average 2.4 percent grade over the length of the project, which was an improvement over the original maximum slope. The new design was difficult due to the very hilly terrain and the number of ridges and valleys encountered along the proposed alignment. In addition, much of the land had not been accessed in decades. The resulting design included several tall embankments and a number of deep cuts, all on an average 2.4 percent grade. The elevation change from one end of the project to the other was well over 100 vertical feet. The contractor used scrapers, assisted by bulldozers when necessary, and large excavators with trucks to perform the earthwork.[52] Clearing was difficult due to the hilly nature of the land and the size of the trees.

CSXT states that the grading contractors on the Trestle Hollow Project had the significant cost-saving advantage of a wide right-of-way ("ROW"). CSXT refers to ROW widths of 300 to 400 feet.[53] CSXT's claim has no merit. The right-of-way width does not necessarily translate into clear space for equipment to maneuver due to the surrounding topography and the sloping terrain. Mr. Crouch recalls that there were areas where turning equipment around was difficult

[52] *See,* the photos included in TPI's Opening workpapers in the "Trestle Hollow Pictures" subdirectory.
[53] *See,* CSXT Reply, p. III-F-22.

but the project was not hindered by this limitation. None of the equipment used in the Trestle Hollow Project, which is the same equipment that would be used by the contractors working on the TPIRR, would have difficulty operating within the right-of-way widths of the TPIRR.

CSXT states that the Trestle Hollow Project required that less than 20 percent of excavated material be reused as embankment and that over 80 percent of excavation would be wasted. This contrasts with TPI's assumption that 70 percent would be re-used as embankment and only 30 percent wasted.[54] CSXT seems to be inferring that the costs for material re-used as embankment are significantly higher than the costs for material that is wasted. CSXT refers to the "added cost of being placed in the right-of-way"[55] but both material re-used as embankment and waste material have the same hauling costs.[56] Similarly, the costs for shaping the embankment are the same for waste material as both are assigned the same cost for spreading material.[57] The only difference in cost between material re-used as embankment and waste material is the compacting cost, which makes up only 6 to 19 percent of the unit cost depending on the type of material. Furthermore, as discussed subsequently in this section, the 70/30 distribution is an assumption that has its genesis over 20 years ago because there is no breakdown of this type in the ICC Engineering Report data. In some locations on the TPIRR, the ratio may well be 20/80 or even higher.

CSXT claims that, according to the soil boring reports for the Trestle Hollow Project, little if any watering or drying was needed for compacting. CSXT then refers to its Reply soil analysis, stating that several grading segments on the TPIRR are outside the optimum moisture

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[54] *Ibid.*
[55] *Ibid.*
[56] *See,* TPI Rebuttal workpaper "TPI Rebuttal Grading.xlsx," tab "Unit Costs," cells I24 and J24.
[57] *See,* TPI Rebuttal workpaper "TPI Rebuttal Grading.xlsx," tab "Unit Costs," cells I25 and J25.

content level.[58] CSXT's criticisms have no merit. TPI's engineering Witness Mr. Crouch, who oversaw the Trestle Hollow Project, recollects that water for compaction was used on the project and, following rain events, the contractor was required to blade up the soil so it would dry. Furthermore, as discussed in the subsequent section on Subgrade Preparation, TPI demonstrates that CSXT's so-called soil analysis, which only covered five (5) of the seventeen states traversed by the TPIRR, is totally unreliable.

CSXT states that the Trestle Hollow Project is situated entirely within one single physiographic section of the Interior Low Plateaus province while the TPI route traverses three physiographic divisions, nine (9) physiographic provinces and 29 physiographic sections.[59] While not explicitly stated, CSXT seems to be inferring that the Trestle Hollow Project cost does not take into account all of these different physiographic designations. However, the same can be said for the Means Handbook unit costs. The Means Handbook costs used by CSXT are not tied to any of these physiographic designations. Furthermore, CSXT has no idea what projects were included by Means in developing the unit costs or where these projects occurred. And even though the Means Handbook costs are adjusted from a national level to a more localized level through the use of location factors, the location factors, as applied to grading, simply take into account the differences in material and installation costs (labor and equipment) throughout the country, not the different types of earth throughout the country.

iii. <u>CSXT AFEs</u>

CSXT claims that the difference between the project costs used in *WFA I* and *AEPCO* and the costs reflected in the CSXT AFEs provided in discovery is because roadbed construction

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[58] *See,* CSXT Reply, pp. III-F-22-23.
[59] *Id.* p. III-F-23.

costs more in the East than the West.[60] CSXT has nothing to support this assertion short of the fact that the project costs used in *WFA I* and *AEPCO* are lower than the costs shown on the CSXT AFEs. Furthermore, this point has no relevance in this proceeding. TPI is not using the "western" project costs from *WFA I* and *AEPCO* but instead is relying on costs from the "eastern" Trestle Hollow Project. TPI is simply using *WFA I* and *AEPCO* to demonstrate that actual projects can and do show costs that are lower than the costs from the Means Handbook. As discussed below, none of the CSXT AFEs are for new rail line construction such as the Trestle Hollow Project and that is one reason they are not applicable to the construction of the TPIRR.

CSXT claims that TPI's rejection of CSXT's actual roadbed construction costs is unfounded. CSXT then goes on to describe and list the AFE that were produced by CSXT in discovery and that describe actual CSXT construction projects.[61] CSXT complains that TPI did not explain why it failed to use the AFEs produced by CSXT in discovery,[62] but this is not true. TPI plainly explained that the AFEs produced by CSXT:

> included projects involving additions or modifications to existing track and right of way, such as new sidings or second main constructed adjacent to active tracks. But, performing projects under traffic or adjacent to active tracks increases the cost of the project because site access is limited, work has to be conducted in limited work windows, and work has to be performed in a manner that is safe with respect to the railroad and its contractor and the contractor's activities…none of these projects were for new line construction such as the TPIRR.[63]

The reasoning in CSXT's own Reply confirms that TPI was correct to ignore the AFEs as unrepresentative. CSXT stated that concentration of earthwork in a smaller area results in a less

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[60] *Id.* pp. III-F-23-24.
[61] *Id.* pp. III-F-24-28.
[62] *Id.* p. III-F-26.
[63] *See,* TPI Opening, p. III-F-14.

expensive unit price.[64] CSXT also stated that the TPIRR averages 75,000 CY total earthwork per mile, of which 44,000 is common earthwork.[65] Finally, CSXT also stated that the AFEs it produced in discovery are several times less concentrated than the TPIRR; these AFEs average 20,012 CY total earthwork per mile, of which 13,941 is common earthwork.[66] By CSXT's own argument, the AFEs are unrepresentative and should not be used to establish unit costs for the TPIRR.

CSXT includes Table III-F-8 comparing the Trestle Hollow Project unit cost per CY (used for only common excavation) to that shown in CSXT's AFEs.[67] Even CSXT admits that this comparison is <u>inappropriate</u> by stating:

> The CSXT AFE documents do not in all cases provide separate unit costs for common, loose rock or solid rock excavation so the cost per cubic yard reflected in Table III-F-7 [sic] are the average cost for all categories of earthwork in each of the representative projects.[68]

Next, CSXT includes Table III-F-9 comparing TPI's Opening average earthwork cost per CY (combined Trestle Hollow Project unit cost plus Means Handbook unit costs) to an average cost per CY based solely on the Means Handbook unit costs and the costs per CY from CSXT's AFEs.[69] From this comparison, CSXT draws the conclusion that TPI's average earthwork costs are unrealistically low because of the Trestle Hollow Project.[70] On the contrary, this table demonstrates that the TPIRR is a least-cost most-efficient railroad by showing that the actual costs for a large railroad project are lower than both Means Handbook costs and the costs for a few small CSXT projects. Just because the TPIRR's costs are lower does not make them

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64 *See,* CSXT Reply, p. III-F-21.
65 *Id.* p. III-F-21.
66 *Id.* pp. III-F-27-28. The total earthwork in the table on these pages is 1,280,170 CY and the total track distance is 63.97 miles, which equals 20,012 CY per mile. Similarly, the common earthwork is 891,845 CY, which is 13,941 CY per mile.
67 *See,* CSXT Reply, pp. 28-29.
68 *Id.* p. III-F-29.
69 *Id.* pp. III-F-29-31.
70 *Id.* p. III-F-30.

incorrect. TPI demonstrated the feasibility of its unit costs in Opening and reinforces that demonstration in Rebuttal.

In summary, TPI used the Trestle Hollow Project unit cost because it is a supportable, feasible and superior real world substitute for the Means Handbook costs for common earthwork. TPI's use of the Trestle Hollow Project unit cost reflects the use of actual earthwork costs from a contractor's bid in the same way that actual costs were substituted for Means Handbook costs in *WFA I* and *AEPCO*. As shown in *WFA I*, *AEPCO* and this proceeding, actual bids from contractors are lower than Means Handbook costs. This should be expected, as the Means Handbook costs do not include any projects comparable in size to a stand-alone railroad such as the TPIRR.

b. <u>Clearing & Grubbing</u>

i. <u>Quantities of Clearing and Grubbing</u>

CSXT accepts TPI's methodology for developing clearing and grubbing quantities based on the ICC Engineering Reports.[71] Thus, the difference in quantities is attributable to a difference in track miles. In Rebuttal, TPI increased its Opening track miles; however, as explained below, TPI's total Rebuttal clearing and grubbing quantities have decreased from Opening after the correction of two (2) input data errors made in Opening.[72]

In preparing Rebuttal evidence, and addressing CSXT's claim that there were several errors in TPI's extraction of the quantities shown on the ICC Engineering Reports (discussed subsequently in Section III-F-2-c-i), TPI discovered that there was an input error in the clearing and grubbing quantities for valuation section ACL-5-FL which CSXT did not identify and did not correct. In Opening, TPI included 15,095 acres of clearing and 5,961 acres of grubbing for

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[71] *Id.* p. III-F-31.

[72] *See,* TPI Rebuttal workpaper "TPIRR Rebuttal Grading.xls," tab "Other Items."

this valuation section which equates to 53.71 acres per track-mile for clearing and 21.21 acres per track-mile for grubbing.[73] As a 100-foot right-of-way is only 12.12 acres,[74] clearly these figures were incorrect. When the total costs for these items shown on the ICC Engineering Report for this valuation section are divided by the unit costs for these items shown on the ICC Engineering Report, it becomes clear that the correct figures are 1,509.5 acres of clearing and 596.1 acres of grubbing.[75] TPI used these corrected figures for valuation section ACL-5-FL in Rebuttal.[76]

ii. <u>Clearing and Grubbing Costs</u>

In Opening, TPI utilized a unit cost of $2,000 per acre, indexed to $2,166.46 (July 1, 2010 cost levels), to both clear and grub the TPIRR based on the Trestle Hollow Project cost. TPI applied $2,166.46 per acre for clearing and grubbing to all of the TPIRR acres of clearing despite the fact that nearly 70 percent of the TPIRR's acres would only require clearing, and not grubbing, which can be done with a brush rake at less than $275 per acre – a point that CSXT admits.[77] Nevertheless, CSXT argues against TPI's use of the Trestle Hollow Project unit cost by suggesting that TPI has not shown a link between the Trestle Hollow Project clearing and grubbing costs and what has to be cleared and grubbed on the TPIRR.[78] CSXT also suggests that all 30 acres may have been cleared and not grubbed.[79] TPI's engineering Witness, Harvey Crouch, who oversaw the Trestle Hollow Project, confirms that all 30 acres were cleared and grubbed.

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[73] *See,* TPI Opening workpaper "TPIRR Open Grading.xlsx," tab "Eng Rep Input," cells AS36 through AW36.

[74] 100 feet x 5,280 feet / 43,560 square feet per acre.

[75] *See,* page 105 of 446 in TPI Opening workpaper "ICC Engineering Reports.pdf".

[76] *See,* TPI Rebuttal workpaper "TPIRR Rebuttal Grading.xlsx," tab "Eng Rep Input," cells AW36 through BA36.

[77] *See,* CSXT Reply, pp. III-F-34-35.

[78] CSXT also argues that TPI has not shown whether the 30 acres cleared reflects the total project acreage or just the part that had to be cleared. *See,* CSXT Reply, p. III-F-33. If CSXT is suggesting that there may have been other unknown or higher unit costs, TPI's engineers note that no other clearing was needed.

[79] *See,* CSXT Reply, p. III-F-33.

As noted above, the Trestle Hollow Project is a feasible and valid project to use in determining costs for the TPIRR. The Trestle Hollow Project included some tricky clearing and grubbing due to the terrain involved. In particular, the trees on the Trestle Hollow Project were located in part on the right-of-way, but trees on the hillsides were also removed. As the aerial photos included in Opening show, the trees were located in undisturbed stands.[80] Many of these trees had never been clear cut (or not cut in many years) due to their location. In other words, CSXT's complaint is a red herring: the Trestle Hollow Project clearing and grubbing cost per acre is more than adequate for the TPIRR.

Instead of using the Trestle Hollow Project unit cost, CSXT relied on Means Handbook unit costs. While TPI included a calculation of clearing and grubbing costs based on the Means Handbook in its Opening workpaper,[81] TPI did not rely on these calculations because actual project costs, where available and appropriate, are superior to Means Handbook costs.

CSXT also rejects TPI's use of the Trestle Hollow Project cost because the Board did not accept complainant's use of the Trestle Hollow Project cost in *DuPont* and *SunBelt*. TPI believes that the Board should not have rejected the Trestle Hollow Project cost in *DuPont* and *SunBelt* and TPI understands that the complainant in *SunBelt* has sought reconsideration of the Trestle Hollow issue. In any event, this case is a different proceeding with its own facts and evidence.

c. Earthwork

i. Earthwork Quantities from ICC Engineering Reports

CSXT accepts TPI's assignment of ICC Engineering Report valuation sections to the TPIRR segments and accepts TPI's methodology for calculating earthwork quantities by

80 *See,* TPI Opening workpaper "Aerial Photos #1.pdf".
81 *See,* TPI Opening workpaper "TPIRR Open Grading.xlsx," tab "Other Items".

valuation section.[82] However, CSXT claims that TPI made a number of input errors when identifying the relevant quantities from the Engineering Reports, stating "(t)hese errors generally consist of minor omissions, incorrect assignments of earthwork categories and simple transposition errors."[83] In total, CSXT identified seventy-three (73) items where it disagreed with TPI's Opening evidence.[84] TPI reviewed each of these items, determined whether or not CSXT is correct and provided an explanation of why CSXT is correct or incorrect. In Rebuttal, TPI agrees with only thirteen (13) of the items which CSXT changed.[85]

According to CSXT, one category of errors resulted in a significant understatement in TPI's earthwork costs. CSXT asserts that TPI improperly included most of the cubic yards of slag as a common excavation item, when it should have been considered other borrow. CSXT states that most of the slag quantities listed in the ICC Engineering Report were from valuation sections near Pittsburgh, PA, but CSXT claims that this should be interpreted as borrow material rather than excavation. CSXT further claims that classification as borrow is appropriate because it is unlikely that original construction of the rail lines replicated by the TPIRR would have encountered slag.[86]

CSXT's position does not withstand scrutiny and should be rejected. Iron ore smelting was well-known by the early 19th century, before the construction of the rail lines replicated by the TPIRR. Smelting operations would have resulted in adjacent piles of waste slag. There were over 200 furnaces across Pennsylvania in 1840.[87] By 1815, Pittsburgh was calling itself the "Birmingham of America" in recognition of the role played by Birmingham, England in the iron

[82] *See,* CSXT Reply, p. III-F-35.
[83] *Ibid.*
[84] CSXT's alleged "error" categories include quantities for excavation, embankment, train overhaul, lateral drainage, masonry retaining walls, timber retaining walls, timber tie retaining walls and rip rap.
[85] *See,* TPI Rebuttal workpaper "TPIRR Rebuttal Grading.xlsx," tab "CSXT Modifications".
[86] *See,* CSXT Reply, pp. III-F-35-36.
[87] *See,* TPI Rebuttal workpaper "Pennsylvania.iron.smelting.history.pdf".

industry.[88] Simple history shows that slag would have existed in the Pittsburgh area prior to the original construction of the lines replicated by the TPIRR, and, thus, would need to be excavated. Moreover, a slag adjustment argument similar to that now raised by CSXT was previously rejected by the Board in *SunBelt*.[89]

ii. Other Earthwork Quantities and Unit Costs

(1) TPIRR Yards

CSXT accepts TPI's methodology for calculating earthwork quantities for yards.[90] As discussed in Rebuttal Part III-B, CSXT increased the TPIRR's yard track-miles in Reply and TPI also increased the TPIRR's yard track-miles in Rebuttal (although not to the level of CSXT's yard track-miles). TPI's yard earthwork quantities reflect the TPIRR's Rebuttal yard track-miles.

(2) Curtis Bay Coal Facility

In Reply, CSXT added the tracks associated with the Curtis Bay Coal Terminal in Baltimore, MD. As noted in Rebuttal Part III-B, TPI accepts the addition of this facility, added the necessary tracks to the TPIRR yard matrix, and included the earthwork associated with these tracks.[91]

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[88] *Id.*

[89] *SunBelt* at 111.

[90] *See,* CSXT Reply, p. III-F-39.

[91] *Id.* CSXT developed its estimate of the costs for the Curtis Bay Coal Terminal, including earthwork, in a separate spreadsheet. *See,* CSXT Reply workpaper "Curtis Bay Coal Pier.xls." CSXT included the entire investment for the Curtis Bay Coal Terminal in the account for Coal Wharves. TPI disagrees with this approach. In Rebuttal, TPI includes the various components of this terminal in their proper place so the costs can be properly developed and assigned to the correct valuation account. Therefore, TPI includes the tracks for the Curtis Bay Coal Terminal in the TPIRR yard matrix and the earthwork costs are included in TPI's rebuttal grading spreadsheet. *See,* TPI Rebuttal workpapers "TPIRR Yard Matrix Rebuttal Grading.xlsx," tab "TPIRR Yards" and "TPIRR Rebuttal Grading.xlsx," tab "Yards."

(3) Classification Yards – Hump Yards

In Reply, CSXT calculated an estimate of the earthwork required to construct the hump in the TPIRR's hump yards.[92] This is a new cost item which has not been presented in any pervious stand-alone proceeding.[93] TPI disagrees with CSXT's addition of these earthwork quantities. The methodology to develop yard earthwork quantities is long-established and has been used by both parties in all recent stand-alone proceedings including this one. Any earthwork quantities required for a hump yard are already captured in the ICC Engineering Report quantities and to include them separately is a double-count. TPI has not included these quantities in Rebuttal.

(4) Segments with Partial CSXT Ownership

In Reply, CSXT added the earthwork quantities associated with the portions of partially-owned track that the TPIRR would be required to construct.[94] As discussed in Rebuttal Part III-B, TPI accepts the inclusion of these partially-owned lines and therefore accepts CSXT's earthwork quantities for these lines.

(5) Total Earthwork Quantities

As discussed above, and in Rebuttal Parts III-B and III-C, TPI included additional route miles, second main and passing siding miles, and yard miles in Rebuttal. This results in an increase over Opening in the earthwork quantities for the TPIRR. Rebuttal Table III-F-4 below compares the parties' earthwork quantities.

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[92] *See,* CSXT Reply, pp. III-F-39-40.

[93] Hump yards were included by defendants in *DuPont* and *SunBelt* but no additional earthwork was included for the humps.

[94] *See,* CSXT Reply, p. III-F-40.

Rebuttal Table III-F-4
TPIRR Earthwork Quantities by
Type of Material Moved
(Cubic yards in thousands)

Type of Earth Moved	TPI Opening[1/]	CSXT Reply[2/]	TPI Rebuttal[3/]	CSXT Reply Over / (Under) TPI Rebuttal[4/]
(1)	(2)	(3)	(4)	(5)
1. Common (incl. yards)	362,495	362,256	365,060	(2,804)
2. Loose Rock	34,177	34,114	34,105	9
3. Solid Rock	68,206	68,210	68,129	81
4. Borrow	47,132	53,016	48,675	4,341
5. Total	512,010	517,596	515,969	1,627

1/ TPI Opening workpaper "TPIRR Open Grading.xlsx," tab "EW Cost."
2/ CSXT Reply workpaper "TPIRR Open Grading CSXT Reply.xlsx," tab "EW Cost."
3/ TPI Rebuttal workpaper "TPIRR Rebuttal Grading.xlsx," tab "EW Cost."

(6) Earthwork Unit Costs

(a) Common Excavation

As noted previously, TPI used the Trestle Hollow Project earthwork unit cost to develop its Opening common earthwork costs, which TPI has shown to be a valid and feasible unit cost to apply to the TPIRR's construction. CSXT used the Means Handbook costs for common excavation contained in TPI's Opening workpapers.[95]

As discussed above in the response to CSXT's attack on the Trestle Hollow Project costs, the Means Handbook costs overstate the common earthwork costs that the TPIRR would be able to obtain for several reasons. A SARR is entitled to utilize the lowest feasible costs,[96] and the Trestle Hollow Project costs are, by definition, feasible because they represent a recent real world construction project. TPI continues to use its Opening unit cost based on the Trestle Hollow Project.

95 *Id.* pp. III-F-16-31 and 41.
96 *See, e.g., AEPCO* at 46 ("AEPCO correctly asserts that it may choose the lowest feasible cost for each category of expense"). *See, also FMC* at 800.

(b) Adjustment for Adverse Terrain

CSXT accepts TPI's designation of adverse terrain along the TPIRR's route.[97] However, CSXT did not accept TPI's unit cost for common excavation in adverse terrain.[98] In Opening, TPI increased the unit cost of the Trestle Hollow Project for use in adverse terrain based on the relationship between a cost for common excavation and a cost for common excavation in adverse terrain, both of which were developed using the Means Handbook.[99]

CSXT objects to both TPI's use of the Trestle Hollow Project cost and the ratio method by which TPI adjusted the Trestle Hollow Project cost for adverse terrain.[100] CSXT complains that TPI's method should be rejected because the Trestle Hollow Project costs are inappropriate for the TPIRR (a point which TPI has addressed previously) and because the Trestle Hollow Project does not involve any adverse conditions. As TPI noted, there were certain aspects of the Trestle Hollow Project that were considered adverse[101] but TPI used the Trestle Hollow Project unit cost as representative of common earthwork costs in non-adverse conditions. CSXT's criticism misses the point. The whole purpose for creating the ratio of the Means Handbook costs was to increase the common earthwork unit costs used by TPI (from Trestle Hollow) so that it would be representative of costs in adverse terrain. The Means Handbook costs used by CSXT for common and adverse territory have few components in common but the relationship between the two (2) is valid. Multiplying the ratio developed by TPI times the Means Handbook common unit cost would produce the same unit cost as aggregating the unit costs for the various Means Handbook components. Stated differently, using a ratio to adjust a cost is valid.

[97] *See,* CSXT Reply, p. III-F-35.
[98] *Id.* pp. III-F-42-43.
[99] *See,* TPI Opening, p. III-F-16.
[100] *See,* CSXT Reply, pp. III-F-42-43.
[101] *See,* TPI Opening, p. III-F-15.

In fact, ratios of this kind are commonly used. For example, the parties use location factors (ratios) to adjust Means Handbook unit costs. Ratios are used to allocate the revised earthwork quantities for each valuation section to the different types of earthwork. Ratios are used to increase the clearing and grubbing quantities per mile from the ICC Engineering Reports to reflect the modern roadbed widths of the TPIRR. Ratios are used by both parties in numerous places in the development of the TPIRR's construction costs. TPI's methodology simply recognizes the relationship between adverse and normal conditions established in prior cases.

CSXT adjusts the hauling and spreading components of the unit cost to account for "different pricing in R.S. Means for material haulage."[102] This simply is a different characterization of the additives for swell and shrinkage that have been consistently rejected by the Board in prior stand-alone proceedings.[103] TPI similarly disagrees with CSXT's unit cost modifications.

In Rebuttal, TPI continued to rely on the Trestle Hollow Project unit cost as adjusted for common excavation in adverse territory.

(c) <u>Loose Rock Excavation</u>

CSXT accepts TPI's unit cost for loose rock excavation with one modification. As with common excavation, CSXT adjusts the hauling and spreading components of the unit cost to account for swell.[104] TPI rejects CSXT's adjustments for swell.

(d) <u>Adverse Loose Rock Excavation</u>

CSXT accepts TPI's unit cost for loose rock excavation in adverse territory with two (2) modifications. <u>First</u>, CSXT adjusts the hauling and spreading components of the unit cost to

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[102] *See,* CSXT Reply, p. III-F-43.
[103] *See, e.g., DuPont* at 184-185; *SunBelt* at 116; and *AEPCO* at 92.
[104] *See,* CSXT Reply, p. III-F-43.

account for swell.[105] Second, CSXT corrects an error in the indexing of the bulldozing portion of the unit cost.[106] TPI accepts the correction to the indexing, which causes a slight increase in TPI's unit cost from Opening, but rejects CSXT's adjustments for swell.

(e) Solid Rock Excavation

CSXT accepts TPI's unit cost for solid rock excavation with one modification. As with common excavation, CSXT adjusts the hauling and spreading components of the unit cost to account for swell.[107] TPI rejects CSXT's adjustments for swell.

(f) Adverse Solid Rock Excavation

CSXT accepts TPI's unit cost for solid rock excavation in adverse territory with one modification. As with common excavation, CSXT adjusts the hauling and spreading components of the unit cost to account for swell.[108] TPI rejects CSXT's adjustments for swell. Because solid rock excavation costs are an average of the loose rock and solid rock costs, the correction to the indexing of the bulldozing portion of the unit cost for loose rock excavation in adverse territory causes TPI's Rebuttal cost to be slightly increased from Opening.

(g) Embankment / Borrow

CSXT accepts TPI's unit cost for borrow without modification.[109]

(7) Other Earthwork Quantities and Unit Costs

(a) Land for Waste Excavation

Consistent with the procedures used in other SAC cases, in Opening, TPI assumed a 30 percent waste ratio for excavation quantities and included the costs to acquire rural land at a cost of $18,451 per acre to place the wasted material.[110]

[105] *Ibid.*
[106] *See,* CSXT Reply workpaper "TPIRR Open Grading CSXT Reply.xlsx," tab "Unit Costs."
[107] *See,* CSXT Reply, p. III-F-44.
[108] *Ibid.*
[109] *Ibid.*

In Reply, CSXT accepts TPI's approach with the exception of the cost per acre. Specifically, CSXT calculated separate waste quantities for rural and non-rural land and applied TPI's cost per acre to the rural quantities but applied a much higher land cost of {{[redacted]}} per acre to the non-rural quantities.[111] CSXT's methodology is erroneous and should be rejected.

As noted in TPIRR's Opening filing,

> Not all of the excavated material for the TPIRR is re-used as fill. Consistent with the procedures used in other SAC cases, TPI's earthwork calculations assume a 30% waste ratio. The 30% ratio is an average for the entire TPIRR. Some sections of the TPIRR may have no waste excavation as all of the excavated material is suitable and needed for reuse as embankment. Some sections may have more than 30% waste due to lesser embankment needs or the disposal of material unsuitable for reuse as embankment. The actual locations where waste dump sites will be needed during the construction of the TPIRR, and their corresponding size, cannot be specifically identified because there is no way to determine the actual quantities of waste material generated at specific locations along the TPIRR construction route. The ICC Engineering Reports contain only excavation quantities with no information regarding how much material was reused as embankment and how much was wasted. For this reason the average 30% ratio has been in use and accepted for over two decades.[112]

Because there is no way to determine where the waste quantities will occur, and what the amounts would be, TPI followed the same methodology used in previous SAC cases where both parties used the rural cost per acre with costs as low as $300 per acre.[113]

Subsequent to TPI's Opening evidence, the Board issued decisions in *DuPont* and *SunBelt*. In these cases, the defendant railroad introduced the concept of using the overall average land value (rural and urban) as the cost per acre for land for waste quantities based on

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[110] *See,* TPI Opening, pp. III-F-18-19.

[111] *See,* CSXT Reply, pp. III-F-45-48 and workpaper "TPIRR Open Grading CSXT Reply.xlsx," tab "Other Costs."

[112] *See,* TPI Opening, pp. III-F-18-19 (footnotes omitted).

[113] *See,* Complainant's January 25, 2010 Opening Evidence (Public Version) in *AEPCO*, p. III-F-38 and Defendants' May 7, 2010 Reply Evidence (Public Version), p. III.F-28; Complainant's August 31, 2009 Opening Evidence (Public Version) in *Seminole*, pp. III-F-37-38 and Defendant's January 19, 2010 Reply Evidence (Public Version), p. III-F-45; Complainants' April 19, 2005 Opening Evidence (Public Version) in *WFA/Basin*, p. III-F-44 and Defendant's July 25, 2005 Reply Evidence (Public Version), p. III.F-82; Complainant's March 1, 2004 Opening Evidence (Public Version) in *AEP Texas*, pp. III-F-42-43 and Defendant's May 24, 2004 Reply Evidence (Public Version), p. III.F-80; and Complainant's June 13, 2003 Opening Evidence (Public Version) in *Otter Tail*, p. III-F-31 and Defendant's October 8, 2003 Reply Evidence (Public Version) at p. III.F-123. These pages are included in TPI Rebuttal workpaper "Rural land cost.pdf."

evenly spaced waste pits along the SARR right-of-way. The Board rejected the defendant's position in both cases and accepted the complainant's position of using rural land costs.[114]

In each case, the Board rejected the defendant's assumption that waste quantities would be generated evenly along the SARR right-of-way and agreed with complainants that it was not possible to determine where the waste quantities would occur.[115]

CSXT's methodology in this proceeding is a different spin on the same concept rejected by the Board in *DuPont* and *SunBelt*. CSXT allegedly identified the portions of the TPIRR that are rural and non-rural based on TPI's land valuation methodology.[116] CSXT then calculated waste quantities by multiplying the excavation quantities in each valuation section by the 30 percent waste ratio.

As TPI explained, and the Board has effectively agreed,[117] it is not possible to determine the location and amount of waste quantities until actual construction. Therefore, it is not possible to assume that all the so-called non-urban valuation sections will generate 30 percent waste quantities. For this reason, CSXT's methodology suffers from the same deficiencies identified by Complainants in *DuPont* and *SunBelt* and, like those cases, the Board should reject CSXT's excessive value for land used for waste excavation.

In addition to the fact that earthwork waste quantities cannot be identified for a specific location, CSXT's methodology is also improper because it overstates the cubic yards of waste in

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[114] *See, DuPont* at 170 ("Because we find that DuPont's approach to placing waste excavation in rural land sites is feasible, we will recalculate NS's land costs based upon its rural land cost and not its average land costs.") and *SunBelt*, at 119 ("With waste volume occurring primarily in rural areas, the cost for waste areas would be more correctly based on rural land costs than on the urban acreage.").

[115] *See, SunBelt*, at 119 ("… waste material would have no specific location where it would be disposed of in building the line.").

[116] *See,* CSXT Reply, pp. III-F-45-47. However, TPI was unable to verify the mileposts used by CSXT to assign TPIRR grading segments to the rural or non-rural portions of the TPIRR because CSXT did not provide any explanation or workpapers showing how the mileposts were determined.

[117] *See, DuPont* at 170 ("we find that DuPont's approach to placing waste excavation in rural land sites is feasible"); *SunBelt* at 119 ("waste material would have no specific location where it would be disposed of in building the line. Thus, haul distances to waste areas are flexible…").

non-rural valuation sections. Both parties calculated the average earthwork quantities per main line mile in a way that overstates the main line earthwork quantities in short valuation sections with significant amounts of yard track. For example, valuation section LN-11-12-TN in Nashville, which CSXT classified as non-rural, has 3.705 route miles, 7.400 main line miles (route miles plus other main tracks) and 51.359 track miles classified as yard track (87 percent of the total track miles for the valuation section).[118] Under the methodology used by both parties to calculate the adjusted cubic yards per single track mile for each valuation section, only one foot of earthwork excavation is assigned to the 51.359 miles of yard track and the rest of the earthwork is assigned to the main line miles. As a result of this methodology, the average adjusted cubic yards per single track mile for this valuation section is 244,434 cubic yards,[119] based on an average cut depth of 27.1 feet and an average fill height of 28.0 feet.[120] Clearly, the topography of this small section does not require such deep cuts and high fills. Consequently, the average cubic yards per mile is overstated[121] and cannot be used in the manner that it has been used by CSXT to calculate waste quantities in non-rural areas.[122]

In addition, TPI noted in Opening that it was being conservative by including the costs to purchase the land for waste quantities as grading contractors typically make arrangements with adjacent landowners for the placement of waste rather than purchasing land. TPI also noted that the waste material could be sold from the waste site as fill dirt or the land re-sold after the

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[118] *See,* TPI workpaper "TPIRR Rebuttal Grading.xlsx," tab "ICC ER YD TRK," cells F95, G95 and H95.

[119] *See,* TPI workpaper "TPIRR Rebuttal Grading.xlsx," tab "Earthwork by val sec," cell G96.

[120] *See,* TPI workpaper "TPIRR Rebuttal Grading.xlsx," tab "Calculations," cells N103 and O103.

[121] The 1 foot of earthwork excavation for yards has been used by both parties in SAC proceedings for many years. This assumption assigns virtually all of the earthwork to the main tracks. While this may underestimate the earthwork associated with the original yards, it overstates the earthwork associated with the original main track. Some of this imbalance is accounted for in the yards included on the SARR, which are assigned only 1 foot of excavation. If the SARR included the same amount of yard track as originally existed, the total quantities would be in balance. However, the SARR never includes as much yard track as was in existence and this causes the quantities assigned to the main line to be overstated. This overstatement is most significant in short valuation sections with large amounts of yard track.

[122] Other valuation sections with similar results are LN-56-AL (Montgomery), BOCT-138.1-IL (Chicago), WRA-2-AL (Montgomery), SAL-7-GA (Atlanta) and BO-17.1-MD (Baltimore).

TPIRR construction is completed.[123] CSXT did not challenge these points in Reply. As a final thought, there is no evidence of vacant lots in urban areas with large piles of waste earthwork along CSXT's right-of-way, suggesting that CSXT (and/or its predecessors) did not waste large quantities of earthwork in urban areas.

For all of the above reasons, in Rebuttal, TPI continues to use the average rural cost of $18,451 per acre to calculate the cost of land for waste quantities for the TPIRR.

(b) Fine Grading

In Opening, TPI explained that the Trestle Hollow Project earthwork unit cost already accounted for fine grading at no additional cost.[124] CSXT argues that the Means Handbook earthwork unit costs that CSXT relies on do not include fine grading activities, and CSXT added these costs.[125] CSXT's additional costs are without merit.

The Trestle Hollow Project earthwork unit cost included all earthwork costs necessary to enable construction to proceed. Therefore, it already accounts for fine grading, and CSXT's additive is unnecessary. CSXT claims that it is not clear that final grading is included in the Trestle Hollow Project's lump sum bid price for grading.[126] Had CSXT read the project specifications included in TPI's Opening workpapers, it would have been clear that final grading was included in the lump sum bid price.[127] In addition, Mr. Crouch notes that, in his experience, a motor grader is often not needed to achieve a finished grade. Mr. Crouch further notes that, in his experience, railroad construction projects do not include a separate bid item for fine grading. Contractors are instructed to include such costs in their unit prices for earthwork.

[123] *See,* TPI Opening, p. III-F-19.
[124] *Id.* p. III-F-15.
[125] *See,* CSXT Reply, pp. III-F-48-49.
[126] *Id.* p. III-F-49, n. 92.
[127] *See,* TPI Opening workpaper "Trestle Hollow Specifications.pdf," page 164, Sections 3.5.15 and 3.5.16.

(c) Adjustments to Material Hauling Costs for Swell

CSXT increases the unit cost of several of its earthwork excavation categories[128] to reflect "that materials expand when excavated from their natural state."[129] CSXT claims that this adjustment is necessary to recognize the difference in the types of material reflected in the Means Handbook unit costs –bank cubic yard ("BCY"), loose cubic yard ("LCY"), and embankment cubic yard ("ECY"). CSXT's adjustment is applied to the hauling and spreading components of the selected earthwork excavation category unit costs.[130]

The swell (and shrinkage) adjustment has been consistently rejected by the Board in all of the decisions in recent SAC cases where defendants have proposed this additional cost.[131] However, CSXT attempts to justify its adjustment in this proceeding based on a comment included by the Board in *SunBelt*[132] that the ICC Engineering Reports "address earthwork in its post-construction state." The Board's comment is not supported by the ICC Engineering Reports. The cubic yard quantities shown on the ICC Engineering Reports are not labeled in any way other than as cubic yards. They are not labeled by the units used in the Means Handbook (BCY, LCY and ECY) and they are not labeled as post-construction or pre-construction. They are simply labeled as cubic yards. Without a definitive showing of what the cubic yards on the ICC Engineering Reports represent, any adjustment is speculative at best. CSXT's adjustment is simply another way to arbitrarily and unnecessarily inflate the earthwork costs of the TPIRR.

Contractors are paid on bank quantities as this is the state of the earth prior to construction and the basis for estimating quantities prior to construction. The contractor bases

[128] Common adverse, loose rock, loose rock adverse. Solid rock and solid rock adverse.
[129] *See,* CSXT Reply, p. III-F-50.
[130] *Id.* pp. III-F-50-52. CSXT also referred to swell and shrinkage of materials in other parts of the Reply. *See, also*, CSXT Reply, pp. III-F-43 and 47. *See, also* CSXT Reply workpaper "TPIRR Open Grading CSXT Reply.xlsx," tabs "Unit Costs" and "Unit Cost Modified."
[131] *See, SunBelt* at 116; *DuPont* at 184-185; *AEPCO* at 92.
[132] *See, SunBelt* at 116.

his bid on these bank quantities and any additional hauling based on swell is factored into the bid. TPI has already shown that actual project costs for a large scale project such as the TPIRR would be lower than the Means Handbook costs. Indeed, the Trestle Hollow Project cost supports substantially lower earthwork costs for common excavation than costs based on Means Handbook unit costs. To take already inflated Means Handbook costs and increase them to account for an estimated difference in bank and loose quantities, simply adds more costs where none would be warranted if the TPIRR project were actually bid out.

The Board should similarly reject CSXT's claims regarding swell in this proceeding just as it has rejected the addition of costs for swell (and shrinkage) in all prior decisions where this additional cost was proposed.

(8) Subgrade Preparation

In Opening, TPI did not include separate costs for subgrade preparation, i.e., adding water during compaction or drying soil before compaction. TPI took this position for several reasons.[133] First, the Board decided in prior Eastern coal rate cases that water for compaction was not necessary in the areas traversed by the stand-alone railroads because there is sufficient water content in the region to allow for proper compaction.[134] Second, consistent with the territory traversed by the stand-alone railroads in the Eastern coal rate cases, the TPIRR rail lines traverse sub-humid, moist sub-humid, and humid areas, not arid or semi-arid areas.[135] Third, the common earthwork unit cost used by TPI included any incidental items such as water.[136]

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[133] *See,* TPI Opening, pp. III-F-25-26.

[134] *See, Duke/CSXT* at 483, *Duke/NS* at 179-80, and *CP&L* at 317.

[135] *See,* TPI Opening workpaper "TPIRR Route avg rainfall.pdf."

[136] *See,* TPI Opening workpaper "Trestle Hollow Specifications.pdf," pages 160 (specifications for water for compaction or the drying of soil) and 164 (all grading work is included in the lump sum bid price).

In Reply, CSXT adds costs for water for compaction and drying of wet material, based in part on the acceptance of these costs in *DuPont* and *SunBelt*.[137] CSXT also attacks TPI's use of "an amateur historical weather website called World Climate." CSXT includes the website's disclaimer stating that the information is not to be used for "any professional or important purpose, including but not limited to agriculture, energy planning, vacation planning, flying, boating, or academic research." CSXT also claims that the information is from time periods prior to the TPIRR's construction.[138]

TPI did not rely on this data for any of the purposes mentioned in the disclaimer. TPI relied on this data to show that the area traversed by the TPIRR is moist and humid and not dry, indicating that there is significant moisture in the soil. CSXT's complaint regarding the time period is ridiculous. The rainfall data for the locations on the TPIRR covers decades and the data does not vary significantly from year to year as shown in the printouts included in TPI's Opening workpapers.[139] Based on historical trends, the conditions evidenced at these locations are likely to continue long into the future. This data is perfectly fine for the purpose for which it was used by TPI.

In Reply, CSXT submitted a so-called study of moisture conditions in only five (5) of the seventeen states (plus the District of Columbia) traversed by the TPIRR. CSXT then used the results of this so-called study to develop subgrade preparation costs that were applied to the TPIRR in only those five (5) states. Stated differently, CSXT agreed with TPI that no additional subgrade preparation costs were necessary in twelve states and the District of Columbia.[140]

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[137] TPI notes that these decisions were released subsequent to TPI's filing of Opening Evidence.

[138] *See,* CSXT Reply, pp. III-F-53-54.

[139] *See,* TPI Opening workpaper "TPIRR Route avg rainfall.pdf."

[140] The five states selected by CSXT contain only 2,489.45 of the TPIRR's 6,911.87 route miles, or less than 37 percent. Stated differently, CSXT agrees that nearly two-thirds of the TPIRR route does not require separate costs for subgrade preparation.

CSXT's only justification for studying the five (5) states it selected was that these states have lower annual precipitation than the other states traversed by the TPIRR.[141] Despite CSXT having spent two (2) pages criticizing TPI's use of annual rainfall data from "an amateur historical weather website," CSXT relied on this data to make its selection of the five (5) states. By selecting the five (5) states traversed by the TPIRR with the lowest annual precipitation, one would think that the earthwork in these states would require water to be added during compaction rather than the material needing to be dried. CSXT's analysis provides just the opposite result. Of the five (5) states studied, three (3) had earthwork quantities of five (5) percent or less requiring the addition of water during compaction. CSXT's analysis also concluded that these same three (3) states had earthwork quantities of 82 percent or higher that required drying of the material.[142] These results alone cast doubt on the accuracy of CSXT's analysis.

In support of CSXT's contention that the moisture content of the soil must be adjusted in five (5) of the SARR states, CSXT offered a desktop analysis based on third party information.[143] TPI thoroughly reviewed CSXT's soil analysis and found many problems, discrepancies and errors. TPI's detailed review is contained in its workpapers.[144] The main points from that analysis are listed below:

1. CSXT's determinations of water needed and Anticipated Natural Moisture condition for each state file in its Reply workpapers rely on hard-coded data. TPI was only able to replicate less than half of the figures CSXT relied upon;

2. CSXT's hard-coded figures for soil type for each map unit do not correspond with the soil type data found within CSXT's data set which was used for all other average calculations from the web soil survey;

[141] *See,* CSXT Reply, p. III-F-58

[142] *See,* CSXT Reply workpaper "TPIRR Open Grading CSXT Reply.xlsx," tab "EW Cost," cells AD3 through AG8.

[143] *See,* CSXT Reply, pp. III-F-57-60.

[144] *See,* TPI Rebuttal workpaper "CSXT Soil Analysis Critique.pdf" and supporting files.

3. CSXT did not include in its workpapers the material it cites as support for its assumptions used for maximum dry density and optimum moisture content;
4. The STATSGO2 data, cited and used by CSXT, was not developed in the last few years;
5. The SSURGO data, which was not utilized by CSXT, is available from the same website and contains more recent data;
6. Numerous soil experts and groups that use soil data warn against using the STATSGO2 database information;
7. CSXT relied on the "mapunit" summary level of data rather than the underlying data which created distortions within the soil moisture analysis; and
8. CSXT's analysis merely provides information about the states as a whole rather than the TPIRR route.

Furthermore, CSXT's unit cost for adding water for compaction is grossly overstated. CSXT applies a cost of $2.12 per cubic yard of excavation for water for compaction and a cost of $0.22 per cubic yard for the drying of soil based on the Means Handbook.[145] Apparently, CSXT believes that the cost to supply water, drive a truck over the roadbed and spray water is *over nine (9) times more* than the costs for a bulldozer with a Disc Harrow Attachment to spread and scarify material to be dried prior to compacting. In addition, the Means Handbook unit cost for water is simply a cost per CY. It does not specify the number of gallons per CY nor make any adjustment for the type of soil. CSXT's unit cost for water makes no sense.

In Opening, TPI included a cost per gallon for water of $0.03902.[146] This cost was supported by documents from the Ohio DOT[147] and a document from the Utah DOT showing that the cost for the application of water is the same whether it is for the application of water for dust control or the application of water for pre-wetting, mixing or compacting materials.[148] Using information contained in TPI's Opening workpapers, TPI determined that the cost per CY

[145] *See,* CSXT Reply, pp. III-F-61-62.
[146] *See,* TPI Opening workpaper "TPIRR Open Grading.xlsx," tab "Unit Costs," line number 18 (cell H166).
[147] *See,* TPI Opening workpapers for III-F-2, sub-directory "Water."
[148] *See,* TPI Opening workpaper "Water for Compaction – Utah DOT.pdf."

for the application of water for compaction should be no more than $0.15 per CY.[149] Stated differently, CSXT's unit cost is overstated by more than ten-fold.

In Rebuttal, TPI continues to exclude additional costs for water for compaction or drying of material for several reasons. First, CSXT provided no evidence that such costs are required as its so-called soil study is unsupported and based on faulty assumptions. Second, as noted earlier, the Trestle Hollow Project unit cost utilized by TPI includes the costs for these two (2) items should they be necessary. Third, even though CSXT claims that the Trestle Hollow Project soil analysis showed optimum water content,[150] TPI's engineering witness Mr. Crouch, who oversaw the Trestle Hollow Project, recollects that water for compaction was used on the project and, following rain events, the contractor was required to blade up the soil so it would dry. There was no additional compensation for these items per the Trestle Hollow Project specifications identified previously.[151]

d. Drainage

i. Lateral Drainage

CSXT accepts TPI's unit costs and methodology of developing lateral drainage quantities based on the ICC Engineering Reports but rejects TPI's quantities because CSXT claims TPI excluded certain lateral pipe drainage quantities from the ICC Engineering Reports.[152] Specifically, CSXT makes one modification to the lateral drainage quantities from the ICC Engineering Reports for valuation section BO-115-OH. TPI rejects CSXT's modification as improper because the quantities CSXT adds are associated with yard and siding joint tracks that

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[149] *See,* TPI Rebuttal workpaper "Cost of Water per CY for TPIRR.xlsx."

[150] *See,* CSXT Reply, p. III-F-61.

[151] In Mr. Crouch's experience, railroad construction projects do not include a separate bid for providing water for compaction or drying roadbed materials. Contractors are instructed to include all costs in their unit prices for earthwork.

[152] *See,* CSXT Reply, p. III-F-62.

neither party included in the total track miles for the valuation section.[153] TPI notes that CSXT failed to include the lateral drainage quantities for some of the partially-owned lines. TPI included these quantities in Rebuttal.[154]

ii. Yard Drainage

Yard drainage is discussed in Rebuttal Part III-F-7, Buildings and Facilities, where both parties included the costs.

e. Culverts

i. Culvert Unit Costs

CSXT rejects TPI's unit cost for bedding material because it is based on the Trestle Hollow Project. CSXT substitutes bedding material cost from the Means Handbook.[155] CSXT's rejection of the Trestle Hollow Project unit cost for bedding material is unsupported. The primary objection CSXT with the Trestle Hollow Project is TPI's use of the common excavation unit cost. For example, the first sentence of CSXT's Trestle Hollow section begins with the phrase "[m]uch of the difference in the parties' earthwork costs is…."[156] In advocating for different costs, CSXT begins its argument with the statement that "[t]he Board has long applied R.S. Means national cost data as the appropriate, authoritative source for earthwork costs."[157] CSXT completes its initial Trestle Hollow critique by stating "[a]s summarized above, the earthwork excavation experienced on the Trestle Hollow Project is not at all representative of the common excavation that would be encountered by the TPIRR."[158]

Based on this objection, CSXT simply infers that all the unit costs from the Trestle Hollow Project are inappropriate for the TPIRR. CSXT provided no evidence that the Trestle

[153] *See,* TPI Rebuttal workpaper "TPIRR Rebuttal Grading.xlsx," tab "CSXT Modifications," line 28.
[154] *See,* TPI Rebuttal workpaper "TPIRR Rebuttal Grading.xlsx," tab "Other Items," lines 43, 246 and 247.
[155] *See,* CSXT Reply, p. III-F-63.
[156] *Id.* p. III-F-16.
[157] *Id.* p. III-F-18.
[158] *Id.* p, III-F-23.

Hollow Project cost for bedding material is inappropriate but rather only a showing that the Means Handbook costs are higher. The Trestle Hollow Project costs are based on a real world project and, as such, are superior to the Means Handbook. TPI continues to use the Trestle Hollow Project bedding costs in Rebuttal.

CSXT also rejects TPI's trenching unit cost from the Means Handbook, claiming that it only covers only up to four (4) feet of width. CSXT used Means Handbook unit costs for four (4) feet to six (6) feet widths and six (6) feet to ten (10) feet widths to accommodate larger culverts.[159] In Rebuttal, TPI accepted this change.

ii. Culvert Installation

CSXT claims that TPI incorrectly calculated the quantities for trench excavation, bedding and backfill by failing to account for the space between multiple barrels per TPI's specifications.[160] In Rebuttal, TPI accepted CSXT's corrections.

iii. Culvert Quantities

CSXT accepts the majority of TPI's culvert quantities but rejects TPI's substitution of culverts for bridges in some instances because installing culverts at these few locations would either restrict highway traffic or provide inadequate capacity. CSXT included bridges at these locations.[161] In Rebuttal, TPI accepted CSXT's changes.

iv. Total Culvert Costs

In Opening, TPI included $124.89 million for culverts. In Reply, CSXT increased the costs for culverts to $136.64 million. Based on the changes that TPI accepted, as discussed above, TPI included $127.33 million for culverts in Rebuttal.

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[159] *Id.* pp. III-F-63-64.
[160] *Id.* p, III-F-64.
[161] *Id.* p. III-F-65.

f. Other

i. Side Slopes and Ditches

CSXT accepts TPI's side slope ratio of 1.5:1 and side ditch specification.[162]

ii. Retaining Walls

In Opening, TPI developed retaining wall quantities using the ICC Engineering Reports and used gabions for all retaining walls.[163] To be conservative, TPI allocated all of the retaining wall quantities (shown on the ICC Engineering Reports as cubic yards) for a given valuation section to the mainline miles of the valuation section, creating an average quantity of cubic yards of retaining walls per mainline mile for each valuation section.[164] This methodology most likely results in an overstatement of the quantities per mile because it is probable that some retaining walls were necessary to accommodate side tracks, yard tracks or other facilities that the TPIRR is not constructing. TPI then applied this average quantity per mainline mile to the route miles of the TPI traversing each valuation section.

CSXT accepts TPI's timber- and tie-to-gabion quantity conversions and the replacement in kind of piling retaining walls. CSXT also accepts TPI's use of gabions as replacements for masonry, timber, and tie retaining walls and the allocation process to calculate the average cubic yards per mile.[165] However, CSXT claims TPI understated masonry retaining wall quantities by assuming a 1:1 replacement of masonry with gabions. CSXT claims that TPI failed to account for the difference in weight between masonry retaining walls and gabion retaining walls and should use a conversion ratio of 1:1.54.[166]

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[162] *Id.*
[163] *See,* TPI Opening, pp. III-F-23-24.
[164] *Id.* p. III-F-23.
[165] *See,* CSXT Reply, p. III-F-66.
[166] *Id.* pp. III-F-65-66.

CSXT's weight adjustment is not justified. CSXT provided documentation showing that there are different types of retaining walls but no evidence showing that the gabion walls installed on the TPIRR are not sufficient. CSXT provided no evidence that the TPIRR's gabion walls will collapse. Furthermore, CSXT has not demonstrated that the TPIRR is required to construct the retaining walls in the same manner as they were originally constructed in the 1800's.

Finally, as explained above, TPI's retaining wall quantities are most likely overstated because TPI assigned all retaining walls in each valuation section to the route miles of the valuation section and applied the amount per route mile to the main line miles of the TPIRR. Stated differently, as the ICC Engineering Reports do not show the location of retaining walls, TPI assumed all retaining walls were put in place for the main line track. Many of the valuation sections where the masonry retaining walls are most prevalent include many miles of second and third main and yard track that the TPIRR is not constructing. Yet, TPI conservatively included the total amount of retaining walls for the valuation section in determining the average amount per route mile. By assigning all the masonry retaining walls on the ICC Engineering Reports to the main line, TPI clearly overstated the TPIRR's retaining wall quantities. Therefore, increasing retaining wall quantities that are already overstated is simply unjustified overkill.

For the above reasons, TPI has not accepted CSXT's conversion ratio of 1:1.54.

TPI also points out that CSXT overstated the masonry retaining walls by multiplying all masonry retaining walls by the 1:1.54 conversion ratio regardless of whether or not they were solid walls. As shown on the ICC Engineering Reports included by TPI in Opening,[167] there are many types of masonry retaining walls. Of the 169 total valuation sections traversed by the

[167] *See,* TPI Opening workpaper "ICC Engineering Reports.pdf."

TPIRR, 123 contain at least one type of masonry retaining wall. Many types of masonry descriptions shown on the ICC Engineering Reports reflect solid walls such as:

1. Concrete;
2. Mortar;
3. Brick;
4. Brick in mortar;
5. Small rubble in mortar;
6. Rubble in mortar;
7. Rubble, laid in mortar;
8. Rubble, wet; and
9. Squared stone in cement mortar.

Of the 123 valuation sections containing at least one type of masonry retaining wall, 96 show descriptions on the ICC Engineering Reports that reflect non-solid retaining walls (comparable to gabions) such as:

1. Dry rubble;
2. Rubble, dry;
3. Rubble laid dry;
4. Small rubble, laid dry;
5. Field stone, laid dry;
6. Second class dry;
7. Dry rubble wall;
8. Loose stone; and
9. Stone – dry.

As shown above, the solid retaining walls including rubble contain descriptions such as "in mortar" or "wet" while most of the non-solid retaining walls contain the description "dry." "Wet" indicates that mortar or cement was used to construct the retaining wall while "dry" indicates that the stone was placed without any kind of mortar or cement,[168] like the stone placed in the gabions. CSXT failed to differentiate between the various types of masonry retaining walls in its Reply calculations. To show that CSXT's quantities are overstated, TPI reviewed the types of masonry retaining walls shown on the ICC Engineering Reports and separated them into

[168] *See,* TPI Rebuttal workpaper "Dry rubble definition.pdf."

solid and non-solid retaining walls.[169] Over 27 percent of the masonry retaining walls on the TPIRR are non-solid walls that are comparable to the gabion retaining walls constructed by the TPIRR and, therefore, should not be increased by the 1:1.54 conversion ratio.

iii. <u>Rip Rap</u>

CSXT accepts TPI's rip rap unit cost and use of the rip rap quantities from the ICC Engineering Reports but rejects TPI's quantities because "TPI incorrectly recorded the rip-rap quantities reported in the ICC Engineering Reports."[170] TPI reviewed the two (2) valuation sections where CSXT claims the rip rap quantities are incorrect (NYC-201-NY and NYC-86-NY) and disagrees with CSXT in both instances. The quantities included by CSXT are identified on the ICC Engineering Report as quantities for surfacing. Surfacing involves the placing of ballast, which is a cost included in track construction.[171] Additionally, TPI notes that CSXT failed to include the rip rap quantities for some of the partially-owned lines. TPI included these quantities in Rebuttal.[172]

iv. <u>Relocating and Protecting Utilities</u>

CSXT accepts TPI's costs for relocating and protecting utilities.[173]

v. <u>Seeding / Topsoil Placement</u>

CSXT states that it rejects TPI's embankment protection quantities and use of the Trestle Hollow Project costs for seeding.[174] However, a review of CSXT's Reply workpapers reveals that CSXT included the exact same quantities and used the exact same unit cost as that presented

[169] *See,* TPI Rebuttal workpaper "TPIRR Rebuttal Grading.xlsx," tab "Retaining Wall Distribution."
[170] *See,* CSXT Reply, p. III-F-69.
[171] *See,* TPI Rebuttal workpaper "TPIRR Rebuttal Grading.xlsx," tab "CSXT Modifications," lines 53-56 and 61-62.
[172] *See,* TPI Rebuttal workpaper "TPIRR Rebuttal Grading.xlsx," tab "Other Items," lines 43, 246 and 247.
[173] *See,* CSXT Reply, p. III-F-69.
[174] *Ibid.*

by TPI in Opening.[175] Therefore, the parties agree on the costs for seeding / topsoil placement for the TPIRR.

vi. Water for Compaction

Water for compaction was addressed previously in the section on Subgrade Preparation.

vii. Surfacing for Detour Roads

CSXT accepts TPI's costs for surfacing for detour roads.[176]

viii. Environmental Compliance

CSXT accepts TPI's costs for environmental compliance.[177]

3. Track Construction

In Opening, TPI developed the unit costs and quantities for TPIRR track construction based on quotes from vendors and design standards that met or exceeded those used by other Class I and regional railroads.[178] CSXT accepts many of TPI's unit costs but adds other costs and increases track-mile quantities, causing an increase of nearly $2.5 billion in track construction costs.[179] As discussed below by component, TPI accepted some of CSXT's changes while rejecting others.

Rebuttal Table III-F-5 below compares the track construction costs developed by TPI in Opening, CSXT in Reply and TPI in Rebuttal.

[175] Compare CSXT Reply workpaper "TPIRR Open Grading CSXT Reply," tab "Other Costs," cells G53, G55 and G57 to the same locations in TPI Opening workpaper "TPIRR Open Grading.xlsx."
[176] *See,* CSXT Reply, p. III-F-70.
[177] *Ibid.*
[178] *See,* TPI Opening, pp. III-F-27-37.
[179] *See,* CSXT Reply, pp. III-F-70-71.

Rebuttal Table III-F-5
TPIRR Track Construction Costs
($ in millions)

Item (1)	TPI Opening[1/] (2)	CSXT Reply[2/] (3)	TPI Rebuttal[3/] (4)
1. Geotextile Fabric	$3.51	$4.08	$3.69
2. Ballast and Sub-ballast	1,688.41	2,878.19	1,944.29
3. Ties	1,280.44	1,755.05	1,325.15
4. Track (rail)			
a. Main Line	2,190.55	2,455.22	2,405.06
b. Yard & Other Track	305.46	499.92	427.55
c. Field Welds	31.31	64.78	37.99
d. Switches (turnouts)	710.33	869.22	720.71
e. RR Crossing Diamonds	24.16	24.16	24.16
5. Rail Lubricators	13.24	13.68	13.24
6. Plates, Spikes and Anchors	769.66	856.65	797.24
7. Derail and Wheel Stops	9.29	10.12	9.59
8. Switch Heaters	10.33	10.33	10.33
9. Track Labor and Equip	1,457.88	1,549.45	1,515.34
10. Total	$8,494.57	$10,990.85	$9,234.34

1/ TPI Opening at III-F-28, Table III-F-7.
2/ CSXT Reply at III-F-71, Table III-F-13.
3/ TPI Rebuttal workpaper "Track Construction Costs Rebuttal.xls."

a. Geotextile Fabric

CSXT accepts TPI's specifications and unit costs for geotextile fabric.[180] The difference in total costs is caused by a difference in the number of turnouts.

b. Ballast

i. Ballast Quantities

CSXT accepts TPI's methodology for calculating ballast quantities but increases total quantities to reflect CSXT's higher number of track-miles for the TPIRR.[181] As discussed in Rebuttal Part III-B, TPI increased the TPIRR's track-miles from Opening but still has fewer track-miles than CSXT's version of the TPIRR.

[180] *Id.* p. III-F-71.
[181] *Ibid.*

ii. Ballast Pricing

CSXT disagrees with TPI's suppliers, unit cost and transportation costs.[182] Each of these is discussed below.

(1) Ballast Suppliers

In Opening, TPI included all fourteen suppliers provided by CSXT in discovery in the development of the ballast unit cost.[183]

In Reply, CSXT takes issue with TPI's methodology. CSXT claims that TPI includes suppliers along unbuilt portions of the TPIRR which would not be accessible by rail during construction. CSXT plotted ballast supplier locations on the map and found that four (4) quarries would not be available to the TPIRR because they are located along TPIRR lines that have yet to be constructed and do not have access to another railroad; Tyrone, GA; Lithonia, GA; Notasulga, AL; and Skippers, VA.[184] CSXT also eliminated three (3) quarries as being located too far from the TPIRR railheads.[185] CSXT then developed its unit cost and transportation miles based on the remaining seven (7) quarries.

While TPI agrees that four (4) of the quarries would not be accessible by any railroad other than the TPIRR (as a replacement for the CSXT) and that three (3) of the quarries are located farther from the TPIRR railheads than other quarries on the list, TPI disagrees that there are only seven (7) quarries from which it could secure ballast.

CSXT attempts to support its ballast supplier evidence by referencing the ballast supplier modifications in *SunBelt*.[186] The stand-alone railroad in *SunBelt* was only 578 miles long and located in only three (3) states (Alabama, Mississippi and Louisiana). A more relevant

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[182] *Id.* pp. III-F-71-82.
[183] *See,* TPI Opening workpaper "Ballast Prices by Supplier and Location.xls."
[184] TPI notes that these four quarries had the lowest unit cost.
[185] *See,* CSXT Reply, pp. III-F-72-75.
[186] *Id.* p. III-F-74 and footnote 154.

comparison to ballast suppliers for the 6,900-mile TPIRR (which travels through seventeen states in the eastern U.S. plus the District of Columbia) is the ballast suppliers of the stand-alone railroad in *DuPont*, which consisted of over 7,300 miles and traveled through twenty states, sixteen of which are the same as those traversed by the TPIRR. In other words, the TPIRR and the DuPont SARR traverse much of the same territory.

In *DuPont*, the Complainant developed ballast costs in the same manner as TPI did in Opening, i.e., an average based on all the ballast sources provided by the defendant railroad in discovery. This methodology was accepted by the Board.[187] In other words, there is Board precedent for TPI's methodology. In addition, CSXT restricted the number of ballast suppliers based on the suppliers it provided in discovery. However, since one of CSXT's main thrusts is that the TPIRR would have to obtain ballast from quarries located on other railroads, in reality, the number of ballast suppliers would be increased, not decreased, as the TPIRR would be able to obtain supplies from quarries located on the NS in the same states the TIPRR traverses. In other words, the fourteen quarries that were included in CSXT's discovery responses are representative of the ballast market for 2010 and, consequently, the costs that the TPIRR would incur. CSXT relies upon similar logic for sub-ballast.[188]

While CSXT may be technically right regarding the four (4) ballast quarries located on the TPIRR and the three (3) ballast quarries located too far from the TPIRR, TPI does not accept CSXT's restrictions on the number and location of ballast quarries. The impact of this issue on ballast costs is discussed below.

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[187] *See, DuPont* at 191.
[188] *See,* CSXT Reply, p. III-F-84.

(2) **Ballast Unit Cost**

In Opening, TPI calculated its ballast unit cost of {{[redacted]}} per ton as a simple average of the costs for the fourteen suppliers.[189] CSXT criticizes TPI for not weighting the costs on the relative quantities provided by each supplier.[190] However, CSXT did not weight its ballast unit cost on relative quantities. Instead, CSXT calculated its ballast cost by weighting each ballast quarry's unit cost on the number of railheads each quarry serves. In other words, CSXT assigned a ballast quarry to each TPIRR railhead, with some quarries assigned to multiple railheads, and then developed a simple average. CSXT assigned the Toledo, OH quarry (with the highest unit cost) to four (4) railheads, the Junction City, GA quarry to three (3) railheads, four (4) other quarries to one railhead each and two (2) quarries to the four (4) railheads CSXT substituted for the Nashville, TN railhead.[191] Using this distribution, CSXT calculated a simple average cost of $12.20 per ton.[192]

The Board should reject CSXT's methodology. CSXT used the quarry with the highest unit cost as the most prevalent supplier and eliminated the four (4) quarries with the lowest unit costs. Furthermore, as noted above, CSXT given no consideration to any quarries located on NS near the TPIRR route. This is important because those quarries can provide ballast at a much lower price than that used by either TPI or CSXT. As noted above, the complainant in *DuPont* based its ballast unit cost on the average of all ballast sources provided by NS in discovery and this was accepted by the Board. Using NS data, the average price per ton in 2010 was $9.06,[193] which is substantially lower than the {{[redacted]}} used by TPI and the $12.20 used by CSXT. Unfortunately, TPI does not have access to the detail underlying this cost necessary to identify

[189] *See,* TPI Opening workpaper "Ballast Prices by Supplier and Location.xls."
[190] *See,* CSXT Reply, pp. III-F-74-75.
[191] *See, also* CSXT Reply workpaper "Ballast Prices by Supplier and Location CSXT Reply.xls."
[192] *See,* CSXT Reply, p. III-F-79, Table III-F-15.
[193] *See,* TPI Rebuttal workpaper "DuPont ballast cost.pdf."

the location and price of each of the quarries but the average cost is telling. When the lower cost ballast sources on NS are taken into consideration, TPI's ballast cost of {{[redacted]}} per ton is reasonable and supported and TPI continues to use it in Rebuttal.

In addition, CSXT's assignment of quarries to railheads and the resulting simple average of unit costs and miles to TPIRR railheads contains numerous errors. CSXT assigned Toledo, OH as the quarry for Elizabethtown, KY while its supporting workpapers assigned Enka, NC as the quarry. Enka, NC is closer than Toledo, OH and has lower costs. CSXT also had incorrect miles for the distance from Toledo, OH to Chicago, IL and from Junction City, GA to Atlanta, GA.[194] Finally, CSXT assigned the quarry in Verdon, VA to the TPIRR's McKeesport, PA railhead despite the fact that the Toledo, OH quarry is nearly 300 miles closer.[195] Although the unit cost per ton is higher, the increase is more than made up by the significant decrease in the transportation costs.

(3) Ballast Transportation from Supplier to Railhead

While TPI disagrees with CSXT's restriction on the number and location of ballast quarries, TPI does not have any information on the location of quarries utilized by NS in the states traversed by the TPIRR. Therefore, TPI is limited to using the ballast quarries utilized by CSXT in determining the miles the ballast is transported.

As discussed above, CSXT developed its average miles from supplier to TPIRR railhead weighted on the assignment of ballast quarries to TPIRR railheads and CSXT's calculations

[194] Compare the material in the CSXT workpaper files contained in the sub-directory "Ballast Shipping" to the values in CSXT workpaper "Ballast Prices by Suppliers and Location CSXT Reply.xls"

[195] *See,* TPI Rebuttal workpaper "Ballast Prices by Supplier and Location CSXT Reply TPI Rebuttal.xlsx" for all the corrections to CSXT's calculation of ballast unit cost and transportation distance.

include several errors. Correcting these errors reduces the average haul from CSXT's Reply value of 265.1 miles to 240.3 miles.[196] TPI uses 240.3 miles in Rebuttal.

(4) Ballast Distribution along the TPIRR

CSXT accepts TPI's 37-mile distance for online transportation.[197]

(5) Material Transportation Unit Cost for Ballast

CSXT claims that TPI's $0.035 per ton-mile is "unrealistically low" for off-line transportation.[198] CSXT contacted Vulcan to obtain a ballast transport rate – CSXT calculated a weighted average of $0.073 per ton-mile (at 2010 levels) over 265.1 miles.[199]

The parties agree that $0.035 per ton-mile is an appropriate cost to use for transportation of ballast on the TPIRR (so-called "on-line transportation").[200] As for transportation of ballast from quarries to the TPIRR railheads ("off-line transportation"), CSXT objects to the figure used by TPI, but CSXT's arguments regarding off-line transportation are largely incoherent and based upon a faulty reading of Board authority.[201]

First, CSXT objects to TPI's reliance on the *AEPCO* decision as support for using $0.035 per ton-mile for off-line transportation costs.[202] Although CSXT contends that the Board did not accept $0.035 per ton-mile for off-line transportation in *AEPCO*, this assertion relies on an erroneous reading of the *AEPCO* case. As part of its Opening evidence, the complainant in *AEPCO* clearly used $0.035 per ton-mile for off-line transportation.[203] In Reply, the defendants

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[196] *Ibid.*
[197] *See,* CSXT Reply, p. III-F-80.
[198] *Id.* p. III-F-77.
[199] *Id.* p. III-F-82.
[200] *See,* CSXT Reply, p. III-F-81 ("For the portion of the ballast transportation…which would be accomplished by moving carloads of ballast over the unfinished TPIRR track structure, CSXT's Track Engineering Experts accept TPI's $0.035 per ton-mile").
[201] *See,* CSXT Reply, pp. III-F-80-82.
[202] *Id.* p. III-F-80.
[203] *See,* AEPCO Opening Evidence at page III-F-53 (filed Jan. 25, 2010) (public version) in STB Docket No. 42113, Arizona Electric Power Cooperative, Inc. v. BNSF Railway Company and Union Pacific Railroad Company

accepted the $0.035 per ton-mile off-line transportation cost used by the complainant AEPCO.[204] In the Reply Evidence, the defendants also created a combined weighted average of material and transportation costs.[205] In Rebuttal, the complainant, AEPCO, objected to the weighted average number because it was "hard-coded" with no explanation of how it was derived.[206]

In its decision, the Board recognized that defendants BNSF and UP accepted AEPCO's use of $0.035 per ton-mile for off-line transportation of ballast.[207] As CSXT has notes, the Board stated that AEPCO used "a hardcoded unit price for off-line transportation costs" on page 99 of the *AEPCO* decision.[208] As made clear in the AEPCO Opening Evidence, the off-line transportation cost used by AEPCO was $0.035 per ton-mile.[209] Hence, a close review of the public record shows that $0.035 per ton-mile was used for off-line ballast transportation in *AEPCO*, and CSXT is incorrect in objecting to TPI's reliance on *AEPCO*.

Regardless of TPI's reliance on *AEPCO*, CSXT has not offered a usable alternative off-line ballast transportation cost as CSXT's ballast transportation cost is unsupported. It is based solely on one estimate from a supplier with no support.[210] The supplier states {{[redacted]}} This rate is not

("[d]elivered costs for ballast are based on shipping distances from the sources to the railheads throughout the ANR system, which were then multiplied by 0.035 cents per mile").

[204] *See,* BNSF and UP Reply Evidence at page III.F-54 (filed May 7, 2010) (public version) in STB Docket No. 42113, AEPCO v. BNSF and UP ("To determine the average off-ANR transportation distance, the defendants' engineering experts average the rail line distances from the quarry to the railheads...Applying the per ton-mile transportation cost of $0.035 accepted in previous rate cases, the average cost of moving one ton of ballast from the quarry to the northern two-thirds of ANR is $4.64."). Footnote 150 on page III.F-54 also makes clear that BNSF and UP accepted $0.035 per ton-mile for off-line transportation.

[205] *See,* BNSF and UP Reply Evidence at page III.F-55 (filed May 7, 2010) (public version) in STB Docket No. 42113, AEPCO v. BNSF and UP.

[206] *See,* AEPCO Rebuttal Evidence at page III-F-61 (filed July 1, 2010) (public version) in STB Docket No. 42113, AEPCO v. BNSF and UP.

[207] *AEPCO* at 100 ("Defendants argue that although $0.035 per ton mile is a conservative cost (the cost a railroad would charge itself for shipping on its own lines, when the ANR would need to ship ballast over other carriers' lines), they use this cost in their calculations.") (citation omitted).

[208] *See,* CSXT Reply, p. III-F-80.

[209] AEPCO Opening Evidence at page III-F-53 (filed Jan. 25, 2010) (public version).

[210] *See,* CSXT Reply workpaper "Scanned Vulcan Transportation Information.pdf."

supported by any documentation. This rate may include a mark-up added by the supplier. CSXT (or its engineering experts) could have easily obtained NS tariffs and determined applicable rates but they chose to rely on one unsupported vendor estimate. Furthermore, CSXT overstated its ballast transportation unit cost. CSXT's off-line transportation rate of $0.073 per ton-mile rate (adjusted to 3Q10 cost levels) is based on the {{[redacted]}} low end of the vendor's estimate. If the high-end of {{[redacted]}} is used, the estimated per ton-mile rate drops to $0.061 per ton-mile (at 3Q10 cost levels).

Furthermore, TPI notes that CSXT accepts $0.035 per ton-mile for the transportation of culverts without any objection[211] and, as noted above, for the on-line portion of ballast transportation.[212]

Finally, one of CSXT's criticisms of the $0.035 per ton-mile cost is that it dates back to 1994.[213] However, TPI notes that if this cost were indexed using a cost index such as the Rail Cost Adjustment Factor, Adjusted for Productivity ("RCAFA"), the $0.035 cost is reduced to $0.032.[214]

In short, CSXT's unit cost for off-line transportation of ballast is unsupported and overstated. Only TPI has offered comprehensible and supported evidence on this point. The Board should use TPI's evidence for the off-line transportation cost of ballast.[215]

iii. Sub-Ballast

CSXT accepts TPI specifications for sub-ballast but rejects TPI's quantities and unit cost. CSXT also modified TPI's placement cost.[216]

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[211] *See,* CSXT Reply workpaper "TPIRR Culvert Construction CSXT Reply.xlsx," tab "Unit Cost," cells J51 through J59.
[212] *See,* CSXT Reply, p. III-F-81.
[213] *Id.* p. III-F-80.
[214] *See,* TPI Rebuttal workpaper "Index of material transportation cost.xlsx."
[215] *See,* TPI Opening, p. III-F-30.
[216] *See,* CSXT Reply, pp. III-F-82-85.

In addition to the difference in track miles, CSXT claims that TPI improperly, and with no support, excluded sub-ballast quantities beneath grade crossings.[217] This adjustment is neither improper nor unsupported. The grade crossing specifications included in TPI's Opening workpapers clearly specify that the grade crossing cost which TPI used[218] includes the task of furnishing and placing 12" of compacted sub-ballast.[219]

For sub-ballast costs, TPI used a unit cost from the Trestle Hollow Project.[220] CSXT complains that the Trestle Hollow Project cost is not representative of the cost the TPIRR would incur.[221] CSXT's overall rationale for rejecting Trestle Hollow costs is based on the critique that Trestle Hollow was a "small atypical" project not along the TPIRR route.[222] However, the task of supplying and placing sub-ballast is not dependent on the size and location of the project. CSXT has not shown, nor can it show, that supplying and placing sub-ballast for the Trestle Hollow Project was somehow different from what would occur on the TPIRR. CSXT states that TPI did not explain how the delivery of sub-ballast to the Trestle Hollow Project would be comparable to the delivery of sub-ballast to the entire TPIRR.[223] This criticism is entirely unwarranted. Sub-ballast was delivered to the Trestle Hollow Project by truck, just as all sub-ballast would be delivered to the TPIRR locations. Furthermore, TPI's delivered cost was for an actual project, where the stakes are far higher than mere quotations like those offered by CSXT. The real world nature of the Trestle Hollow costs plainly demonstrates that such unit costs are feasible. In addition, TPI thoroughly addressed CSXT's criticisms of the Trestle Hollow Project previously in this Rebuttal Part III-F-2.

[217] *Id.* p. III-F-82.
[218] *See,* TPI Opening workpaper "2012 SCTRA Crossing Bid Prices.pdf."
[219] *See,* TPI Opening workpaper "2012 SCTRA Crossing Specifications.pdf," the first bullet under "Grade Crossing Work."
[220] *See,* TPI Opening, p. III-F-30.
[221] *See,* CSXT Reply, p. III-F-83.
[222] *Id.* pp. III-F-16-17.
[223] *Id.* p. III-F-83.

The sub-ballast unit costs utilized by CSXT are based on a small sampling of sub-ballast suppliers rather than actual projects.[224] CSXT could have used costs from an actual CSXT project, as CSXT done for other construction costs for the TPIRR, but instead obtained material price quotes from the suppliers that it selected. Surely CSXT had the occasion to recently purchase and place sub-ballast at some location within the TPIRR's territory.

In addition, TPI notes that in past SAC cases, the unit cost for sub-ballast has generally been lower than ballast[225] since sub-ballast material requirements are less stringent than those used for ballast. Thus, TPI submits that its $13.00 per ton (at 2Q06 cost levels) from the Trestle Hollow Project (indexed to $15.11 per ton at 3Q10 cost levels) is conservative in light of CSXT's actual ballast costs, which are lower than the sub-ballast cost that TPI is using. TPI continues to use the Trestle Hollow Project unit cost for sub-ballast in Rebuttal.

Finally, CSXT rejects TPI's sub-ballast placement unit cost, claiming that TPI failed to include overhead and profit.[226] CSXT is correct and TPI accepted CSXT's Reply sub-ballast placement unit cost.

c. <u>Ties</u>

CSXT accepts TPI's cross tie specifications and spacing but rejects TPI's unit cost and transportation cost.[227]

In Opening, TPI developed its cross tie unit cost from CSXT's 2010 R-1.[228] In Reply, CSXT claims that the 2010 R-1 average tie cost of $35.47 reflects mostly smaller and less

[224] *Id.* pp. III-F-83-84.
[225] *See, e.g., PSCo/Xcel I*, 7 STB at 683.
[226] *See,* CSXT Reply, p. III-F-84.
[227] *See,* CSXT Reply, pp. III-F-85-87.
[228] *See,* TPI Opening, p. III-F-31.

expensive yard and other switching track ties and few Grade 5 wood ties. CSXT substitutes a tie cost of $44.60 based on three (3) supplier quotes included in TPI's Opening workpapers.[229]

TPI disagrees with CSXT's conclusion that the TPIRR would not be able to acquire Grade 5 main line cross ties for $35.47. In response to CSXT's Reply, TPI reviewed the AFE and contractor invoice material provided by CSXT in discovery and identified four (4) separate instances where main line cross ties were provided at prices comparable to TPI's cross tie cost. Specifically, the ties ranged in price from $25.75 to $34.98 ($34.12 to $36.71 when indexed to 3Q10 cost levels) with a weighted average of $35.37 per tie. Quantities ranged as high as 16,302 cross ties for a single project.[230] The TPIRR is entitled to use the lowest feasible cost.[231] Moreover, the TPIRR would be acquiring such a significant number of ties that the other suppliers would be willing to match the lowest price in order to obtain a portion of the TPIRR's business.[232] CSXT's own data produced in discovery conclusively shows that TPI's Opening cross tie price is reasonable and feasible. TPI continues to use its Opening cross tie unit cost in Rebuttal.

CSXT accepts TPI's average shipping distance of 256 miles but rejects TPI's transportation cost of $0.035 per ton-mile.[233] CSXT claims that not only is the $0.035 cost improper, it reflects transportation by rail while TPI specified that ties would be shipped via truck. In Reply, CSXT states that it has corrected the development of tie transportation costs to reflect movement by truck.[234] This statement is incorrect. CSXT uses a vendor price quote

[229] *See,* CSXT Reply, pp. III-F-85-87.
[230] *See,* TPI Rebuttal workpaper "Tie Discovery AFE Summary.xlsx" and supporting files.
[231] *See, e.g., AEPCO* at 46 ("AEPCO correctly asserts that it may choose the lowest feasible cost for each category of expense"). *See, also FMC,* 4 STB at 800.
[232] TPI notes that the TPIRR would need to acquire over 36 million cross ties and should certainly be able to obtain a volume discount.
[233] *See,* CSXT Reply, p. III-F-87.
[234] *Id.* p. III-F-87.

which reflects shipment by rail and not truck, which CSXT converts to $0.092 per ton-mile.[235] Therefore, CSXT's criticism of TPI for using a rail transportation cost is irrelevant and should be ignored by the Board as both parties actually assumed ties would be transported by rail.

Furthermore, CSXT's transportation quote is speculative at best. It is an estimate provided from a vendor with no support. CSXT wants the reader to believe that the vendor is estimating the transportation cost based on available tariffs but there is no way to know if the vendor was quoting a tariff or quoting a figure that included a mark-up over a tariff. In fact, CSXT's own workpaper states that it is a {{[redacted]}}[236] In other words, it is not clear by any means just what is represented by the {{[redacted]}} per car figure in the vendor's estimate. CSXT could have easily identified NS tariff rates pertaining to the transportation of ties but chose not to.

For the reasons noted above, and the previous discussion regarding the transportation of ballast, TPI's use of $0.035 per ton-mile is appropriate for the transportation of cross ties and TPI continued to use it in Rebuttal.

d. <u>Rail</u>

i. <u>Rail Specifications</u>

CSXT accepts TPI's rail specifications.[237]

ii. <u>Rail Pricing</u>

CSXT accepts TPI's source, pricing for rail and unloading costs but again rejects TPI's transportation costs.[238] Specifically, CSXT rejects TPI's transportation cost of $0.035 per ton-

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[235] *Id.* p. III-F-87. *See, also* CSXT Reply workpapers ""McCord Tie and Timber Transportation Information.pdf" (which clearly shows that the transportation cost is for movement by rail) and "Track Construction CSXT Reply.xlsx," tab "TIE TRANSPORTATION COST."

[236] *See,* CSXT Reply workpaper "McCord Tie and Timber Transportation Information.pdf."

[237] *See,* CSXT Reply, p. III-F-88.

[238] *Id.* pp. III-F-88-89.

mile. Using a vendor quote, CSXT calculates a rail transportation cost of $6.295 per track-foot or $138.86 per ton.[239]

CSXT increased the average off-line miles (from source to TPIRR railheads) for rail transportation slightly due to the replacement of the Nashville railhead with four (4) other railheads,[240] which TPI accepts. However, CSXT overstated the on-line miles (from TPIRR railheads to placement) due to an incorrect link in the 136-pound rail cost calculation in its track construction spreadsheet. Instead of using the average of {{[redacted]}} on-line miles,[241] which reflects CSXT's correction of the number of track construction packages from {{[redacted]}} to {{[redacted]}},[242] CSXT uses {{[redacted]}},[243] which is the number of track construction packages. CSXT also failed to use the {{[redacted]}} miles as the on-line miles for 115-pound rail, instead using a hard-coded {{[redacted]}} miles, which is TPI's incorrect on-line miles from opening.[244] In Rebuttal, TPI used the correct {{[redacted]}} on-line miles for both 136-pound and 115-pound rail.

CSXT's rail transportation cost is also overstated as it double-counts the rental for the rail train during the unloading process. CSXT accepts TPI's unloading cost[245] which includes the rental costs for the rail train.[246] In CSXT's development of rail transportation costs, CSXT also included the cost associated with rail train rental for 2.5 weeks (less 3 free days) during

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[239] *Id.* p. III-F-89.
[240] *Id.* p. III-F-94.
[241] *See,* CSXT Reply workpaper "Track Construction CSXT Reply," tab "Mileage Matrix for Supplier," cell F20.
[242] *See,* CSXT Reply workpaper "Track Construction CSXT Reply," tab "Mileage Matrix for Supplier," cell F18.
[243] *See,* CSXT Reply workpaper "Track Construction CSXR Reply," tab "136 RE Rail," cell C28.
[244] *See,* CSXT Reply workpaper "Track Construction CSXR Reply," tab "115 RE Rail," cell C28.
[245] *See,* CSXT Reply, p. III-F-89.
[246] *See,* TPI Opening workpapers "Track Construction.xlsx," tab "136 RE Rail," cell C30 and "Rail Train Cost.pdf."

unloading.[247] Eliminating the double-count caused by including this 2.5 weeks of rail train rental reduces CSXT's transportation cost to $5.302 per track-foot.[248]

In Rebuttal, TPI accepts CSXT's rail transportation unit cost adjusted to remove the double-count of rail train rental, as described above, and applied to the correct off-line and on-line miles.

iii. Field Welds

In Opening, TPI included field weld costs based on the rail weld cost including labor and materials from a rail project overseen by Crouch Engineering.[249] As field welds were already included in the costs for grade crossings, TPI included the number of field welds necessary to connect the 1,440-foot rail strings and assemble and install the completed turnouts.[250]

CSXT rejects TPI's field weld price. CSXT claims that TPI did not provide any support for its field weld price. CSXT makes the unsupported assertion that TPI's unit cost does not include the field weld kit and adds the cost for such a kit to TPI's unit cost.[251]

The Board should reject CSXT's criticism of TPI's field weld unit cost. The unit cost is based upon an actual track rehabilitation project overseen by TPI's expert Witnesses from Crouch Engineering.[252] CSXT claims that there is no "backup information stating what the bids included."[253] The TPI opening workpaper clearly shows that the project was "Bay Line Railroad Track Rehabilitation", and that the tasks included everything from "install No. 9 turnout" and

[247] *See,* CSXT Reply workpaper "Track Construction CSXT Reply.xlsx," tab "RAIL SHIPPING COST," cells C13 and C29.
[248] This is accomplished by changing the values in cells C13 and C29 to zero in CSXT Reply workpaper "Track Construction CSXT Reply.xlsx," tab "RAIL SHIPPING COST."
[249] *See,* TPI Opening, p. III-F-32.
[250] *See,* TPI Opening workpaper "Track Construction.xlsx".
[251] *See,* CSXT Reply, pp. III-F-89-90.
[252] *See,* TPI Opening, p. III-F-32.
[253] *See,* CSXT Reply, pp. III-F-90.

"unload ballast" to "remove and rebuild grade crossing" and "install crossties".[254] There is no suggestion that the "field weld rail, 136 RE" category includes anything less than the total amount needed for a field weld, especially given the comprehensive nature of the other tasks. The Board should reject CSXT's unsupported assertion that the bid summary did not include all amounts necessary for a field weld.[255]

CSXT rejects TPI's field weld quantities, claiming that TPI omitted all field welds required to install insulated joints and crossing diamonds.[256] CSXT is correct that TPI omitted the cost of field welds for insulated joints and TPI corrected that in Rebuttal. However, CSXT is incorrect about the field welds for crossing diamonds. CSXT accepts TPI's costs for crossing diamonds[257] which TPI assumed included the costs for the necessary field welds. Apparently, CSXT made the same assumption, despite what CSXT states in the text, as CSXT did not add any costs for field welds for crossing diamonds.[258] CSXT also states that TPI included four (4) field welds per grade crossing.[259] This is incorrect as TPI's grade crossing cost included the required field welds. Neither TPI nor CSXT added field welds for grade crossings.

In Opening, TPI assumed 1,440-foot rail strings in developing the count of field welds required to connect the TPIRR's track.[260] CSXT also assumed 1,440-foot rail strings in its calculation of field weld quantities.[261] However, CSXT assumed 1,600 foot rail strings in calculating its rail transportation costs.[262] Therefore, the number of field welds required to

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[254] *See,* TPI Opening workpaper "Bayline Weld Bid.pdf".
[255] TPI notes that its engineering Witness, Mr. Crouch, states that he utilized the same field weld unit cost in *DuPont* and *SunBelt* (adjusted to the relevant time period) and NS accepted the cost without modification in those cases. *See, DuPont* at 135 and *SunBelt* at 196.
[256] *See,* CSXT Reply, p. III-F-89.
[257] *See,* CSXT Reply, p. III-F-94.
[258] *See,* CSXT Reply workpaper "Track Construction CSXT Reply.xlsx," tab "Summary," Column Q.
[259] *See,* CSXT Reply, p. III-F-89.
[260] *See,* TPI Opening, p. III-F-32.
[261] *See,* CSXT Reply, p. III-F-89.
[262] *See,* CSXT Reply workpaper "Track Construction CSXT Reply," tab "RAIL SHIPPING COST," cell C9.

connect the rail strings should be based on 1,600-foot rail strings. TPI made this correction in Rebuttal.

iv. Insulated Joints

Insulated joints are discussed in Rebuttal Part III-F-6 below, Signals and Communications.

e. Switches

CSXT accepts TPI's specifications for switches (turnouts). CSXT claims that TPI used the wrong supplier location for No. 20 turnouts (Knoxville, TN vs. Decoursey, KY), and did not install manual switch machines on yard turnouts. CSXT rejects TPI's transportation costs.[263]

TPI accepts CSXT's revised miles for the shipment of turnouts from Decoursey, KY. TPI rejects the cost added by CSXT for manual switch machines (hand throw switches) on yard turnouts. TPI's yard turnout price quote was for a complete turnout which would include the hand throw switches.[264] For the same reasons discussed above regarding ballast and tie transportation, i.e., CSXT's cost is based on a single vendor estimate with no support, TPI continues to use the $0.035 per ton-mile cost used in Opening.

Part of the difference in total costs for switches is the difference in number of turnouts due to the differences in the parties' TPIRR facility plan.[265]

f. Other

i. Rail Lubricators

In Opening, TPI included costs for rail lubricators, protective mat, shipping and installation.[266]

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[263] *See,* CSXT Reply, pp. III-F-90-91.

[264] *See,* TPI Opening workpapers "Progress 10 Turnout Quote.pdf" and "Progress Turnout Quote.pdf"

[265] Although not discussed in CSXT's text, CSXT accepts TPI's switch heater costs. *See,* CSXT Reply, p. III-F-71, Table III-F-13.

[266] *See,* TPI Opening. P. III-F-34.

CSXT claims that it rejected TPI's rail lubricator quantities and that TPI's costs did not include grease, track mat or installation.[267]

CSXT is mistaken about a difference in quantity as CSXT accepts TPI's quantity of 1,795 rail lubricators.[268]

CSXT incorrectly asserts that TPI omitted rail lubricator mats and installation.[269] These costs were plainly included by TPI.[270] CSXT simply increased the costs for the protective mat, installation and shipping without any explanation nor did CSXT provide any reason why TPI's costs were not sufficient.

For the above reasons, TPI continues to rely on its Opening costs and quantity for rail lubricators.

ii. Plates, Spikes and Anchors

CSXT accepts TPI's basic specifications and unit costs for plates, spikes and anchors but rejects TPI's transportation costs.[271] The difference in total costs is also impacted by the parties' difference in track miles.

As with other track components, CSXT's transportation costs are based on a single vendor's estimate with no support as opposed to TPI's transportation costs based on costs accepted by the Board in a recent SAC case.[272] TPI has continued to rely on the transportation cost it used in Opening.

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[267] *See,* CSXT Reply, p. III-F-92.

[268] Compare CSXT Reply workpaper "Track Construction CSXT Reply.xlsx," tab "Summary," cell E56 to TPI Opening workpaper "Track Construction.xlsx," tab "Summary," cell E56.

[269] CSXT also claims that TPI failed to include costs for grease. However, CSXT did not include costs for grease either.

[270] *See,* TPI Opening workpaper "Track Construction.xlsx," tab "Rail Lubricator & Mats."

[271] *See,* CSXT Reply, p. III-F-93 and workpaper "Track Construction CSXT Reply.xlsx."

[272] *See,* TPI Opening, p. III-F-35.

iii. Derails and Wheel Stops

CSXT accepts TPI's unit price for retractable derails in yard locations and the shipping cost used by TPI.[273] For main line derails CSXT accepts TPI's unit cost and shipping cost but claims that TPI used an incorrect transportation distance for mainline derails.[274] TPI accepts the correction to the transportation distance for mainline derails. Although not discussed in CXST's text, CSXT accepts TPI's counts for both types of derails.

CSXT accepts TPI's unit costs for wheel stops.[275] Although not discussed in CXST's text, CSXT accepts TPI's count for wheel stops.

iv. Crossing Diamonds

CSXT accepts TPI's quantities and costs for railroad crossing diamonds.[276]

g. Materials Transportation

Both TPI and CSXT include materials transportation costs with each track construction item. However, CSXT rejects TPI's use of Nashville, TN as a TPIRR railhead, stating that all the lines in and out of Nashville are being constructed by the TPIRR and, therefore, there will be no existing lines available to transport track material to Nashville. CSXT replaces the Nashville railhead with four (4) new rail heads at Elizabethtown, KY; Evansville, IN; Milan, TN; and Decatur, AL.[277] TPI accepts this modification to the TPIRR railheads in Rebuttal.

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[273] *See,* CSXR Reply, p. III-F-93 and "Track Construction CSXT Reply.xlsx," tab "Sliding Derail." A review of CSXT's workpaper also shows that CSXT increased the cost for these derails but CSXT did not explain why the increased cost was necessary. Therefore, TPI has continued to use its Opening unit cost which CSXT states it accepted.

[274] *See,* CSXT Reply, p. III-F-93 and "Track Construction CSXT Reply.xlsx," tab "Double Switch Point Derail."

[275] *See,* CSXT Reply, p. III-F-93.

[276] *See,* CSXT Reply, p. III-F-94.

[277] *See,* CSXT Reply, pp. III-F-94-95.

h. Track Construction Labor

CSXT accepts TPI's unit cost for track construction labor.[278] The difference in total costs is due to the difference in track miles required for the TPIRR.

4. Tunnels

CSXT accepts TPI's unit costs and methodology for developing the tunnel costs of the TPIRR. However, CSXT claims that TPI excluded two (2) tunnels from the tunnel inventory provided in discovery that are on the TPIRR route. TPI included these tunnels in Rebuttal. TPI and CSXT agree on tunnel investment of $1,629.8 million.

5. Bridges

Table III-F-6 below compares the bridge and highway overpass construction costs developed by TPI in Opening, CSXT in Reply and TPI in Rebuttal.

Rebuttal Table III-F-6
TPIRR Bridge Construction Costs
($ in millions)

Item	TPI Opening[1/]	CSXT Reply[2/]	TPI Rebuttal[3/]
(1)	(2)	(3)	(4)
1. Type I-IV Bridges (incl. yard)	$1,286.88	$1,535.26	$1,312.54
2. Mixed Span Bridges	145.31	232.51	211.80
3. Tall Bridges	141.28	209.31	207.87
4. Special Non-Movable Bridges	1,718.27	2,011.81	1,978.02
5. Oversized Culverts	5.94	83.86	59.08
6. Movable Bridges	140.23	1,197.8	205.63
7. Subtotal	$3,437.91	$5,270.55	$3,924.94
8. Highway Overpasses	130.14	228.49	223.02
9. Total	$3,568.05	$5,499.04	$4,147.96

1/ TPI Opening workpapers "TPI Bridge Construction Costs.xlsx" and "TPIRR Highway Overpass Construction.xlsx"
2/ CSXT Reply, p. III-F-98, Table III-F-17. Line 1 includes yard bridges.
3/ TPI Rebuttal workpapers "TPI Bridge Construction Costs Rebuttal.xls" and "TPIRR Highway Overpass Construction TPI Rebuttal.xlsx."

The differences in the above table are discussed in the sections below.

[278] *Id.* p. III-F-95.

a. Bridge Inventory

In Reply, CSXT added eighteen (18) Type I through Type IV bridges to TPI's Opening bridge inventory and reclassified two (2) "special non-movable bridges" as moveable bridges.[279] TPI accepts these adjustments and incorporates them in Rebuttal. CSXT also adjusted the number of tracks for certain bridges TPI included in Opening.[280] TPI corrects the count of tracks for each bridge in Rebuttal. CSXT removed some Type I through Type IV bridges because they are not owned by CSXT, and eliminated three (3) special bridges in locations where the TPIRR will operate via trackage rights.[281] TPI accepts these bridge removals. CSXT also identified bridges situated in TPIRR yards that TPI failed to include in its Opening cost calculations.[282] TPI added these yard bridges in Rebuttal. CSXT also criticizes TPI's design of sixty (60) TPIRR bridges that include more spans than the corresponding CSXT bridges, but accepts TPI's design nonetheless.[283] Each of CSXT's Reply adjustments is discussed in more detail below, along with TPI's Rebuttal position on each issue.

b. Bridge Design and Costs

CSXT generally accepts TPI's Opening evidence regarding Type I through IV bridges, with minor modifications. However, although CSXT accepts most of TPI's bridge inventory and bridge component unit costs for Type I through IV bridges, CSXT applied the Means location factor to develop bridge investment costs because TPI's unit costs were based on bids from Alabama and Tennessee.[284] TPI rejects CSXT's location factor adjustment.

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[279] *See,* CSXT Reply, p. III-F-98.
[280] *Id.* p. III-F-99.
[281] *Id.* pp. III-F-99-100.
[282] *Id.* p. III-F-98, Table III-F-17.
[283] *Id.* pp. III-F-100-102.
[284] *Id.* pp. III-F-103-107.

The TPIRR is entitled to use the lowest feasible cost.[285] TPI's costs are certainly feasible as they come from actual bridge projects. In addition, CSXT provided no evidence that the unit costs used by TPI (many of which were accepted by CSXT) would be different for similar projects in other locations of the country. CSXT's location factor adjustment is improper and must be rejected.

i. Type I Bridges

CSXT accepts TPI's Type I Bridge design and source of unit costs but applies its location factors.[286] As discussed above, TPI rejects CSXT's location factors.

ii. Type II Bridges

CSXT claims that TPI's Type II Bridge superstructure is not sufficient to meet AREMA standards and that TPI used an indirect approach to approximate deflection of the beams.[287] TPI rejects CSXT's adjustment for several reasons. First, TPI span length is shown as 45 feet but the actual length of the beam is 45.5 feet and the actual length of bearing is 44 feet since TPI is using an 18 inch bearing plate. Second, CSXT's calculations improperly used the alternate live load of 100 kips per axle,[288] which is a much heavier load than the E-80 design load, maximum of 80 kips per specific axle, which is the industry standard that is used for the TPIRR. This results in a decreased movement and shear for the beam than what CSXT used.[289] Plus, CSXT's and TPI's calculations fail to account for the support gained from the rail and bracing used throughout the beam, which adds to the capacity of the beams.

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[285] *See, e.g., AEPCO* at 46 ("AEPCO correctly asserts that it may choose the lowest feasible cost for each category of expense"). *See, also FMC*, 4 STB at 800.
[286] *See,* CSXT Reply, p. III-F-107.
[287] *Id.* pp. III-F-108-109.
[288] *See,* CSXT Reply workpaper "Type II Bridge Beam Deflection.pdf," p. 9.
[289] *See,* TPI Opening workpaper "Type II Bridge Calcs 60 ft Span.pdf," p. 3.

In addition, CSXT adjusted the way TPI applied its unit costs for elastomeric bearing pads and steel base plates.[290] TPI accepts this adjustment in Rebuttal. CSXT also adds location factors to its Type II bridge construction costs.[291] As discussed previously, TPI rejects CSXT's location factors.

iii. Type III Bridges

CSXT accepts TPI's Type III Bridge design and source of unit costs but applies its location factors.[292] As discussed above, TPI rejects CSXT's location factors.

iv. Type IV Bridges

CSXT accepts TPI's design for the Type IV Bridge superstructure. CSXT claims that the price TPI included for through-plate girders is unsupported and has replaced it with a unit price from publicly available contractor bids. Also, CSXT modified the cost calculation for TPI's Type IV bridge abutments to include 12 piles as shown in TPI's design rather than ten (10) piles included in TPI's costs. Finally, CSXT applies its location factor adjustment for Type IV bridges.[293] TPI accepts all of these adjustments, except the location factors, in Rebuttal.

v. Mixed Span Bridges

CSXT adjusted TPI's mixed span bridge cost calculations to reflect changes CSXT made to Type II and Type IV bridges. As discussed above under Type II and Type IV bridges, TPI accepts some of CSXT's adjustments but rejects others. TPI incorporates the adjustments it accepted into its Rebuttal cost calculations for mixed span bridges. CSXT also adjusted the costs to include the fixed cost per span component, which TPI inadvertently omitted in its Opening cost calculations. TPI includes fixed costs in Rebuttal. CSXT also applied its location factor

[290] *See,* CSXT Reply. pp. III-F-109-111.
[291] *Id.* p. III-F-108.
[292] *Id.* pp. III-F-111-112.
[293] *Id.* pp. III-F-112-113.

adjustment for mixed span bridges. As discussed previously, TPI rejects CSXT's location factors.

vi. Tall Bridges

CSXT argues that TPI cannot use a 55' tower as the template for taller structures because the support is insufficient, and redesigned the towers over 75 feet tall using more and stronger steel than TPI included in Opening.[294] TPI accepts CSXT's modifications to the steel towers in Rebuttal.

CSXT adjusted TPI's tall span bridge cost calculations to reflect changes CSXT made to Type II and Type IV bridges. As discussed above under Type II and Type IV bridges, TPI accepts some of CSXT's adjustments but rejects others. TPI incorporates the adjustments it accepted into its Rebuttal cost calculations for tall bridges. CSXT also adjusted the costs to include the fixed cost per span component, which TPI inadvertently omitted in its Opening cost calculations. TPI includes fixed costs in Rebuttal. CSXT adjusted TPI's Opening calculation to index 2Q06 steel price quotes to 3Q10. TPI accepts and incorporates this adjustment in Rebuttal. CSXT also applied its location factor adjustment for tall bridges which TPI rejects.

vii. Special Non-Moveable Bridges

CSXT reclassified two (2) special non-moveable bridges as moveable bridges. CSXT also increased the clearance height for two (2) of the bridges TPI included to replicate actual clearances.[295] TPI accepts both of these adjustments in Rebuttal.

CSXT adjusts the costs for the steel towers in the same manner as it did for tall bridges; adjusts TPI's Opening calculation to index 2Q06 steel price quotes to 3Q10; and adjusts TPI's weight per foot factor for steel. TPI incorporates these changes in Rebuttal.

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[294] *Id.* pp. III-F-115-119.
[295] *Id.* pp. III-F-121-122.

CSXT adjusted TPI's special non-moveable bridge cost calculations to reflect changes CSXT made to Type II and Type IV bridges. As discussed above under Type II and Type IV bridges, TPI accepts some of CSXT's adjustments but rejects others. TPI incorporates the adjustments it accepted into its Rebuttal cost calculations for special non-moveable bridges. CSXT also adjusted the costs to include the fixed cost per span component, which TPI inadvertently omitted in its Opening cost calculations. TPI includes fixed costs in Rebuttal. Finally, CSXT also applied its location factor adjustment for special non-moveable bridges, which TPI rejects.

viii. Truss Span Bridges

CSXT adjusted the weight-per-foot used to calculate the truss span weight of steel. CSXT redesigned the piers and abutments to accommodate the large truss spans required by the TPIRR.[296] In addition, CSXT applied location factors to the costs. TPI does not accept CSXT's location factors, but does accept and incorporate the other modifications to truss span bridges in Rebuttal.

ix. Oversized Culverts

TPI proposed replacing many existing oversized culverts with Type I bridges, which CSXT accepted. However, CSXT claims that TPI's bridge length and height are insufficient. CSXT made adjustments to account for the existing culvert width and the depth from the base of the culvert to the track elevation. This adjustment requires increasing the bridge length to account for abutments and spill slopes at a 2:1 ratio and increasing the bridge height to account for fill between the culvert and track. TPI accepts CSXT's proposed adjustments but uses a 1.5:1 ratio for spill slopes because it is a very common practice for slopes to be 1.5:1. For example,

[296] *Id.* pp. III-F-124-127.

BNSF's and UP's standards for bridges use 1.5:1 for slopes.[297] Using 1.5:1 spill slopes is reasonable because TPI also uses 1.5:1 slopes for its roadbed. CSXT also applies its location factor adjustment, which TPI rejects, as discussed previously.

While preparing Rebuttal, TPI discovered that it had double-counted the number of abutments for the bridges replacing oversized culverts. TPI corrects this error in Rebuttal.

x. Moveable Bridges

CSXT accepts TPI's use of bascule span and vertical lift bridges but made several adjustments to TPI's Opening moveable bridge evidence. Each issue raised by CSXT is addressed below.

(1) Bascule Span Bridges

In Opening, TPI estimated the cost per foot of a bascule span by assuming the bascule span costs were 75 percent of the total costs for a bascule span bridge. CSXT rejected TPI's estimate and, based on the analysis of actual costs for a bascule span bridge, CSXT calculated that the bascule span costs represented 91 percent of the total costs. CSXT applied this ratio in developing its Reply evidence.[298] TPI accepts this adjustment in Rebuttal. CSXT also applies its location factor adjustment for the non-movable approach portions of the movable spans. As discussed previously, TPI rejects CSXT's location factors.

(2) Vertical Lift Span Costs

In Opening, TPI estimated the cost per foot for a vertical lift span by dividing the total cost for such a span by the span length. CSXT disputed TPI's opening cost estimate because TPI did not separate total costs into variable and fixed cost components on a line-item basis before determining the average cost per foot, consistent with TPI's treatment of other bridge types.

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[297] *See,* TPI Rebuttal workpaper "Bridge abutment spill slopes.pdf".
[298] *Id.* pp. III-F-132-134.

CSXT performed such a separation and developed a revised cost for vertical lift spans.[299] TPI accepts CSXT's costs for the vertical lift spans on the TPIRR in Rebuttal. CSXT also modified TPI's opening evidence by limiting bascule span length to 248 feet (the largest such span in existence on the portion of the CSXT network replicated by the TPIRR) and using vertical lift spans for bridges with moveable portions longer than 248 feet. TPI accepts this modification in Rebuttal.

(3) **TPIRR Cost Responsibility**

In Opening, TPI included only 10 percent of moveable bridge costs under the assumption that it would receive Truman-Hobbs Act funding for movable bridges on the TPIRR route. CSXT rejects TPI's assumption. CSXT argues that TPI has misunderstood the Act's intent and that Board precedent precludes reliance on bridge funding via the Act. Specifically, CSXT argues that the Truman-Hobbs Act funding can only be invoked upon issuance of an Order to Alter *existing* bridges that are "unreasonable obstructions to navigation." Because the TPIRR bridges would be new—not existing—structures, they would be ineligible for Truman-Hobbs Act funding by definition.[300]

CSXT further argues that the *DuPont* and *SunBelt* decisions established that the SARR must bear the full cost of constructing all bridges absent evidence proving that the incumbent railroad did not bear the full cost of constructing the movable bridge when it was first erected. CSXT states that because TPI offered no proof demonstrating that a party other than CSXT bore the initial construction costs, CSXT must be presumed to have borne those costs in their entirety.

CSXT's logic is flawed for the reasons discussed below. In Rebuttal, TPI continues to incur investment at 10 percent of construction costs for movable bridges.

[299] *Id.* pp. III-F-134-136.
[300] *Id.* pp. III-F-139-141.

In *DuPont*, the Board ruled that "DuPont will be responsible for the full cost of moveable bridges with no cost sharing arrangement" via the Truman-Hobbs Act.[301] As the Board clarified, it interprets the Truman-Hobbs Act to "not provide funding assistance for the construction of brand new bridges."[302]

However, the Board's decision in *DuPont* failed to address both parties' explicit acknowledgement in that case that a blanket ban on a SARR's use of Truman-Hobbs Act funding would impose an impermissible barrier to entry on the SARR. If the incumbent railroad was ordered to construct a bridge to achieve a specified level of navigability of an intersecting waterway, then the SARR presumably has no choice but to construct the same bridge that the incumbent was ordered to construct in order to preserve that level of navigability on the affected waterway. However, if the incumbent received Truman-Hobbs Act funding to construct the required bridge, and the SARR must construct the same bridge without the benefit of the same funding source, then a barrier to entry clearly has been created.

In discussing the concept of barriers to entry in *West Texas Utilities*, the Board stated that the definition of barrier to entry must comport with the Board's regulatory purpose of constraining a railroad from monopoly pricing.[303] The Board decided that the SARR is a replacement carrier that steps into the shoes of the incumbent carrier for the segment of rail system the SARR would serve.[304] The fact that a SARR "steps into the shoes" of the incumbent as a replacement for, and not a competitor to, the existing railroad provides the SARR with the ability to provide a constraint to the existing railroad from monopoly pricing.[305]

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301 *See, DuPont*, p. 223.
302 *Ibid.*
303 *See, West Texas Utilities* at 670.
304 *Ibid.*
305 The Board's reasoning for this definition of barriers to entry comes directly from Contestable Market Theory, and the work of Baumol, Panzar and Willig ("Baumol, et al") as noted in *West Texas Utilities*. In their book "Contestable Markets and the Theory of Industry Structure," Baumol, et al, define an entry barrier as "anything

CSXT's ability to construct new moveable bridges at a lower cost than a SARR simply because CSXT has a bridge in place, and the SARR does not, clearly creates a cost for the SARR that imposes a barrier to entry.[306] Barriers to entry are "any costs that a new entrant must incur that was not incurred by the incumbent. This would preclude the incumbent from earning monopoly rents in the form of a return on investments it never actually made, but would permit the incumbent a competitive return on the current replacement cost of all investment that it did incur."[307]

The Board must recognize this barrier to entry and permit the SARR one of two (2) options: either (1) allow the SARR access to Truman-Hobbs Act funding, or (2) allow the SARR to construct a bridge that provides a lesser level of waterway navigability than the existing bridge. Each generation of railroad bridges has been required to accommodate more and larger marine vessels on an expanding number of waterways[308] because of government mandates.

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that requires an expenditure by a new entrant into an industry, but imposes no equivalent cost upon an incumbent." [*See,* Baumol, et al at 282 and *West Texas Utilities* at 669]. The definition implies that the entrant does not have to pay more than what the incumbent would pay for the asset in the current market. In other words, the SARR does not have to pay more than the incumbent does to replace its current assets. The fact that the incumbent can pay less for essentially the same asset as a new entrant due to the incumbent's replacing an existing asset versus an entrant's building the asset for the first time leads to a cost that creates a barrier to entry.

306 A simple example illustrates this issue. Assume an industry where companies have only one asset. The cost for an entrant to acquire the asset is $1 million, but, because of government subsidies, an incumbent that is replacing the same asset incurs only $100,000 in costs. It is simple to see that the incumbent has a distinct cost advantage over the new entrant and may charge enough to cover its costs, while undercutting the prices of the entrant. The entrant cannot operate in such a market in the long-run since it cannot compete with the incumbent. In other words, the market is not contestable. The only way for contestable market theory to work is to ensure that the entrant into the market does not incur a cost disadvantage relative to the incumbent. The subsidy provided by the Federal Government on moveable bridges provides just such a cost advantage to the incumbent, and cannot be allowed.

307 *See, West Texas Utilities* at 670.

308 When the bridges were originally built in the 1800's, they were constructed using mostly timber components on the approaches, with some longer iron spans (modern steel did not yet exist). Many of the existing flood control projects (dams, locks, and levees) were not in place when the railroads were built. Therefore, not all streams and rivers were navigable when the railroads were built, and they certainly were not capable of supporting modern barge traffic. The bridges have been upgraded over time in order to provide longer clear spans and increased vertical clearances. If the TPIRR were allowed to construct bridges similar to the original structures, there would be no vertical lift bridges, because they were not present when the railroads were constructed. The first patent for a lift bridge was awarded to J. A. L. Waddell in 1893. Waddell's 1893 design is considered the first example of a "modern" vertical lift bridge. (*See*: e.g., http://www.historicbridges.org/bridges/browser/?bridgebrowser=illinois/sblift/).

Truman-Hobbs explicitly recognizes that this imposes costs on the railroads that they should not have to bear (i.e., unfunded mandates). If the Board denies the SARR access to Truman-Hobbs Act funding that exists only to relieve the incumbent railroads of this cost burden in the real world, it must also allow the SARR to ignore the mandates that necessitate the costs to be incurred. If the SARR cannot access Truman-Hobbs Act funding, it must be allowed to construct bridges without regard for the navigation requirements of intersecting waterways, with shorter and/or lower, and possibly non-movable spans.

In Reply, CSXT explicitly recognized the vacuum in the Board's logic. Specifically, CSXT evoked the argument NS put forth in *DuPont:* "[u]nless a party provides evidence demonstrating otherwise, a SAC analysis must assume that the incumbent railroad bore the full cost of constructing the movable bridge when the structure was originally built, and thus the SARR must bear that full cost."[309]

CSXT further argued that,

> [b]ecause TPI presented no evidence showing that the government or another party paid part of the cost of building movable bridges on the TPIRR system, the TPIRR--like CSXT and its predecessors--must bear 100% of the cost of the original construction of the movable bridges.[310]

This argument demonstrates that the Board's ruling in *DuPont* was flawed. The Board simply ruled that no new bridge projects can be eligible for Truman-Hobbs Act funding. The Board's language fails to even consider whether the incumbent railroad bore the full cost of constructing existing movable bridges, which was a significant oversight. CSXT's Reply argument posits that the SARR must bear the full cost in the SARR construct <u>only if the incumbent bore the full cost in the real world</u>.

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[309] *See,* CSXT Reply, p. III-F-139, citing NS Reply as referenced by the Board in *DuPont.*
[310] *Id.* pp. III-F-139-140.

Importantly, CSXT does not claim to have paid the full cost for all movable bridges on its system. It cannot make that claim because it did not pay in full for all bridges. Rather, CSXT claims that it must be assumed that CSXT did pay the full cost of all bridges absent a demonstration by the complainant that it paid less than the full amount. This arrangement places an unrealistic burden on the complainant because the incumbent railroad—not the complaining shipper—is in possession of the information required to make that demonstration.

However, based on public data, TPI can demonstrate that CSXT Bridge 193, which crosses the Mobile River at CSXT Milepost 000653.44 on the CSXT M&M Subdivision near Hurricane Alabama[311]--a bridge that is replicated by the TPIRR--was funded 94 percent by the Truman-Hobbs Act and the American Recovery and Reinvestment Act (ARRA).[312] The budget for this project was $72 million and construction was completed in 2011.[313] This is a bridge that is replicated on the TPIRR. Imposing the full construction costs of this bridge—as CSXT done in Reply—undoubtedly imposes an impermissible barrier to entry on the TPIRR. In fact, TPI's Opening assumption in this case for this bridge was conservative, as CSXT actually received not only 90 percent Truman-Hobbs funding but also additional ARRA funding for this bridge.

The Truman-Hobbs Act was designed explicitly to fund the replacement of bridges from another era, and all railroads are eligible for funding through the program. CSXT seeks to impose an entry barrier on the TPIRR by limiting its access to a federal program to which CSXT access and from which it has drawn federal funds.

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[311] The construction cost of this bridge is calculated in CSXT's Reply workpaper "TPI Bridge Construction Costs CSXT Reply.xlsx," tab "TPI Special Moveable Bridges," line 13.

[312] CSXT received $67.7 million in federal funds under the Truman-Hobbs Act and the ARRA combined for CSXT Bridge 193 Crossing the Mobile River at CSXT Milepost 000 653.44 on the CSXT M&M Subdivision near Hurricane, Alabama. *See,* CSXT Reply workpaper "DHS OIG-12-09.pdf", page 2, Table 1.

[313] Davis, P., Davis, C. Walter, R., "*The Alteration of CSX Bridge 193 Crossing the Mobile River,*" presented September 17, 2012 at the American Railway Engineering and Maintenance-of-Way Association Proceedings.

Moreover, there are many other examples, in addition to Truman-Hobbs funding, of railroad bridge construction or repair being funded in part or in total by sources outside of the railroad. For example, the Department of Transportation's ("DOT") Transportation Investment Generating Economic Recovery ("TIGER") program, which was created by Congress in 2009, directs the DOT to invest in a variety of transportation modes, including freight rail. For projects receiving a TIGER Discretionary Grant, federal funds (including the TIGER Discretionary Grant and any other federal discretionary or formula funds) may be used for up to 80 percent of the costs of the project. DOT may increase the federal share above 80 percent for projects located in rural areas, in which case DOT may fund up to 100 percent of the costs of a project.

Projects that are eligible for TIGER Discretionary Grants ("Eligible Projects") include, but are not limited to: (1) highway or bridge projects eligible under title 23, United States Code; (2) public transportation projects eligible under chapter 53 of title 49, United States Code; (3) passenger and freight rail transportation projects; and, (4) marine port infrastructure investments.[314]

Two (2) of the 2014 Tiger Grants will fund the replacement of movable freight rail bridges, including one on the CSXT. Specifically, TIGER funds have been awarded to CSXT for the long-term replacement of the Long Bridge over the Potomac River. The Long Bridge, which is owned by CSXT, is the only direct rail connection between the District of Columbia and the Commonwealth of Virginia.[315] During the long history of this bridge it has often had movable sections.[316]

Another TIGER grant will fund the rail components of the Sarah Mildred Long Bridge replacement over the Piscataqua River. The Sarah Mildred Long Bridge, a lift bridge connecting

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[314] *See,* http://www.dot.gov/tiger/about.
[315] *See,* http://www.dot.gov/sites/dot.gov/files/docs/TIGER14_ProjectFactSheets.pdf.
[316] *See,* http://en.wikipedia.org/wiki/14th_Street_Bridge_(Potomac_River).

Maine and New Hampshire, currently handles both highway and rail traffic and is being replaced after 74 years. The replacement bridge will feature an integrated rail-highway deck for the lift span, maintaining rail access for the Portsmouth Naval Station.[317]

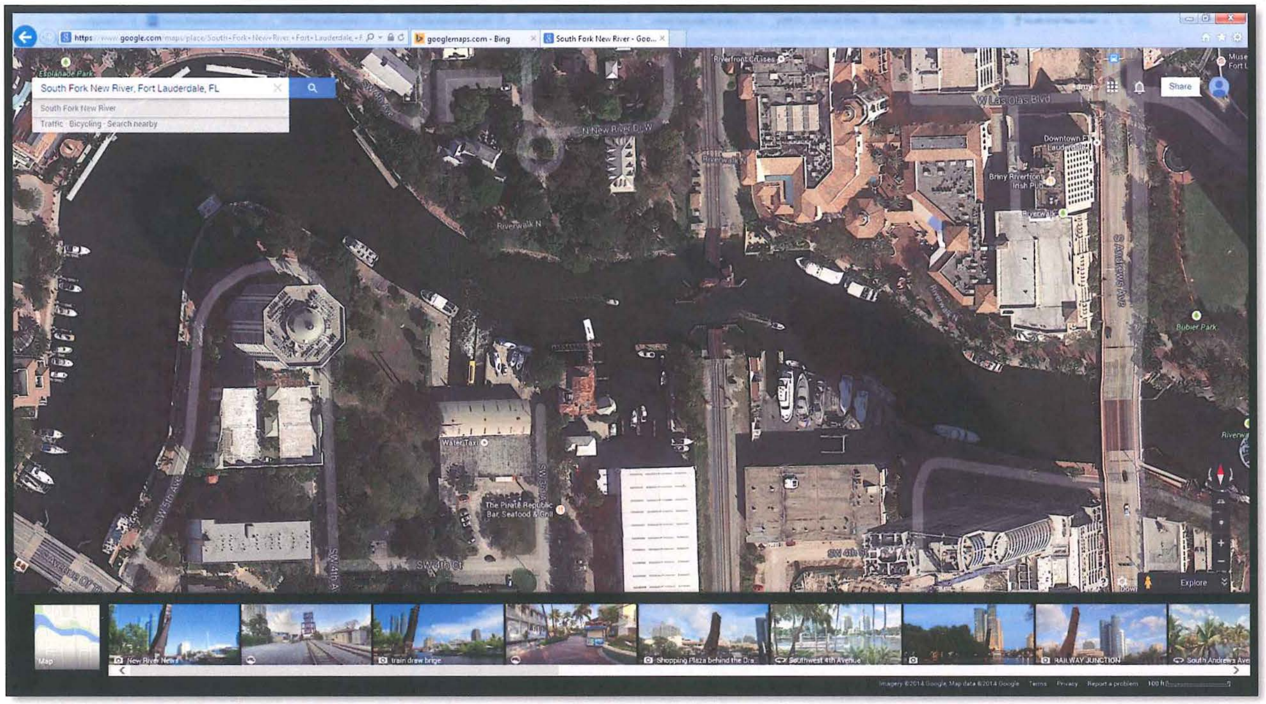
Certainly, funding the construction of bridges on a new freight railroad (TPIRR) just after TIGER was enacted would qualify as a Transportation Investment Generating Economic Recovery. Although it is obviously impossible for TPIRR to demonstrate that it would have received TIGER funding if it were an actual program applicant, it is equally impossible to prove that it would not. However, unlike Truman-Hobbs, TIGER does not specify a standard cost-sharing arrangement.

There are many state-level funding sources as well. For example, in 2013, the Florida Department of Transportation ("FDOT") solicited proposals for a contract consisting of the replacement of the existing SFRC CSXT Railroad Rolling Lift Bridge parallel to and west of SR-9/ I-95 over the south fork of the New River in Broward County, Florida. According to the FDOT, the existing bridge needed to be replaced because the bridge had been deemed structurally deficient and because supports added to stabilize the bridge had compromised the horizontal clearance of the river. A new rolling lift bridge was proposed at approximately 35 feet west of the existing bridge, along with the realignment of the railroad tracks.[318] See Rebuttal Figure III-F-1 below for a Google Maps image of the open bridge.[319]

[317] *See,* http://www.dot.gov/sites/dot.gov/files/docs/TIGER14_ProjectFactSheets.pdf.
[318] http://www.dot.state.fl.us/cc-admin/Lettings/2013/2013_BSN/Jun13/T4360.txt.
[319] https://www.google.com/maps/place/South+Fork+New+River,+Fort+Lauderdale,+FL/@26.1182529,-80.1458275,313m/data=!3m1!1e3!4m2!3m1!1s0x88d900f03c70eaa3:0x7bc0cff59761ef4f.

Rebuttal Figure III-F-1

Movable CSXT Bridge repairs funded by Florida DOT



A 2007 United States Government Accountability Office ("GAO") Report states that "over 30 states have published freight plans that describe their goals and approach to freight-related investments."[320] The TPIRR is located in several of these states. For example, The Pennsylvania Department of Transportation[321] administers a matching grant program to support freight railroad maintenance and construction costs; and eligible recipients include freight railroads, transportation organizations, municipalities, municipal authorities, and other eligible users of freight railroad infrastructure.[322]

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[320] United States Government Accountability Office, "Railroad Bridges and Tunnels, Federal Role in Providing Safety Oversight and Freight Infrastructure Investment Could Be Better Targeted," August 2007, page 33-34.

[321] *See,* http://www.dot.state.pa.us/Internet/Bureaus/pdBRF.nsf/RailFreightHomepage?openframeset&Frame=main&src=infoGrantProgram?readform. Financial assistance is available on a matching grant basis to railroad companies, transportation organizations, municipalities, municipal authorities and users of rail freight infrastructure whose proposals, at a minimum, meet certain project eligibility requirements.

[322] GAO-07-770, Railroad Bridges and Tunnels: Federal Role in Providing Safety Oversight and Freight Infrastructure Investment Could Be Better Targeted, August, 2007, page 34.

Virginia's Rail Enhancement Fund was created in 2005 as the first dedicated revenue stream for investment in rail infrastructure in Virginia's history. The Fund supports improvements for passenger and freight rail transportation throughout Virginia.[323] It is administered by the Virginia Department of Rail and Public Transportation.

The Ohio Department of Development, in cooperation with the Ohio Department of Transportation and the Ohio Rail Development Commission, has established a $100 million forgivable loan program for eligible transportation, logistics, and infrastructure projects in the State. Eligible capital infrastructure projects include road, rail, air and port improvements that expand connectivity to logistics and/or intermodal centers, reduce checkpoints, and freight bottlenecks, and enhance the flow of freight and/or improve access to new markets for Ohio businesses. Most of the funding originally allocated to this program has been distributed.[324]

Ohio also has a State Infrastructure Bank ("SIB"). The program was capitalized with a $40 million authorization of state general revenue funds from the Ohio State Legislature, $10 million in state motor fuel tax funds, and $87 million in Federal Title XXIII Highway Funds. Any highway or transit project eligible under Title XXIII, as well as aviation, rail and other intermodal transportation facilities is eligible for direct loan funding under the SIB.[325]

There is an ever expanding pool of public funding resources available to the railroads for movable railroad bridge projects. However, because there are so many, and they are so varied, it is unreasonable to expect complaining shippers to possess knowledge of all of the programs, much less the extent to which they are being leveraged by the railroads.

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[323] *See*, http://www.drpt.virginia.gov/projects/ref.aspx.
[324] *See*, http://www.dot.state.oh.us/Divisions/Rail/Programs/StatewideRailPlan/Documents/Chapter%2011%20-%20Rail%20Funding%20and%20Finance%20Options.pdf.
[325] *See*, http://www.dot.state.oh.us/Divisions/Finance/Pages/StateInfrastructureBank.aspx.

The existence of the programs described above results from a growing recognition that America's freight transportation infrastructure provides public benefits, and a growing movement to form public-private partnerships ("PPP") to fund freight infrastructure projects, including for Class I railroads. Given the resources available for potentially funding a movable railroad bridge, it is eminently reasonable to assume that a SARR will be eligible to receive a percentage of the costs of construction of its movable railroad bridges through public sources. TPI uses the widely known 90 percent Truman-Hobbs construction cost split as a reasonable proxy for funding it would receive on all projects, from the Truman Hobbs Act or other public sources, for constructing movable bridges over navigable waterways. It would be manifestly unfair to place the burden on the shipper to prove the specific funding the incumbent railroad received for constructing all of its movable bridges.

(4) <u>Pier Heights</u>

CSXT alleges that TPI's Opening pier heights for movable bridges are understated because TPI failed to account for water depth in its bridge clearance figures. CSXT estimates that the average understatement is 12 feet based on review of public water depth data, but makes an upward adjustment of 5 feet for all movable bridges, which it claims is conservative.[326]

TPI rejects CSXT's adjustment because TPI requested bridge clearance *and height* data in discovery but CSXT provided clearance data only and refused to provide bridge height data because it would require a special study.[327] In developing its Reply evidence, CSXT performed a portion of the special study it refused to undertake in developing materials responsive to TPI's discovery requests. TPI rejects CSXT's selective use of special studies and retains its Opening bridge heights in Rebuttal.

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[326] *See,* CSXT Reply, pp. III-F-141-142.
[327] *See,* TPI Rebuttal workpaper "CSXT Response to RFP No. 133.pdf".

xi. Highway Overpasses

CSXT accepts TPI's cost per square foot of deck and 10 percent share of the costs but rejects TPI's development of square footage quantities claiming that TPI's approach to estimating overpass bridge deck area claiming that a county-wide approach is too broad. CSXT uses a different data set available at the Federal Highway Administration's web site than the data set used by TPI in Opening. The data set used by CSXT allows for the specific identification of highway bridges over railroads. CSXT also applies the Means Handbook location factors to adjust the unit cost to the location where the highway overpasses are constructed. [328]

In Rebuttal, TPI accepts CSXT's highway overpass investment with one adjustment to exclude the locations factors.

6. Signals and Communications

Table III-F-7 below compares the signals and communications construction costs developed by TPI in Opening, CSXT in Reply and TPI in Rebuttal.

Rebuttal Table III-F-7
TPIRR Signals and Communications Investment Costs
($ in millions)

Item (1)	TPI Opening[1/] (2)	CSXT Reply[2]-2010 (3)	CSXT Reply[2/]-2015 (4)	CSXT Reply[2/]-Total (5)	TPI Rebuttal[3/] (6)
1. Signals	$912.08	$1,154.81		$1,154.81	$1,041.35
2. PTC Share	74.37	178.60	$30.18	208.78	121.02
3. Communications	282.79	381.02		381.02	342.17
4. Hump Yard Equipment	300.58	300.58		300.58	300.58
5. Locomotive Radios	58.70	505.44	70.31	575.75	72.92
6. PTC Development	0.00	140.88	91.87	232.75	0.00
7. Total	$1,628.52	$2,661.33	$192.36	$2,853.69	$1,878.04

1/ TPI Opening workpaper "TPI Signals & Communications.xlsx."
2/ CSXT Reply workpaper "TPI Signals & Communications CSXT Reply.xlsx."
3/ TPI Rebuttal workpaper "TPI Signals & Communications Rebuttal.xlsx."

[328] *See,* CSXT Reply, pp. III-F-142-145.

a. Signal System

i. PTC Installation in 2010

CSXT accepts TPI's assumption that TPIRR will install PTC at the beginning of the analysis period, which is consistent with the Board's recent *DuPont* and *SunBelt* decisions. However, CSXT rejects TPI's assumption that the system installed in 2010 would meet the 2015 interoperability standards required by RSIA. CSXT supports its position based on its claim that many of the critical components did not exist and could not have been installed in 2010. As a result, CSXT posits that many of the components installed in 2010 would need to be upgraded or replaced before 2015.[329] As TPI stated in Opening, and restates below, TPI is installing a functioning PTC system at the beginning of TPIRR operations in 2010.

Furthermore, CSXT continues to improperly treat the TPIRR's PTC system like the PTC system that CSXT is trying to install, i.e., the TPIRR must first install one system and then overlay another system in 2015. In prior proceedings, the railroads have taken the position that the SARR must first install a CTC system and then overlay PTC on top. In this proceeding, CSXT gone one step further – CSXT the TPIRR installing a PTC system in 2010 and then installing an "upgraded" PTC system in 2015. In addition to CSXT including costs that reflect the installation of an overlay system, which the TPIRR does not need to do, CSXT, in many instances, saddled the TPIRR with costs in excess of what CSXT incurred by piling on an additional 25 percent of CSXT costs in 2015 for "upgrades."

Finally, replacing and upgrading components after only five (5) years is not something a least-cost, most efficient railroad would undergo. TPI addresses each of CSXT's specific criticisms below.

[329] *Id.* pp. III-F-150-151.

ii. Signal Component Inventory

CSXT accepts TPI's method of assuming typical CTC component installations at various locations based on the stick diagrams but CSXT claims that TPI omitted or misapplied some signal components and used incorrect or unsupported unit costs for some components. In Reply, CSXT added or modified many components to TPI's opening signal system.[330] Each of the items identified in CSXT's Reply is addressed below.

(1) Omitted or Misapplied Components

First, CSXT claims that TPI omitted the costs for track connections or track wires and adds these costs. CSXT is incorrect. TPI included the wires for the track circuit connections in Opening[331] but inadvertently omitted the connectors to the rails. It was not possible to use the cost included by CSXT because it is unsupported; the workpaper CSXT references is a cost for an 85 lb. full toe angle bar, not track connections.[332] Therefore, TPI obtained a quote for the connectors and included the costs in Rebuttal.[333]

Second, CSXT claims that the cable used by TPI for AC service drops is inadequate and CSXT substitutes the costs for higher capacity cables. TPI accepts CSXT's substitution in Rebuttal.

Third, CSXT claims that TPI did not include grounding kits for signal equipment shelters and CSXT adds costs for materials and installation. TPI adds this item and accepts CSXT's unit costs in Rebuttal.

Finally, CSXT claims that TPI did not include the costs for fencing around the TPIRR's intermediate or interlocking signal huts and adds this cost in Reply. CSXT claims that fencing is

[330] *Id.* pp. III-F-151-155.

[331] *See,* TPI Opening workpaper "TPI Signals & Communications.xlsx," tab "Components & Tabulations, Item 25 (Line 30).

[332] *See,* CSXT Reply workpaper "Track Connection Cost.pdf."

[333] *See,* TPI Rebuttal workpaper "TPI Track Connector.pdf."

needed around signal huts because they are "high value pieces of equipment."[334] The huts specified by TPI and accepted by CSXT have locking doors as required by FRA[335] and fencing is not necessary. Moreover, CSXT provided no evidence that it has security fences around all of its signal huts. The Board should reject the nearly {{[redacted]}} million[336] added by CSXT as unnecessary gold-plating.[337]

(2) <u>Incorrect Unit Costs</u>

CSXT adjusts several of TPI's unit costs based on claims that either TPI's costs do not conform to the support it provided or that TPI's costs were unsupported.[338]

<u>First</u>, CSXT claims that TPI's signal foundation costs of $250 per location are unsupported and substitutes a cost of $610 per location based on a vendor quote. TPI accepts CSXT's cost in Rebuttal.

<u>Second</u>, CSXT claims that the $3,000 cost TPI used for 24 volt batteries conflicted with the documented cost information contained in TPI's workpapers which CSXT claims show $4,100. TPI accepts CSXT's cost in Rebuttal.

<u>Third</u>, CSXT claims that TPI misstated the unit cost for power and manual mainline switches by $6,000-9,000 per unit based on TPI's workpapers and increases the unit costs in Reply. TPI accepts CSXT's adjustment in Rebuttal.

Finally, CSXT claims that the unit cost of $213 used by TPI for insulated joints was "undocumented" and conflicted with information provided by CSXT in discovery. CSXT substitutes what it claims is a documented unit cost of $1,528 in Reply.

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[334] *See,* CSXT Reply, p. III-F-153.
[335] *See,* 49 CFR Part 236.3.
[336] *See,* CSXT Reply workpaper "TPI Signals & Communications CSXT Reply.xlsx," tab "Components & Tabulation."
[337] *See, Duke/NS*, at 101 (n. 19).
[338] *See,* CSXT Reply, pp. III-F-153-155.

Despite CSXT's claim to the contrary, TPI's Opening unit cost was documented in an email that was provided in TPI's Opening workpapers.[339] CSXT's unit cost is for an insulated joint that includes 20 feet of rail, which explains why CSXT's unit cost is so high. However, CSXT did not deduct the cost of 20 feet of rail for each insulated joint from its rail cost calculations. Therefore, CSXT's $1,528 unit price double-counts the cost of a significant amount of rail. TPI's unit cost is for just the insulated joint as rail costs have already been included. TPI continues to use its Opening unit cost for insulated joints.

(3) <u>Outdated Unit Costs</u>

CSXT claims that several of TPI's unit costs were outdated 2005 unit costs that TPI failed to index to 2010. This includes costs for interlocking and intermediate huts, signals, switches, electric locks, batteries, cables, Failed Equipment Detectors ("FEDs"), crossing predictor huts and VHF LMR radios, among other items. CSXT indexes the costs for these items to 2010 levels using the DCF Model inflation index to index signals costs.

In Rebuttal, TPI accepts the need for the material costs of these items to be indexed from 2005 to 2010. However, TPI corrects two (2) errors in CSXT's indexing process. <u>First</u>, CSXT also indexed the labor costs for these items. The labor costs were not 2005 costs and do not need to be indexed. In addition, CSXT accepts TPI's labor costs and did not index the labor costs for items where the material costs did not need to be indexed. TPI eliminates CSXT's improper indexing of the labor costs for these items.

<u>Second</u>, TPI disagrees with CSXT's use of the DCF Model inflation index. For all other investment costs, both parties use the Means Handbook historical cost index to adjust unit costs to the proper 2010 cost levels. In Rebuttal, TPI uses the Means Handbook historical cost index to adjust the material costs for these items from 2005 to 2010.

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[339] *See,* TPI Opening workpaper "Insulated Joint.pdf."

iii. Highway At-Grade Crossing Devices

In Opening, TPI included costs for highway at-grade crossing devices in its signals costs. CSXT did not discuss the costs for highway at-grade crossing devices in its Reply submission but a review of CSXT's signals and communications workpapers reveals that CSXT also included these costs in signals costs.

A review of CSXT's Reply workpapers reveals that CSXT accepts TPI's inventory of highway at-grade crossing devices. CSXT modified some unit costs by indexing them from 2005 to 2010 and revised some unit costs to match TPI's workpapers. In Rebuttal, TPI accepts CSXT's changes to the unit costs.

iv. Detectors

In Opening, TPI included the costs for Failed Equipment Detectors ("FED") and Dragging Equipment Detectors ("DED") in its signals costs with one DED placed at each FED location.[340] CSXT did not discuss the costs for detectors in Reply Part III-F but included the costs for them in its signals costs as well.[341] CSXT does state in Reply Part III-B that it accepted TPI's count of FEDs.[342]

A review of CSXT's workpapers shows that CSXT included the same number of FEDs and DEDs and accepted TPI's labor cost for both FEDs and DEDs and TPI's materials cost for DEDs but indexed the FED materials cost by 1.25[343] to reflect the change in costs from 2005 to 2010.

In Rebuttal, TPI accepts this modification.

[340] *See,* TPI Opening workpaper "TPI Signals & Communications.xlsx," tab "Components and Tabulation."

[341] *See,* CSXT Reply workpaper "TPI Signals & Communications CSXT Reply.xlsx," tab "Components and Tabulation."

[342] *See,* CSXT Reply, p. III-B-25.

[343] *See,* CSXT Reply workpaper "TPI Signals & Communications CSXT Reply.xlsx," tab "Components and Tabulation," cell N7.

b. PTC

In Opening, TPI posited that it would install a fully functional PTC system in 2010 across the entire TPIRR network because a least-cost, optimally-efficient railroad would not enter the market at that time with a CTC system that it would be required to replace with a PTC system within just five (5) years.[344] TPI relied upon information provided by CSXT in discovery to develop the costs for its PTC system. Although CSXT contends that TPI's position is neither feasible nor practical, it nevertheless "accepts only the assumption that some type of PTC system could have been installed in 2010 and rejects TPI's further assertion that the PTC system the TPIRR would install in 2010 would meet RSIA 2015 interoperability standards."[345] According to CSXT, any PTC system installed in 2010 would not meet Rail Safety Improvement Act of 2008 ("RSIA") interoperability standards for 2015 and thus would need to be replaced by 2015, resulting in more, not less, costs for the TPIRR.[346] CSXT then proceeds to develop costs that would ensure a more expensive system than if the TPIRR had first installed CTC and then a PTC overlay system. Of course, CSXT's position that the TPIRR effectively must install two (2) PTC systems just five (5) years apart would defeat TPI's very reason for installing PTC on the TPIRR in 2010. CSXT's framework imposes an entry barrier on TPIRR and is inconsistent with a least-cost, optimally-efficient SARR.

CSXT also takes issue with TPI's use of CSXT's own implementation costs for its V-ETMS PTC system, because many components were not available in 2010, but CSXT nevertheless assumes that the TPIRR could do so.[347] Indeed, neither the parties nor the Board have much choice because the only cost evidence available for PTC implementation on the scale

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[344] *See,* TPI Opening, pp. III-F-47-49.
[345] *See,* CSXT Reply, p. III-F-150 (underline added).
[346] *Id.* pp. III-F-150-51.
[347] *Id.* pp. III-F-156-57.

required by this case is CSXT's own cost for a fully interoperable, RSIA-compliant PTC system. CSXT then proceeds to develop PTC costs for 2010 that are more than six (6) times TPI's Opening evidence, and total costs through 2015 that are more than 7.5 times TPI's Opening evidence.

TPI contends, as its primary argument, that the Board must permit TPI to implement a RSIA-compliant, fully-interoperable PTC system in 2010 in order to eliminate the PTC mandate as a barrier to entry under contestable market theory. However, if the Board adheres to its precedent in *DuPont* and *SunBelt*, which would permit the TPIRR to implement only a non-interoperable version of PTC in 2010 and then incur additional upgrade costs from 2011-2015 to become interoperable, it cannot impose costs that are greater than those incurred by CSXT to achieve interoperability. That means the Board must reject CSXT's interoperability additives—which CSXT itself has not and will not incur—and instead allocate a portion of CSXT's costs to 2010 and the remainder to the subsequent years because CSXT's construct, which allocates all of CSXT's costs to 2010 and adds a 25 percent upgrade charge in 2011-2015, would impose greater costs upon the TPIRR. Nor can the Board impose development and testing costs upon TPIRR because the TPIRR would incur those costs in 2010 only if it were to obtain a tangible benefit in the form of a fully-interoperable PTC system in 2010.

Rebuttal Table III-F-8 below compares the PTC system investment costs developed by TPI in Opening, CSXT in Reply, and TPI in Rebuttal.[348]

[348] These values are a breakdown of the values shown in lines 2, 5 and 6 of previous Table III-F-7.

Rebuttal Table III-F-8
TPIRR PTC System Investment Costs
($ in millions)

Item	TPI Opening[1/]	CSXT Reply[2]-2010	CSXT Reply[2/]-2015	CSXT Reply[2/]-Total	TPI Rebuttal[3/]
(1)	(2)	(3)	(4)	(5)	(6)
1. PTC Back Office System	$0.00	$10.00	$2.50	$12.50	$0.00
2. PTC Wayside Interface Unit	40.10	88.77	$0.00	88.77	83.17
3. PTC Radio and Antenna	19.55	51.40	30.18	81.58	19.69
4. PTC Locomotive Units	58.70	505.44	70.31	575.75	72.92
5. Tech. Develop & Support	0.00	44.16	11.04	55.20	0.00
6. Testing	0.00	71.62	17.91	89.53	0.00
7. GIS	14.72	38.43	$0.00	38.43	18.16
8. Communications	0.00	15.10	60.42	75.52	0.00
9. Total	$133.07	$824.92	$192.36	$1,017.28	$193.94

1/ TPI Opening e-workpaper "TPI Signals & Communications.xlsx."
2/ CSXT Reply e-workpaper "TPI Signals & Communications CSXT Reply.xlsx."
3/ TPI Rebuttal e-workpaper "TPI Signals & Communications Rebuttal.xlsx."

The primary differences between the TPI Opening and CSXT Reply calculations of PTC costs are as follows:

1. CSXT includes $88 million for a PTC-specific Back-Office and Communications system, which represents 125 percent of the costs CSXT incurred in its efforts to overlay a PTC system on top of its existing CTC system, as opposed to TPIRR's fully-integrated single system from the outset. (Table III-F-8, Lines 1 plus 8, Column (5)). TPI rejects all of these costs in Rebuttal, because it already includes $10 million for the TPIRR back office system,[349] which includes PTC capability, and therefore TPIRR would not require any duplicative back office systems or cost.

2. CSXT more than doubles the WIU expense for components that TPI omitted. (Table III-F-8, Line 2). TPI accepts most of these additional costs in Rebuttal.

3. CSXT increases radio and antenna expenses by more than four (4) times on the unsubstantiated assertion that TPIRR could not install 220 megahertz radios in 2010 and thus would have to begin with another radio system and switch to the 220 megahertz system in 2015. (Table III-F-8, Line 3, Column (5)). TPI rejects this extra cost in Rebuttal because it contradicts CSXT's acceptance of the Board's rulings in *SunBelt* and *DuPont* "that the costs for a PTC system to be installed at the outset of SARR operations in [] 2010 would be based on technology, equipment, and price information from a defendant's PTC implementation plans, which included

[349] *See*, TPI Rebuttal workpaper "TPI Signals & Communications Rebuttal.xlsx" at level "Components and Tabulations", cell E52.

equipment that was not available when the SARR[] commenced operations and is instead from a much later time period."[350]

4. Over half of CSXT's total PTC cost increase is attributable to the dubious assertion that, in addition to equipping its own locomotives with PTC radios, the TPIRR would need to equip foreign-owned locomotives that operate in run-through service on the TPIRR. (Table III-F-8, Line 4). TPI rejects this added cost in Rebuttal because it results in the TPIRR cross-subsidizing CSXT's real world competitors and because it is contradicted by other facets of CSXT's Reply evidence.

5. CSXT overstates the GIS costs, although TPI does agree that its Opening GIS costs were slightly understated, but due to a different error from that identified by CSXT. (Table III-F-8, Line 7).

6. CSXT includes $145 million of costs for testing and technical development and support, which represents 125 percent of the costs CSXT incurred in conducting real world testing and technical activities. (Table III-F-8, Lines 5 and 6, Column (5)). TPI rejects these costs as a barrier to entry. Furthermore, including these costs is counter to CSXT's position that TPIRR must adhere to the real world availability timeline for interoperable PTC equipment and technology, and it results in TPIRR cross-subsidizing CSXT and other Class I railroads.

7. CSXT's PTC expenses include over $192 million for upgrading most of the PTC components by 2015. (Table III-F-8, Column 4). Much of this additive is based upon an unsupported assumption that upgrade costs would equal 25 percent of initial costs. TPI rejects upgrade costs because they are an impermissible barrier to entry and because both TPI's and CSXT's initial PTC costs are based upon the costs of a fully-compliant interoperable system, not a system that needs to be upgraded. This means that for several items, CSXT assumes—with no empirical support—that TPIRR will pay a 25 percent premium over what CSXT pays to implement the same technologies CSXT will implement in 2015. Therefore, these costs represent a double count of the costs that are already incorporated in TPI's initial expense calculations.

In the following subsections, TPI responds in greater detail to each of the foregoing aspects of CSXT's PTC Reply evidence. <u>First</u>, TPI challenges CSXT's attempt to impose two (2) sets of PTC costs upon the TPIRR as a barrier to entry in violation of contestable market theory which is essential to a fair and accurate SAC analysis. <u>Second</u>, TPI challenges CSXT's gross overstatement of PTC costs, which is largely due to CSXT's inconsistent positions, including one that would require the TPIRR to incur the testing and development costs of a first

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[350] *See*, CSXT Reply at III-F-148.

mover, but deny it the benefits of that investment in the form of a fully-compliant PTC system in 2010.

i. CSXT's Requirement that the TPIRR Install Two PTC Systems within Just Five Years is an Impermissible Barrier to Entry

CSXT accepts TPI's proposition that "a PTC system could be installed on the TPIRR in 2010."[351] However, CSXT presumes that TPI will invest nearly $200 million extra in replacements and upgrades— nearly a quarter more than CSXT's claimed initial TPIRR PTC cost—by 2015 to completely overhaul that initial system to comply with RSIA requirements, including interoperability. In other words, even if the TPIRR does not have to build a CTC system in 2010 followed by a PTC system in 2015, it still must build two (2) PTC systems, one in 2011 followed by another system in 2015. But this would defeat the purpose of installing a PTC system from the outset of the TPIRR's operations. Moreover, such a requirement would be an impermissible barrier to entry.

PTC poses a unique, albeit temporary, problem for the Board in SAC cases. Congress mandated PTC by December 31, 2015 in RSIA. Although PTC technology existed, much of the equipment did not because few railroads had implemented PTC on a large scale, and certainly nowhere near the scale required by RSIA. Furthermore, the process of ramping up production of the requisite equipment and scaling the technology to larger systems, for simultaneous mass deployment nationwide, has created numerous obstacles that have jeopardized the ability of the rail industry to meet the 2015 deadline. Amidst all this uncertainty, the Board must decide how to address PTC costs in a SAC analysis that must hypothesize a new entrant during this time period in a contestable market, i.e., a market without barriers to entry or exit and in which the new entrant suffers no cost disadvantage relative to the incumbent.

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[351] *See,* CSXT Reply at III-F-148.

Yet, the very existence of the PTC mandate posits a barrier to entry in the SAC analysis by imposing a substantial cost disadvantage upon the new entrant relative to the incumbent. If the hypothetical new entrant is constrained to the same time line as the incumbent for implementing PTC, the new entrant will incur two (2) sets of signal costs during the same time period in which the incumbent will incur only one. Specifically, the new entrant would have to incur costs for a signaling system for its pre-2016 (in this case 2010-2015) operations, all the while incurring costs for an upgrade or replacement system for its post-2015 (in this case 2016-2020) operation. In contrast, the incumbent, which has had decades to recover most, if not all, of its legacy signal system costs, must only incur the cost of upgrading to a PTC system. Although in reality a new entrant would not enter the market at all under these circumstances—preferring to wait out the uncertainty—a complainant in a SAC case does not have that luxury when challenging the reasonableness of its rail rates, because that would leave the complainant without a regulatory remedy during the transitional period to PTC, which would violate the statutory mandate that rates established by rail carriers for market dominant movements be reasonable.[352]

In this proceeding, the imposition of two (2) sets of PTC costs upon the TPIRR within just five (5) years, is inconsistent with contestable market theory because it imposes unique costs upon the new entrant that the real world CSXT does not face during precisely the same time period in which it too must implement PTC. The SAC analysis must model "the performance perfect contestability can be expected to produce."[353] Contestable market theory requires that the advantage that an incumbent obtains from having entered the market through a piecemeal

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[352] *See,* 49 U.S.C. 10701(d)(1). A simple example illustrates the prejudice to complainants. A SARR constructed during the period from 2008 to 2015 would incur the cost of two (2) signaling systems. In contrast, any SARR built after 2015 would not confront the same uncertainties and thus could and would be constructed with a PTC system from the outset without the imposition of additional costs. A difference of as little as one year and no more than seven arbitrarily would impose additional costs upon one SARR and not the other.

[353] *See, Nevada Power II* at 266, *quoting*, Baumol, Panzar and Willing. "Contestable Markets and the Theory of Industry Structure," Harcourt Brace and Jovanovich, 1982, at 479 ("*Contestable Markets*").

process of expansion over an extended period of time cannot be used to create a barrier to entry.[354] As a result of its piecemeal entry, CSXT had many decades to recover, in whole or in major part, the costs associated with its existing CTC system.[355] The TPIRR, in contrast, would have less than five (5) years to do so before that system would become obsolete, all the while incurring costs for a replacement PTC system.[356] Since requiring the TPIRR to invest in two (2) redundant signaling systems over a very short 5-year period would impose a risk upon its investors that is not faced by CSXT's investors over this same time period, that requirement would be an impermissible barrier to entry under contestable market theory.[357]

CSXT also fails to acknowledge that, if a railroad the size of TPIRR actually had entered the market and implemented a PTC system in 2010, the actions taken by that railroad undoubtedly would have altered the course of history, such that the rail industry and PTC equipment suppliers would have developed systems faster than they have in the real world, and they may well have developed different systems altogether. But the nature and scope of that influence can never be known with certainty because the entire SAC exercise is a hypothetical one. Nevertheless, there is no doubt that many of the real world uncertainties regarding RSIA

[354] *See, Coal Trading* at 413-14 (1990) (a market is not contestable when the costs faced by the incumbent and the SARR are different).

[355] CTC systems were first introduced in the late 1920's and were in standard use by most railroads by the 1940s. By the 1970's and 1980's electromechanical control and display systems were replaced with computer operated displays.

[356] The Board indicated in *Nevada Power II* that, in simulating a contestable market in a SAC analysis, it does not eliminate sunk costs but assumes that the costs that are sunk for the incumbent railroad are also sunk for the SARR. *Nevada Power II* at 267. But as is implied in *Contestable Markets*, the opposite is not necessarily true; the costs that are sunk for the new entrant are not necessarily sunk for the incumbent. The Board defines sunk cost as costs that cannot be eliminated or recouped, even by total cessation of operations. *Id.* at 266. In the case of its CTC investment, because CSXT had the opportunity to recoup its investment for over six decades, it continues to enjoy the value of the marginal product of that system, and its costs are not completely sunk. See Martin, "The Theory of Contestable Markets," Purdue University, 2000 at 15. In direct contrast, the TPIRR would not be able to recover its CTC investment prior to incurring its PTC investment, and, therefore, its CTC costs are completely sunk. Because CSXT had the opportunity to recoup most or all of its CTC investment, but the TPIRR will not, the TPIRR would be at a distinct disadvantage to the CSXT, which would constitute a barrier to entry of the type envisioned in *Contestable Markets*.

[357] *See, PPL Montana, LLC v. The Burlington Northern and Santa Fe Railway Company*, 5 S.T.B. 1105, 1111-12 (2001) (holding that "a SARR should not be assumed to bear costs that are not faced by the defendant railroad [including]...costs associated with risks not faced by the defendant railroad's investors.").

faced by CSXT and other Class I railroads over the last five (5) years would have been resolved sooner if the TPIRR was actually constructed prior to initiating operations in 2010. Therefore, it is unreasonable to assume, as CSXT does, that the TPIRR would need to make wholesale modifications to its PTC system in order to become RSIA-compliant, essentially duplicating costs in 2010 and 2015, because that would not be the experience of a new entrant in 2010.

A rational way to address this barrier to entry, under the unique circumstance of the PTC mandate, is for the Board to assume that any SARR built during the transitional implementation period would endeavor to construct a RSIA-compliant and fully interoperable PTC system as its sole signaling system from the outset of its operations, thereby removing that barrier to entry created by costs that are sunk for the TPIRR but not for CSXT (i.e., the existing signal system.) TPI has done this by basing its PTC system costs on the costs CSXT actually has incurred or will incur to implement a RSIA-compliant PTC system that will be interoperable with other Class I railroads by the end of 2015. CSXT's attempt to impose the costs of two (2) signaling systems upon the TPIRR, whether it be CTC followed by PTC or duplicate sets of PTC costs in 2010 and 2015, would require the TPIRR to simultaneously recover two (2) sets of redundant investment costs, which the real world CSXT will not incur as part of its PTC implementation <u>during this very same time period</u>.

The TPIRR, therefore, should not be required to incur all of the redundant costs that CSXT would impose by virtue of the TPIRR entering the market during an uncertain transitional period from CTC to PTC, because those costs would be a barrier to entry. Rather, in order to avoid this bias, the Board should require only that the TPIRR incur the costs associated with building a RSIA-compliant and fully interoperable PTC system, regardless of whether such a system could have been constructed in 2010.

Furthermore, because the PTC costs developed by TPI are based on the costs CSXT incurred to implement a fully functional system in 2015, they represent the total initial investment and upgrade costs that the TPIRR should incur. CSXT, however, requires TPIRR to incur these same costs to implement just a preliminary PTC system in 2010 and then to incur additional upgrade costs from 2011 to 2015 that CSXT did not or will not incur itself in order to achieve interoperable status. Thus, in CSXT's construct where a non-interoperable system is implemented in 2010, and then upgraded to achieve interoperability by 2015, the proper treatment of the PTC costs is to allocate the costs related to full interoperability (used by both parties) between the 2010 time period and the 2011-2015 time period, not to impose the full amount in 2010 and then apply an arbitrary 25 percent premium during the 2011-2015 time period.

Finally, the Board should recognize that the railroads have begun imposing rate increases on all traffic,[358] with a particular emphasis on TIH/PIH traffic,[359] to recover their PTC-related expenses. However, this is not an option for the TPIRR because future SARR revenues in the SAC analysis construct are developed by escalating the historical revenues—which do not include this premium—for the SARR traffic group. Therefore, CSXT will raise the actual rates on the traffic included in the TPIRR traffic group over the next five (5) years to recover its PTC-related expenses, but TPIRR will be deprived of those increased revenues to cover its PTC-related expenses.

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[358] The railroads' PTC-related expenses are included in their overall investment base and operating expenses as included in their Annual Report Form R-1 schedules, which are incorporated in the STB's URCS program, and this serves to raise the jurisdictional threshold and rate floor for all captive traffic.

[359] The railroads also have developed separate record keeping and reporting protocols for PTC-related expenses in their Annual Report Form R-1 schedules to support this endeavor.

ii. <u>2010 TPIRR PTC System</u>

CSXT identifies the following four (4) parts of the V-ETMS PTC system it is installing on its system, and which it also has included for the TPIRR:

1. The Office Segment;
2. The Wayside Segment;
3. The Communications Segment; and
4. The Locomotive Segment.

CSXT agrees that "the TPIRR would install a V-ETMS PTC system in 2010," and, that "the components installed as part of the Wayside Segment would not have to be replaced as part of the upgrade to interoperability."[360] However, CSXT adds costs associated with upgrading or replacing multiple other system components between 2010 and 2015, along with various ancillary costs including labor and research, development, and testing costs.

There are several problems with both CSXT's approach to developing PTC costs and CSXT's implementation of its approach.

First, knowingly investing in expensive state-of-the-art communication system components with plans to replace nearly a quarter of them (by cost) in five (5) years or less is counter to the notion of a least-cost, efficient SARR—or any rational business for that matter. Moreover, as discussed in the previous section, the imposition of such a requirement is a barrier to entry that requires the exclusion of upgrade costs from the SAC analysis.

Second, the initial costs that CSXT imposes on the TPIRR for a non-interoperable PTC system in 2010 are based on CSXT's costs to develop a fully interoperable system in 2015. Consequently, CSXT's upgrade costs are a redundant double-count. Because the costs that CSXT imposes are associated with developing a fully interoperable system, then it would

[360] *See,* CSXT Reply, p. III-F-157.

logically follow that the TPIRR's PTC system in 2010 will be fully interoperable, which CSXT did not assume. CSXT cannot have it both ways. CSXT's presumption that the 2010 system will not meet interoperability standards, and that it will need to be upgraded to meet those standards between 2010 and 2015, cannot be reconciled with the fact that the 2010 costs CSXT included in its evidence reflect a system that meets interoperability standards. Imposing phased-in interoperability requires a reduction to the 2010 implementation costs, which CSXT has not done. Regardless of whether the Board assumes a RSIA-compliant, fully-interoperable PTC system in 2010 or imposes an upgrade requirement for 2015, it must limit the total expense to the 2010 costs developed by the parties.

Third, CSXT foists $116 million in 2010 development and testing costs on the TPIRR based on an argument that the TPIRR would incur them "as a first mover on the PTC front."[361] Importantly, the $116 million development and testing cost reflect the costs CSXT incurred or will incur to develop and test a PTC system that will be fully interoperable at start-up. Although these are the costs to develop and test a fully-interoperable PTC system, CSXT claims that the TPIRR will not obtain a fully interoperable PTC system for the same expenditure, but instead must incur an additional $29 million of development and testing costs from 2011-2015.[362] As a result, TPIRR must spend $29 million more than CSXT to achieve the same result, and TPIRR must wait five (5) years longer than CSXT to see a return on its 2010 investment. The Board must reject CSXT's attempt to impose "first mover" testing and development costs (plus a 25 percent premium!) on TPIRR, while denying it the same results as CSXT. CSXT's position that the TPIRR must include testing and development costs cannot be reconciled with its interoperability timeline. As discussed in more detail in Subsections (4) - (7) below, CSXT's

[361] *Id.* p. III-F-158.

[362] CSXT's $29 million additive is based on an unsupported assumption that TPIRR must incur an additional 25% of its 2010 development and testing expenses from 2011-2015. *See,* CSXT Reply, p. III-F-168.

argument fails because, as a rational business, TPIRR would only incur significant costs as a first mover in order to secure a tangible benefit—in this case to ensure the development of that technology in time for TPIRR's start-up.

Therefore, if the Board accepts CSXT's premise that TPIRR could not possibly have installed the technology before it was available in the real world, then it must also acknowledge that the real world availability of the technology was directly related to limitations imposed by the real world availability and timing of funding for development and testing. Specifically, an assumption that the TPIRR must contribute R&D funding to develop real world PTC technology would necessitate a corresponding assumption that the technology would have been available sooner in the SAC construct than it actually was in the real world. Conversely, if one assumes TPIRR could not install fully interoperable systems until they are available in the real world, then one cannot impose any development or testing costs on TPIRR, because the real world timeframe for availability of the technology is entirely dependent on the actual real world funding, and not a single penny more. CSXT simply cannot have its cake and eat it too.

TPI addresses each individual cost category below in the same order in which CSXT presented them in its Reply evidence. TPI's position is that the TPIRR should not incur any upgrade or development costs because both are barriers to entry. As discussed in detail below, CSXT's upgrade costs rely on improperly double-counted costs based on illogical and completely unsupported additives. Because the only PTC cost evidence available in this proceeding is for the cost of a fully-compliant and interoperable PTC system, imposing additional costs would by definition overstate the implementation costs. Although it might have been acceptable for CSXT to reduce the 2010 implementation costs based on substitution of unit costs for a non-interoperable system, and then impose some documented upgrade costs to them, CSXT has not done this. Like TPI, CSXT's 2010 costs reflect unit costs for a fully interoperable system. And CSXT's percentage-based upgrade cost additives are neither documented nor supported. Conversely, had CSXT agreed with TPI that TPIRR's 2010 system would be fully interoperable at start-up, then it may have been reasonable to assume TPIRR would have invested in development and testing prior to 2010 to ensure that result. However, CSXT's insistence on a phased-in interoperable system necessarily means it cannot impose those costs on TPIRR, for the reasons set forth in the sections that follow. Therefore, the only appropriate course of action for the Board is to accept TPI's opening costs, as amended in this Rebuttal filing.

(1) <u>PTC Office Segment</u>

According to CSXT, TPI did not include any PTC-specific back office costs. Therefore, CSXT included $10 million in PTC-specific back office costs in 2010 based on CSXT's PTC-related back-office expenditures related to its "initial startup PTC system" – which would be fully interoperable. CSXT further assumes that TPIRR would somehow incur an additional $2.5 million (calculated by simply multiplying CSXT's documented expenses by an arbitrary and unsupported 25 percent additive) in back-office costs to upgrade to a "fully interoperable" system.[363] There are several problems with CSXT's costs.

<u>First</u>, this $10 million expense is not necessary for the TPIRR because CSXT's expenditures reflect a retrofitted PTC system installed over an existing CTC system, as opposed to the efficiencies of the TPIRR's clean slate system design and implementation. The TPIRR's PTC office segment and dispatching system would be integrated into a single system using

[363] *See,* CSXT Reply, pp. III-F-158-159.

existing signaling technology and equipment as demonstrated in the ICBS system.[364] TPI already includes all related costs for these items in its TPIRR back office system,[365] which includes PTC capability. The costs incurred by CSXT, in contrast, are required only because its existing CTC legacy system doesn't have the capabilities required to implement PTC. TPIRR does not have a legacy system so these costs are unnecessary.

Second, CSXT's vague $10 million cost estimate is for CSXT's initial startup PTC system. As such, it would be fully interoperable because an interoperable system is what CSXT will be installing as its initial startup PTC system. Therefore, $10 million is the maximum all-in back office investment required and the $2.5 million upgrade is not necessary.

(2) PTC Wayside System

As noted previously, CSXT agrees that components installed as part of the Wayside Segment in 2010 will not need to be upgraded for interoperability, and thus CSXT has not imposed any upgrade costs. However, CSXT claims that TPI omitted "key components" of wayside interface units, did not include wayside system equipment at moveable bridge locations, and did not provide for wayside communications capabilities at either intermediate signal locations or interlockings; CSXT also rejected the radios and antennas included by TPI.[366]

Missing Wayside Components: CSXT states that TPI failed to install PTC field equipment (wayside interface units ("WIU")) at moveable bridges and added them in Reply. In Rebuttal, TPI has accounted for WIUs at all moveable bridge locations.

Wayside Interface Units: CSXT states that TPI did not include WIUs at interlockings or provide for wayside communications at either intermediate locations or interlockers. CSXT adds

[364] As stated by CSXT in Reply (p. III-F-167), the ICBS system was a concept launched in 2005 and an interoperable prototype was demonstrated in 2009. This makes it an ideal candidate for meeting the TPIRR's needs.

[365] *See*, TPI Rebuttal workpaper "TPI Signals & Communications Rebuttal.xlsx" at level "Components and Tabulations", cell E52.

[366] *See,* CSXT Reply, pp. III-F-159-162.

$24,475 per internal interlocking hut location and applied this cost to all control points of the TPIRR. In Rebuttal, TPI accepts CSXT's additional costs.

(3) PTC Radios and Antennas

CSXT states that TPI understated the costs for PTC radios and antennas by assuming it could procure 220 megahertz radios and antennas that did not exist in 2010 and ignoring several critical cost components necessary to "render the intermediate signal locations and interlockings communications capable" including "batteries, battery chargers, installation labor and material shipping and taxes."[367] CSXT first installs radios and antennas that it claims were available in 2010 and then replaces them with 220 megahertz radios to meet 2015 interoperability requirements. As a threshold matter, this argument should be rejected as a barrier to entry for the reasons stated previously. In addition, there are other problems with CSXT's evidence.

CSXT's criticism with regard to the 220 megahertz radios and antennas is confusing and contradictory. CSXT states that "TPI derived that cost [for the radio and antenna] from documents provided by CSXT in discovery," but then states that the 220 megahertz radio "is still not available today,"[368] which makes one wonder where and how the cost provided in discovery was obtained. Furthermore, CSXT does not support its assertion that 220 megahertz radios would not be available in 2010. CSXT's unsupported assertion is contradicted by public information. Specifically, Amtrak appears to have been using the 220 megahertz frequency in Michigan for its ITCS implementation of PTC around this time.[369] Moreover, if there were demand for a 220 megahertz radio as significant as the TPIRR's, basic free market principles dictate that suppliers would meet that demand, which also is consistent with the SAC assumption

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[367] *Id.* pp. III-F-161-162.
[368] *Id.* p. III-F-161.
[369] *See* TPI Rebuttal workpaper "PTC Wikipedia Article.pdf," p. 7 (10/26/2014).

of unlimited resources. Regardless, TPI relied on discovery information provided by CSXT, which is perfectly acceptable and appropriate.

Perhaps CSXT only intended to allude to the regulatory difficulties that the rail industry has encountered with obtaining from the Federal Communications Commission ("FCC") all of the 220 megahertz spectrum that the industry has requested for nation-wide interoperability. There is nothing magical about the 220 megahertz bandwidth for PTC. Previous iterations of PTC have been implemented using other spectrum.[370] Furthermore, the TPIRR, in 2010, would not need all the spectrum requested by the entire industry for nationwide implementation. TPI used the only radio costs provided by CSXT and assumed that those costs could apply to radios using any spectrum.

Moreover, even if one accepts CSXT's questionable proposition that 220 megahertz radios were not available in 2010, CSXT's supply and demand argument is akin to arguing about the chicken and the egg. In the real world, TPIRR does not exist, so it did not create real demand for the technology in 2010, so the technology was not yet widespread. However, the technology was fully developed and market ready. If the TPIRR's hypothetical market presence were real in 2010, the timeframe for deployment would have been accelerated. In a similar real world example, Amtrak was a trailblazer for PTC implementation in the passenger realm and consequently set the standard for equipment and technology for other passenger railroads over whose lines it operated:

> Amtrak operates services on two commuter rail properties it does not own: MNR (owned by NY and CT) and MBTA (owned by MA). In theory, Amtrak could have found themselves installing their own PTC system on these host properties (about 15% of the corridor), or worse, found themselves in the ridiculous position of trying to install three different PTC systems on each Amtrak train to traverse the commuter properties. However this was not the case. <u>Amtrak had a significant head start over the commuter rail agencies on the corridor in implementing PTC.</u>

[370] *Id.* p. 8.

> They spent a considerable amount of time in research and development and won early approvals for their ACSES system on the northeast corridor with the FRA. They chose first to use 900 MHz and then later moved to 220 MHz, in part because of a perceived improvement in radio-system performance and in part because Amtrak was using 220 MHz in Michigan for their ITCS implementation.[22] When the commuter agencies on the corridor looked at options for implementing PTC, many of them chose to take advantage of the advance work Amtrak had done and implement the ACSES solution using 220 MHz. Amtrak's early work paid off and meant that they would be traversing commuter properties that installed the same protocol at the same frequency, making them all interoperable.[371]

Therefore, it is improbable that the TPIRR would be required to replace all of its radios in 2015 and any such assumption is highly speculative. Rather, TPIRR's 2010 market presence would have moved the development of 2015 technologies and equipment forward in time. There is no reason to believe the investment on the part of both TPIRR and its suppliers would have been made in vain. CSXT does not—and cannot—offer any proof that the systems implemented in 2010, which would have been developed in response to the same sort of demand that has caused them to actually be developed for 2015 implementation, would be different from the systems that are currently being adopted for interoperability purposes. Regardless, any uncertainty should be resolved in favor of TPI pursuant to the barrier to entry argument presented above. Therefore, TPI continues to rely on its Opening costs for radios and antennas.

CSXT also claims that TPI failed to include costs for items such as batteries, battery chargers, installation labor, material shipping, and taxes. TPI addresses these items under the section on signal components.

(4) PTC Locomotive Costs

CSXT accepts TPI's costs to equip road locomotives for PTC ({{[redacted]}}), but claims that TPI would have to equip all locomotives for run-through road trains as well. Specifically, CSXT contends that the TPIRR must pay for PTC radios not just for the TPIRR's road

[371] *Id.* p. 7 (footnote omitted) (underline added).

locomotives, but also for several thousand foreign road locomotives due to TPIRR run-through arrangements, thereby creating a total of 7,354 road locomotives needing PTC radios. CSXT also includes costs to replace the radios in the TPIRR's road locomotives in 2015 to meet interoperability standards.[372] In total, this single cost accounts for over half of the difference between the parties' Opening and Reply evidence on total PTC costs.

The foundation for CSXT's entire argument with respect to locomotive radios is the same "two systems" argument that fails for reasons explained in the preceding section. Specifically, CSXT's position is that TPIRR and all of its suppliers would invest hundreds of millions of dollars to develop and implement a system and then discard it just five (5) years later for a slightly different, but very closely related, system that presumably would be developed by the very same suppliers. This argument assumes away the effect TPIRR's market presence would have had on the real world supply-and-demand balance.

CSXT ascribed the full cost of foreign road locomotive radios to the TPIRR, which is plainly excessive and unnecessary. The PTC mandate was established in RSIA, which was signed by President Bush on October 16, 2008.[373] The FRA's regulations were issued January 15, 2010, many months before the start of TPIRR operations.[374] All railroads knew they would need to be developing and testing PTC technology to get ready for December 31, 2015. In other words, the foreign railroads would need PTC radios for their locomotives due to federal law, not due to the existence of the TPIRR.

Consistent with TPI's barrier to entry argument above, if the Board assumes that the TPIRR can install a fully-compliant and interoperable PTC system in 2010 in order to remove the barrier to entry associated with recovering the costs of two (2) signaling systems in just a

[372] *See*, CSXT Reply, pp. III-F-162-163.
[373] *See,* 110-P.L.-432.
[374] *See,* 75 FR 2598.

brief five (5) year window, then it also should assume that foreign locomotives could and would install their own interoperable radios on their own locomotives.

Moreover, CSXT's contention that TPIRR's use of PTC prior to 2015 would require the foreign railroads to obtain PTC radios earlier than they otherwise would have done ignores the fact that the foreign lines ultimately did purchase that equipment themselves. CSXT's assumption that TPI would pay for that equipment on behalf of those railroads is at odds with reality. Even if one were to assume that TPIRR would need to fund the equipment in the early stages of its operations, the foreign roads eventually would be required to invest in that equipment themselves, so that real world investment would need to be reimbursed to TPIRR as of 2015. CSXT's assumption that the SARR would pay to equip locomotives for other real world railroads to meet RSIA standards would result in the SARR improperly subsidizing a competitor and must be rejected. Under CSXT's construct, the first railroad to comply with the RSIA standards in the real world would be required to pay for the upgrade for railroads with which it has run through agreements. CSXT offers no proof that this sort of arrangement occurs in the real world, because it does not. Therefore, CSXT's assumption that TPI would pay for that equipment on behalf of those railroads is at odds with reality.

In Rebuttal, TPI continues to include costs to install PTC radios in only the TPIRR's road locomotives. The TIPRR's number of road locomotives have increased from 854 in Opening to 1,061 in Rebuttal.

CSXT's 2015 costs to replace the PTC radios in TPIRR's locomotives are similarly erroneous. As discussed in the preceding section, because the TPIRR's system-wide PTC implementation would have created demand for the equipment earlier than it existed in the real world, the availability of the 2015 systems would have been moved forward in time. Therefore, the TPIRR's locomotive radios would have been essentially the same fully interoperable locomotive radios real world railroads are actually installing leading up to the RSIA deadlines, and no replacement would be needed in 2015. Furthermore, as discussed above, the Board should reject CSXT's added cost as a barrier to entry. TPI rejects CSXT's additional costs.

(5) PTC Technical Development and Support

CSXT included $44 million in PTC technical development and support cost in 2010.[375] CSXT then increased this cost by 25 percent to cover additional development for interoperability upgrades in the 2011-2015 time period.[376] In Rebuttal, TPI rejects CSXT's addition of development and support costs, because it is at odds with CSXT's analytical framework. CSXT's calculation of the development costs it imposes on TPIRR is based on the development costs CSXT actually incurred in preparation for the roll-out of its fully interoperable, RSIA-compliant PTC system in 2015. However, it then denies TPIRR access to those technologies that were developed from this specific funding stream. Had CSXT accepts TPI's construct, where TPIRR's 2010 system is fully interoperable and requires no upgrades leading up to 2015, then its development costs argument might make some sense. Because CSXT denies TPIRR access to the very technologies its development costs created, its development cost additive must be rejected in total.

Underscoring the absurdity of CSXT's argument is its assertion that TPIRR would actually have to incur an additional 25 percent premium over and above the amount CSXT actually invested to secure the development of 2015 technology in order to achieve the exact same technology! CSXT's "upgrade" additive is merely the unsupported assertion of CSXT's

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[375] *See* Table II-F-8 Technical Development & Support (Line 5 - $44 million).
[376] *See,* CSXT Reply, pp. III-F-158-159, 166-169, 170-172, and 174.

expert.[377] To be clear, this additive is based on arbitrarily increasing the actual cost to develop a fully interoperable PTC system, in order to achieve the precise technologies that the actual original cost developed in full. Specifically, CSXT describes this additive as an upgrade from "the original TPIRR CTC-with-PTC capabilities system," although the Board clearly held in *DuPont* that a PTC system could be installed for the start of SARR operations,[378] and the costs imposed by CSXT correlate to a 2015 PTC system. This clearly is more costly than if CSXT had merely imposed a CTC system on the TPIRR and then upgraded to PTC in 2015, because then the TPIRR at least would have incurred only the PTC development costs rather than 125 percent of the costs.[379]

Second, CSXT says that TPI would incur these extra development costs because it is the "first mover."[380]

Although the Board held in *DuPont* and *SunBelt* that some interoperability costs would be necessary for an early-adopter SARR to get ready for industry-wide PTC in 2015,[381] CSXT's denial of interoperable systems as of 2010 is at odds with its insistence that TPIRR would have been a "first mover." The "development" costs included by CSXT are out of place in CSXT's "two systems" cost structure and should be rejected. CSXT's insistence on high development costs proceeds from the false assumption that the TPIRR's PTC system at the start of operations in July 2010 would require costs significantly higher than those required to install PTC by the

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[377] *Id.* p. III-F-159 (n. 342).

[378] *Compare* CSXT Reply, pp. III-F-159 (n. 342) (experts based 25% figure on "installation of the original TPIRR CTC-with-PTC capabilities system") with *DuPont* at 229 ("we will accept DuPont's position that the DRR can install an initial PTC system in 2009").

[379] The excess cost imposed by CSXT effectively is the 25 percent upgrade cost, which the TPIRR could avoid by just installing CTC in 2010 and upgrading to PTC in 2015. Even if the Board were to accept CSXT's costs, it should eliminate the 25% upgrade charge because a least-cost, optimally-efficient SARR would not adopt CSXT's proposed PTC implementation schedule.

[380] *See,* CSXT Reply, p. III-F-146.

[381] *DuPont* at 229-230; *SunBelt* at 145. As discussed at the beginning of TPI's rebuttal PTC evidence, the Board should reconsider those determinations in light of the barrier to entry and factual arguments presented by TPI.

December 2015 deadline under RSIA. CSXT ignores the fact that the necessary PTC technology has evolved in the real world in response to RSIA, and contestable market theory requires the Board to assume that this technology also would evolve in response to TPIRR's stated plan for such a system in 2010.

CSXT cannot have it both ways. If, as CSXT contends, the TPIRR would have made significant PTC research and development funding contributions, then any amount of funding that TPIRR contributed to the development of the PTC technology would have been in addition to the real world funding provided by other railroads, including CSXT. The real world availability of the technology is directly linked to the funding available to develop the technology. Therefore, any additional funding would necessarily have the effect of moving up the availability date for all PTC related technology. The two (2) prongs of CSXT's argument: (1) that TPIRR would have to subsidize PTC research and development for the entire industry; and (2) TPIRR would not benefit from that investment ahead of the real world availability schedule, are mutually exclusive positions. But CSXT wants to have its cake and eat it too. It imposes development costs on TPIRR while denying TPIRR the fruits of the investment imposed on it.

Acceptance of any position in which TPIRR is limited to the real world availability schedule for that equipment necessarily means that it cannot be presumed that TPIRR made any significant research and development contributions. Therefore, TPI includes no such monies in Rebuttal.

(6) PTC Testing

As with its flawed technical development and support expense assumptions, CSXT assumes that TPIRR would incur 100 percent of CSXT's real world testing expenses (prorated by route miles) at the outset of the SAC analysis period, and an additional 25 percent of that amount by 2015. CSXT's testing argument fails for the same reasons its technical development and support argument fails.

Although it is true that early adopters incur significant testing costs in the real world, the corollary is that later adopters do not incur those costs because the systems are well developed at that later date. If one were to assume TPIRR would incur the level of testing costs CSXT imposes on it, then one would also need to assume those testing activities would have made the technology available sooner than it otherwise would be. This is at odds with CSXT's scenario, wherein the TPIRR is restricted from access to fully functional and vetted systems until 2015. Therefore, it is inappropriate to assume TPIRR incurred early adopter testing costs. Furthermore, because under the CSXT construct, the TPIRR would be installing the real world 2015 PTC system that was developed using real world funding for development and testing, it would be inappropriate to saddle the TPIRR with significant testing costs. For the above reasons, the Board must reject CSXT's attempts to foist significant testing costs on TPIRR.

Furthermore, the TPIRR already included testing costs as part of its initial start-up prior to the initiation of operations in its labor costs. CSXT, in contrast, must incur separate testing costs because it is installing PTC on top of an existing CTC signaling system on active track. Therefore, the imposition of separate testing PTC testing costs for the TPIRR would be redundant.

(7) <u>GIS</u>

CSXT stated that TPI misinterpreted CSXT's GIS discovery data and developed GIS unit costs by dividing CSXT's total actual costs by track-mile, but then applied those unit costs to the TPIRR based on route miles to derive TPIRR total GIS costs. CSXT claims it adjusted the calculation in Reply by multiplying the unit cost derived by TPI by the TPIRR track miles.[382] Based on a review of CSXT's Reply workpapers, CSXT's characterization of the mechanics of TPI's cost development and CSXT's resolution are both incorrect.

In Opening, TPI developed GIS unit costs using total GIS costs of {{[redacted]}} million and {{[redacted]}} total miles it obtained from a PTC spreadsheet provided by CSXT in discovery.[383] Because the CSXT spreadsheet identified these miles as {{[redacted]}},[384] TPI assumes they represent route miles. Although CSXT replaced this spreadsheet in a subsequent discovery response, TPI inadvertently used the original spreadsheet in its analysis. Using the updated spreadsheet,[385] TPI has developed GIS unit costs using total GIS costs of {{[redacted]}} million and {{[redacted]}} total miles. [386] In both Opening and Rebuttal, TPI multiplied the unit costs it developed by the TPIRR's constructed miles to calculate TPIRR GIS costs. In Opening, this resulted in TPIRR GIS costs of $14.72 million.[387] In Rebuttal, this results in $18.16 million for GIS costs.[388]

In Reply, CSXT multiplied the total GIS costs of {{[redacted]}} million[389] by the following ratio that it developed: TPIRR's 7,357 operating route miles (constructed miles plus trackage rights miles) divided by {{[redacted]}}, resulting in a

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[382] *See,* CSXT Reply, pp. III-F-172-173.

[383] *See,* TPI Opening workpapers "TPI Signals & Communications.xlsx," tab "PTC" and "CSXT PTC Unit Costing Detail.xls," tab "Summary."

[384] *See,* TPI Opening workpaper "CSXT PTC Unit Costing Detail.xls," tab "Summary."

[385] *See,* TPI Opening workpaper "PTC Costs with Details Update version 2.xlsx," tab "Capital Summary," sum of cells C80 through G80. *See also* CSXT Reply workpaper "PTC Development Costs for TPIRR in CSX Reply evidence.xlsx," tab "discovery info," cell B71.

[386] *See,* TPI Opening workpaper "CSXT PTC Unit Costing Detail.xls," tab "Summary."

[387] $50.4 million ÷ 23,500 miles x 6,866 TPIRR route miles. *See* TPI Opening workpaper "TPI Signals & Communications.xlsx," tab "PTC."

[388] $61.1 million ÷ 23,250 miles x 6,912 TPIRR route miles.

[389] *See,* CSXT Reply workpaper "PTC Development Costs for TPIRR in CSX Reply evidence.xlsx," tab "discovery info," cell B71.

total cost of $38.43 million.[390] CSXT did not provide a source or any support for its hard-coded {{[redacted]}}. Furthermore, CSXT overstated the TPIRR miles by including trackage rights miles, because TPIRR only has to provide the investment for constructed miles. CSXT's Reply calculation is both unsupported and demonstrably incorrect and must be rejected.

(8) PTC Communications

CSXT stated that TPI did not include any costs for a PTC communications system.[391] As with PTC back office systems, technical development and support, and testing, CSXT assumes that TPIRR would incur 125 percent of CSXT's prorated real world communications system expenses. But in this case, CSXT imposes the 25 percent additive at the outset of the SAC analysis period, and then adds the full expense by 2015. CSXT again offers no justification for its assumption that TPIRR's expenses would be 25 percent greater than its own.

CSXT is incorrect. The costs necessary for the communications between the PTC system and the locomotives moving over the TPIRR are accounted for in the costs for TPIRR's back office system and in the communications systems components of the WIU's and the locomotive PTC radios. As explained previously, CSXT incurs many of its real world PTC costs because it is overlaying a PTC system onto its existing CTC system. The TPIRR would not incur those costs because it is installing a PTC system right from the start. In addition, the TPIRR will be interoperable with other railroads because the demand its market entry would create would result in suppliers moving the deployment date up. Therefore, many of the costs incurred by CSXT will not be incurred by the TPIRR, much less at a 25 percent premium above CSXT's costs. TPI has not accepted CSXT's additional costs for PTC communications as they are unnecessary.

[390] *See,* CSXT Reply workpaper "PTC Development Costs for TPIRR in CSX Reply evidence.xlsx," tab "table," cell E11 and tab "route."
[391] *See,* CSXT Reply, pp. III-F-173-174.

c. **Communications System**

In Opening, TPI included $282.79 million for the TPIRR communications system. In Reply, CSXT included $381.02 million.[392]

CSXT adjusted "the layout and distribution of microwave towers to correspond to the route configuration of the TPIRR"[393] because TPI's blanket assumption of a microwave tower every 20 miles "fails to account for complexities and necessary requirements for a workable rail communications system."[394] CSXT's modifications resulted in "twenty-one (21) one-way towers (end of line), three hundred thirty-seven (337) two-way towers (intermediate), twenty-five (25) three-way towers, and four (4) four-way direction towers"[395] for a total of 387 towers. This is an increase of 43 towers over the 344 towers included in TPI's Opening.[396]

TPI does not accept CSXT's increase in the count of microwave towers. In Opening, TPI stated "[o]n average, microwave towers are placed at 20 mile intervals along the TPIRR."[397] Microwave towers can be spaced as much as 30 miles apart.[398] By using an average spacing of 20 miles, TPI recognized that some towers would be closer together and some would be farther apart depending on the topography of the TPIRR. CSXT's increase in the number of microwave towers is totally unnecessary and is rejected by TPI. TPI does, however, accept CSXT's separation of the microwave towers into the four (4) different types. TPI accepts CSXT's counts for the number of one-way, three-way and four-way towers but reduces the number of two-way towers from 337 to 294 to maintain the correct total of 344 microwave towers.

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[392] *See,* Table III-F-7 above.
[393] *See,* CSXT Reply, p. III-F-175.
[394] *Id.* p. III-F-176.
[395] *Id.* p. III-F-177.
[396] *Ibid.*
[397] *See,* TPI Opening, p. III-F-53.
[398] *See,* TPI Rebuttal workpaper "Microwave Tower Spacing.pdf."

CSXT also included two (2) antennae per tower where TPI only included one. TPI accepts the increase to two (2) antennas.

CSXT claims that TPI improperly omitted or misstated several communications system components.[399] TPI addresses CSXT's claims below.

First, CSXT claims that TPI used a price for a microwave base station that was different than the price appearing in TPI's workpapers. TPI accepts CSXT's cost in Rebuttal.

Second, CSXT claims that TPI used a price for a microwave antenna that was different than the price appearing in TPI's workpapers and failed to include the costs for the antenna mount assembly. TPI accepts CSXT's modifications in Rebuttal.

Third, CSXT claims that TPI used a price for a land mobile radio base station that was different than the price appearing in TPI's workpapers and the base station selected by TPI does not include all the necessary components. TPI accepts CSXT's modifications in Rebuttal.

Fourth, CSXT claims that TPI used a price for a desktop controller that was different than the price appearing in TPI's workpapers. TPI disagrees. The $417 price used by TPI is shown in TPI's workpapers[400] and TPI continues to use it in Rebuttal.

Fifth, CSXT claims that TPI failed to include the cost for a BRI data card which was included in TPI's documentation as part of the suite of items required for a functioning multiplexor unit. CSXT is incorrect. A BRI data card is not necessary for a functioning multiplexor unit. Furthermore, CSXT did not provide a source for, and TPI was unable to locate, the suite of items in TPI's documentation to which it refers. The TPI workpaper page referenced by CSXT (which TPI did not use) simply shows a list of data cards from which CSXT selected the BRI data card. TPI has not included the cost for the BRI data card in Rebuttal.

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[399] *See,* CSXT Reply, pp. III-F-178-180.

[400] *See,* CSXT Reply workpaper "S & C Workpapers 2.pdf," page 2. This file was provided to CSXT by TPI on June 9, 2014 in response to a CSXT workpaper request.

Sixth, CSXT claims that TPI used a price for a microwave tower that was different than the price appearing in TPI's workpapers. CSXT also claims that TPI omitted the cost for the foundation for the tower structure, did not provide fencing around its microwave sheds, and reduced the costs for 7/8" Standard Coax (foam) without any justification. In Rebuttal, TPI accepts CSXT's cost for the microwave tower and added costs for the foundation and footing but rejected the fencing costs.

Seventh, CSXT claims that it is "standard practice" to fence microwave sheds.[401] CSXT added $5,462 for each of 387 microwave sheds[402] at a total cost of over $2.1 million. Once again, CSXT provided no evidence of the alleged "standard practice," nor has CSXT shown that it has incurred the cost to place fencing around all of its microwave sheds. TPI has not added the cost of this fencing and the Board should reject the microwave shed fencing included by CSXT as unnecessary gold-plating.[403]

Finally, CSXT claims that TPI's cost for a communications shed omitted several components, including shed footings/foundation, an alarm system and a halo ground system. TPI includes the costs for shed footings/foundations and an alarm system but not the halo ground system. The benefit of a halo ground system has been the source of controversy in the signals and communications industry for years and, therefore, TPI has not included it. Furthermore, CSXT did not think such a system was necessary for the signal huts.

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[401] *See,* CSXT Reply, pp. III-F-180.
[402] *See,* CSXT Reply workpapers "TPI LMR Cost Development CSXT Reply.xlsx," tab "Per Tower Equipment" and "TPI Signals & Communications CSXT Reply.xlsx," tab "Components & Tabulation."
[403] *See, Duke/NS* at 101 (n. 19).

d. Hump Yard Equipment

In Opening, TPI included $300.58 million for equipment for the eleven (11) hump yards on the TPIRR.[404] In Reply, CSXT accepts TPI's costs.[405]

7. Buildings and Facilities

Table III-F-9 below compares the buildings and facilities construction costs developed by TPI in Opening, CSXT in Reply and TPI in Rebuttal.

Rebuttal Table III-F-9
TPIRR Buildings and Facilities Investment Costs
($ in millions)

Item	TPI Opening[1/]	CSXT Reply[2/]	TPI Rebuttal[3/]
(1)	(2)	(3)	(4)
1. Headquarters Building	$16.75	$35.15	$20.36
2. Fueling Facilities	33.40	47.90	47.90
3. Locomotive Shops	90.28	161.87	157.82
4. Car Repair Shop	0.00	0.00	0.00
5. Crew Change Facilities	14.28	14.28	14.28
6. Yard Offices	17.50	33.91	18.77
7. Roadway Buildings (MOW)	14.16	19.99	14.16
8. Guard Booths	0.86	0.86	0.37
9. Yardmaster Towers	2.61	8.92	2.61
10. Diesel Service & Insp. Shops	0.00	99.90	0.00
11. In and Out Gates	0.00	29.38	0.00
12. Maintenance Pad	0.00	1.47	0.00
13. Hostler Fueling Area	0.00	6.22	0.00
14. Air Compressor Building	0.00	7.62	0.00
15. Hostler Office & Welfare Bldg.	0.00	2.02	0.00
16. Vehicle Service & Repair Bldg.	0.00	5.75	0.00
17. Other Facilities / Site Costs			
a. Yard Lighting	209.07	239.96	203.29
b. Yard Paving	490.17	608.99	336.78
c. Yard Drainage	77.83	100.12	65.48
d. Yard Fencing	17.94	21.01	12.60
18. Curtis Bay Coal Terminal	0.00	47.12	27.17
19. Total	$984.85	$1,492.44	$921.59

1/ TPI Opening workpaper "TPIRR Facilities.xlsx."
2/ CSXT Reply workpaper "TPIRR Facilities CSXT Reply.xlsx" and "Curtis Bay Coal Pier.xlsx"
3/ TPI Rebuttal workpapers "TPIRR Facilities Rebuttal.xls" and "Curtis Bay Coal Pier TPI Rebuttal.xlsx."

[404] *See,* TPI Opening, p. III-F-54 and TPI Opening workpaper "TPIRR Hump Yard Equipment.pdf."
[405] *See,* CSXT Reply, p. III-F-150, Table III-F-18.

a. Intermodal and Automotive Facilities

Prior to addressing the specific differences in buildings and facilities identified in Rebuttal Table III-F-9 above, TPI must first address the issue of intermodal and automotive facilities served by the TPIRR as this has a significant impact on several of the categories in buildings and facilities. Intermodal and automotive facilities are discussed separately below.

i. Intermodal Facilities

In Opening, TPI included the road property investment costs for 19 intermodal facilities. TPI included investment costs for numerous components such as track construction and roadbed preparation for the tracks, paving, lighting, drainage and fencing for each of these 19 facilities even though it was clear that two (2) of the facilities are owned by other entities.[406] In fact, TPI mistakenly included investment costs for intermodal facilities that are not the responsibility of the TPIRR. TPI determined that the investment costs, other than those required to provide the tracks at the facilities (excluding the two (2) facilities already identified as being owned by other entities), should be eliminated for all intermodal facilities served by the TPIRR because, as shown below, CSXT does not own these facilities. Therefore, the TPIRR is not required to own and construct these intermodal facilities. In Rebuttal, TPIRR eliminated all investment costs for intermodal facilities with the exception of the track construction and roadbed preparation costs required to construct the tracks needed to serve the facilities (excluding the two (2) facilities already identified as being owned by other entities).

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[406] The Memphis, TN intermodal facility is owned by the CN and the Baltimore, MD intermodal facility is owned by the Maryland Port Authority. TPI did not include track for these two facilities. *See,* TPI Opening workpaper "TPIRR Yard Matrix Opening Grading.xlsx," tab "TPIRR Yards." TPI should not have included any investment costs for these two (2) facilities but mistakenly did so in Opening. CSXT accepts TPI's Opening determination that these facilities were not owned by the TPIRR and did not include tracks for them either. *See,* CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "TPIRR Yards." CSXT also erroneously included investment costs for these two facilities.

According to a November 5, 2010 letter from CSXT counsel Paul A. Hemmersbaugh to TPI counsel Jeffrey O. Moreno,[407] prior to June 26, 2010:

> ...CSX Intermodal, Inc. ("CSXI") was an intermodal transportation marketing company which, in connection with that function, also operated a motor carrier business and intermodal terminals through subsidiary CSX Intermodal Terminals, Inc. (hereinafter "Terminals") and their agents...CSXI was a first-tier subsidiary of CSX Corporation ("CSX")....CSXI...purchased freight rail services from railroads (including CSXT)...CSXI retained the services of its then-subsidiary Terminals, which ***owned and operated*** intermodal terminals, and provided container "lift" services for intermodal containers (from rail cars to trucks and vice versa) and other services for CSXI at those terminals.
>
> * * *
>
> "Terminals" has ***owned and operated*** a system of intermodal terminals since the early 1990s...
>
> * * *
>
> In 2010, CSX decided to restructure its intermodal business and to integrate intermodal sales and marketing functions into CSX Transportation ("CSXT"), the Class I railroad that is the Defendant in the present rate case.
>
> * * *
>
> The Restructuring also effectively transferred CSXI's terminal operations, trucking operations, and related rights, responsibilities, and agreements to Terminals, which became a direct first tier subsidiary of CSX. Following the Restructuring, CSXT and Terminals were sister corporations (both subsidiaries of CSX)...[408]

Based on the above information, it is clear that CSX Intermodal Terminals, Inc. ("Terminals"), a subsidiary of CSX Corporation and a sister company of CSXT, owns and operates the intermodal terminals served by the TPIRR and CSXT does not. Therefore, the TPIRR is not required to own and construct these facilities. CSXT pays a lift fee to Terminals for the handling of containers and trailers and intermodal facilities. As the TPIRR is stepping

[407] *See,* TPI Rebuttal workpaper "CSXT(Hemmersbaugh) to TPI November 5, 2010 letter INTERMODAL.pdf."
[408] *Id.* (emphasis added).

into the shoes of CSXT, TPI is only required to pay the lift fee to Terminals. TPI includes lift costs in its operating expenses.[409]

In Reply, CSXT added the investment costs for three (3) additional intermodal facilities for a total of 22 facilities. Based on the above, not only should CSXT's costs for the two (2) facilities mistakenly included in Opening be eliminated, all of CSXT's costs for all 22 intermodal facilities should be eliminated (exclusive of the costs associated with providing the tracks at 20 of the intermodal facilities).

ii. <u>Automotive Facilities</u>

In Opening, TPI included the road property investment costs for 20 automotive facilities. TPI included investment costs for numerous components such as track construction and roadbed preparation for the tracks, paving, lighting, drainage and fencing for each of these 20 facilities even though it was clear that three (3) of the facilities are owned by other entities.[410] In Rebuttal, TPI eliminated all investment costs for these three (3) automotive facilities.

b. <u>Headquarters Building</u>

In Opening, TPI located the TPIRR headquarters building in its Tilford Yard in Atlanta, GA. TPI calculated the required square footage using the American Institute of Architects ("AIA") standard square footage per employee and added space for Executive employees per AIA standards.[411] TPI developed the headquarters building costs based on the RS Means cost for

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[409] *See,* TPI Rebuttal, pp. III-D-66-70.

[410] The West Point, GA automotive facility is owned by KIA, the Bowling Green, KY automotive facility is owned by GM and the Memphis, TN automotive facility is owned by BNSF. TPI did not include track for these three (3) facilities. *See,* TPI Opening workpaper "TPIRR Yard Matrix Opening Grading.xlsx," tab "TPIRR Yards." TPI should not have included any investment costs for these three (3) facilities but mistakenly did so in Opening. CSXT accepts TPI's Opening determination that these facilities were not owned by the TPIRR and did not include tracks for them either. *See,* CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "TPIRR Yards." CSXT also erroneously included investment costs for these three (3) facilities.

[411] *See,* TPI Opening, p. III-F-56.

a building structure of this size and added costs for additional items not included in RS Means costs.[412]

In Reply, CSXT accepts the methodology utilized to determine the size of the headquarters building and TPI's unit cost but makes the following two (2) adjustments: (1) CSXT increases the size of the building based on the increased number of TPIRR executive and administrative personnel;[413] and (2) CSXT adds the square footage required to accommodate both the male and female locker rooms that TPI included costs for in Opening.[414]

In Rebuttal, TPI accepts the addition of the space for the locker rooms but revises the size of the headquarters building to reflect TPI's Rebuttal number of TPIRR executive and administrative personnel developed in Part III-D of this Rebuttal evidence.

c. <u>Fueling Facilities</u>

In Opening, TPI included large fixed fueling platforms with eight (8) fueling stations at each of the twelve (12) major TPIRR yards and smaller fixed fueling platforms with four (4) fueling stations at four (4) other yards on the TPIRR.[415] TPI also designated fifteen (15) locations where locomotive fueling facilities are provided track-side for fueling by trucks (i.e., direct –to-locomotive ("DTL") fueling).[416]

In Reply, CSXT generally accepts TPI's fixed locomotive fueling facilities and DTL fueling facilities but makes a few adjustments. <u>First</u>, CSXT rejects as inadequate TPI's provision of only two-25,000 gallon fuel storage tanks at each of the fixed locomotive fueling facilities and no storage tankage for fuel additives, lube oils or waste oils. CSXT bases the storage tank needs at the TPIRR's large facilities on the existing storage tanks at CSXT's Atlanta facility. For the

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412 *Ibid.*
413 *See,* CSXT Reply, p. III-F-183.
414 *Ibid.*
415 *See,* TPI Opening, pp. III-F-56-57.
416 *Id.* p. III-F-57

larger eight station fueling facilities, CSXT increases the size of the fuel storage tanks to 150,000 gallons each and adds costs for a 20,000 gallon lube oil tank, a 12,000 gallon fuel additives tank and two (2) 2,000 gallon used oil storage tanks. For the smaller four (4) station facilities, CSXT reduces the fuel storage, fuel additives and waste oil tankage by half.[417] Second, CSXT rejects TPI's assumed use of fuel pans to capture spillage in both large and small permanent fueling platforms and adds platform concrete with embedded tracks, concrete service foundations, and adequate platform length and width.[418] Third, CSXT rejects TPI's asphalt specifications for TPIRR DTL fueling facilities as inadequate to accommodate the heavier load of DTL fuel trucks and substitutes heavier industrial asphalt.[419]

TPI accepts the adjustments made by CSXT in Rebuttal.

d. Locomotive Shops

In Opening, TPI included locomotive shops on the TPIRR at Willard, OH, Cumberland, MD, Nashville, TN, and Waycross, GA with each locomotive shop designed to handle larger overhaul work, 92-day inspections, and running repairs.[420] TPI based the unit costs and designs for the locomotive shops on the cost per square foot developed from bid prices on previous projects involving Crouch Engineering with costs for additional items and equipment not included in this cost per square foot developed from manufacturer quotes and CSXT discovery.[421]

In Reply, CSXT accepts many of TPI's locomotive shop components and unit costs but makes several design and cost modifications to TPI Opening evidence.[422]

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[417] *See,* CSXT Reply, pp. III-F-184-186.
[418] *Id.* pp. III-F-186-187
[419] *Id.* pp. III-F-187-188.
[420] *See,* TPI Opening, p. III-F-57
[421] *Id.* pp. III-F-57-58
[422] *See,* CSXT Reply, pp. III-F-188-196.

In Rebuttal, TPI accepts CSXT's Reply costs for locomotive shops with two (2) modifications. First, in Opening, TPI indexed the cost for jib cranes twice resulting in overstated costs. CSXT accepts TPI's count and costs for jib cranes but did not correct the indexing error. TPI corrects this in Rebuttal. Second, CSXT accepts TPI's specification of two (2) 30/10 gantry cranes in each shop and the crane specified by TPI to cover the service and inspection tracks but CSXT substituted a larger crane to cover the three (3) locomotive repair tracks.[423] In CSXT's Reply workpapers, CSXT overstated crane costs by including the costs for two (2) of TPI's cranes and two (2) of CSXT's larger cranes.[424] TPI has removed the costs for one of TPI's smaller cranes and one of the larger cranes so that the costs now reflect one small crane and one large crane as specified in CSXT's Reply text.[425]

e. Diesel Service and Inspection Shop

In Reply, CSXT claims that the TPIRR would require twelve (12) additional diesel locomotive service and inspection facilities to conduct 92-day inspections and to perform minor running repairs at TPIRR locations that do not already have major locomotive repair facilities.[426] CSXT argues that these additional facilities are necessary because the existing TPIRR locomotive repair shops are spaced too far apart to provide adequate access for locomotive service and inspection and performing mid-level services is not practical at other existing fixed fueling facilities where only minor repairs can be accomplished while maintaining efficient fueling operations.[427]

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[423] *Id.* pp. III-F-194-195.

[424] *See,* CSXT Reply workpaper "TPIRR Facilities CSXT Reply," tab "Loco Shop," cells K27 and K28.

[425] *See,* TPI Rebuttal workpaper "TPIRR Facilities Rebuttal," tab "Loco Shop," cells J27 and J28.

[426] *See,* CSXT Reply, p. III-F-196. TPI notes that CSXT's text is inconsistent with regard to the number of facilities. CSXT claims that these facilities are needed at each of the twelve major yard locations without major locomotive facilities and then identifies all twelve major yards as the locations for the proposed facility. Four (4) of the major yards have major locomotive repair facilities which means that CSXT should have only included eight (8) facilities. CSXT used the correct number of eight (8) facilities in developing its investment costs.

[427] *Id.* pp. III-F-196-197.

In Rebuttal, TPI rejects CSXT's addition of diesel locomotive service and inspection facilities. CSXT did not provide any analytical support for either of its arguments. Furthermore, TPI maintains that the existing locomotive repair facilities can handle inspections and that locomotives can be efficiently moved to the closest facility when necessary. As a practical matter, TPI maintains that the scheduled movement of locomotives on the TPIRR for the 92-day inspection would be handled by the operations control personnel of the transportation department in coordination with the mechanical department. In Rebuttal, TPI does not add these unnecessary and duplicative facilities to the TPIRR.

f. Car Repair Shop

In Opening, TPI did not include any costs for a car repair facility because the TPIRR acquires its railcars via full service leases with the lessor responsible for all necessary car repair. However, TPI did include the space and necessary tracks for such a facility at three (3) yards on the TPIRR.[428] In Reply, CSXT accepts TPI's opening evidence.[429]

g. Crew Change Facilities

In Opening, TPI included costs for 48 crew change facilities at locations across the TPIRR with buildings at 14 locations sized for a total of 2,240 square feet and buildings at 34 other locations sized for a total of 1,400 square feet.[430] Each building includes all the basic facilities required and the building costs are based on RS Means cost per square foot for a building of this type plus other costs for items not included in the RS Means cost per square foot.[431] In Reply, CSXT accepts TPI's sizing, count and costs for large and small crew change facilities.[432]

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[428] *See,* TPI Opening, p. III-F-58.
[429] *See,* CSXT Reply, p. III-F-197.
[430] *See,* TPI Opening, p. III-F-58.
[431] *Id.* pp. III-F-58 to 59.
[432] *See,* CSXT Reply, p. III-F-198.

h. Yard Offices

In Opening, TPI included costs for twelve (12) large and fifty (50) small yard offices on the TPIRR at locations where there are car inspectors, transportation department field personnel and more than one yard crew.[433] The costs for these building were based on pricing developed for the large and small crew change facilities since the size and construction will be similar.[434]

In Reply, CSXT accepts TPI's large and small yard office costs but included an additional seventy (70) small yards to be consistent with the modifications CSXT made to the TPIRR operating plan.[435]

In Rebuttal, TPI rejects CSXT's addition of yard offices to intermodal, automotive and bulk transfer facilities. As discussed at the beginning of this section, the TPIRR is not responsible for the construction of intermodal facilities. TPI does include intermodal lift costs and automotive handling fees based on information provided by CSXT in discovery.[436] The bulk transfer facility operator bills the shipper separately for his services. Any yard offices at these locations are the responsibility of the contractor. Furthermore, CSXT has not provided any documentation that it paid for any yard offices at these locations. Finally, many of these facilities are adjacent to or part of TPIRR major or other yards where TPI has already provided yard offices.

CSXT also added yard offices at seven (7) other yards and five (5) interchange locations. TPI added small yard offices at the five (5) locations that have more than one yard crew

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[433] *See,* TPI Opening, p. III-F-59.
[434] *Ibid.*
[435] *See,* CSXT Reply, p. III-F-198 and CSXT Reply workpaper "TPIRR Facilities CSXT Reply.xlsx," tab "TPIRR Yards."
[436] *See,* TPI Rebuttal, pp. III-D-66-70 pertaining to the lift fees and automotive fees paid by the TPIRR.

consistent with its criteria identified in Opening[437] – Danville, Il (Brewer Yard); Indianapolis, IN (Hawthorne Yard); Curtis Bay, MD; Oakworth, AL; and Cartersville, GA.

In Rebuttal, TPI included the twelve (12) large yard offices presented in Opening and accepted by CSXT in Reply and fifty-five (55) small yard offices.[438]

i. Maintenance of Way Buildings

In Opening, TPI included fifty-one (51) maintenance-of-way ("MOW") buildings similar in size and design to the crew-change facilities but with additional area provided for garaging certain vehicles and storing MOW supplies.[439] The unit costs and specifications for these buildings were derived from the cost of the small crew-change facility with additional costs added for site construction since not all MOW buildings are located at yards.[440]

In Reply, CSXT accepts the cost of TPI's MOW buildings and its methodology for correlating the cost with the cost of small crew change facilities. CSXT increases the total number of MOW buildings from fifty-one (51) to seventy-two (72) based on revised MOW districts and revised personnel requirements that CSXT developed in Reply.[441]

In Rebuttal, TPI continues to include fifty-one (51) MOW buildings on the TPIRR. CSXT includes an unrealistically high number of MOW buildings based on an overstated number of MOW districts and personnel that are not required by an optimally efficient, realistically-staffed TPIRR.[442]

j. Guard Booths

In Opening, TPI included thirty-four (34) guard booths for intermodal and automotive yards on the TPIRR with costs developed from a manufacturer's quote plus additional costs for

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[437] *See,* TPI Opening, p. III-F-59.
[438] *See,* TPI Rebuttal workpaper "TPIRR Yard Matrix Rebuttal Grading.xlsx," tab "TPIRR Yards."
[439] *See,* TPI Opening, p. III-F-59.
[440] *Ibid.*
[441] *See,* CSXT Reply, pp. III-F-198-199.
[442] *See,* TPI Rebuttal Exhibit III-D-2, pp. 29-30.

other items not included in the quote.[443] In Reply, CSXT accepts TPI's costs and number of guard booths.[444] However, CSXT also included a guard booth in its development of costs for the Curtis Bay Coal Terminal.[445] TPI rejects the addition of a guard booth at the Curtis Bay Coal Terminal. CSXT did not provide any explanation as to why it is necessary. Furthermore, there is no truck traffic in and out of the coal terminal like there is at intermodal and automotive facilities.

While preparing Rebuttal, TPI discovered that it mistakenly included the costs for 39 guard booths for all 19 intermodal facilities and all 20 automotive facilities [446] and so did CSXT.[447] As discussed previously, TPIRR is not responsible for constructing any intermodal facilities and mistakenly included the costs for three (3) automotive facilities that are not owned by the TPIRR. CSXT accepts TPI's determination that these three automotive facilities are not owned by the TPIRR.[448]

In Rebuttal, TPI corrected the number of guard booths required for the TPIRR. As TPIRR is not responsible for the construction of intermodal facilities, TPI only included guard booths for the 17 automotive facilities owned by the TPIRR.

k. Yardmaster Towers

In Opening, TPI included yardmaster towers at each of TPIRR's hump yards for a total of eleven (11) towers.[449] CSXT accepts these towers but increases the number of towers "consistent with CSXT's operating plan."[450] CSXT does not explain in its text where these towers were added or why. A review of CSXT's workpapers reveals that CSXT added sixteen

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[443] *See,* TPI Opening, p. III-F-60.
[444] *See,* CSXT Reply, p. III_F-199.
[445] *See,* CSXT Reply workpaper "Curtis Bay Coal Pier.xls."
[446] *See,* TPI Opening workpaper "TPIRR Facilities.xlsx," tab "TPIRR Yards," columns AG and AH.
[447] *See,* CSXT Reply workpaper "TPIRR Facilities CSXT Reply.xlsx," tab "TPIRR Yards," columns AG and AH.
[448] *See,* CSXT Reply workpaper "TPIRR Yard Matrix CSXT Reply.xlsx," tab "TPIRR Yards."
[449] *See,* TPI Opening, p. III-F-60.
[450] *See,* CSXT Reply, p. III-F-200.

(16) towers: one tower in Barr Yard, one tower in five (5) of the hump yards (Willard, Selkirk, Cumberland, Osborn and Tilford), two (2) towers in one hump yard (Radnor), two (2) towers in one other yard (Collinwood) and one tower in six (6) other yards (DeWitt, Howell, Leewood, Gentilly, Moncrief and Augusta). CSXT's apparent justification is that these towers currently exist in these CSXT yards.

CSXT did not provide any justification for the inclusion of these additional towers. The mere existence of these towers on a yard schematic does not mean that these additional towers are needed by TPIRR. In fact, CSXT did not provide any indication that these towers are currently in use, only that they appear on a schematic. These towers were constructed many years ago (as evidenced by the 1966 cost used by both parties) and modern day communications negate the need for these additional towers. For these reasons, TPI has not included these additional yardmaster towers in Rebuttal.

The cost for a yardmaster tower was based on the 1966 construction cost provided by CSXT in discovery indexed to 3Q10.[451] CSXT accepts TPI's cost but adds the cost for an elevator.[452] In support of its contention, CSXT cites to Section 203.9 of the 2010 Standards of the Americans with Disabilities Act ("ADA"). However, there several fatal flaws with CSXT's position. <u>First</u>, the 2010 ADA standards apply to new construction starting on or after March 15, 2012.[453] Of course, construction of the TPIRR is completed nearly two (2) years earlier – by the start of TPIRR operations on July 1, 2010.[454] Even if the 2010 ADA Standards applied, the TPIRR's yardmaster towers fit squarely into one of the exceptions for the elevator requirement. Specifically, the elevator requirement does not apply to private buildings that have less than

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[451] *See,* TPI Opening, p. III-F-60 and TPI Opening workpaper "Yardmaster Tower Unit Costs.pdf".
[452] *See,* CSXT Reply, pp. III-F-199-200.
[453] *See,* TPI Rebuttal workpaper "2010 ADA standards for accessible design.pdf," p. 3.
[454] *See,* TPI Opening, p. III-G-3.

3000 square feet per story.[455] The yardmaster towers on the TPIRR have only 256 square feet per story.[456]

More broadly, the elevator cost is also inapplicable to the TPIRR because CSXT has not shown that its own yard towers have elevators. As such, the elevator cost is a barrier to entry that should be excluded.[457] CSXT's attempt to include elevator costs must be rejected as impermissible because it would enable CSXT to "earn[ ] monopoly rents in the form of a return on investments it never actually made."[458] The Board has previously found that "the cost of needed permits, licenses and environmental compliance…must be considered as a barrier when that cost was not incurred by the incumbent."[459] Compliance with the ADA is not a "modern construction technique" that is simply being substituted for a procedure that was used by CSXT's predecessors.[460] Instead, ADA compliance is an extra cost that was (apparently) never incurred by CSXT.[461] As such, ADA compliance is similar to erosion control costs that were rejected in cases such as *West Texas Utilities*. In that case, BNSF asserted that the Clean Water Act required erosion control measures. The Board rejected such costs, determining that "[g]overnmental regulation on erosion control is a relatively recent requirement and one that BNSF did not indicate that it incurred when its ROW was constructed. Thus, we agree that these costs are barriers to entry."[462]

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455 *See,* TPI Rebuttal workpaper "2010 ADA standards for accessible design.pdf", p. 25.
456 *See,* TPI Opening workpaper "Yardmaster Tower Unit Costs.pdf," p. 2, where the size is indicated as "16x16".
457 "Under SAC procedures, a SARR is not required to incur costs for construction activities that the defendant railroad has never incurred." *PSCo/Xcel I* at 690.
458 *West Texas Utilities* at 670.
459 *West Texas Utilities* at 672-673.
460 *See, e.g., McCarty Farms* at 502 (n. 74); *CP&L* at 318.
461 CSXT offered no evidence that it constructed elevators at any of the towers replicated by the TPIRR.
462 *West Texas Utilities* at 705-706. *See, also Burlington Northern Railroad Co. v. STB*, 114 F.3d 206, 214 (D.C. Cir. 1997) (Court affirms Board decision on the issue of barriers to entry, finding it appropriate that Burlington Northern was permitted "to earn a competitive return on all investments the railroad actually made at their current value, but not on the investments it avoided by being the first to market."); *APS* at 386.

For the above reasons, TPI has not added the elevator cost to the cost for yardmaster towers.

l. Wastewater Treatment

In Opening, TPI assumed that all building facilities are located near existing towns and cities and are able to be served by local sewer connections or similar services. TPI included the costs for sewer tie-ins in the site costs for each facility. TPI also included oil/water separators, where necessary, and included the costs with each facility.[463]

In Reply, CSXT accepts TPI's assumption that TPIRR's building facilities could be served by a local sewer connection and also accepts TPI's costs for the sewer tie-ins.[464] CSXT, however, added oil/water separators at additional TPIR facilities that CSXT added in Reply.[465] Based on a review of CSXT's workpapers, CSXT included costs for oil/water separators in the costs for diesel service and inspection shops, maintenance pads, hostler fueling areas and vehicle service and repair buildings.[466] As discussed in this Section, TPI has not included any of these additional facilities in Rebuttal and TPI has not included CSXT's costs for additional oil/water separators.

m. Turntables

In Opening, TPI included turntables at eleven (11) of the TPIRR's yards based on information provided by CSXT in discovery. In Reply, CSXT accepts TPI's turntable locations and unit cost but adds a turntable in Cincinnati's Queensgate Yard.[467] In Rebuttal, TPI added this turntable. However, TPI removed the turntable at the Mobile, AL intermodal terminal because TPIRR is not responsible for the construction of intermodal terminals.

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[463] *See,* TPI Opening, p. III-F-60.
[464] *See,* CSXT Reply, p. III-F-200.
[465] *Ibid.*
[466] *See,* CSXT Reply workpaper "TPIRR Facilities CSXT Reply.xlsx."
[467] *See,* CSXT Reply, p. III-F-201.

n. **In Gates and Out Gates**

In Reply, CSXT "included costs for in gates and out gates at only those CSXT intermodal terminals where available photographs have sufficient detail and clarity to confirm the presence of those facilities at CSXT yard and terminals replaced by the TPIRR."[468] CSXT argues that these facilities are required to provide the secure management of the movement of containers to and from intermodal yards so that intermodal rail service providers will be able to closely manage the logistics of intermodal traffic and will be able to advise their customers of the location of their merchandise at any given time. CSXT concludes that every TPIRR intermodal yard would have such standard features.[469]

As discussed previously, TPIRR is not responsible for the construction of the intermodal facilities served by the TPIRR. Therefore, TPI rejects CSXT's addition of these facilities and they should be rejected by the Board.[470]

o. **Maintenance Pad**

In Reply, CSXT "included costs for maintenance pads only at those CSXT intermodal terminals where available aerial photographs have sufficient detail and clarity to confirm the presence of those maintenance pads at CSXT yards and terminals replaced by the TPIRR."[471] CSXT argues that maintenance pads are "commonly used by intermodal terminals in order to provide service and repairs to lift equipment (rubber-tired gantry cranes or "RTG's", side

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468 *Id.* pp. III-F-201-202.
469 *Id.* p. III-F-201.
470 TPI points out that CSXT grossly overstated its costs for the in and out gates. Specifically, CSXT developed its costs based on a bid cost comparison of the costs of a combined in and out gate. The bid contained quantities for various components needed for the combined in and out gate, yet CSXT double-counted the quantities by including the total quantities from the bid for these components in its cost development for both the in and out gates separately. TPI specifically identified the components and costs that CSXT double counted. *See,* TPI Rebuttal workpapers "In and Out Gates TPI Rebuttal.xlsx" and "CSXT in and out gates support.pdf."
471 *See,* CSXT Reply, p. III-F-202.

loaders, etc.)"[472] and are "essential to intermodal yard operations and should be at every intermodal yard."[473]

As discussed previously, TPIRR is not responsible for the construction of the intermodal facilities served by the TPIRR. Therefore, TPI rejects CSXT's addition of these maintenance pads and they should be rejected by the Board.

p. Hostler Fueling Area

In Reply, CSXT "included costs for hostler fueling only where available aerial photographs have sufficient detail and clarity to confirm the presence of those facilities at CSXT yards and terminals replaced by the TPIRR."[474] CSXT argues that hostler (i.e., tractor) fueling areas "are essential to provide off-road fueling for intermodal hostlers."[475]

As discussed previously, TPIRR is not responsible for the construction of the intermodal facilities served by the TPIRR. Therefore, TPI rejects CSXT's addition of these fueling areas and they should be rejected by the Board.

q. Air Compressor Buildings and Yard Air System

In Reply, CSXT included the costs for air compressor buildings and yard air systems at four (4) intermodal facilities.[476]

As discussed previously, TPIRR is not responsible for the construction of the intermodal facilities served by the TPIRR. Therefore, TPI rejects CSXT's addition of these buildings and air systems and they should be rejected by the Board.

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[472] *Id.*
[473] *Id.*
[474] *Id.* p. III-F-203.
[475] *Ibid.*
[476] *Id.* pp. III-F-203-204. *See, also* CSXT Reply workpaper "TPIRR Facilities CSXT Reply.xlsx," tab "TPIRR Yards."

r. Hostler Office and Welfare Buildings

In Reply, CSXT included the cost for hostler accommodations only at those CSXT intermodal terminals where this facility can be located and documented."[477] CSXT claims that hostlers (i.e., personnel operating hostler equipment) report on and off duty at intermodal facilities and require lockers, time clocks, and welfare amenities separate and distinct from those built for railroad employees.[478]

As discussed previously, TPIRR is not responsible for the construction of the intermodal facilities served by the TPIRR. Therefore, TPI rejects CSXT's addition of these facilities and they should be rejected by the Board.

s. Vehicle Service and Repair Buildings

In Reply, CSXT "included vehicle maintenance and repair facilities only where available aerial photographs have sufficient detail and clarity to confirm the presence of those facilities at CSXT yards and terminals replaced by the TPIRR."[479] CSXT claims that "the repair and service of motor vehicles, including tractors used to shuttle intermodal trailers and containers, must occur at regular intervals."[480] CSXT concludes that "because the majority of intermodal operations employ non-street legal hostler tractors, these services must be provided on site."[481]

As discussed previously, TPIRR is not responsible for the construction of the intermodal facilities served by the TPIRR. Therefore, TPI rejects CSXT's addition of these facilities and they should be rejected by the Board. [482]

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[477] *See,* CSXT Reply, p. III-F-205.
[478] *Id.* pp. III-F-204 to 205.
[479] *Id.* pp. III-F-205 to 206.
[480] *Id* p. III-F-205.
[481] *Ibid.*
[482] TPI notes that the Board has rejected costs for similar facilities called "mechanic repair shops" in prior SAC proceedings. *See, DuPont* at 244-245 and *SunBelt* at 163.

t. Other Facilities / Site Costs

In Opening, TPI included costs for lighting, paving and drainage at TPIRR intermodal, automotive and bulk transfer facilities as well as other TPIRR yards plus site preparation costs.[483] In Reply, CSXT made modifications to TPI's Opening presentation.[484] Each of these areas is discussed below.

i. Yard Lighting

In Opening, TPI developed yard lighting plans for the TPIRR intermodal, automotive and bulk transfer facilities based on existing CSXT lighting plans and Google Earth aerial views. TPI developed yard lighting costs based on quotes from suppliers and RS Means.[485]

In Reply, CSXT "accepts TPI's general approach of extrapolating lighting requirements for the TPIRR yards from existing CSXT facilities, but rejects TPI's use of one single yard as the basis for extrapolating costs for certain types of yards."[486] CSXT claims TPI failed to include costs for "underground electrical conduit and pullboxes for its 20' wood light pole category."[487] CSXT also added three (3) intermodal facilities, five (5) flat yards, and two (2) partially owned yards to the TPIRR yard inventory which increases the aggregate costs for this item.

In Rebuttal, as discussed in Part III-B, TPI accepts the additional yards and facilities identified by CSXT and, therefore, adds the lighting costs necessary for these yards (except for the three (3) additional intermodal yards). As discussed previously, three (3) automotive facilities are not owned by the TPIRR. TPI mistakenly included the lighting costs for these

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[483] *See,* TPI Opening, pp. III-F-60-62.
[484] *See,* CSXT Reply, pp. III-F-206-213.
[485] *See,* TPI Opening, p. III-F-61.
[486] *See,* CSXT Reply, p. III-F-207
[487] *Ibid.*

facilities in Opening but has removed these costs in Rebuttal. TPI also removed all lighting costs for intermodal facilities as they are not constructed by the TPIRR.[488]

In Rebuttal, TPI accepts CSXT's addition of the costs for underground electrical conduit and pullboxes for the 20' wood light poles and CSXT's modifications to the calculation of average yard lighting costs for the Type 2 yards and the automotive and bulk transfer facilities.

ii. Yard Paving

In Opening, TPI developed paving plans for the TPIRR's intermodal, automotive and bulk facilities, plus major yards and other yards, that were based on existing CSXT yard plans provided in discovery and based on a review of these locations in Google Earth. TPIRR paving costs were based on unit costs from RS Means for the appropriate pavement section required.[489]

In Reply, "CSXT accepts TPI's approach of developing yard paving requirements based on aerial views of existing CSXT facilities as a reasonable starting point."[490] CSXT claims, however, that TPI's pavement and concrete costs are based on substandard specifications that would not withstand the burdens of everyday railroad use.[491] Based on this claim, CSXT upgraded asphalt and concrete types, incorporated multiple paving standards for concrete and asphalt sections, corrected costs using RS Means, utilized appropriate costs for yard concrete pavement used at intermodal facilities, added additional costs to TPI's asphalt cross section for regular traffic, revised the pavement numbers used to quantify Type 1 yards, and added the costs for three (3) additional intermodal terminals that were missing from TPI's Opening evidence.[492]

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[488] TPI notes that CSXT's lighting costs are significantly overstated because they include the costs for the three (3) automotive facilities that are not owned by the TPIRR as well as all of the intermodal facilities not owned by the TPIRR.

[489] *See,* TPI Opening, p. III-F-61.

[490] *See,* CSXT Reply, p. III-F-208.

[491] *Ibid.*

[492] *Id.* pp. III-F-208-211.

In Rebuttal, as discussed in Part III-B, TPI includes the tracks for the three (3) additional intermodal facilities identified by CSXT in Reply. However, as discussed previously, TPIRR is not responsible for the construction of the intermodal facilities served by the TPIRR and has excluded all other investment costs for all the intermodal facilities including the paving costs. Furthermore, as discussed above, three (3) automotive facilities are not owned by the TPIRR. TPI mistakenly included the paving costs for these facilities in Opening but has removed these costs in Rebuttal.[493]

Much of CSXT's criticisms pertain to the paving at intermodal facilities. Although TPI's opening paving types and costs are sufficient for intermodal facilities, TPI has not responded specifically to CSXT's intermodal facility paving criticisms as TPI is not constructing these facilities.

TPI accepts the additional costs for backfilling and compacting and adds them in Rebuttal but rejects all of the remaining adjustments made by CSXT.

TPI's opening pavement specifications are heavier than necessary for automobile and light truck traffic and sufficient for heavy use at a bulk transfer facility or medium use at an automotive facility. TPI's pavement specification (4-inch binder, 2-inch topping and 6-inch gravel base) is much heavier than necessary for car traffic and parking at an automotive facility and was designed to be applied to all various yard uses.

CSXT's "Heavy Duty" pavement section is unnecessary. CSXT increases the gravel layer from six (6) inches to nine (9) inches but reduces the binder from four (4) inches to three (3) inches. This modification is unnecessary and only serves to increase costs.

[493] TPI notes that CSXT's paving costs are overstated because they include the costs for the three automotive facilities that are not owned by the TPIRR as well as all of the intermodal facilities not owned by the TPIRR.

CSXT's addition of three (3) concrete paving sections is not required. One section is lighter than that specified by TPI and two (2) are heavier. The heavier sections are primarily associated with intermodal yards and, therefore, are not required.

TPI rejects CSXT's quantity changes for Type 1 and Type 2 yards because the adjustments made by CSXT are not supported and CSXT did not demonstrate that TPI's Opening quantities are incorrect. In Opening, TPI included workpapers (pdf files and scaled images referenced in CAD drawings) that showed how TPI determined the pavement quantities for all yards.[494] In Reply, CSXT included only non-scaled pdf files that did not allow for TPIRR to identify the changes made by CSXT to the opening yard quantities or to verify CSXT's figures. In Rebuttal, TPI continues to use the paving quantities developed in Opening for Type 1 and Type 2 yards.

Finally, TPI rejects CSXT's use of 0.28 acres of Heavy Asphalt pavement section for four (4) major yards and eleven (11) other yards because CSXT did not explain why Heavy Asphalt was necessary at these locations.

For the flat and partially-owned yards added by CSXT in Reply and accepted by TPI in Rebuttal, TPI accepts CSXT's quantities of paving for these yards but consolidates CSXT's two (2) types of pavement into TPI's single type.

iii. Yard Drainage

In Opening, TPI provided for drainage facilities for the TPIRR major and other yards as well as automotive, intermodal and bulk transfer facilities based on plans provided by CSXT in discovery.[495] TPI did not provide for drainage facilities in "other yards with no classification

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[494] *See*, TPI Opening workpapers "TPIRR Automotive Terminals Workpapers.pdf," "TPIRR Bulk Transfer Terminals Workpapers.pdf," "TPIRR Major Yards Workpapers.pdf," "TPIRR Other Yards Workpapers.pdf," and the files in the sub-directory "AutoCad Drawings Used For Quantities."

[495] *See,* TPI Opening, pp. III-F-61-62.

tracks or additional interchange yards as they consist of less than ten tracks and will be sufficiently graded to allow for water to drain naturally, over the crusher run cap and through the track ballast."[496]

In Reply, CSXT accepts TPI's methodology for developing cost for yard drainage facilities but rejects TPI's assumption that flat yards with less than ten (10) tracks would require no drainage.[497] CSXT also added three (3) intermodal yards, five (5) flat yards, and two (2) partially owned yards to the TPIRR yard inventory and calculated yard drainage costs for each which increases the aggregate costs for this item.

In Rebuttal, as discussed in Part III-B, TPI accepts the additional yards and facilities identified by CSXT and, therefore, adds the yard drainage costs necessary for the flat yards with classification tracks or more than ten (10) tracks but not the additional three (3) intermodal facilities. As discussed previously, three (3) automotive facilities are not owned by the TPIRR. TPI mistakenly included the yard drainage costs for these facilities in Opening but has removed these costs in Rebuttal. TPI also removed all drainage costs for intermodal facilities as they are not constructed by the TPIRR.[498]

TPI rejects CSXT's addition of drainage facilities for yards with less than ten (10) tracks for several reasons. First, CSXT provides no evidence that all of its smaller yards have drainage facilities. Second, CSXT provides no evidence that the lack of drainage facilities in smaller yards has led to the deterioration of the tracks and roadbed in these yards. Third, water draining through the ballast and sub-ballast is precisely how water drainage is handled along the main lines of the TPIRR. Drainage facilities are not installed along the entire mileage of the TPIRR

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[496] *Id.* p. III-F-62.

[497] *See,* CSXT Reply, pp. III-F-212.

[498] TPI notes that CSXT's yard drainage costs are overstated because they include the costs for the three (3) automotive facilities that are not owned by the TPIRR as well as all of the intermodal facilities not owned by the TPIRR.

but rather only installed in locations where water build-up is a problem, as evidenced by the lateral drainage quantities included on the ICC Engineering Reports and the lateral drainage costs included in the roadbed preparation costs for the TPIRR. Fourth, TPI Engineering Witness Harvey Crouch has professional experience from both his time at NS and with his engineering firm that railroads do not install drainage facilities, such as catch basins and drainage pipes, in small yards. NS has a policy of avoiding yard drainage systems, if possible, because the systems are hard to maintain and usually get filled with ballast and other debris very quickly. In fact, NS has removed yard drainage from some Crouch Engineering yard designs due to this policy. Furthermore, a marshalling yard recently designed by Crouch Engineering for the Florida East Coast Railway ("FEC") did not have any drainage design at the request of the FEC.

For the above reasons, TPI continues its Opening practice of not including drainage facilities for flat yards without classification tracks or less than ten (10) tracks in Rebuttal.

iv. Fencing

In Opening, TPI included fencing costs for other facilities based on actual linear feet of fencing at the yard or estimated linear feet of fencing based on an average ratio of fence length to total yard area for either a Type 1 or Type 2 yard times the actual total yard area of the yard.[499]

In Reply, CSXT accepts the actual fencing counts for automotive and bulk transfer facilities but not the fencing counts for intermodal terminals.[500] CSXT also accepts TPI's ratio method for fencing take-offs for Type 2 yards "but refutes the fencing counts used to quantify type 1 yards fencing count averages."[501] CSXT also accepts TPI's unit cost for fencing.[502]

[499] *See,* TPI Opening workpaper "TPIRR Facilities.xlsx," tab "Yard Pavement and Fence Costs."
[500] *See,* CSXT Reply, p. III-F-212.
[501] *Ibid.*
[502] *See,* CSXT Reply workpaper "TPIRR Facilities CSXT Reply.xlsx," tab "Yard Pavements and Fence Costs."

In Rebuttal, TPI accepts CSXT's adjustments to yard fence quantities applied to the yards owned by the TPIRR. As discussed in Part III-B, TPI accepts the additional yards and facilities identified by CSXT and, therefore, adds the fence costs necessary for these additional yards and facilities (except for the three (3) intermodal facilities). As discussed previously, three (3) automotive facilities are not owned by the TPIRR. TPI mistakenly included the fence costs for these facilities in Opening but has removed these costs in Rebuttal. TPI has also removed all fencing costs for intermodal facilities as they are not constructed by the TPIRR.[503]

v. Pavement Marking

In Reply, CSXT accepts TPI's pavement marking counts for TPIRR yards and terminals.[504]

u. Curtis Bay Coal Terminal

In Reply, CSXT claims that TPIRR included the revenue for coal traffic moving to Curtis Bay in Baltimore, Maryland but failed to include the cost of constructing the coal terminal.[505] CSXT included a cost of $47.12 million for the Curtis Bay Coal Terminal based on the existing CSXT Curtis Bay Coal Facility including trackwork, conveyor systems, piers, other facilities and operating costs.

In Rebuttal, TPI accepts the requirement that it must build the Curtis Bay Coal Terminal and agrees generally with the design, facilities and costs proposed by CSXT but makes the following modifications. First, TPI removes some of the items from CSXT's investment spreadsheet and includes them in their proper location. Specifically: (1) the yard track miles are included in TPIRR's yard matrix so that track costs will be included with the track construction

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[503] TPI notes that CSXT's fence costs are overstated because they include the costs for the three automotive facilities that are not owned by the TPIRR as well as all of the intermodal facilities not owned by the TPIRR.
[504] *See,* CSXT Reply, p. III-F-213.
[505] *Ibid.*

and grading costs will be included with the roadbed preparation costs; (2) yard drainage, paving and lighting costs are included with facilities costs; (3) bridge costs are included with bridge costs; and (5) land costs are included with land costs. This allows the costs for these items to be properly developed using TPI's Rebuttal unit costs and placed in their proper account for the DCF Model. For example, including land costs for the Curtis Bay Coal Terminal with the other costs, as CSXT done, is improper because the mobilization, engineering, and contingency additives would be erroneously applied.

Second, TPI rejects costs for a vehicle service and repair building because CSXT has not demonstrated that it is required. Third, TPI rejects the costs for a guard booth as there is no truck traffic serving the facility and CSXT has not demonstrated why it is required. Fourth, TPI rejects the costs for a yard building as the TPIRR has not stationed any personnel at the facility and TPI added a yard building at the adjacent Curtis Bay freight yard.

TPI includes $27.17 million for the remaining components of the Curtis Bay Coal Terminal.[506]

8. Public Improvements

a. Fences

In Opening, TPI included fences only for the TPIRR yards because CSXT did not provide any data concerning the quantities or locations of fencing on any of the CSXT lines being replicated by the TPIRR.[507]

In Reply, "CSXT does not take exception to TPI's observation that the vast majority of the CSXT right-of-way being replicated in this case is not fenced."[508] However, CSXT claims that fencing is necessary at key signal facilities.[509]

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[506] *See,* TPI Rebuttal workpaper "Curtis Bay Coal Pier TPI Rebuttal.xlsx".
[507] *See,* TPI Opening, p. III-F-62 and workpaper "TPIRR Facilities.xlsx".

TPI previously addressed CSXT's claims regarding fences around communications sheds and microwave towers in Rebuttal Part III-F-6. TPI also addressed CSXT's fencing calculations for TPIRR yards in Rebuttal Part III-F-7.

b. Signs

In Opening, TPI included a standard package of railroad signs (including milepost, whistle post, yard limit, and cross-buck signs and posts) plus Emergency Notification Signs at all highway at-grade crossings.[510]

In Reply, CSXT states that the majority of the sign package included by TPI is sufficient but CSXT identified a deficiency in the package that was adjusted. Specifically, CSXT claims to have adjusted the unit cost for whistle post and mile post signs on the TPIRR to reflect the added costs for ingress and egress to a majority of the whistle post and milepost locations.[511]

In Rebuttal, TPI rejects CSXT's attempt to inflate the costs for signs. CSXT did not demonstrate that the price that it utilized in Reply "account[s] for the additional installation challenges presented by such railroad signs."[512] In addition, CSXT did not include any supporting documentation for its unit cost in its Reply workpapers. Third, CSXT's claims regarding ingress and egress are immaterial since signs for the TPIRR can be installed by traveling along the right-of-way after grading and sub-ballast are completed. Because CSXT has not demonstrated that TPI's unit cost is deficient or that CSXT's unit cost is more representative, TPI continues to utilize its Opening unit cost to furnish and install mile marker and whistle post signs (and yard limit signs) in Rebuttal.

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[508] *See,* CSXT Reply, p. III-F-217.
[509] *Ibid.*
[510] *See,* TPI Opening, p. III-F-63.
[511] *See,* CSXT Reply, pp. III-F-217-218. CSXT's text conflicts with its workpapers. CSXT changed the costs for whistle posts and yard limit signs but accepted TPI's cost for mileposts. *See,* CSXT Reply workpaper "Track Construction CSXT Reply.xlsx,' tab "Summary," cells D58, D65 and D66.
[512] *See,* CSXT Reply, p. III-F-218.

In addition, CSXT's number of cross buck, ENS and whistle post signs are greatly overstated. In Opening, TPI included signs for 7,941 highway at-grade crossings.[513] As there are two (2) of each of these signs at each crossing, TPI included 15,882 cross bucks, ENS signs and whistle post signs. In Reply, CSXT states that it added 419 crossings that TPI omitted increasing the total number of highway at-grade crossings to 8,360[514] which increases sign requirements to 16,720. However, CSXT's workpapers show that CSXT included costs for 23,734 cross bucks, ENS signs and whistle post signs.[515] CSXT overstated the required number of cross bucks, ENS signs and whistle post signs by 7,014 signs each.[516]

c. Highway Crossings and Road Crossing Devices

In Opening, TPI built all highway at-grade crossing surfaces and included 100 percent of the costs. TPI also included 10 percent of the costs associated with highway at-grade crossing protection. TPI also identified highway overpasses and included 10 percent of the associated costs of construction.[517] Highway overpass costs were addressed previously in Rebuttal Part III-F-5 (Bridges). Highway at-grade crossing protection was addressed previously in Rebuttal Part III-F-6 (Signals and Communications).

In Reply, CSXT accepts TPIRR's rubber rail seal and asphalt crossing surface configuration and the average 24-foot crossing surface.[518] However, CSXT made three (3) adjustments to TPI's calculation of TPIRR highway at-grade crossing costs. First, CSXT added 419 crossings that TPI excluded from their inventory. Second, CSXT rejected TPI's proposed

[513] *Ibid.*
[514] *Ibid.*
[515] *See,* CSXT Reply workpaper "Track Construction CSXT Reply.xlsx,' tab "Summary," cells E57, E63 and E66.
[516] It appears that CSXT adjusted the number of signs to reflect its average of 1.4 tracks per crossing which it used to increase the number of physical at-grade highway crossings the TPIRR would need to install. However, the TPIRR only needs two (2) of each of these three (3) signs at each crossing location regardless of the number of tracks that are being crossed.
[517] *See,* TPI Opening, P. III-F-63.
[518] *See,* CSXT Reply, p. III-F-218.

grade crossing construction cost of $414.75 per track foot and included costs of $792 per track foot ($751 when indexed to 3Q10 levels). Third, CSXT increased the number of at-grade highway crossings to reflect that, on average, there are 1.4 tracks at each highway at-grade crossing.[519]

In Rebuttal, TPI accepts CSXT's addition of 419 crossings and CSXT's ratio of 1.4 tracks at each highway at-grade crossing. However, TPI rejects CSXT's revised grade crossing construction cost of $751 per track foot for the following reasons.

First, CSXT fails to demonstrate that the average cost per track foot utilized by TPI in Opening is not correct. CSXT simply claims that "cost data shows costs ranging widely from $290 to $575 per track foot" and the "cost estimates lack sufficient material detail to determine compliance with Class I railroad crossing standards."[520] Neither of these claims has any merit. The fact that TPI utilized an average instead of utilizing the lowest bid speaks to the conservative nature of the cost per track foot. As a least-cost, most efficient railroad the TPIRR is under no obligation to utilize an average cost but would have been justified in using the lowest unit cost shown. In any event, CSXT failed to demonstrate that any of the bids used to develop the average unit cost per track foot were deficient in any way.

Second, the document used by CSXT to support its $792 cost does not even indicate the type of crossing. The only descriptive information on the AFE is a heading that describes the cost associated with a "Crossing Surface (Farm)" at a single location on the CSXT.[521] There is no indication of the type of crossing, the components included in the crossing construction or if the crossing meets Class I standards. TPI's average unit cost, on the other hand, is based on four (4) separate bids to ***remove and*** rebuild a highway at-grade crossing at seven (7) different

[519] *Id.* pp. III-F-218-219.
[520] *Id.* p. III-F-219.
[521] *See,* CSXT Reply workpaper "CSXT Crossing Surface Cost.pdf."

locations.[522] The TPIRR cost should even be less than these costs because the TPIRR is building a new grade crossing only and no removal is involved.

In short, CSXT's unit cost from an AFE fails when held to the same standard used by CSXT to evaluate TPI's unit cost from four (4) railroad bids. Because the average unit cost per track foot utilized by TPI in Opening is based on an average of four (4) bids for multiple crossings, it remains the best evidence of record and is utilized by TPI in Rebuttal.

d. Highway Overpasses

Highway overpasses are properly included in the account for public improvements and the discussion is included in Rebuttal Part III-F-5, Bridges.

9. Mobilization

CSXT accepts TPI's 2.7 percent for mobilization applied to all road property investment accounts except land.[523] CSXT adds $13,000 per parcel for land acquisition costs resulting in additional mobilization costs of $107.24 million.[524] These costs were addressed previously in Rebuttal Part III-F-1.

10. Engineering

CSXT accepts TPI's ten (10) percent additive for engineering applied to the all road property investment accounts except land.[525]

11. Contingencies

CSXT accepts TPI's ten (10) percent contingency factor applied to total construction cost, including mobilization and contingency costs but excluding land acquisition costs.[526]

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522 *See,* TPI Opening workpaper "2012 SCTRA Crossing Bid Prices.pdf."
523 *See,* CSXT Reply, p. III-F-220.
524 *Id. See, also* CSXT Reply workpaper "III-F Total CSXT Reply.xlsx."
525 *See,* CSXT Reply, p. III-F-220.
526 *Ibid.*

12. Construction Schedule

CSXT accepts TPI's 30-month construction schedule.[527]

[527] *Ibid.*

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III. STAND-ALONE COST

G. DISCOUNTED CASH FLOW ANALYSIS

In Part III-G of its Reply, CSXT raised various issues with respect to TPI's SAC DCF analysis. At the same time, CSXT itself seeks major alterations to the Board's established approach on such matters as equity flotation costs, treatment of tax liability and capital cost recovery.

TPI responds to CSXT's contentions below under the following topical headings:

1. Cost of Capital
2. Inflation Indices
3. Tax Liability
4. Capital Cost Recovery

1. Cost of Capital

The TPIRR's cost of capital is made up of the cost of common equity, debt and preferred equity (if any). CSXT "accepts TPI's use of the Board determined railroad industry cost of capital as the starting point for the TPIRR," but then adds equity flotation costs.[1]

As shown in Rebuttal Table III-G-1 below, there are no differences between TPI's Opening and CSXT's Reply TPIRR cost of equity calculations.

[1] *See*, CSXT Reply, p. III-G-1.

Rebuttal Table III-G-1
Comparison of TPI Opening and
CSXT Reply TPIRR Cost of Equity

Year (1)	**TPI Opening**[1/] (2)	**CSXT Reply**[2/] (3)	**Difference Cols (3) – (2)** (4)
2008	13.17%	13.17%	0.00%
2009	12.37%	12.37%	0.00%
2010	12.99%	12.99%	0.00%
2011	13.57%	13.57%	0.00%
2012	13.40%	13.40%	0.00%
2013	13.10%	13.10%	0.00%
2014	13.10%	13.10%	0.00%
2015	13.10%	13.10%	0.00%
2016	13.10%	13.10%	0.00%
2017	13.10%	13.10%	0.00%
2018	13.10%	13.10%	0.00%
2019	13.10%	13.10%	0.00%
2020	13.10%	13.10%	0.00%

1/ TPI Opening workpaper "Exhibit III-H-1.xls."
2/ CSXT Reply workpaper "Exhibit III-H-1 Reply.xls."

CSXT asserts that TPI improperly omitted equity flotation costs from its DCF analysis.[2] CSXT contends that the Board "has come to recognize" the value of including equity flotation costs in SAC cases[3], but CSXT fails to mention that the Board has never actually included an equity flotation cost in any proceeding where it was a contested issue.[4] CSXT also admits that the STB rejected the inclusion of equity flotation costs in its recent *DuPont* and *SunBelt* decisions.[5] However, CSXT claims that the Board erred in ruling against the inclusion of equity flotation in those cases, and attempts to show that the Board's rationale for excluding equity flotation in *DuPont* and *SunBelt* is contrary to established investment banking and financing

2 *See*, CSXT Reply, p. III-G-1.
3 *Ibid.*
4 An equity flotation cost has only been applied once, and that case involved both parties' agreement to such application. *See AEPCO* at 137 (describing the 2007 *AEP Texas* decision where an equity flotation cost was used).
5 *See*, CSXT Reply, pp. III-G-1-2.

practices.[6] Specifically, CSXT claims that the equity flotation fees actually incurred in the real-world do not reflect either the risk profile or specific company going public, nor the issuer's industry characteristics, but depend instead upon the size of the IPO gross proceeds.[7] CSXT also claims that the competitive nature of the investment banking industry drives down IPO underwriting costs to the lowest levels possible given the size of the transaction, and that the presence of incentive fees in underwriting contracts shows that perceived risk has no impact on flotation costs.[8] CSXT also argues that while it believes the alleged 3.9 percent equity flotation fee paid by Burlington Northern Inc. ("BN") in 1991 is reflective of real-world IPO costs, research undertaken by one of its expert Witnesses shows that the appropriate range is between 2.9 and 4.7 percent.[9] Based on these factors, CSXT included what it claims is a conservative two (2) percent estimate of the equity flotation cost that a real world firm would incur in issuing the amount of common equity required by the TPIRR.[10]

TPI rejects the inclusion of any equity flotation costs in the DCF model. Beyond the fact that the Board has continually rejected the inclusion of equity flotation costs in SAC cases,[11] CSXT has improperly assumed that any sale of SARR common equity would occur through a relatively high-cost initial public offering ("IPO") undertaking. CSXT has not provided any support for such an assumption, and completely ignores the fact that the SARR could sell its equity through a private placement arrangement without incurring the cost of an IPO.

In addition, even if the SARR were required to use an IPO process to raise equity capital, which is clearly not the case, CSXT's two (2) percent equity flotation fee is completely

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6 *Id.* pp. III-G-2-5.
7 *Id.* p. III-G-2.
8 *Id.* p. III-G-3.
9 *Id.* pp. III-G-4-6.
10 *Id.* p. III-G-8.
11 The one exception to this is the *AEP Texas* case where the shipper included equity flotation costs as part of a refinancing effort that was rejected by the Board. *See AEP Texas II* at 108.

speculative and, based on CSXT's own evidence, grossly overstated for several reasons. First, contrary to CSXT's allegation that equity flotation fees are impacted only by their size and not due to other factors such as risk, equity flotation fees are directly impacted by risk, the industry in which the issuing company operates, and numerous other factors. These facts are supported by financial texts, peer-reviewed research, and CSXT's own evidence. Second, CSXT's reference to BN's 1991 seasoned stock issuance as being in the middle of the road as to what the TPIRR would pay is contrary to CSXT's own evidence and contrary to the actual circumstances surrounding BN's equity flotation. Third, CSXT's own evidence on recent equity flotation fees demonstrate that CSXT's two (2) percent flotation cost is extremely high. TPI discusses each of these issues below.

a. An IPO Is Not Required To Raise Equity Capital

The primary assumption underlying CSXT's equity flotation cost argument is that a SARR will incur relatively high costs issuing common equity through an IPO undertaking. The flaw in CSXT's assumption is that a high-cost IPO is not the only method available for a company to raise equity capital. CSXT completely ignores the fact that there are other ways to raise equity capital, including private equity placements.

Private placement (or non-public offering) is a funding round of securities which are sold not through a public offering, but rather through a private offering, mostly to a single or a small number of chosen, accredited investors.[12] Investors in privately placed securities are predominantly highly sophisticated entities or individuals that understand the risk associated with the issuing company and have access to sufficient capital to limit the number of parties involved in the deal. Such investors include, but are not limited to, large conglomerates,

[12] See, for example, Brealey, R. A., Myers, S. C., and Allen, F., "Principles of Corporate Finance, Eighth Edition," McGraw-Hill Irwin, 2006, at page 403 ("Brealey, Myers and Allen").

insurance companies, pension funds, mezzanine funds, stock funds, and trusts. Private placement of equity entails a much simpler issue process than a public sale since, in many cases, registration statements and other regulatory actions are not required. This allows the issuing companies to avoid the time, expense, and disclosure requirements of filing registration statements and other regulatory notices.[13]

One of the historic drawbacks of private equity placements, especially large placements as envisioned by the TPIRR, is the potentially limited number of investors available to invest in the issuing company. This would not be an issue for a SARR operating in a contestable market, which assumes unlimited availability of resources, including capital. More importantly, real world companies have shown a willingness to invest large sums of money on a private basis to operate real world railroads. The prime example of this is Berkshire Hathaway's decision to invest $34 billion to acquire and operate the BNSF Railway. While not a private equity placement, Berkshire Hathaway's acquisition of the BNSF nevertheless shows that sophisticated investors are available to provide sufficient capital to build and operate a railroad as large as the TPIRR, without the need for raising equity capital through an IPO.[14]

CSXT falsely assumes that the TPIRR would incur over $600 million in underwriting, consulting, marketing, and legal fees as part of an IPO of the TPIRR's common equity. There is no need for the TPIRR to go through such a costly process when the TPIRR has other means to raise equity capital. Such an extravagant fee is certainly not required in a market in which the availability of sophisticated investors is assured, not to mention the fact that real world companies have shown a willingness to spend their capital on large railroad companies.

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[13] *See*, "*Introduction to Private Placements*" at http://www.seclaw.com/docs/privateplacement.php/.

[14] Another large railroad equity transaction was Fortress Investment Group's $1.1 billion acquisition of RailAmerica in February 2007.

b. Risk and Other Factors Are <u>Significant In Equity Flotation Fees</u>

In support of its proposed 2.0 percent equity flotation fee, CSXT made a variety of flawed arguments that range from internally inconsistent to contrary to SAC principles. First, CSXT takes issue with the results of the *DuPont* and *SunBelt* cases. CSXT contends that the Board was wrong to evaluate whether Facebook is similar to railroads in capital intensiveness and risk profile because, according to CSXT, the size of an equity flotation fee is "not reflective of either the risk profile…[or] the industry characteristics" but depends "on the size of the IPO gross proceeds raised," and the "gross spread is not dependent on industry or specific company characteristics but tends to follow the dollar amount of proceeds raised."[15] While certainly the size of the issuance is a factor in the gross spread paid, equity risk, company risk, the issuer's industry, and numerous other factors also dictate the gross-spread incurred in an IPO.

It is well established that risk is a key factor in equity flotation costs.[16] This should be eminently obvious given how the majority of publicly placed common equity is issued. Most investment bankers and corporate issuers enter into firm-commitment contracts, where the underwriter guarantees the sale of the issue at a specific price. In this type of contract, the banker as the equity underwriter assumes the risk. If the equity issue fails to sell at the agreed-upon price, the banker may lose money because the unsold shares may be sold at a discount or put into inventory and sold at a later date.[17] From an issuer's perspective, this is the safest way to raise equity capital, but also the most expensive, because the underwriters require

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[15] *See,* CSXT Reply, pp. III-G-2- 3.
[16] See authorities cited below.
[17] *See,* J. Peter Williamson, "*The Investment Banking Handbook*," John Wiley & Sons, March 1988, ("*Williamson*") at 128.

compensation for bearing this risk.[18] As noted by K. Thomas Liaw in his book "The Business of Investment Banking":

> In underwriting, investment bankers sell risk services to the issuers by assuming at least part of the floating risk when they underwrite an offering by firm commitment…. The risk cannot be underestimated, because there are always unpredictable variables. There have been several instances in which underwriters for even the highest quality issues have suffered big losses.[19]

It is simple to see that taking on the underwriting of a common equity will involve risk for which a banker must be compensated.[20]

This fact is supported by significant peer-reviewed and referred research. For example, Grace Hao ("Hao") found that, as a general matter, investment bankers seek higher fees for undertaking higher underwriting risk:

> Firms with fundamentally higher underwriting risks and requiring more extensive underwriter marketing efforts should pay higher underwriting fees. [21]

Hao took her research beyond the underwriting risk faced by bankers, and also looked at other risks faced in IPOs, including potential litigation risk and withdrawal risk.[22] Hao found that risk that a company may withdraw its IPO has an impact on gross spreads:

> The relation between withdrawal risk and gross spreads is straightforward. IPOs with a greater risk of withdrawal require more extensive marketing efforts by underwriters, subject the underwriters to greater inventory risk

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[18] *See, Williamson,* p. 128. In addition to a firm-commitment, investment bankers can also enter into a "best-efforts" contract, where the banker agrees to sell shares on a best effort basis. The banker assumes mush less risk than in a firm-commitment contract, and is paid a much lower fee. CSXT has not specified which type of IPO it is proposing for the TPIRR, but the IPOs cited by CSXT in its Reply are in the majority of cases the more expensive fixed commitment contracts, including the Facebook and General Motors' IPOs.

[19] *See,* K. Thomas Liaw, "*The Business of Investment Banking: A Comprehensive Overview,*" Third Edition, John Wiley & Sons, November 2011, p. 132 to 133.

[20] *Id.* p. 135 "Underwriters may be compensated for advising, bearing risk and distributing securities in three distinct ways."

[21] *See,* Grace Qing Hao, "Securities Litigation, Withdrawal Risk and Initial Public Offerings," *Journal of Corporate Finance*, V. 17 (2011), 438-456 ("*Hao*"), at 439.

[22] Withdrawal risk is the risk assumed by an IPO underwriter that the issuing company may withdraw the offering before complete. In that instance, the underwriting firms stand to lose considerable compensation from the IPO. Higher IPO gross spreads help compensate underwriters for this increased risk.

> and price support expense as well as producing negative effects on underwriter reputations and client relationships. Thus, such IPOs should exhibit greater gross spreads for completed deals (and even more money left on the table) to compensate underwriters for the forgone revenue on deals that get withdrawn and the higher costs of underwriting weak deals.[23]

Hao also found that gross spreads are impacted by the litigation risk from the IPOs.

> Given that litigation risk is an added cost beyond the underwriting risk borne by underwriters, it is reasonable to expect litigation risk to affect underwriting fees.
>
> ***
>
> Last but not the least, issuers with higher litigation risk and withdrawal risk pay higher gross spreads.[24]

In a separate research paper, Fernando, Gatchev, May, and Megginson found in their study, which is supported by prior work, that gross spreads were significantly impacted by issue company risk:

> It is possible that measuring underwriter compensation as a percentage of the size of the offering and then comparing percentage spreads across offerings may not capture other cross-sectional differences in issues that are attributable to differences in underwriter reputation…. These include differences in issue size, risk, cost, and likelihood of repeat offerings.
>
> ***
>
> We also examine underwriter revenues in a multivariate context. Prior studies have shown that issue and firm characteristics, such as issue size and firm risk, significantly affect underwriting costs and the spreads charged in equity offerings.[25]

Similarly, Logue and Lindvall found that the greater the risk imposed on the investment banker in underwriting the issue, the higher the spread sought by the banker:

> The greater the risk, the higher should be his demand for risk bearing compensation, or per share cash spread. Hence the investment banker is

[23] *See, Hao* at 442.
[24] *See, Hao* at 442 and 454.
[25] *See,* Chitru S. Fernando, Vladimir A. Gatchev, Anthony D. May, William L. Megginson, "Underwriter Compensation and the Returns to Reputation," *2012 World Finance and Banking Symposium,* Shanghai, China.

> faced with simultaneous decisions concerning the pricing of an unseasoned equity issue and the amount of cash spread he should seek from the issuer.[26]

More recent research has continued to find that gross spreads on equity issues are driven, in pertinent part, by the underlying risk. Bajaj, Chen and Mazumdar found that:

> The (gross) spread could also be a function of the risk associated with the security and the size of the offering among other factors.
>
> ***
>
> Our time series evidence reveals that the median size of an IPO has tripled in the last two decades and recent IPOs have involved considerably more risky firms. We also find that smaller IPOs tend to be riskier and underwriting spreads tend to be higher and more clustered for riskier IPOs.[27]

It is abundantly clear from this research that risk plays a considerable role in the determination of gross spreads on equity issuances.

In addition to risk, the industry in which the issuing company operates also impacts the gross spread. Hao found that operating in the technology industry had an impact on the gross spreads charged by investment bankers.[28] This finding is not surprising given the greater risk inherent in the technology industry compared to more asset based industries. Logue & Lindvall also found that a firm's age, which the authors used as a variable reflecting the issuer's industry, also impacts the gross spread.[29] CSXT's own evidence in this case for its equity flotation fees shows industry has an impact on gross spreads. CSXT included, as support for its equity

[26] *See*, Dennis E. Logue and John R. Lindvall, "The Behavior of the Investment Bankers: An Econometric Investigation," *The Journal of Finance*, Vol. 29, No. 1 (Mar., 1974), 203 to 215 ("*Logue & Lindvall*") at 203

[27] *See*, Mukesh Bajaj, Andrew H. Chen and Sumon C. Mazumdar, "Competition in IPO Underwriting: Time Series Evidence," *Research in Finance*, Vol. 24, 1 to 25, pp. 2 and 22.

[28] *See*, *Hao* at 453, Table 10, and Column (2).

[29] *See*, *Logue & Lindvall* at pp. 207 to 214. The authors hypothesized that younger firms are more likely to be in newer, more growth oriented industries than older firms and thus age was a meaning surrogate for the issuing firm's industry.

flotation costs, an article from the *Journal of Financial Research* that found a difference in the gross spreads charged by utility and non-utility industry companies.[30]

Even CSXT's quantitative evidence in this case shows different industries incur different gross spreads. CSXT includes in Reply Table III-G-2 what it states are selected U.S. IPOs by industry sector, and claims that this table supports its position that the fee depends on the amount raised.[31] Close examination of the table shows that such a conclusion cannot be drawn from this data. For example, the financial sector and the information technology ("IT") sector show nearly identical average gross spreads, 3.4 percent and 3.3 percent, in the table. However, the average equity raised by the information technology IPOs is nearly three times the amount, on average, as raised by IPOs in the financial sector ($6.0 billion for the IT sector compared to $2.1 billion by the financial services sector). Based on CSXT's main argument (that size of an equity issuance is the only factor impacting gross spread), one would expect significant differences in the gross spreads paid between the IT and financial services sectors, but CSXT's evidence in Reply Table III-G-2 shows the opposite. Additionally, the utility IPO included in CSXT's group raised $1.3 billion and paid a gross-spread of 3.0 percent. In contrast, the industrial sector incurred a 4.5 percent gross-spread while raising approximately $1.7 billion. It must be remembered that even a one (1) percentage point difference in gross spreads can lead to a significant difference in costs. On a $6 billion equity issuance, a one (1) percent increase in the gross spread leads to $60 million in additional costs. So, even the one and two percent differences in gross spreads shown in CSXT's Table III-G-2 reflect significant differences in actual costs.

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[30] *See*, CSXT Reply workpaper "III-G Costs of Raising Capital.pdf," at 64.
[31] *See*, CSXT Reply, p. III-G-7.

In the real world, gross spreads incurred in IPOs are influenced by a great deal more than the amount of the proceeds generated by the deal. As explained in detail above, peer-reviewed research has determined that risk has a significant impact on the spreads paid, as well as does the industry. Beyond these factors, many other factors also come into play. As Hao noted, researchers have found many different factors impacting the size of the gross spread charged, including, but not limited to, underwriter reputation, backing from venture capitalists, firm age, and return volatility.[32] Logue & Lindvall found a statistically significant correlation between the sales of the issuing firm and the size of the gross spread.[33]

CSXT tries to explain away the differences in gross spreads created by factors other than proceeds size,[34] but merely ends up contradicting itself and undermining its own argument. If investment bankers and issue company CEOs were only concerned about the size of the issuance in setting gross spreads, there should be no difference in the gross spread regardless of the industry. But CSXT states there clearly is a difference. CSXT states this difference may be due to spreads that cluster around comparable businesses ("comps") within the same industry.[35] In other words, the gross spread incurred by one company in an industry is influenced by others in that same industry. Of course, earlier, CSXT had claimed that this cannot happen because bankers are not interested in the industry, only the size of the stock issuance.[36] In its chaotic and internally inconsistent evidence, CSXT has, in fact, offered a clear demonstration that the gross spread an issuing company incurs <u>is</u> influenced by a large number of factors beyond the simple size of the transaction.

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[32] *See, Hao* at 451.
[33] *See, Logue & Lindvall* at 211.
[34] *See,* CSXT Reply, p. III-G-4.
[35] *Ibid.*
[36] *Id.* p. III-G-3 ("gross spread is not dependent on industry").

At the end of the day, stating that an IPO's gross-spread is determined only by the size of the issuance is overly simplistic and contradicted by significant evidence. Established researchers and CSXT's own evidence demonstrate that gross spreads are a function of a number of determinants, including overall risk, industry, size and other relevant factors. Simply looking at the size of one IPO will not tell you the gross spread that will be incurred in another IPO for a different company in a different industry.

CSXT had set out to argue that a gross spread depends only on the size of the issuance, but its evidence quickly veered off course and cited various other factors. After repeatedly emphasizing that an equity flotation fee depends only on the amount raised, CSXT then abruptly changed its position. Just one page after saying that the specific industry does not matter, CSXT posits that a healthcare CEO planning an IPO would "compare[] his company…to other healthcare companies" to obtain "industry comparables."[37] Just two pages after stating that the size of the amount raised is all the matters in determining the equity flotation fee, CSXT states that, given bankers' real-world practices, "different deals in which comparable amounts are raised might show different gross spreads."[38] CSXT then admits to two <u>further</u> factors that affect the size of an equity flotation fee: the "excitement" level and the role of government involvement.[39]

Given this great internal contradiction within its Reply Evidence, CSXT has not advanced any coherent position on what factors should be considered in applying an equity flotation fee to the TPIRR. As such, CSXT has fallen woefully short of overcoming the Board's precedent, which includes two recent cases rejecting virtually the same equity flotation fee now

[37] *Id.* p. III-G-4.
[38] *Id.* p. III-G-5.
[39] *Id.* p. III-G-8.

advanced by CSXT.[40] Moreover, CSXT has not come close to meeting the standard enunciated by the Board in those two cases for a defensible equity flotation figure.[41]

c. The 1991 BN Stock Issue Offers No Indication of a Gross Spread on TPIRR Common Equity

CSXT claims that the 3.9 percent equity flotation fee BN incurred for its 1991 seasoned equity offering reflects the middle of the range of what the TPIRR would expect to pay in an IPO.[42] There are several flaws in CSXT's argument. First, CSXT did not take into consideration the relative size differences between BN's 1991 common stock issue and the TPIRR's common equity requirement. Security and Exchange Commission ("SEC") data indicates BN issued 10.35 million shares of common equity at a principal amount of $345 million.[43] In contrast, the CSXT's Reply workpapers place the TPIRR common equity at $28.8 billion, taking into consideration initial construction investments and interest during construction.[44] In other words, the TPIRR's common equity issuance would be over eighty times the size of the BN 1991 issuance. CSXT has acknowledged that gross spreads are based, in part, on the amount of the common stock issued; however, CSXT has provided no evidence that an issuance that is eighty times the size of the BN would incur only a 190 basis point difference in flotation costs.[45]

Second, BN did not pay 3.9 percent in banker's fees and costs in its issuance as CSXT claims, but rather a 3.0 percent gross spread and banking fees. The 3.9 percent figure cited by CSXT reflects the total costs to BN, including a 0.9 percent stock dilution impact.[46] If, for

[40] *See, DuPont* at 275; *SunBelt* at 185.
[41] *See, DuPont* at 274-275; *SunBelt* at 184-185.
[42] *See,* CSXT Reply, p. III-G-6. A seasoned equity offering or secondary equity offering (SEO) is a new equity issue by an already publicly traded company. Secondary offerings may involve shares sold by existing shareholders (non-dilutive), new shares (dilutive) or both.
[43] *See,* "*SEC News Digest*," Issue 91-190, October 1, 1991 at page 6.
[44] *See*, CSXT Reply workpaper "Exhibit III-H-1 Reply.xls," worksheet "Interest."
[45] 3.9 % - 2.0 % = 1.9% or 190 basis points.
[46] *See,* ICC Ex Parte No 506, "*Railroad Cost of Capital – 1991*", 8 ICC 2d, (404), 415.

argument's sake, the TPIRR were to make a public offering to raise equity capital, the offering would be an IPO and not a seasoned offering with existing common equity shares to dilute. This means the appropriate flotation costs for the comparison is the 3.0 percent BN paid for the flotation costs and not the 3.9 percent including flotation costs and equity dilution.

This fact shows that CSXT is wildly off-base in its claim that 2.0 percent is a reasonable flotation fee for the TPIRR. If equity flotation costs decline as the size of the offering increases (as CSXT believes), the TPIRR should pay significantly less than what BN paid. This is supported by one of the academic papers CSXT relies upon to support high equity floatation costs, which shows that the cost difference in equity flotation costs and fees between an equity offering raising $19.9 million and an offering raising $499.9 million was approximately 510 basis points, or 5.1 percent.[47] In other words, a $480 million difference in the amount of common equity issued reflected a 5.1 percent difference in flotation costs. Yet, CSXT asserts that a $25 billion difference between BN's 1991 equity issuance and the TPIRR's issuance would only see a 100 basis point, or 1.0 percent, difference in equity flotation fees when the true cost of BN's 1991 issuance is measured.[48] If there are truly economies of scale in equity flotation, as CSXT believes, the cost to issue TPIRR equity would be significantly lower than the 2.0 percent advocated by CSXT for the TPIRR.

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[47] *See,* CSXT Reply workpaper "III-G Cost of Raising Capital.pdf," at 62. The costs for an offering between $10 million and $19.9 million was 11.63 percent and for an offering between $200 million and $499.9 million was 6.53 percent.

[48] BN's 1991 equity flotation fees, excluding the stock dilution costs, was 3.0 percent. Subtracting CSXT's proposed TPIRR equity flotation costs of 2.0 percent leaves a 1.0 percent difference.

d. CSXT's Two Percent Equity Flotation Cost Is Excessive Compared to Other IPOs

CSXT contends that its equity flotation cost of 2.0 percent is a conservative estimate of what the TPIRR would be expected to incur in a gross spread if it were to go through an IPO.[49] However, the data submitted by CSXT does not support such a contention. Based on CSXT's view that an equity flotation fee depends only on the size of the issuance, the 2.0 percent figure proposed by CSXT is entirely excessive and unsupported.

CSXT notes that the TPIRR would need to raise between $21.8 billion and $30.1 billion in equity,[50] an offering that CSXT admits is unusually large. In fact, the amount needed by the TPIRR is far larger than any of the real world examples included by CSXT in its data set.[51] Given CSXT's assertion that the equity flotation fee decreases as the amount raised increases, then the 2.0 percent fee proposed by CSXT for the TPIRR should be lower than that found in of any of the real-world examples included in the CSXT workpaper. However, this is not the case. There are several data points with an equity flotation fee far lower than 2.0 percent, and some as low as 0.75 percent.[52]

CSXT cannot have it both ways. If CSXT bases its evidence on the assumption that issuance size is the only determinant of gross spreads, the gross spread incurred by a TPIRR IPO must be well below the average of 1.5 percent paid by the largest IPOs in CSXT's data set.[53] If the size of the issuance is not the only determinant, then the comparison to other more recent IPOs is meaningless because CSXT has made no other effort to show any correlation between the recent IPOs and the TPIRR. CSXT attempts to wiggle out of its self-created box by stating

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[49] Reply at III-G-8.
[50] *See,* CSXT Reply, p. III-G-8.
[51] *See,* CSXT Reply workpaper "Gross Spread Analysis" at tab "US-Industry."
[52] *Ibid.*
[53] *See,* CSXT Reply, p. III-G-7.

the General Motors and Facebook IPOs were unique and not representative of what the TPIRR would pay in fees.[54] CSXT's claim of uniqueness does nothing other than contradict CSXT's earlier assertion that size is all that matters. Moreover, any IPO the size of GM, Facebook, or the TPIRR would necessarily be unique, especially one that would be the largest in U.S. history.[55]

The simple fact is that there is no way to remotely tell what equity flotation fees the TPIRR would incur in issuing such a large amount of common equity on a public basis. As discussed in detail above, the size of the issue is not the only determinant of gross spread. The specific gross spread is also dependent upon a host of other factors including risk and industry factors. Given that CSXT has not presented a way to accurately develop what the equity flotation fees would be in a contestable market, the Board should adhere to its "longstanding precedent"[56] and reject CSXT's attempt to include any equity flotation costs.

In sum, there is no support for the 2.0 percent figure proposed by CSXT for the TPIRR. This proposal materializes on the last page of CSXT's 8-page treatment of the equity flotation issue with no support other than the assertion that 2.0 percent "appears to be reasonable."[57] CSXT incorrectly assumes that the TPIRR would raise capital through a pricy IPO without any support for the implicit assumption that the funds must be raised through a public issuance. CSXT's position is also internally inconsistent and has not met the standard established by the Board in *DuPont* and *SunBelt*. By CSXT's own reasoning and evidence, the equity flotation fee for the TPIRR, if it were to raise equity capital through a public process, should be significantly

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54 *See*, CSXT Reply, p. III-G-8.

55 Based on CSXT's figures for the amount of common equity required, TPIRR would not only be the largest IPO in U.S. history, but also the largest IPO in world history by surpassing Alibaba's 2014 $25.0 billion initial offering.

56 Other than *AEPCO II*, the flotation fee has been rejected in a wide range of decisions, including *Wisconsin P&L* at 1040, *TMPA* at 751, *Duke/CSXT* at 123, *CP&L* at 262, *Duke/CSXT* at 433, *PSCo/Xcel I* at 659, *Otter Tail* slip op. at E-2, *WFA/Basin I* at 135.

57 *See*, CSXT Reply, p. III-G-8.

lower than 0.75 percent, yet CSXT has not explained why 2.0 percent is the appropriate figure. The Board should reject CSXT's evidence on the equity flotation fee.

e. Rebuttal Cost of Equity and Debt

In April 2014, the Association of American Railroads ("AAR") submitted its calculation of the 2013 railroad industry cost of capital.[58] Consistent with Board precedent, TPI updated the DCF model's cost of common equity, cost of debt, and cost of capital to include the 2013 data. TPI's Rebuttal TPIRR cost of equity calculations are shown in Rebuttal Table III-G-2 below.

Rebuttal Table III-G-2
Summary of TPI Opening and Comparison Of
CSXT Reply and TPI Rebuttal TPIRR Cost of Equity

Year	TPI Opening[1/]	CSXT Reply[2/]	TPI Rebuttal[3/]	Difference Cols (3) – (4)
(1)	(2)	(3)	(4)	(5)
2009	13.17%	13.17%	13.17%	0.00%
2010	12.37%	12.37%	12.37%	0.00%
2011	12.99%	12.99%	12.99%	0.00%
2012	13.57%	13.57%	13.57%	0.00%
2013	13.40%	13.40%	12.96%	0.44%
2014	13.10%	13.10%	13.08%	0.02%
2015	13.10%	13.10%	13.08%	0.02%
2016	13.10%	13.10%	13.08%	0.02%
2017	13.10%	13.10%	13.08%	0.02%
2018	13.10%	13.10%	13.08%	0.02%
2019	13.10%	13.10%	13.08%	0.02%
2020	13.10%	13.10%	13.08%	0.02%
2021	13.10%	13.10%	13.08%	0.02%

1/ TPI Opening e-work paper "Exhibit III-H-1.xlsm."
2/ CSXT Reply e-work paper "Exhibit III-H-1 Reply.xlsm."
3/ TPI Rebuttal e-work paper "Exhibit III-H-1 Rebuttal.xlsm."

2. Inflation Indices

CSXT accepts TPI's land indices based on historic rural land values reported by the U.S. Department of Agriculture ("USDA") and on a combination of indices published by investment

[58] STB Ex Parte No. 558 (Sub-No. 17), *Railroad Cost of Capital – 2013* (filed April 21, 2014).

reporting firms Moody's and Standard & Poor's.[59] CSXT also accepts TPI's road property asset indices derived from the AAR railroad chargeout prices and wage rate indices for eastern railroads and Global Insight's Rail Cost Adjustment Factor Forecast.[60] CSXT updated those indices using Global Insight's June 2014 forecast.[61] Since the filing of CSXT's Reply, the USDA, the AAR, Moody's and Standard & Poor's have all released updated values. TPI has included these updated values in its Rebuttal evidence.

While CSXT accepted the general basis of TPI's operating expense index based on the STB's Hybrid Rail Cost Adjustment Factor ("RCAF") methodology, it modified the approach to exclude the fuel component of the RCAF for the years 2011 through 2013.[62] CSXT states that since the passage of time from the initial complaint to the submission of TPI's Opening Evidence, the prices CSXT actually paid for fuel became known.[63] So instead of applying the Hybrid RCAF to adjust TPIRR fuel prices for the years 2010 to 2013, CSXT has instead substituted its actual fuel prices. CSXT also adjusted the Hybrid RCAF to not double-count changes in fuel prices by substituting the All Inclusive Index – Less Fuel ("AII-LF") for the RCAF.[64]

CSXT's adjustment to the hybrid RCAF is improper. In the *Major Issues* rulemaking, the Board determined that SARR operating expenses should be indexed using a hybrid RCAF index.[65] Despite the Board's determination, CSXT has impermissibly deviated from the prescribed hybrid RCAF index for projecting TPIRR operating expenses in the future.[66] CSXT's deviation is improper because the hybrid RCAF was adopted in a notice-and-comment

59 *See,* CSXT Reply, p. III-G-10.
60 *See,* CSXT Reply, pp. III-G-8-9.
61 The most recently available forecast.
62 *See,* CSXT Reply, p. III-G-9.
63 *Ibid.*
64 *Ibid.*
65 *Major Issues in Rail Rate Cases*, STB Ex Parte No. 657 (Sub-No. 1), slip op. at 39-47 (served Oct. 30, 2006).
66 *See,* CSXT Reply, p. III-G-9 ("CSXT…modified the Board's Hybrid RCAF index").

rulemaking and, therefore, the Board must abide by the rule it adopted.[67] Furthermore, the Board cannot deviate from the hybrid RCAF without engaging in a further notice-and-comment rulemaking process.[68]

Given the existing hybrid RCAF rule, the Board must reject CSXT's attempt to selectively update the record with new fuel price information because the attempted updating is necessarily linked to deviation from the hybrid RCAF.[69] Moreover, CSXT's desire to use new fuel price information should also be rejected because the Board disfavors selective updating of the record.[70]

In addition to being improper as a matter of law, CSXT's approach is incorrect from economic and policy perspectives for several reasons. First, CSXT's approach does not properly take into consideration productivity during 2010 to 2013. CSXT calculated TPIRR's fuel costs for 3Q10 through 4Q13 by multiplying CSXT's actual quarterly fuel price as reported in its quarterly investor financial reports by the TPIRR's 2010 estimated fuel consumption divided by four (to convert annual to quarterly values), and then multiplied the product by the change in TPIRR gross-ton miles to account for changes in TPIRR traffic volumes.[71] The fatal flaw with CSXT's approach is that CSXT does not account for any productivity between the 2010 and 2013 time period when it comes to fuel consumption. The STB's Hybrid RCAF model includes a productivity component that takes into consideration railroad total factor productivity, including productivity associated with fuel consumption. CSXT's approach completely disregards this productivity which leads to an overstatement in TPIRR fuel costs.

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67 *See, e.g., U.S. International Trade Commission v. ASAT, Inc.*, 411 F.3d 245, 253 (D.C. Cir. 2005); *Steenholdt v. FAA*, 314 F.3d 633, 639 (D.C. Cir. 2003).

68 *See, e.g., United States Telecom Association v. FCC*, 400 F.3d 29, 35 (D.C. Cir. 2005).

69 *See,* CSXT Reply, p. III-G-9.

70 *See, e.g.*, *WFA/Basin* at 6; *WFA/Basin*, STB Docket No. 42088, slip op. at 8 (n. 8) (served July 27, 2009); *FMC*, at 729-730.

71 *See,* CSXT Reply workpaper "Exhibit III-H-1 Reply.xlsx," worksheet "Fuel."

Second, CSXT's attempt to develop a so-called productivity adjusted AII-LF is nonsensical. CSXT develops what it terms a quarterly "AII-LF w/prod. factor" by dividing the AAR's AII-LF with error adjustments by a productivity adjustment factor ("PAF") developed by dividing the quarterly RCAF-U by the quarterly RCAF-A.[72] CSXT's approach is nonsensical because the PAF includes a component for fuel productivity. In other words, CSXT is applying a PAF with fuel to a cost index excluding fuel. One cannot simply combine the AII-LF with the RCAF PAF and expect to produce a meaningful index.

Third, from a policy perspective it would be unfair for the Board to allow CSXT to substitute one component of the TPIRR operating costs with actual prices without substituting actual prices for all operating expense components. CSXT has selectively chosen to update the TPIRR's fuel prices because it is beneficial to CSXT, while ignoring other input prices that may have declined between 2010 and 2013. The STB has disallowed this sort of selective updating in prior SAC cases.[73] Moreover, TPI cannot update its evidence in Rebuttal in response to CSXT's Reply actions, because the operating expense unit costs TPI used were obtained through the discovery process. This includes, but is not limited to, locomotive lease, railcar lease, locomotive maintenance costs, salaries and joint facilities costs. Neither TPI nor the Board has access to the information needed to update every operating expense since the close of discovery or to know whether those updates would be favorable or unfavorable.

For the reasons discussed above, TPI continues to use the Hybrid RCAF to adjust operating expenses in its Rebuttal DCF model, but updates the index for actual values, where available, and more current forecasts.

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[72] *See,* CSXT Reply workpaper "Exhibit III-H-1 Reply.xlsx," worksheet "Inputs," cells U192 to U205. The PAF calculated by CSXT are different than the PAF reported by the AAR, a difference that is apparently due to rounding.

[73] *See, FMC* at 729. The Board disallowed UP's selective use of division sheets in its Reply evidence that only benefited the incumbent railroad without updating all division factors.

3. Tax Liability

CSXT accepts TPI's assumed Federal tax rate of 35 percent and its calculated composite state income tax rate for the TPIRR.[74] However, CSXT claims that "TPI's DCF incorporates three errors affecting the calculation of TPIRR income tax liability."[75] The three "errors" claimed by CSXT are: (1) that TPI misapplied bonus depreciation; (2) TPI used the wrong tax life for certain TPIRR property assets; and (3) that TPI did not amortize the TPIRR debt over a 20-year financing term. TPI addresses each of the issues raised by CSXT in Rebuttal Part III-H below.

4. Capital Cost Recovery

CSXT accepts TPI's capital recovery calculations except for the issues raised above and certain other issues CSXT addresses in Part III-H.[76] The other issues raised by CSXT in Part III-H will be addressed in TPI's Rebuttal Part III-H.

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[74] *See*, CSXT Reply, p. III-G-10.
[75] *Ibid.*
[76] *Ibid.*

TABLE OF CONTENTS

III. STAND-ALONE COST

H. RESULTS OF SAC ANALYSIS

In this section, TPI addresses the concerns raised by CSXT in Reply regarding TPI's DCF analysis and its maximum rate calculations.

1. Results of SAC DCF Analysis

In Rebuttal, TPI has modified its DCF model where necessary to accommodate the other Rebuttal Evidence changes made by TPI and discussed in Rebuttal Parts III-A through III-G above. TPI describes many of these modifications below. Additionally, TPI uses this Part III-H to describe numerous errors made by CSXT in its Reply DCF model.

TPI's Rebuttal DCF analyses are shown in Rebuttal Exhibit III-H-1. The calculations shown in each table of Rebuttal Exhibit III-H-1 are summarized below.[1]

a. Cost of Capital

As discussed in Rebuttal Part III-G, TPI continues to use the simple average cost of equity estimates during the TPIRR's construction period and rejects CSXT's improper inclusion of an equity flotation cost. TPI's updated cost of capital figures are set forth in Table A of TPI's Rebuttal Exhibit III-H-1.

b. Road Property Investment Values

The calculation of road property investment costs is summarized in Table C of Rebuttal Exhibit III-H-1. In Rebuttal, TPI incorporates its updated road property investment values addressed in Part III-F, where TPI addresses CSXT's contentions regarding road property investment. In its Reply, CSXT accepts TPI's construction schedule for the TPIRR, and its methodology to index annual investment values.[2]

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1 The cost of capital (Table A) and inflation indices (Table B) are addressed in Rebuttal Part III-G.

2 *See,* CSXT Reply, p. III-H-2.

As discussed in Rebuttal Part III-F-1, CSXT's land valuation approach is biased and inconsistent with Board precedent, and its associated final land values therefore are unreliable. In Rebuttal, TPI continues to use its Opening valuation approach.

c. <u>Interest During Construction</u>

Interest During Construction ("IDC") accrues on the road property assets of the TPIRR. CSXT utilizes the same methodology as TPI did in Opening to calculate IDC in its Reply DCF.[3] TPI continues to use this same methodology in Rebuttal.

d. Interest Schedule of Assets <u>Purchased With Debt Capital</u>

In Opening, TPI explained that it structured its interest payments on debt capital in the same fashion as the real world Class I railroads, including CSXT.[4] Specifically, instead of assuming that the SARR would issue debt structured similar to a typical home mortgage loan (i.e., that the SARR would make quarterly payments that contained a principal repayment component and an interest component), TPI structured the interest payments in the same fashion as the Class I railroad companies that, like other large corporations, make coupon payments on the debt consisting of fixed interest payments.[5] TPI explained that this approach is consistent with how CSXT structures its own debt, and also is consistent with the Board's assumption that the SARR's capital structure does not change over time.[6]

In the *DuPont* and *SunBelt* decisions, the Board explicitly acknowledged that TPI's treatment of interest associated with SARR debt was in-line with real world railroads' debt practices.[7] Nevertheless, the Board rejected the shippers' evidence in those two cases, stating that the SARR is evaluated through a "regulatory lens" whereas the railroad industry is evaluated

3 *See,* CSXT Reply, p. III-H-2.
4 *See,* TPI Opening, pp. III-H-3-4.
5 *Id.* pp. III-H-3-6.
6 *Id.* pp. III-H-3, 6, and 12.
7 *See, DuPont* at 281, *SunBelt* at 191. *See also Nevada Power II* at 319.

every day by the financial markets, which assess whether a railroad will be able to pay its debt.[8] The Board believed that freeing the SARR from this regulatory evaluation, by allegedly allowing it to pay only interest and no principal on its assets, would insulate its borrowing from any scrutiny at all, because the SARR is not subject to the scrutiny of the financial markets. Thus, while the Board recognized the importance of allowing the SARR to use the same business strategies as the railroad industry to the maximum extent possible, it would not permit an interest-only approach to the repayment of debt, detached from the checks and balances that apply in the real world.

TPI respectfully submits that the Board erred in rejecting the real world approach of accounting for railroad debt, as asserted in the *DuPont* and *SunBelt* cases (and also in TPI's Opening Evidence). Contrary to the Board's belief and CSXT's contention in this proceeding,[9] TPI's approach, and the approach taken by DuPont and SunBelt, not only accounts for interest payments on debt, but it fully takes into consideration the repayment of all principal amounts borrowed to construct the SARR.

The Board rejected the coupon payment approach to interest payments because it "would abandon the fundamental structure of the SAC test…," even though SunBelt's and DuPont's evidence more closely followed actual rail industry practice than the home mortgage approach used in prior cases.[10] According to the Board, fixed coupon payments mean that the SARR is paying only interest on its debt and not repaying the principal, which would impede the ability of the SAC test to determine the SARR's ability to pay the cost of constructing, maintaining and operating its system.[11] The Board's position is fundamentally incorrect because the repayment

8 *DuPont* at 279-282; *SunBelt* at 189-191.
9 *See*, CSXT Reply, p. III-H-3.
10 *See*, *SunBelt* at 191. The Board drew the same conclusion in its decision in *DuPont*. *See DuPont* at 281.
11 *Ibid*.

of any principal amounts borrowed is accounted for in the levelized stream of capital recovery payments, not in the debt amortization approach.

As the Board noted in *SunBelt*, the computerized DCF model "simulates how the SARR would likely recover its capital investments, taking into account inflation, Federal and state tax liabilities, and a reasonable rate of return."[12] In other words, the DCF model ensures sufficient cash is generated to meet the required rate of return to debt and equity holders on the SARR's investment, as well as ensuring sufficient cash flows for the return of the required investments. This occurs through the capital carrying charges included in the "Investment SAC" level of the DCF model, which ensure that the SARR is developing enough quarterly cash flows to pay back not only the interest on the debt (as encompassed in the weighted-average cost of capital used as a discount factor), but also the principal amount originally borrowed (as reflected in the investment costs and interest during construction costs). Far from not paying back any principal, the quarterly capital charges explicitly account for repaying principal on existing and future investments. Thus, the repayment of principal is already accounted for in the DCF model regardless of whether the Board uses a home mortgage amortization approach or a coupon approach.

The Board's logic in *DuPont* and *SunBelt* also was incorrect because, as the DCF model shows, the principal repayment values calculated in the home-mortgage amortization are <u>not</u> directly used to develop any principal repayment. Instead, the principal portions of the quarterly payment included in the amortization calculations are used only in calculating the interest component of the assumed home-style mortgage payment.[13] The interest payments on the debt are then used to develop the interest tax shields to determine state and Federal tax payments.

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[12] *See*, *SunBelt* at 6.

[13] *See*, for example, CSXT Reply workpaper "Exhibit III-H-1 Reply.xlsm," worksheet "Interest," Columns (AA), (AI) and (AQ).

Thus, contrary to the Board's inference, the principal components of the debt amortization do not directly feed into the capital carrying charges, which provide the SARR's return on, and return of, capital. The sole purpose of the debt amortization calculation is to develop the expected interest payments for use in estimating state and Federal taxes. It is not to ensure repayment of any borrowed funds.

Thus, the Board's stated reason for rejecting the coupon-interest approach used by the shippers in *SunBelt* and *DuPont* is factually wrong. The Board should follow the general rule and "recognize the importance of allowing the SARR to use the same business strategies as the railroad industry to the maximum extent possible…," and permit the TPIRR to use fixed coupon payments for the treatment of its debt.[14]

In addition to parroting the Board's rationale for rejecting the coupon-interest approach, CSXT implies that TPI is advocating for issuance of a single 20-year note.[15] CSXT then states that the railroad industry cost of debt is a weighted average of notes of various length, not single notes of 20-year terms.[16] CSXT also states that the amortization of debt for the TPIRR should be similar in structure to a home mortgage to better reflect the actual payment of debt.

CSXT's claims are wrong for numerous reasons. <u>First</u>, TPI did not state it was issuing a single 20-year debt instrument to finance the TPIRR's initial construction. Instead, it stated, consistent with *Major Issues* and previous Board decisions, that the debt for road property investment is assumed to be financed over 20 years.[17] Such financing can include multiple debt instruments of varying duration. In its Opening Evidence, TPI also recognized the Board's concern about the SARR issuing 20-year debt obligations that may not match the actual length of

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[14] *See, DuPont* at 282, and *SunBelt* at 191.
[15] *See,* CSXT Reply, p. III-H-5-6.
[16] *Ibid.*
[17] *See,* TPI Opening, p. III-H-4.

debt obligations issued by the railroads in the cost of capital determination group.[18] However, this concern should not impact the assumption of fixed interest payments. As TPI explained, the railroads' level of debt has remained fairly constant since the last round of mergers in the mid 1990's. This is because the railroads are issuing new debt as debt instruments mature, or as they redeem older debt issuance and replace them with newer issuances. In other words, the railroads are holding their levels of debt constant by issuing new debt when the older debt expires or the debt is called. As such, the railroad's interest payments would be expected to be consistent from year to year and not declining over time.[19]

Moreover, the fact that the Board's average cost of railroad industry debt is a weighted-average of short, medium, and long-term interest rates[20] is more consistent with TPI's determination of quarterly interest payments than with CSXT's argument for home-mortgage style amortization. CSXT assumes that the interest payments under its home-mortgage style amortization approach reflect the payment of interest on short, medium, and long-term debt, and that the fall in debt interest payments over time is simply the reflection of the TPIRR paying-off shorter-term notes and the continued payment of interest on longer-term notes.[21] However, if this were the case, the relative interest payments would be higher in the future because of the term-structure of interest rates, which states longer-term bonds will have higher interest rates than shorter-term bonds.[22] In other words, the interest paid in the outer years should be relatively higher because, with the shorter-term debt paid off, the remaining long-term debt has higher relative interest payments. However, the interest rate does not change over time in the Board's DCF model. This steady-state distribution is indicative of the railroad holding a steady-capital

18 *See,* TPI Opening at III-H-4.
19 *Ibid.*
20 *See*, *e.g.*, Reply at III-H-5. *See also* STB Ex Parte No. 558, *Railroad Cost of Capital*.
21 *See,* CSXT Reply, p. III-H-4-5.
22 This ignores those rare instances where markets see inverted yield-curves.

structure as new debt is issued as old debt is retired. This is exactly the assumption underlying TPI's interest calculations.

CSXT also claims that TPI's approach locks in the cost of debt that occurs during the construction period, and ignores any changes in interest rates that may occur in the future.[23] CSXT contends that, as debt instruments mature or are retired, there is no guarantee that future debt will carry the same interest rates.[24] CSXT's argument effectively boils down to the assertion that past interest rates, like those that occurred during the SARR construction period, will not necessarily be equal to interest rates in the future, so one cannot assume that future debt will have the same interest rates as historic debt. However, this is an assumption that the Board's DCF model already makes. In calculating the interest tax shields associated with future asset replacements, the Board's DCF model already assumes future interest payments will equal prior year interest payments. CSXT used this assumption itself in calculating interest payments on future asset replacements.[25] CSXT has offered no other solution to estimate future interest rates or provided any type of future interest forecast. TPI's approach simply uses the Board long-standing method for estimating future interest rates when no other forecast has been provided.

CSXT also contends that some of the debt instruments that form the basis of the AAR's cost of debt are "paid in full" at maturity.[26] CSXT's statement is misleading because the "full payment" by the relevant railroad likely involved reissuance of the principal in a new debt instrument. As indicated in Opening, the railroads' capital structure has remained constant over the last decade, indicating that, as old debt is retired or paid in full, new debt is issued to replace

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[23] *See*, CSXT Reply, p. III-H-4.
[24] *See*, CSXT Reply, p. III-H-4-5
[25] *See*, CSXT Reply workpaper "Exhibit III-H-1 Reply.xlsm," worksheet "Replacement Interest," cell D5.
[26] *See*, CSXT Reply, p. III-H-5.

it.[27] Additionally, the DCF model accounts for any repayment of debt principal through its calculation of quarterly capitalized carrying charges, which provide sufficient cash flows, on a discounted basis, to repay debt used to construct and operate the SARR.

In sum, real world companies, including the railroads, set a target capital structure, and attempt to maintain it for many reasons, including using the power of leverage to manage earnings and to maintain cash flexibility.[28] The TPIRR is employing the same methodology that real world railroads do, and holding a stable capital structure. This is consistent with the Board's DCF model, which assumes the capital structure does not change over time.[29] This is also consistent with the Board's DCF model assumption that future interest rates will equal prior year interest rates. To reflect this steady-state nature, the SARR must reissue debt as older debt is retired, which ultimately leads to consistent interest payments as reflected in TPI's DCF model. As such, TPI continues to rely upon its proper and correct Opening interest rate methodology.

e. Present Value of Replacement Cost

Table F shows the additional investment (on a present value basis) that the TPIRR would have to make if each of its assets (excluding land) was replaced indefinitely at the end of its useful life. CSXT states that it made two alleged corrections to the replacement cost of TPIRR assets. First, CSXT states that it corrected tax depreciation lives for certain TPIRR assets.[30] TPI discusses this issue in III-H-1-f-ii below.

Second, CSXT states that it reestablished a 20-year debt amortization schedule for replacement assets.[31] CSXT's adjustment to the replacement cost calculations to "reestablish" debt amortization for replacement assets is incorrect, and leads to a double count of interest tax

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27 *See*, TPI Opening, pp. III-H-2-6.
28 *See, e.g.*, TPI Opening at III-H-5.
29 *See*, TPI Opening, p. III-H-12.
30 *See*, CSXT Reply, p. III-H-6.
31 *Ibid.*

shields. As discussed in Opening, TPI corrected the DCF model's capital carrying charge determination to reflect the constant capital structure assumed by the Board's DCF model by calculating a terminal interest value calculation.[32] This interest expense terminal value calculation takes into consideration interest payments incurred by the SARR for debt issued in perpetuity, including debt used for future replacement assets. Including interest payments for future replacement assets double-counts the interest payments. Therefore, TPI continues to exclude interest payments for replacement assets in its Rebuttal DCF model.

f. <u>Tax Depreciation Schedules</u>

In its Opening DCF model, TPI took advantage of additional or "bonus" depreciation provisions enacted by Congress in 2008 and 2009 as part of federal economic stimulus legislation and continued in 2010 and 2011.[33] In addition, TPI's Opening DCF model utilized the same Modified Accelerated Cost Recovery System ("MACRS") depreciation schedules endorsed by the Board in all SAC cases over the prior decade.[34] CSXT claims that TPI's tax depreciation schedules contain three errors: (1) TPI incorrectly applied bonus depreciation to all assets purchased in 2009 through 2011; (2) TPI applied bonus depreciation to replacement costs; and (3) TPI used the wrong tax depreciation lives for certain assets.[35] TPI rejects CSXT's first claim for the reasons stated below, but acknowledges the second and third errors and corrects them in this Rebuttal.

i. <u>Bonus Depreciation</u>

In Opening, TPIRR took advantage of additional or "bonus" depreciation provisions enacted in 2008 and 2009, and continued in 2010.[36] These provisions were part of the Economic

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[32] *See*, TPI Opening, p. III-H-12-15.
[33] *Id.* pp. III-H-8-10.
[34] *Id.* p. III-H-7-8.
[35] *See*, CSXT Reply, p. III-H-6-10.
[36] *See*, TPI Opening, p. III-H-8-10.

Stimulus Act of 2008 ("Stimulus Act"), the American Reinvestment and Recovery Act ("ARRA") of 2009, and The Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010 ("2010 Tax Relief Act"). These Acts provided bonus depreciation on capital investments with MACRS recovery periods of 20 years or less. Qualifying investments are allowed a 50 percent depreciation bonus in the year that they are placed into service for assets placed into service prior to September 8, 2010, and 100 percent depreciation for assets thereafter. Tax depreciation for the remaining 50 percent of the cost, or the remaining cost basis, is calculated using the standard MACRS schedules. Table G of Rebuttal Exhibit III-H-1 displays the amount of bonus depreciation available to the TPIRR in 2009 through 2011.

CSXT objects to this bonus depreciation, asserting that it represents a "reverse barrier to entry" because identical bonus depreciation was not available to CSXT during the construction of all the lines replicated by the TPIRR.[37] CSXT contends that bonus depreciation "would inappropriately place the TPIRR at a distinct *advantage* relative to the incumbent CSXT."[38] CSXT believes the bonus depreciation is inappropriate because it exists "solely as a byproduct of the artificially short construction period assumption," and thus confers "tax benefits on the SARR that were not available to the incumbent."[39]

In direct contrast to CSXT's current argument, the Board has previously applied short-term tax laws in effect during the SARR construction period.[40] Moreover, the position advocated by CSXT has been rejected twice in the past year.[41] Among other things, the Board stated in those two recent decisions that the short time period for SARR construction results in both benefits and disadvantages for the SARR, and that it would be improper to bar the SARR from

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[37] *See,* CSXT Reply, p. III-H-7.
[38] *See,* CSXT Reply, p. III-H-7 (emphasis in original).
[39] *See*, CSXT Reply, p. III-H-8.
[40] *See, e.g.*, *West Texas Utilities*, at 714; *McCarty Farms*, at 525-529.
[41] *DuPont* at 277-279; *SunBelt* at 188-189.

the benefits while requiring the SARR to endure the disadvantages.[42] CSXT takes issue with those decisions, asserting that the Board did not specify any of the disadvantages.[43] Given that CSXT has questioned what the disadvantages might be,[44] TPI herein offers a partial list.

Prices for materials could be elevated during the brief period of SARR construction, thus forcing the SARR to expend far more than under normal conditions. For example, if the price of steel is unusually high during the abbreviated construction period, the SARR is forced to pay the elevated price for all steel on the SARR system. In contrast, real world railroads such as CSXT have benefitted from acquiring their steel assets over many decades, in both boom and bust cycles. Moreover, CSXT has had the option of choosing not to construct new lines during unfavorable market conditions, whereas a SAC complainant must take conditions as they are during the SARR construction period.

The viability of a SARR can also be negatively impacted by prevailing debt interest rates. The cost of capital utilized by the Board in the DCF model includes both an equity component and a debt component.[45] The debt component is based upon the average railroad industry cost of debt during the SARR construction period.[46] If the SARR construction period coincides with a period of high interest rates for debt, the SARR would be saddled with extra debt costs, thus negatively affecting the complainant's entire case. The negative impact would be a direct consequence of the "artificially short construction period assumption", and would affect the SARR to a much greater extent than the defendant railroad. Compared to the SARR, the defendant would have incurred moderate levels of debt over many decades of financing, thus smoothing out any period of high interest rates.

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[42] *DuPont* at 278; *SunBelt* at 188.
[43] *See*, CSXT Reply, pp. III-H-7-8.
[44] *Id.*
[45] *See, e.g*., *Railroad Cost of Capital - 2013*, STB Ex Parte No. 558 (Sub-No. 17) (served July 31, 2014).
[46] *See, e.g*., *AEP Texas II*, p. 107.

Moreover, the fact that the TPIRR might have an advantage relative to CSXT is a red-herring. The SAC concept is predicated upon developing an "optimally efficient" SARR, which means that the SARR necessarily will have many advantages over the incumbent. CSXT's own logic would require the SARR to use the same production techniques that CSXT used to build the original rail lines a century ago, rather than more efficient modern techniques. Essentially, CSXT argues that the SARR cannot be more efficient, or use better technology than the incumbent, which is the antithesis of SAC principles.

CSXT's position also flies in the face of Contestable Market Theory. According to Dr. William Baumol, one of the principal developers of Contestable Market Theory and a frequent consultant for the railroads, "[t]he crucial feature of a contestable market is its vulnerability to hit-and-run entry."[47] In order to hypothesize a contestable rail market, the Board assumes that a SARR can be constructed in the minimum amount of time dictated by technological feasibility for the most complex and time-consuming project on the SARR.[48] Therefore, "hit-and-run entry" means that the SARR must be able to enter the market within the foregoing time frame and pay "current market prices" for construction.[49] That includes bonus depreciation.

CSXT's argument is an attempt to have its cake and eat it too. The SARR must incur "current market prices" at the time construction actually occurs. That means the SARR must pay market rates for land, material and labor, whether that be a boom or a bust market, regardless what the incumbent may have paid (unless the incumbent paid nothing, in which case the SARR also pays nothing). While CSXT has no problem with this fact, it would deny the SARR the benefit of favorable tax depreciation schedules available during the same time period. Tax

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[47] *See,* Baumol, William, J. "Contestable Markets: An Uprising in the Theory of Industry Structure," *The American Economic Review*, Vol. 72, No. 1, March 1982 at 1-15, p. 4.

[48] *See, West Texas Utilities,* pp. 671-672.

[49] *Id.* p. 672.

depreciation is a temporal cost factor just like most other costs that the SARR must incur. It would be arbitrary to deny the SARR the benefit of "current market prices" for just this one factor.

CSXT itself has benefited substantially from not only the current bonus depreciation laws, but from prior tax benefit laws that are not available to the TPIRR. Thus, the "disadvantage" that CSXT claims, to the extent it exists at all, is overstated. CSXT offers to allow the TPIRR to take bonus depreciation to the same extent that CSXT itself did during the TPIRR construction period.[50] However, this gives an unfair advantage to CSXT because various other (now-expired) tax and/or legal provisions were available to CSXT and its predecessors in previous decades yet, crucially, are not available to the TPIRR. If CSXT were to get the benefit of limiting the TPIRR's use of current law, then CSXT must share with the TPIRR some percentage of the benefits CSXT received in prior years under prior law. These prior benefits are not available to the TPIRR but were available to CSXT. In other words, CSXT's claim of unfairness works both ways. Obviously, determining the share of CSXT's prior benefits that must be shared with the TPIRR would be a complex and time-consuming task. A simpler option is simply to apply existing law to the TPIRR – which is what TPI did in its Opening Evidence.

The benefits previously available to CSXT but not available to the TPIRR include:

- The U.S. government provided surveyors to the Baltimore & Ohio Railroad ("B&O", a CSXT predecessor) at government expense;[51] and
- State governments passed favorable tax treatment for investments in B&O stock, thereby encouraging purchase of the stock.[52]

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50 *See,* CSXT Reply, p. III-H-9,
51 James Dilts, *The Great Road: The Building of the Baltimore and Ohio, the Nation's First Railroad, 1828-1853* (1996) p. 49.
52 *Id.* pp. 43-45.

Similarly, CSXT and its predecessors also had the opportunity to benefit from the following "temporary" laws, which are not available to the TPIRR:

- The Revenue Act of 1962 that enacted an investment tax credit ("ITC") equal to seven (7) percent of qualified investment property;
- The Tax Reform Act of 1969 that established rapid depreciation of railroad rolling stock;
- The Revenue Reform Act of 1971 which updated the ITC and allowed a 3-year carryback and 7-year carry forward of the credits which could not be used in current years because of tax liability limitations;
- The Tax Reduction Act of 1975 that increased the ITC to ten (10) percent for all taxpayers and increased the tax liability limitations for railroad companies;
- The Tax Reform Act of 1976 that extended the ten (10) percent ITC through December 31, 1980;
- The Revenue Act of 1978 which permanently increased the ITC to 10 percent instead of reverting to a seven (7) percent ITC beginning in 1981, and extended the ITC to certain qualified rehabilitation expenditures;
- The Economic Recovery Act of 1981 which allowed for more generous ITC amounts, the enactment of safe-harbor leasing laws and increases in the credits available for qualified rehabilitation projects;
- The Job Creation and Worker Assistance Act of 2002 which enacted a 30 percent bonus depreciation rate for the years 2002 to 2004; and
- The Jobs Growth and Tax Reconciliation Act of 2003 that increased the bonus depreciation to 50 percent and extended its use to 2005.

CSXT not only benefited from many historic tax breaks, but also continues to benefit from current favorable tax treatment unavailable to the TPIRR. In 2012, CSXT obtained a tax break from the state of Florida for spending more than $250 million in capital projects. Known as the "single sales factor," the regulation allows companies to use a more favorable formula when calculating their state corporate income taxes as long as the companies spent over a certain capital threshold amount.[53] Because the TPIRR completed the primary construction of its rail system in 2010, and does not begin replacing any major assets until 2025 at the earliest, it would not be eligible for the special tax treatment CSXT received from the state of Florida.

CSXT also makes the claim that, since the Board previously stated that a SARR is a replacement for the segment of the incumbent's rail system the SARR would serve, the SARR should not be able to enjoy any benefits not fully available to the incumbent railroad.[54] CSXT therefore argues that, since it was unable to enjoy the full benefits of the limited-time bonus depreciation, the TPIRR's bonus depreciation should be similarly restricted. The logical extension of CSXT's argument, however, is that the TPIRR must be constructed and operated in the same manner as the incumbent if the TPIRR is stepping into the incumbent's shoes. The Board consistently has rejected this line of logic and stated that the SARR need not be constructed or operated in the same manner as the incumbent.[55] The stand-alone replacement, in actuality, does not even need to be another railroad.[56] Furthermore, the *WTU* decision cited by CSXT[57] recognized the trade-off in benefits between the SARR and the incumbent. The Board stated that, while a SARR may find benefits accruing from the fact that it has a shorter construction period than the incumbent, the incumbent benefited from building its system in a sequential manner, allowing it to earn returns on individual line segments before the incumbent's entire system was complete.[58] Therefore, while the SARR may benefit in some way from its

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[53] *See*, "Florida's Tax Break Often Helps Companies Do Already-Planned Work," *Orlando Sentinel*, July 7, 2012. http://articles.orlandosentinel.com/2012-07-07/business/os-single-sales-factor-20120707_1_tax-revenue-tax-incentive-single-sales-factor.

[54] *See*, CSXT Reply, pp. III-H-8-9.

[55] *See, e.g., McCarty Farms* at 468; *AEPCO* at 10.

[56] *See, Coal Rate Guidelines,* p. 543. *See* also, *WFA/Basin II*, slip op. p. 14 ("Finally, using the densities of the hypothetical SARR makes no sense, as under SAC the hypothetical competitor to BNSF does not even need to be a railroad at all.).”

[57] *See*, CSXT Reply, p. III-H-8.

[58] *See*, *West Texas Utilities*, pp. 671-72.

compressed construction schedule, any benefits are counterbalanced by the benefits the incumbent received from generating returns in its network while still under construction.

CSXT's position should also be rejected because it would inject unwarranted speculation into the SAC process. CSXT criticizes the bonus depreciation provision utilized by the TPIRR as a "temporary" measure,[59] but CSXT ignores the fact that the legal regime under which society operates is constantly evolving and changing. New laws are continuously being enacted while old ones expire or are superseded. Federal and state agencies pass new regulations on a regular and ongoing basis. If, as CSXT contends, the governing law at the time of SARR construction should be ignored or limited, then what is to stop future litigants (on both sides) from making the same argument about any law that they believe provides an advantage to their opponent? CSXT's position would open a Pandora's Box and unleash even greater speculation into the already hypothetical realm of SAC. As the Board has said, it "must follow existing law."[60]

For the reasons discussed above, TPI continues to apply bonus depreciation allowable under the then current tax law to its TPIRR investments.

ii. <u>Asset Tax Lives</u>

CSXT challenges TPI's assignment of 15-year tax lives to certain assets, arguing instead that they should be treated as 20-year property.[61] Specifically, CSXT states that investments in each of the following categories carry a MACRS 20-year tax life:

- Bridges and Trestles (Account 6)
- Fences & Roadway Signs (Account 13)
- Roadway Buildings (Account 17)
- Fuel Stations (Account 19)
- Shops and Engine Houses (Account 20)
- Public Improvements (Account 39)

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[59] *See*, CSXT Reply, p. III-H-7.
[60] *See*, *AEPCO*, p. 34.
[61] *See*, CSXT Reply, pp. III-H-9-10.

TPI has reviewed CSXT's claims and agrees that these assets should be categorized as 20-year assets. TPI has adjusted its Rebuttal DCF model accordingly.

g. Average Inflation in Asset Prices

Table H of Rebuttal Exhibit III-H-1 computes the average annual inflation rate by which the capital recovery charge in Table I is indexed. CSXT accepts TPI's inflation assumptions for assets.[62]

h. Discounted Cash Flow

CSXT raises three (3) issues with TPI's DCF analysis which are discussed below under the following topical headings:

1. TPIRR Capital Structure
2. PTC Investment
3. MGA Capital Costs

i. TPIRR Capital Structure

TPI explained in Opening that it utilized the Board's standard capital recovery methodology, including the modification the Board made in *AEPCO II*, to calculate the present value of unused depreciation in the terminal value calculation.[63] TPI also explained that it found a flaw in the current methodology.[64] The Board's DCF model explicitly assumes that the SARR's capital structure will remain constant into perpetuity.[65] This means that the amounts of common equity and debt carried on the assumed SARR's financial statements will remain the same forever.

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[62] *See*, CSXT Reply, p. III-H-10.
[63] *See*, TPI Opening, p. III-H-11-12. *See also AEPCO II*, pp. 140-141.
[64] *See*, TPI Opening, p. III-H-12.
[65] The cost of capital used to calculate the terminal value in the DCF model equals the simple average cost of capital from the first year of the SARR's construction to the most recent cost of capital issued by the Board. It also reflects the average railroad industry capital structure over the same period. Between 2008 and 2010, debt as a percentage of railroad industry capital ranged from 21.4 percent to 29.1 percent.

As TPI explained in its Opening Evidence, the Board's DCF model assumes that after year 20, and until the first assets are replaced in the replacement level of the DCF model, the railroad has no debt and no tax shielding interest payments. Stated differently, the model assumes, from a tax payment perspective, that the railroad is 100 percent equity financed after year 20 and before its first replacement cycle. This creates an irreconcilable mismatch between the SARR's cost of capital and its cash flows. The cost of capital assumes that the SARR is carrying debt, and its associated interest payments, but the cash flows reflect no benefits from the interest tax shields.

TPI corrected for this flaw in its Opening Evidence. TPI adjusted the terminal value in the capital carrying charges to reflect the cost of capital assumption that the TPIRR's level of debt is held constant into perpetuity, and that interest tax shields consistent with this level of debt are accounted for in the cash flow calculation. Specifically, TPI calculated an interest tax shield in perpetuity by dividing the last full quarterly coupon payment by one plus the quarterly real cost of capital.[66] This calculation aligns the cost of capital assumption of a fixed level of debt forever, with the interest payable on this debt.[67]

In two recent cases, the Board approved of corrections identical to that made by TPI in its Opening Evidence.[68] Despite this recent precedent, CSXT objects to the terminal value correction employed by TPI.[69] CSXT contends that the mismatch is a "mainstay of the Board's DCF model since *Coal Trading* and *McCarty Farms*."[70] These two decisions do not support the mismatch. In *Coal Trading*, the ICC allowed the SARR's debt-equity mix to change over time

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66 This is the same type of calculation used to develop the terminal capital carrying charge.

67 To avoid a double count in the impact of the interest tax shields, TPI has adjusted the asset replacement calculations to remove the impact of the interest tax shields on replacement assets.

68 *DuPont* at 282-284; *SunBelt* at 193.

69 *See*, CSXT Reply, pp. III-H-11-14.

70 *See*, CSXT Reply, p. III-H-11.

as debt was paid off.[71] Conversely, *McCarty Farms* involved use of a constant capital structure.[72] Crucially, however, neither case included a statement by the agency approving, let alone simply recognizing the existence of, the mismatch that TPI described in its Opening. More broadly, the simple fact that an error has existed for several years is not a legitimate justification for its continued existence.[73] An error is still an error, regardless of how long it has existed.

CSXT also claimed that the Board "affirmed" this mismatch in *Major Issues*,[74] but no such affirmation occurred. In *Major Issues*, the Board simply rejected requests to amortize debt over the lives of the SARR assets; instead, the Board retained the use of a 20-year period to amortize debt.[75] The Board did not even address tax shielding interest payments or the SARR's debt-equity mix beyond year 20. Consequently, the Board did not "affirm" the mismatch described by TPI.

CSXT acknowledges that the Board corrected the mismatch in *DuPont* and *SunBelt*.[76] Nonetheless, CSXT claims that the Board erred in those decisions. First, CSXT claims the Board made a conceptual error by introducing a new inconsistency into the DCF model by applying different financial assumptions between debt used for assets acquired during the construction period and debt used to acquire replacement assets.[77] Second, CSXT asserts the Board made a mathematical error by overriding the interest payments in years 11 to 20 of the

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[71] *See, Coal Trading* at 379-380.

[72] *See, McCarty Farms* at 522, n. 123.

[73] *See, e.g., DuPont* at 279 ("Even if…the Board and parties have consistently used 15-year asset lives for these accounts, we can and will change our practices if new and better evidence comes to light."). *See also SunBelt* at 189.

[74] *See*, CSXT Reply, p. III-H-11.

[75] *Major Issues*, slip op. at 65.

[76] *See,* CSXT Reply, p. III-H-12.

[77] *See,* CSXT Reply. p. III-H-13.

DCF model and instead using the average interest payments.[78] Both of CSXT's assertions are incorrect and should be ignored.

As to the alleged conceptual error, CSXT claims that, before the correction to the terminal value calculation, the DCF model was configured to assume that both debt used to acquire assets during the initial construction period and debt used to acquire replacement assets would be amortized over 20 years.[79] CSXT claims that, after the terminal value correction, the debt amortization assumptions are now different.[80] Specifically, CSXT alleges that debt used to acquire the original assets is still amortized over 20 years, but there will be no amortization of debt used for the acquisition of assets in subsequent replacement cycles.[81]

CSXT's claim that the terminal value adjustment introduces inconsistent assumptions is wrong for two primary reasons. First, contrary to CSXT's claim, the DCF model envisioned by the *SunBelt* and *DuPont* decisions did not assume both debt associated with original assets and debt used for replacement assets would have a 20-year amortization period. Rather, the DCF model assumed debt associated with replacement assets would be amortized over the lesser of the service life of the asset, or 20 years. This means that the different assumptions mentioned by CSXT (regarding debt associated with original and replacement assets) existed even prior to the terminal value correction accepted by the Board in *DuPont* and *SunBelt*, not as a consequence of that correction.

Second, assuming the Board does not correct its debt interest calculations as proposed by TPI, the terminal value correction will account for amortization of debt used to acquire future

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78 *See*, CSXT Reply pp. III-H-13-14.
79 *See*, CSXT Reply p. III-H-13.
80 CSXT's claims rest, in part, on the assumption the Board will continue to assume the SARR amortizes its debt using a home mortgage style amortization schedule. Correcting the interest calculation to the coupon style approach used by TPI eliminates any alleged mismatch, and is another reason the Board should adopt TPI's approach.
81 *See*, CSXT Reply, p. III-H-13.

assets in the same manner as original TPIRR debt. CSXT states that there will be no amortization of debt for assets in subsequent asset replacement cycles.[82] This ignores the fact that the debt reflected in the terminal value calculation is there to perpetually replace future assets (as well as to account for other corporate needs as debt is used by real world railroads). Stated differently, assuming the Board stays with its mortgage-style amortization approach, which it should not, the correction assumes interest calculated on a debt amortization schedule. If anything, the terminal value correction adopted by the Board removes an inconsistency that was already present in the DCF model.

In addition to asserting that the Board made a conceptual error, CSXT also claims that the Board's correction of the mismatch would create a mathematical error by overstating the amount of interest a SARR would pay in years 11 through 20.[83] CSXT claims that, because interest payments are lower than average in the later years of the amortization period, the use of average interest payments over this period would overstate the interest expense.[84] However, CSXT's claim fails to consider that, while the interest payments in the second half of the 20-year amortization period are lower than the average interest payment, the interest payments in the first half of the amortization period are higher. In other words, the use of an average interest payment within the perpetuity calculation already takes into consideration the lower interest payments that occur in the second half of the amortization period just as it takes into consideration the higher interest payments in the first half of the period.

In sum, CSXT's claims about the terminal value correction do not warrant deviation from the recent decisions in *DuPont* and *SunBelt*. Far from introducing another inconsistency to the DCF model, the correction made by the Board in these two decisions removes a current

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[82] *Ibid.*
[83] *See*, CSXT Reply, pp. III-H-13-14.
[84] *See*, CSXT Reply, p. III-H-14.

inconsistency in how debt issued for original investments and future investments was amortized. The Board's correction also does not lead to a mathematical error by overriding scheduled interest payments, but instead simply reflects the use of an average value over time. The Board should reject CSXT's arguments and follow the terminal value approach applied in *DuPont* and *SunBelt*.

Next, CSXT has proposed a separate fix in the event the Board determines that the mismatch should be corrected. CSXT proposes that the Board "revert back" to the method used in *Coal Trading*, where the SARR capital structure is recalculated as the debt is amortized.[85]

The method used in *Coal Trading* was justifiably discarded soon after the decision was issued, and the Board should not revive it. In *Nevada Power II*, the ICC determined that "it is more realistic to assume that the SARR would issue new debt as old debt is amortized" because "[t]his is the procedure followed by many large corporations, including most U.S. railroads, as a way of reducing the overall cost of capital."[86]

Moreover, CSXT's approach of amortizing debt and equity as the ICC did in *Coal Trading* is completely inconsistent with finance practice and theory. It is an accepted financial axiom that a firm's cost of equity will change with changes in leverage. This is famously known as Modigliani and Miller's ("MM") Proposition 2, which states that the expected return on the common stock of a levered firm increases in proportion to the debt-equity ratio.[87] This means a higher debt-to-equity ratio leads to a higher required return on equity, because of the higher risk involved for equity-holders in a company with debt. The converse of this is also true. As the

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85 *See*, CSXT Reply, p. III-H-14.
86 *Nevada Power II* at 319.
87 *See* Brealey, R. A., Myers, S. C., and Allen, F., "Principles of Corporate Finance, Eighth Edition," McGraw-Hill Irwin, 2006, at page 453 ("Brealey, Myers and Allen") (providing a fuller explanation of MM's Proposition 2).

amount of debt held by a company falls, the required return on the equity falls because of the lower risk involved for equity-holders in a company without any debt.

In advocating such an approach, CSXT completely ignores this fundamental economic principle. CSXT incorrectly assumes that, as the TPIRR's capital structure changes with the declining amounts of debt held by the TPIRR, the cost of debt and equity will not change. Instead, the TPIRR's cost of capital increases as common equity takes on a larger percentage of the capital structure as debt is retired. CSXT's position is completely contradictory to basic financial economics, which states the cost of equity will decline with the drop in the proportion of debt.

The only proper way to show a constant capital structure in perpetuity, as the Board has assumed in its DCF model, is to assume a constant level of debt over the SARR's infinite life. TPI's adjustment to the DCF model aligns the disconnect inherent in the current version of the Board's model.

ii. <u>PTC Investment</u>

CSXT claims the TPIRR will incur additional PTC related interoperability costs after commencement of railroad operations in 2010.[88] This is beyond the $133 million CSXT alleges the TPIRR will spend prior to 2011 on PTC investments. According to CSXT, this means additional PTC investment will begin in 2011 and extend through 2015, when PTC must be implemented by current law.

There are several flaws with CSXT's inclusion of PTC investment in the DCF model. <u>First</u>, as discussed in Section III-F-6 above, CSXT incorrectly assumes that real world railroads will have PTC installed by 2015. The FRA, in a 2012 report to Congress, has indicated that PTC will not likely be operational by 2015, and has not indicated a date by which it would be fully

[88] *See*, CSXT Reply, p. III-H-15.

implemented. The same sentiments were echoed by CSXT Vice President Gerhard Thelen in oral testimony before the National Transportation Safety Board ("NTSB"). According to Mr. Thelen, "[b]ased on where we [CSXT] stand today, if everything goes well, we are looking at a 2018-2020 timeframe [when PTC can be fully installed]."[89] By requiring the TPIRR to incur additional PTC costs beyond what it has already included in its initial construction that CSXT itself has not yet incurred or is expected to fully incur prior to 2018, CSXT has created an impermissible barrier to entry for the TPIRR.

This situation is distinguishable from *AEPCO II* in which the Board stated:

> [W]e must follow existing law, and existing law requires that these systems be in place by December 2015. We have no reason in this 10-year DCF analysis to exclude costs that are required by Federal law because of the possibility that the law might change in the future or tax breaks that do not currently exist may be enacted.[90]

TPI has asserted very different arguments from those made in *AEPCO II*. In this case, TPI has shown that both the FRA and CSXT itself have stated publicly that the Congressional deadline cannot and will not be met. This evidence was unavailable during the *AEPCO II* case TPI has included in its initial investment the costs to construct a fully functional PTC system, a cost that CSXT has not yet fully incurred, and may not incur until significantly after the statutory deadline.

<u>Second</u>, also as discussed in Section III-F-6, PTC technology was in fact available and being used by railroads prior to 2011. CSXT's DCF evidence does not truly concern the availability of PTC technology in 2011, but rather the technology and costs associated with overlaying PTC on top of CTC and the integration of PTC across all railroads by 2015.[91]

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[89] *See*, "Safety Agency Scrutinizes Train Control Progress," *Argus Rail Business*, March 4, 2013 p. 5.
[90] *See, AEPCO II,* p. 34.
[91] *See,* CSXT Reply, p. III-H-15.

Third, CSXT's determination of the cash flows required to recover PTC related costs is flawed. In calculating the tax depreciation for the PTC investment for the years 2011 through 2013, CSXT failed to account for the bonus depreciation available on PTC assets in those years.[92] In *DuPont*, the Board did not accept the application of bonus depreciation for PTC investments made in 2011 to 2013, stating that the SARR would not be entitled to bonus depreciation during the development period for something that would not be in service during the 2010 to 2015 time period.[93]

TPI respectfully believes that the Board erred in *DuPont* regarding the application of bonus depreciation to future year PTC investment. As an initial manner, the Board's decision in *DuPont* creates an inconsistency between how the bonus depreciation is calculated for the initial SARR investment and how it is calculated (or not calculated) for PTC investment. The parties have calculated bonus depreciation for the initial SARR investment based on the year of the investment, as is consistent with GAAP and tax regulations. This means the bonus depreciation for the years 2008 and 2009 investment were calculated under 2008 and 2009 tax laws, respectively, even though the SARR did not begin operation until 2010. In *DuPont*, the Board took the opposite tact with PTC investment and stated that, even though bonus depreciation was allowed under 2011 to 2013 tax laws, it would not allow the depreciation since the PTC would not be completely installed until 2015. This creates an inherent inconsistency on how the Board treats bonus depreciation.

In addition, the Board's decision in *DuPont* creates a barrier to entry by allowing CSXT to use bonus depreciation in its PTC investments, but not allowing the TPIRR to do the same. CSXT incurred $214.7 in PTC related investment in 2013, which it included in its road property

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[92] *See*, CSXT Reply workpaper "Exhibit III-H-1Reply.xls," worksheet "Replacement-Depreciation_PTC" which shows no accelerated depreciation for those years.
[93] *See*, *DuPont* at 285.

and equipment accounts.[94] These are property additions that CSXT included in its asset base, and CSXT has begun depreciating under then current tax depreciation rules, including bonus depreciation, even though full PTC implementation is not required until the end of 2015. CSXT has benefited from bonus depreciation on its PTC investment, but under the *DuPont* decision, the Board would deny the TPIRR the same benefits. This is clear barrier to entry as it would force upon the TPIRR tax expenses not incurred by the CSXT because of CSXT's use of bonus depreciation.[95]

Not including the accelerated depreciation overstates the capital carrying costs required for PTC. Based on this, and the factors cited in Section III-F-6-b, TPI has continued to use its Opening approach to account for PTC investment costs.

iii. <u>MGA Capital Costs</u>

CSXT claims that, by stepping into CSXT's shoes for the use of the Monongahela Railway ("MGA"), TPIRR is required to assume CSXT's capital expenditure payments.[96] As explained in Section III-B-1-a-i, TPI agrees that TPIRR's use of the MGA network requires it to assume some of the MGA capital costs, but disagrees with CSXT's application of the MGA capital costs to the DCF model. CSXT's approach accounts for future MGA payments by calculating a perpetuity based on historic average MGA payments, and inserts this perpetuity value into the capital carrying charge calculation.[97]

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[94] *See*, TPI Reply work paper "CSXT 2013 Supp PTC Revised.xlsx," which is contains CSXT's supplemental filing detailing its PTC investments pursuant to the STB's decision in Ex Parte 706, *Reporting Requirements for Positive Train Control Expenses and Investments*, served August 14, 2013. Because the Board did not require railroads to file PTC related investment reports prior to 2013, it is possible to discern how much of the PTC included in its asset base prior to that year. However, CSXT's SEC Form 10-K shows the railroad incurred $21 million, $57 million and $133 million in 2008, 2009, and 2010, respectively for regulatory expenditures, including PTC investment. Presumably, most of this capital is also included in its asset base.

[95] *See*, *West Texas Utilities*, p. 670.

[96] *See*, CSXT Reply workpaper "Exhibit III-H-1 Reply.xlsm," worksheet "MGA."

[97] *See*, CSXT Reply work paper "Exhibit III-H-1 Reply.xlsm," worksheets "MGA" and "Investment SAC."

This approach does not take into consideration the depreciation and interest expense tax shields associated with the MGA capital investments. If these payments are capital expenses, as claimed by CSXT,[98] then CSXT should have calculated the tax depreciation associated with these investments, and the interest on the debt issued to fund them. CSXT failed to calculate either, and thereby effectively overstated TPIRR's tax payments.[99]

To correct for CSXT's error, TPI has adopted CSXT's calculation of future MGA capital payments, but calculated the depreciation and investment tax credits associated with these capital expenses. This was accomplished in a manner generally consistent with the approach taken in the DCF for the replacement of assets as they reach the end of their useful lives. Specifically, TPI created a new worksheet "Net MGA" in the DCF model that functions similar to the "Replacement" worksheet that calculates future replacement costs. TPI then input the TPIRR's MGA investment for the years 2010 through 2037[100] into the new "Net MGA" worksheet where the tax benefits from accelerated depreciation and tax deductible interest are calculated and deducted from the MGA capital investments. The present value of future MGA investments as the original MGA investments reach the end of their useful lives are also computed for each investment year.

TPI then carried the MGA investments, net of tax benefits and the present value of future replacements, to the "Investment SAC" cash flow tab, where the model is first run with no MGA investments to establish the base line capital recovery. Then, beginning in 2010, each year's MGA investment is added to the investment total and rerun. To prevent recovery of MGA

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98 *See*, CSXT Reply workpaper "Exhibit III-H-1 Reply.xlsm," worksheets "MGA," cell A7, where CSXT included the comment "CSXT 50% Portion of Annual MGA Capital Expenditures -- 2009 – 2013."

99 If these payments are not really capital expenditures as claimed by CSXT, then they must be, by default, operating expenses, which means there was no need for CSXT to calculate a perpetuity value. Instead, CSXT should have simply included the 2010 to 2020 payments in the operating expense portion of the DCF model.

100 Because the average lives of the MGA investments equaled 28 years based on the mix of assets placed in the MGA, there is no need to calculate investments after 2038 as any investment after this period is included in the MGA asset replacement calculation.

investments before the actual MGA investments take place, the model results are locked down for the prior year before the model is rerun with the next year's MGA investment. TPI has set forth the details for these calculations in the "MGA," "Net MGA," and "Investment SAC" worksheets of TPI Rebuttal Exhibit III-H-1.

i. Computation of Tax Liability – Taxable Income

CSXT accepts TPI's assumed Federal tax rate of 35 percent and its calculated composite state income tax rate for the TPIRR.[101]

j. Operating Expenses

Table K displays the operating expenses incurred in each year of the DCF period. CSXT states it made two (2) adjustments to the DCF model's operating expense calculations. First, CSXT substituted the All-Inclusive Index Less Fuel ("AII-LF") for the hybrid RCAF index in years 2010-2013 of the DCF.[102] This substitution was made because CSXT also adjusted the DCF model to calculate what it claims are TPIRR's fuel costs for the fourth quarter of 2010 through fourth quarter of 2013 by applying what it called "CSXT's actual quarterly average fuel price" for the same periods.[103] Second, CSXT adjusted the DCF model to capture what it claims are the ramp-up in operating expenses for the new North Baltimore intermodal facility.[104] TPI addresses these two issues below.

i. Fuel Costs

In *Major Issues*, the Board determined that SARR operating expenses should be indexed using a hybrid RCAF index.[105] Despite the Board's determination, CSXT has impermissibly deviated from the prescribed hybrid RCAF index for projecting TPIRR operating expenses in the

[101] *See*, CSXT Reply, p. III-H-16.
[102] *Ibid.*
[103] *Ibid.*
[104] *See*, CSXT Reply, p. III-H-16-17.
[105] *Major Issues*, slip op. p. 39-47.

future.[106] CSXT's deviation is improper because the hybrid RCAF was adopted in notice-and-comment rulemaking and, therefore, the Board must abide by the rule it adopted.[107] Furthermore, the Board cannot deviate from the hybrid RCAF without engaging in a further notice-and-comment rulemaking process.[108]

Given the existing hybrid RCAF rule, the Board must reject CSXT's attempt to selectively update the record with new fuel price information because the attempted updating is necessarily linked to deviation from the hybrid RCAF.[109] Moreover, CSXT's desire to use new fuel price information should also be rejected because the Board disfavors selective updating of the record.[110]

Even if CSXT could reconfigure the hybrid RCAF to use other data, which it cannot, its proposed alteration is inherently flawed and incorrect because it fails to take into consideration the productivity that would accrue to the TPIRR over the 2010 to 2013 time period. The Board adopted the hybrid-RCAF approach to recognize that a SARR's productivity would approach that of real world railroads over time.[111] CSXT's approach fails to account for any productivity in fuel costs and, instead, assumes that TPIRR fuel consumption will change in-line with changes in gross ton-miles.

Along with labor savings, fuel efficiency is a key focus area for railroad productivity. CSXT places such emphasis on fuel efficiency that it devotes an entire page on its corporate website simply to its efforts to make its railroad more fuel efficient.[112] The railroads have

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[106] *See*, CSXT Reply, p. III-G-9 ("CSXT…modified the Board's Hybrid RCAF index").
[107] *See*, e.g., *U.S. International Trade Commission v. ASAT, Inc*., 411 F.3d 245, 253 (D.C. Cir. 2005); *Steenholdt v. FAA*, 314 F.3d 633, 639 (D.C. Cir. 2003).
[108] *See*, e.g., *United States Telecom Association v. FCC*, 400 F.3d 29, 35 (D.C. Cir. 2005).
[109] *See*, CSXT Reply, p. III-G-9 and III-H-16.
[110] *See, e.g*., *WFA/Basin I* at 6; *WFA/Basin July 2009* at 8 (n. 8); *FMC*, at 729-730.
[111] *See*, *Major Issues* at 40.
[112] *See*, http://www.csx.com/index.cfm/about-csx/projects-and-partnerships/fuel-efficiency/?keywords=fuel%20efficiency.

invested considerable time and effort in the fuel efficiency arena, which ultimately translates into greater productivity. CSXT's approach denies the TPIRR the ability to begin capturing the cost savings from this productivity by eliminating the productivity component in its fuel cost index. Because CSXT's approach leads to an incorrect measure of changes in TPIRR fuel costs, TPI has continued to rely upon the hybrid RCAF index to adjust fuel costs.

ii. North Baltimore <u>Intermodal Facility</u>

CSXT states that it added the North Baltimore, OH, intermodal facility to the TPIRR, but because the facility did not come on-line until 2012, it had to modify the DCF model to account for the ramp-up in volumes between 2012 and 2013.[113]

As stated in Rebuttal Section III-D-10-a-iv, TPI reject CSXT's adjustment to the North Baltimore, OH, intermodal facility operating expenses. TPI developed base year 2010 lift costs per container, applied it to TPIRR 2010 container counts, and then inflated the costs over time, as with other operating expenses. CSXT only proposes an adjustment where it is in its favor (as in North Baltimore, OH) but not where it favors TPI (e.g., Marion, OH). The Board has previously rejected such selected use of data. [114] TPI continues to use its Opening approach of indexing all intermodal lift costs based on the TPIRR's change in gross ton-miles.

k. <u>Summary of SAC</u>

TPI's calculation in Rebuttal of total SAC for the TPIRR is presented in Table L of Rebuttal Exhibit III-H-1 and compared with CSXT's Reply values in Rebuttal Table III-H-1 below.

[113] *See*, CSXT Reply, pp. III-H-16-17.
[114] *See*, *FMC*, at 729 to 730.

Rebuttal Table III-H-1
Summary of CSXT Reply and TPI Rebuttal SAC Results for the TPIRR
($ in millions)

	CSXT Reply[1/]			TPI Rebuttal[2/]		
Year	**SAC**	**SARR Revenue**	**Over-Payments (Shortfall)**	**SAC**	**SARR Revenue**	**Overpayments (Shortfall)**
(1)	(2)	(3)	(4)	(5)	(6)	(7)
7/1/10-12/10	$3,923	$2,941	($982)	$2,937	$2,967	$30
2011	8,349	6,476	(1,873)	6,186	6,541	355
2012	8,642	6,723	(1,919)	6,357	6,776	419
2013	8,768	7,008	(1,761)	6,495	7,076	580
2014	9,082	7,456	(1,626)	6,692	7,491	799
2015	9,426	7,840	(1,587)	6,894	7,957	1,063
2016	9,782	8,360	(1,422)	7,201	8,545	1,344
2017	10,157	8,742	(1,414)	7,462	8,977	1,514
2018	10,552	9,207	(1,345)	7,802	9,577	1,774
2019	10,938	9,684	(1,254)	8,206	10,271	2,065
1/20-6/30/20	5,621	5,084	(537)	4,271	5,515	1,244

[1/] *See*, CSXT Reply, p. III-H-17.
[2/] TPI Rebuttal workpaper "Exhibit III-H-1 Rebuttal.xls."

As shown in Rebuttal Table III-H-1 above, contrary to CSXT's calculation of shortfalls in every year, the TPIRR revenues exceed the stand alone costs in each year of the study period. Where stand-alone revenues are shown to exceed costs, rates for the members of the traffic group must be adjusted to bring revenues and SAC into equilibrium.

2. Internal Cross-Subsidy

CSXT asserts that, if the Board determines that TPIRR revenues exceed TPIRR SAC, then the Board must also test for the existence of internal cross-subsidies.[115] According to CSXT, the Board must perform an analysis consistent with the Board's decision in *PPL* that tests for an improper cross-subsidization of line segments by the remainder of the TPIRR system. If a line segment passes the threshold examination, CSXT also asserts that any rate relief must be tempered by a secondary cross-subsidy analysis as articulated by the Board in its *Otter Tail*

[115] *See,* CSXT Reply, p. III-H-21.

decision.[116] CSXT's assertions regarding both the *PPL* threshold cross-subsidy test, and the *Otter Tail* secondary analysis are incorrect as demonstrated below.

a. The Seymour to North Vernon Line Segment Passes the *PPL* Cross-Subsidy Test

CSXT alleges it performed a cross-subsidy test for a 14.6 mile segment in Indiana between Seymour and North Vernon using TPI's Opening evidence, and alleges that traffic moving on this segment does not cover its SAC.[117] A review of CSXT's work papers shows that it made numerous errors in its cross-subsidy analysis, and that its conclusion that other sections of the TPIRR subsidize the Seymour-North Vernon section is incorrect.

First, CSXT improperly imputed 2012 traffic to all years moving over the Seymour-North Vernon segment. Traffic densities change from year to year as traffic volumes fluctuate. Instead of reviewing the actual traffic moving over the line segment in 2010 and 2011 and the first half of 2013, CSXT relied upon the traffic moving over the line segment in 2012 as a basis for assigning traffic to the line segment. Using actual traffic volumes for other years increases the revenues allocable to the segment.[118]

Second, CSXT improperly excluded traffic that moved on the segment. The Board's cross-subsidy analysis requires the inclusion of all revenues and operating costs associated with traffic moving on any part of the segment to be assigned to the segment. In developing its

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[116] *Id.* pp. III-H-21-22.

[117] *See,* CSXT Reply, p. III-H-25 to 26. CSXT also states that the Board should evaluate three other segments for potential cross-subsidies (a 9-mile segment in Jackson, TN, a 10-mile segment between Francesville and Monon, IN and a 29 mile segment between Oneco and Big Bend, FL), but did not go through the effort of performing cross-subsidies on these segments.

[118] *See,* CSXT Reply cross subsidy e-workpapers "2010 Revenues.xlsx", "2011 Revenues.xlsx", "2012 Revenues", "Cross Subsidy Waybills.xlsx".

shipment profile for the Seymour-North Vernon segment, CSXT improperly excluded traffic originating and/or terminating at mileposts BC 72 and BC 87.[119]

Third, CSXT incorrectly calculated the sub-ballast investment on the line segment. Specifically, CSXT improperly included sub-ballast costs for bridges along the Seymour-North Vernon segment. In other words, CSXT included sub-ballast costs where there was no sub-ballast required.[120]

Fourth, CSXT used the wrong number of No. 14 turnouts from the stick diagram for the Seymour to North Vernon segment. As can be clearly seen in TPI opening workpapers, there are no. 14 turnouts used on the Seymour to North Vernon segment.[121]

Fifth, CSXT improperly assigned the number of No. 14 turnouts to customers on the Seymour to North Vernon segment. A review of CSXT's work papers shows that 15 customer turnouts are not necessary for TPIRR operations.[122]

Correcting the numerous errors made by CSXT in its cross-subsidy analysis shows that the revenues properly associated with the segment more than cover the segment's SAC.[123] Therefore, CSXT's claim can be summarily disregarded.

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[119] *See,* CSXT Reply cross subsidy e-workpapers "2010 Revenues.xlsx", "2011 Revenues.xlsx", "2012 Revenues", "TPIRR General Freight Revenue Forecast STCC 1-26 1h 2013 (Final) xsub.xlsx", "TPIRR General Freight Revenue Forecast STCC 1-26 2h 2012 (Final) xsub.xlsx", "TPIRR General Freight Revenue Forecast STCC 28 1h 2013 (Final) xsub.xlsx", "TPIRR General Freight Revenue Forecast STCC 28 2h 2012 (Final) xsub.xlsx", "TPIRR General Freight Revenue Forecast STCC 29-UN 1h 2013 (Final) xsub.xlsx" and "TPIRR General Freight Revenue Forecast STCC 29-UN 2h 2012 (Final) xsub.xlsx".

[120] *See,* CSXT Reply cross subsidy e-work papers "TPI Bridge Construction Costs.xlsx" and "Track Construction.xlsx".

[121] *See*, TPI Open e-work papers "TPI Opening Stick Diagrams.pdf", page 77 and "TPI Turnouts & Multi-Track.xlsx".

[122] *See*, CSXT Reply cross subsidy workpaper "Track Construction.xlsx", tab "User Input".

[123] *See*, TPI Rebuttal work paper directory III-H/Cross Subsidy.

b. The Board Should Not Apply the *Otter Tail* Cross-Subsidy Test

Although TPI's Rebuttal Evidence does not result in a *PPL* cross-subsidy, TPI identified a potential *Otter Tail* cross-subsidy on the line segment from Seymour to North Vernon, IN.[124] TPI, however, does not believe that the *Otter Tail* cross-subsidy test is appropriate or justified.

In *Otter Tail*, the Board announced, for the first time, that it would extend the cross-subsidy test beyond the so-called "threshold" inquiry conducted in *PPL*, to limit any rate relief to which a complainant would otherwise be entitled under the SAC analysis. In other words, the cross-subsidy test would not just be a "pass-fail" test, but also would affect the *level* of the rate that the Board would prescribe as reasonable *after* passing the "threshold" test. This announcement was unnecessary in that case, however, because the Board's application of the *PPL* cross-subsidy test deprived Otter Tail of any rate relief under the SAC analysis, so there was no cause to *limit* the extent of such relief. Nor has the Board ever applied the *Otter Tail* test since then. Therefore, the *Otter Tail* cross-subsidy test, at present, is only *dicta*.

TPI contends that the *Otter Tail* test should be rejected for two independent reasons. First, it arbitrarily measures a cross-subsidy based on hypothetical rates that are not charged in the real world. Second, it deviates without explanation from the Board's *Wisconsin P&L* decision, which held that the very same logic the Board has used to justify the *Otter Tail* test violates contestable market theory.

i. The *Otter Tail* Cross-Subsidy Test Arbitrarily Measures a Cross-Subsidy Based on Rates that Will Not Be Charged in the Real World

The Board announced the *Otter Tail* test with the purpose of limiting any rate relief to which a complainant may otherwise be entitled by applying the cross-subsidy test a second time

[124] *See*, TPI Rebuttal workpaper "Exhibit III-H-1 XSub – Rebuttal.xlsm."

at the rate-setting phase of a SAC case. This second application of the cross-subsidy test *assumes* that any rate reductions applied to the complainant would apply to *all other traffic carried by the SARR*, even though any reductions imposed by the Board would in fact apply *only* to the complainant's shipments. *Otter Tail* at 11. According to the Board's expansion of the cross-subsidy test, if the lower revenues resulting from *universally-applied* rate reductions on the lighter-volume segment of the SARR would not cover the costs associated with carrying that traffic, then the rate reductions would *create* a cross-subsidy. In that case, the Board would increase the "maximum reasonable rate" determined by the SAC analysis to a level that eliminates the supposed cross-subsidy.

Unlike the threshold *PPL* cross-subsidy test, which is based upon real world rates for the SARR's traffic, the second *Otter Tail* cross-subsidy test uses rates that will *not* be charged in the real world. This causes the Board to conclude that a rate reduction required by the SAC analysis creates a cross-subsidy, when in reality no revenue shortfall will occur at all. The second application of the cross-subsidy test severs all connection between the SARR's revenues and the real world, leading to arbitrary determinations of a cross-subsidy.[125]

ii. The *Otter Tail* Cross-Subsidy Test Deviates from the Board's Precedent in *Wisconsin P&L*

The Board's rationale for applying the cross-subsidy test a second time at the rate prescription stage also directly contradicts its own precedent. At page 11 of the *Otter Tail* decision, the Board contends that the second cross-subsidy test is compelled by contestable market theory because:

[125] Although the SARR itself is hypothetical, its revenues are based on real world rates, *Guidelines* at 544 ("the revenue contribution of other…shippers will be at the level of their current rates"), and its costs must be feasible in the real world, *Id.* at 542 ("we will be guided…by the least cost (theoretically) feasible SAC model"), 543 ("the proponent of a SAC model must show that the alternative is feasible…[and] its data on construction and operating costs must be verifiable").

> [T]he goal of the SAC analysis is to simulate the competitive market rate that would prevail in a contestable marketplace, where no rates above the SAC level for *any* shipper in the selected traffic group would be sustainable *without attracting new entry*. *Thus, our analysis must assume the repeated application of the SAC test to all shippers in the traffic group*. (emphasis added)

The Board, however, *rejected* this very same logic as a violation of contestable market theory in *Wisconsin P&L*.[126] In that case, the Union Pacific Railroad Company ("UP") argued that an adjustment to the SAC analysis was "required by contestable market theory because the [SARR] would in theory be subject to competition from yet another stand-alone railroad, resulting in an 'asymmetric risk.'"[127] This argument is comparable to the Board's claim in this case that the SAC analysis must assume "repeated application of the SAC test to all shippers."

But in *Wisconsin P&L*, the Board rejected that argument because it would create a barrier to entry, which is *inconsistent* with a contestable market:

> [A]s we have often explained, *SAC principles require the exclusion of costs and risks not faced by the incumbent railroad*, so as to remove any advantages which the existing railroad has over a hypothetical stand-alone railroad. Here, UP has acknowledged, as it must, that UP does not operate in a contestable market, which means *the risk UP's proposed adjustment is designed to take into account—that a rise in projected returns above a certain level will result in the carrier being replaced immediately and entirely by a new entrant—is not faced by UP itself*. As we stated in FMC (at 846), we do not allow an existing railroad to charge captive shippers a rate designed to compensate for risks that the incumbent carrier's investors do not face.[128]

Because the *Otter Tail* cross-subsidy test assumes risks that CSXT does not face, it too violates contestable market theory. The Board asserts that other captive shippers in the SARR's traffic group *could* challenge their own rates in the future, thereby implying that those rates

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[126] *See, Wisconsin P&L* at 982-984.
[127] *Id*. at 983.
[128] *Id.* at 983-984 (citations and footnotes omitted; emphasis added).

might in fact be reduced to a point that creates a cross-subsidy.[129] But this is pure speculation based on the same type of asymmetric risk that the Board rejected in *Wisconsin P&L*.

Moreover, Congress has restricted the Board's jurisdiction over rates to a small subset of total rail traffic over which a railroad possesses "market dominance".[130] This means the SAC test can *never* be applied to *all* the SARR's traffic, contrary to the Board's incorrect assumption that the SAC test will be repeatedly applied to *all* shippers on the SARR. *See Otter Tail* at 11.

Finally, in *Wisconsin P&L* the Board declared that it is neither necessary nor appropriate to adjust the SAC rate to anticipate speculative future occurrences:

> In any event…, as we have said in prior SAC cases, [a railroad] may petition to *reopen* and adjust the rate prescription should these trends shift. Thus, to compensate UP in advance for the *possibility* that the projections may not be realized is neither necessary nor appropriate and, in our view, would provide for an *over-recovery* of the total stand-alone costs.[131]

Despite this precedent, application of the *Otter Tail* test would allow CSXT to *over-recover* its total stand-alone costs by applying the second cross-subsidy test in the present, to ensure against the *possibility* that other captive shippers in the SARR traffic group *might* create a cross-subsidy by successfully challenging their rates in the future.[132] If those events do not occur, CSXT is assured of over-recovering its stand-alone costs, contrary to *Guidelines*. Indeed, the risk of over-recovery is particularly high in this case, since repeated application of the SAC test to *all* shippers on the SARR is *impossible* due to statutory restrictions on the rate regulation of non-market-dominant traffic.[133] Therefore, it is neither necessary nor appropriate to deny TPI relief based on the Board's speculative and inaccurate reasoning in *Otter Tail*.

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[129] *Otter Tail* at 11.
[130] *See,* 49 U.S.C. §10707.
[131] *Wisconsin P&L* at 984 (emphasis added).
[132] The probability of that occurring in this case is even lower because, by the time the Board issues a decision in late 2015, TPI already will be 5 years into any rate prescription without a single other SAC rate prescription for any of the TPIRR's traffic.
[133] *See,* 49 U.S.C. §10707.

If and when other captive shippers in the SARR's traffic group do challenge their own rates in the future, *and if* their rate reductions combined with TPI's would create a cross-subsidy, the Board is fully empowered to re-open TPI's case to consider this changed circumstance. Indeed, the Board has demonstrated its willingness to reopen a prior rate case in order to vacate a prescribed rate due to changed circumstances.[134] Unless and until such changes occur, however, it would be arbitrary and capricious for the Board to deny TPI relief from an unreasonably high rate based on pure speculation.

3. <u>Maximum Rate Calculations</u>

In *Major Issues*, the Board adopted MMM as its rate prescription approach for use in proceedings under the *Coal Rate Guidelines.*[135] Consistent with that decision, TPI has used the MMM as required under the Board's *Major Issues* decision to bring SAC and stand-alone revenues into equilibrium. CSXT accepts TPI's MMM approach, but claims that TPI's MMM calculations included an error in the index used to adjust the URCS variable costs over the 10-year DCF period.[136] Specifically, CSXT claims that the URCS index TPI used in its Opening calculations does not properly reflect future CSXT variable costs because it does not include gains in CSXT productivity over the modeling period.[137] CSXT proposes the Board either revert to using the RCAF-A to adjust the MMM variable costs, or add a productivity component to the URCS index used by TPI in Opening. CSXT's proposed adjustments are unnecessary and result in less specific estimates of future variable costs as explained in detail below.

The productivity adjustment factor ("PAF") used to calculate the RCAF-A, and which CSXT proposes to use in this case either by directly applying the RCAF-A and modifying TPI's

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[134] *Ariz. Pub. Serv. Co. v. The Burlington Northern and Santa Fe Ry. Co.*, 6 S.T.B. 851 (2003).
[135] *See*, *Major Issues* at 14-23.
[136] *See*, CSXT Reply, pp. III-H-18-21.
[137] *See*, CSXT Reply, p. III-H-19.

URCS index, is developed by calculating the change in input cost index divided by the change in the output index for all reporting Class I carriers. The input index reflects the R-1 total expenses for the Class I railroads, on a constant dollar basis, using the AAR's RCR as the deflator. The change in expenses reflects both the inflation in input prices, and the utilization of the cost inputs (e.g., labor, fuel, etc.) for all Class I railroads, not just CSXT. Expressing the expenses on a constant dollar basis is intended to remove the impact of inflation in input prices. However, this is not exact as the distribution of expenses in the RCR is not necessarily the same as the distribution of costs in the total expenses. In any event, this distribution is, by definition, not the same as the CSXT distribution of the CSXT cost components in the variable cost calculation.

Similarly, the output index used in the PAF also reflects general industry changes and not changes specific to the CSXT. The output index in the STB's productivity calculation determines the change in ton-miles (weighted on revenues) for 189 unique movement parameters. This produces an output matrix that reflects different key parameters, including: (1) shipment weights; (2) lengths of haul; (3) car types; and (4) service types (based on cars per shipment). In general terms, for Class I railroads, productivity gains are realized when there is a shift to more efficient types of service, i.e., heavier loads, longer hauls and more cars per waybill. These shifts are not uniform across the industry, though. There is no reason to believe that CSXT's changes in the output factors that make up the PAF output index will change in lockstep with the rest of the industry. [138]In its *DuPont* and *SunBelt* decisions, the Board rejected the use of a "generalized, industry index when a more specific approach is available."[139] CSXT's proposed adjustment to

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[138] CSXT specifically acknowledges this point in its Reply. CSXT notes that its trains travel much shorter distances than the western railroads. See CSXT Reply, at III-C-157, "By contrast, trains operated by CSXT and other eastern railroads typically travel much shorter distances [than western railroads]." Distance traveled is a key factor in railroad productivity, and a key input to the PAF. CSXT's acknowledgement that it will not be as productive as western railroads undermines its suggested use of the industry PAF to help index CSXT variable costs.

[139] *See*, *DuPont* at 285 to 286, and *SunBelt* at 196.

the URCS would simply introduce an unnecessary general industry index to an approach that utilizes CSXT specific costs. In Rebuttal, TPI continues to use its CSXT specific URCS index to adjust the variable costs in the MMM application consistent with the Board's *DuPont* and *SunBelt* decisions.

4. Maximum Reasonable Rates

The SAC analysis summarized in Rebuttal Parts III-A through III-G and displayed in Rebuttal Exhibit III-H-1, demonstrates that, over the 10-year DCF period, the revenues generated by the TPIRR exceed its total capital and operating costs. Rebuttal Table III-H-2 below shows the measure of excess revenue over SAC in each year of the DCF period for this case.

Rebuttal Table III-H-2
Summary of TPI Rebuttal DCF Results for the TPIRR
July 30, 2011 to July 29, 2021
($ in millions)

Year	Annual Stand-Alone Requirement	Stand-Alone Revenues	Over-Payments (Shortfall)	PV Difference	Cumulative PV Difference
(1)	(2)	(3)	(4)	(5)	(6)
7/1-12/31/10	$2,937	$2,967	$30	$30	$30
2011	6,186	6,541	355	318	348
2012	6,357	6,776	419	338	686
2013	6,495	7,076	580	423	1,109
2014	6,692	7,491	799	523	1,632
2015	6,894	7,957	1,063	626	2,257
2016	7,201	8,545	1,344	711	2,969
2017	7,462	8,977	1,514	721	3,690
2018	7,802	9,577	1,774	760	4,449
2019	8,206	10,271	2,065	795	5,244
1/1-6/30/20	4,271	5,515	1,244	454	5,699

Source: TPI Rebuttal e-workpaper "Exhibit III-H-1 Rebuttal.xls."

Application of MMM yields the following maximum R/VC ratios for each year of the DCF model.

Rebuttal Table III-H-3
Rebuttal MMM Results

Year	Maximum R/VC
(1)	(2)
7/30/11-12/11	393.0%
2012	241.6%
2013	236.3%
2014	207.4%
2015	185.0%
2016	167.8%
2017	155.6%
2018	151.4%
2019	144.6%
2020	139.6%
1/21-7/29/21	132.4%

Source: Rebuttal Exhibit III-H-2

As indicated in Rebuttal Table III-H-3, the maximum R/VC ranges from 132.4 percent to 393.0 percent over the 10-year DCF period.

The maximum lawful transportation rate for the TPI traffic covered by Tariff CSXTRQ 65912 equals the greater of the jurisdictional threshold or the MMM maximum rate. Rebuttal Exhibits III-H-3 through III-H-13 show the development of the maximum reasonable rate for the issue TPI traffic, and show the maximum reasonable rates range from $781 to $9,738.

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IV. <u>WITNESS QUALIFICATIONS AND VERIFICATIONS</u>

This Part contains the Statements of Qualifications and Verifications of the Witnesses who are responsible for the Narrative portions of Total Petrochemicals & Refining USA, Inc.'s ("TPI") Rebuttal Evidence (and the exhibits and workpapers referred to therein) identified with respect to each witness.

I, Philip H. Burris, verify under penalty of perjury that I am the same Philip H. Burris whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to joint facilities costs (Part III-D) with Brian A. Despard; that I am sponsoring the portions of Rebuttal Evidence that relate to the development of operating statistics, crew requirements, locomotive and freight car requirements, fuel costs, personnel compensation, equipment lease/maintenance costs, operating units cost, training and recruiting costs, ad valorem taxes, loss and damage expenses, insurance costs, intermodal lift costs, automotive handling costs and application of unit costs to operating statistics (Part III-D) and the portions of Rebuttal Evidence that relate to the land to be acquired through easements and the associated costs of that land (Part III-F-1); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Philip H. Burris

Executed on November 3, 2014

I, Harvey A Crouch, verify under penalty of perjury that I am the same Harvey A Crouch whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am sponsoring the portions of TPI's Rebuttal Evidence that relate to the TPIRR maintenance-of-way plan and expenses (Part III-D); and the TPIRR's construction costs (Part III-F); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Harvey A Crouch

Executed on November 3, 2014

I, Thomas D. Crowley, verify under penalty of perjury that I am the same Thomas D. Crowley whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to the SARR traffic group, including volumes and revenues (Part III-A); the development of the discounted cash flow model (Part III-G); and the calculation of SAC results (Part III-H); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Thomas D. Crowley

Executed on November 3, 2014

I, Timothy D. Crowley, verify under penalty of perjury that I am the same Timothy D. Crowley whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am sponsoring the portion of the Rebuttal Evidence that relates to the non-road property investment (Part III-E) and coordinating the workpaper production of all electronic files in accordance with the STB's March 12, 2001 decision in Ex Parte No. 347 (Sub-No. 3) *General Procedures For Presenting Evidence in Stand-Alone Cost Rate Cases;* that I am co-sponsoring the RTC modeling component of Part III-C with Mr. Daniel L. Fapp and Mr. William H. Humphrey, the development of the peak train list with Mr. Robert D. Mulholland in Part III-C as well as the roadbed preparation/earthworks component of the road property investment cost of the SARR in Part III-F with Mr. Charles A. Stedman; that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Timothy D. Crowley

Executed on November 3, 2014

I, Brian A. Despard, verify under penalty of perjury that I am the same Brian A. Despard whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to the development of joint facilities costs (Part III-D); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Brian A. Despard

Executed on November 3, 2014

I, Daniel L. Fapp, verify under penalty of perjury that I am the same Daniel L. Fapp whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to RTC modeling component (Part III-C); the development of the discounted cash flow model (Part III-G); and the calculation of SAC results (Part III-H); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Daniel L. Fapp

Executed on November 3, 2014

I, Victor F. Grappone, verify under penalty of perjury that I am the same Victor F. Grappone whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am sponsoring the portions of the Rebuttal Evidence that relate to the TPIRR's signal and communications systems (Part III-B and Part III-F) and co-sponsoring the portion of the TPIRR's maintenance-of-way plan dealing with Communications and Signals Department personnel (Part III-D); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Victor F. Grappone

Executed on November 3, 2014

I, Richard R. Harps, verify under penalty of perjury that I am the same Richard R. Harps whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to land valuation (Part III-F); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Richard R. Harps

Executed on October 29, 2014

I, Jerry H. Harris, Jr., P.E., verify under penalty of perjury that I am the same Jerry H. Harris, Jr., whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to the Part III-F related to track and roadbed costs with Harvey Crouch; that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Jerry H. Harris, Jr., P.E.

Executed on November 3, 2014

I, James R. Hoelscher, verify under penalty of perjury that I am the same James R. Hoelscher whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am sponsoring the portions of the Rebuttal Evidence that relate to the stand-alone railroad's SARR signal and communications systems, specifically PTC requirements, as set forth in Parts III-B and III-F; that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

James R. Hoelscher

Executed on November 3, 2014

I, William W. Humphrey, verify under penalty of perjury that I am the same William W. Humphrey whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to the simulation of the SARR's operations using the Rail Traffic Controller Model (Part III-C); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

William W. Humphrey

Executed on November 3, 2014

I, Gary V. Hunter, verify under penalty of perjury that I am the same Gary V. Hunter whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to TPIRR's General and Administrative ("G&A") personnel and expenses (Part III-D); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Gary V. Hunter

Executed on November 3, 2014

I, Joseph A. Kruzich, verify under penalty of perjury that I am the same Joseph A. Kruzich whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am sponsoring the portions of the Rebuttal Evidence that relate to the TPIRR's information technology capital (hardware) and personnel requirements (Part III-D); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Joseph A. Kruzich

Executed on November 3, 2014

I, Michael E. Lillis, verify under penalty of perjury that I am the same Michael E. Lillis whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to the SARR traffic group, including volumes, revenues and forecasting (Part III-A); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Michael E. Lillis

Executed on November 3, 2014

I, Kevin N. Lindsey, P.E., verify under penalty of perjury that I am the same Kevin N. Lindsey whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to the SARR maintenance-of-way-plan and annual expenses (Part III-D), and the portion of Part III-F relating to the SARR's bridge design, bridge inspection needs and bridge repair costs with Harvey A. Crouch; that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Kevin N. Lindsey, P.E.

Executed on November 3, 2014

I, Richard H. McDonald, verify under penalty of perjury that I am the same Richard H. McDonald whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am sponsoring the portion of TPI's Rebuttal Evidence that relates to the TPIRR operating plan (Part III-C); and co-sponsoring the development of the operating personnel and the G&A personnel required to manage the TPIRR (Part III-D); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Richard H. McDonald

Executed on November 3, 2014

JOHN W. MCLAUGHLIN

Mr. McLaughlin is Director, Market and Network Solutions for R.L. Banks & Associates, Inc. He has 35 years of transportation experience, including 18 years with Conrail. Relevant to his testimony in this proceeding, Mr. McLaughlin:

1. Analyzed and audited yard and local crew operations and car flow at hump and flat switch yards as a member of a Conrail Terminal Improvement Process Team. This work included documentation and analysis of yard dwell times.
2. Coordinated train movements and yard operations from a regional management perspective as an operations supervisor on Conrail's Northern and Western Regions.
3. As a Senior Operations Analyst in Conrail's Transportation Department headquarters in Philadelphia, PA, managed Conrail's Connection Monitoring System (CMS) which was employed at 11 – 13 major hump and flat switch yards to schedule the connections of cars from inbound trains to outbound trains. In this role, he developed a detailed understanding of yard operations while instructing yard supervisors at the various yards on the use and implementation of the car connection schedules generated by CMS. He managed CMS while it was employed at two hump yards which are currently operated by CSXT: Selkirk Yard in New York and Avon Yard in Indianapolis, IN. In managing CMS, he applied his knowledge of Conrail's Yard Elapsed Time System, which measured yard dwell times.

The details of Mr. McLaughlin's experience are presented in the attached vita. Mr. McLaughlin is co-sponsoring TPI's evidence in Part III-C-5.a. and b. on yard classification tracks and receiving and departure tracks.

John W. McLaughlin
Director, Market and Network Solutions

Education
BS, Transportation Management, Indiana University School of Business, 1979

Years of Transportation Experience
35 (1979)

Qualifications
Mr. McLaughlin joined RLBA in 2007 after eighteen years at a Class 1 railroad and ten years subsequently at a Less-Than-Truckload (LTL) motor carrier. His railroad career featured analytical, supervisory and service design responsibilities in operations, being the primary 24/7 contact on service issues of major intermodal customers, and development and implementation of price, service and communications plans supporting market expansions. During his motor carrier career, Mr. McLaughlin organized and led strategic, revenue development and sales support initiatives such as market share analysis and development of the carrier's website. Since joining RLBA he has provided expert railroad capacity and operations analysis to clients engaged in proceedings before the Surface Transportation Board. He has also provided analysis and recommendations to public agencies regarding the initiation or expansion of commuter and intercity passenger rail services in Michigan and New York.

Relevant Project Experience

- ***Gulf Coast Rail District (GCRD)*** Manager of a study to provide freight rail bypass development and planning assistance in Fort Bend County, Texas. GCRD retained RLBA and its team to: 1) investigate three prospective rail bypass corridors and determine the possible public and private sector impacts; 2) develop an inventory of and map major environmental and land-use constraints posed by the territory to be traversed; 3) compile a detailed inventory of roadway grade crossings on current and prospective rail corridors to determine impacts on roadway traffic and associated cost and quality-of-life impacts; 4) assign costs to each alternative; 5) develop a detailed benefit - cost analysis with respect to railroad improvements, community impacts, construction cost; and 6) facilitate community involvement during advisory committee meetings.

- ***Iowa Falls Area Development Corporation*** Manager of a project to explore the feasibility of developing a new intermodal/transload terminal and rail-served business park in Iowa Falls, Iowa to facilitate economic development within Hardin County. Spearheaded the RLBA team by documenting and assessing surrounding market demand and investigating the economic feasibility by examining potential facility volumes, revenues and costs.

- ***Port of New York and New Jersey*** Developed rail intermodal operating plans and cost estimates to assess the feasibility of service between an on-dock terminal and ten, prospective inland terminal locations. The plans included estimating rail operating costs, running times, and identification of double-stack clearance barriers and commuter window constraints.

- ***Arizona Electric Power Company*** RLBA team simulated a 2,200 mile plus railroad network mirroring Burlington Northern Santa Fe (BNSF) and Union Pacific lines linking Powder River Basin origins and AEPCO's Apache generating facility near Cochise, AZ. Using Berkley Simulation Software's Rail Traffic Controller, RLBA assessed the capacity of a hypothesized railroad network to handle current and future additional business volumes in support of a stand-alone railroad rate case dispute. Mr. McLaughlin tested inputs and design of the model, participated in developing track configuration and operating plan and provided analysis of the model's output.

- ***Capital Metropolitan Transportation Authority, Austin, TX*** Developed the commercial aspects parts of a Ten-Year Strategic Freight Rail Plan. Conducted customer interviews to develop volume forecasts and satisfaction measures. Combined this data with research about benchmark rate levels to propose tariff rate adjustments so as to increase revenues. Developed a volume flow analysis to support drafting of a capital plan.

- ***The Oregon International Port of Coos Bay*** Rail America subsidiary, Central Oregon and Pacific Railroad Inc. (CORP), embargoed and subsequently sought to abandon freight service to the Port due to a tunnel collapse, forcing all rail shippers west of the collapse to haul their freight to Eugene or Portland by truck before it is transloaded into railcars. Those additional costs and the belief that CORP had not acted in good faith caused the Port to investigate the replacement of CORP by another short line railroad through a Feeder Line Application to the Surface Transportation Board to acquire the rail line. Interviewed representatives of several major shippers on the line to ascertain: 1) historical rail traffic volumes and shipper requirements so as to develop future railroad freight traffic projections; 2) determine how much more it was costing shippers to ship by a combination of a truck and rail than an all-rail haul and 3) how volume might change in the future.

- ***Confidential Private Client*** Supported a railroad line capacity analysis to determine the most feasible way of increasing coal transportation analysis throughput and improving a coal transportation customer's financial position. Analyzed strategic alternatives, examined route capacity and bottlenecks impeding the increased movement of coal.

- ***US Magnesium*** Assisted in determining the road property investment (RPI) replacement costs of tunnels, culverts and ballast, utilizing publicly available historical data and standardized formulas as well as costs furnished by the Surface Transportation Board. RPI costs were associated with a Stand Alone Railroad hypothesized along an approximately 1,000-mile corridor in support of a Simplified Stand Alone Case (SAC) extending between just west of Salt Lake City, UT and the Los Angeles Basin area. Checked other portions of the network model to ensure accuracy and reasonableness.

- ***Twin Cities & Western Railroad*** Evaluated the threat of potential traffic diversion that would result from acquisition of a competing regional railroad by a Class I railroad. Interviewed customers of the client railroad and reported on the likelihood that they would divert traffic from client. Calculated the potential operating margin advantage of the competitor as a metric for the magnitude of the diversion threat, on a lane and commodity-specific basis. Tested the competitor's train counts and capacity calculations on a key main line, and provided a verified statement as part of client's filing with the Surface Transportation Board.

Prior to joining RLBA, Mr. McLaughlin, as Senior Business Development Analyst, Conrail Intermodal Service Group, managed intermodal penetration of the truckload motor carrier market from zero to a $50 million line of business in five years. Developed and implemented price, service and communications plans for market expansions that generated $11 million of new revenue. Also in the Intermodal Service Group he held the position of Service Manager assisting in the restructuring of the train network to accommodate double stack technology. In addition to intermodal, Mr. McLaughlin held multiple positions of increasing responsibility in the transportation department at Conrail culminating in Senior Operations Improvement Analyst. He was also the Director of Market Research at JEVIC Transportation.

VERIFICATION

I, John W. McLaughlin, verify under penalty of perjury that I have read the Rebuttal Evidence of Total Petrochemicals & Refining USA, Inc. in this proceeding that I have sponsored, as described in the foregoing Statement of Qualifications, that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

John W. McLaughlin

Executed on October 29, 2014

I, Robert D. Mulholland, verify under penalty of perjury that I am the same Robert D. Mulholland whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to the SARR base period and peak period train lists (Part III-C); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Robert D. Mulholland

Executed on November 3, 2014

JOHN W. ORRISON

Mr. Orrison is a self-employed consultant in the transportation industry. His business address is 542 Massachusetts Avenue—Unit #1, Boston, MA 02118. Mr. Orrison is co-sponsoring the portions of TPI's Rebuttal Evidence in Part III-C that relate to CSXT's use of MultiRail (Part III-C.1.b.) and TPI's operating plan (Part III-C.4 and 5).

Mr. Orrison has worked in the rail industry since he was a Norfolk Southern college intern in 1976. Upon graduating, he went to work for NS as a Project Engineer for three years and continued as an intern while attending Harvard Business School. He then worked for CSXT from 1985-2002, in over ten different capacities, beginning as an Assistant Terminal Trainmaster at CSXT's Hamlet, NC hump yard, and subsequently serving in such operating positions as Division Superintendent—Detroit Division, Vice President—Service Design, and culminating as Vice President—Network Planning. His many responsibilities included supervising and managing the development of CSXT's train profiles, freight car blocks and freight car disposition rules, and implementing new operating plans to integrate Conrail and CSXT lines and operations. Most notably, Mr. Orrison was the key operating plan witness for CSXT in the STB's Conrail acquisition proceeding[1]. After spending two years as Executive Vice President—Strategic Planning for Pacer Stacktrain, Mr. Orrison served as Assistant Vice President—Service Design & Performance for BNSF from 2005-12, where he led and directed the Merchandise Service Design & Performance team which developed operating plans for the BNSF network.

A more detailed summary of Mr. Orrison's experience is contained in the attached vita.

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[1] *CSX Corp. and CSX Transp., Inc., Norfolk Southern Corp. and Norfolk Southern Ry. Co.—Control and Operating Leases/Agreements—Contrail Inc. and Consolidated Rail Corp.*, STB Finance Docket No. 33388.

John W. Orrison
542 Massachusetts Avenue – Unit # 1, Boston, MA 02118
Email: jworrison@yahoo.com – Cell number: 214-738-7656

Education

1975-1980 **Auburn University** **Auburn, AL**
Received Bachelor Degree of Civil Engineering, June 1980. Honors received included Dean's List and induction to Chi Epsilon and Phi Eta Sigma Academic Societies. Undergraduate accomplishments included prototyping development for a course in Railway Engineering and election as President for the Auburn Student Chapter for the Institute of Transportation Engineers.

1983-1985 **Harvard Business School – Harvard University** **Cambridge, MA**
Received Masters in Business Administration, June 1985. Faculty bestowed award of "Second Year Honors" (represents top 15% of school class). Academic studies focused on applied management techniques for three major business disciplines: Operations, Logistics and Corporate Financial Management. Master Program accomplishments included participating as a member of the HBS Transportation Club, coordinating visits of guest speakers for the HBS CEO Forum and working with Norfolk Southern Corporation in 1984.

UNITED STATES GOVERNMENT WHITE HOUSE FELLOWSHIP

1989-1990 **Special Assistant to Vice President of the United States** **Washington, DC**
Selected by Presidential Executive Commission for the White House Fellowship. Assisted the Vice President as a Special Assistant for Domestic Policy. Developed position papers and briefing documents that focused on US International Competitiveness. Administered functions to conduct Business Roundtables that hosted Fortune 500 CEOs to meet with the Vice President. Performed advance team assignments to support the Vice President's trips to St. Louis, Pittsburgh and Central America.

Experience

MASSACHUSETTS BAY TRANSIT AUTHORITY AND COMMUTER RAIL

2014-Present **Executive Consultant** **Boston, MA**
Consultant to Boston Mass Bay Transit Authority for the planning of construction phases for a multi-year project relating to the replacement of two double track drawbridges at the North Station. Analysis includes the addition of temporary turnouts and changes to the train schedules to accommodate construction. As a consultant, I am also working with Oliver Wyman Consulting to optimize crew assignments on the Chicago Metra system using MultiRail PAX modeling software.

2012-2014 **Director of Operations Planning** **Boston, MA**
Oversight of Operations Planning for 480 daily trains with passenger capacity of 340,000 commuters over 14 lines connecting the New England Colony States. Directed the review of the Worcester Line acquisition by MBTA and developed new commuter train schedules for expanded service. Modeled the requirements of the line with respect to $ 70 M of infrastructure additions and the implementation of a Speed Program to raise train speeds from 60 MPH to 79 MPH. Led and directed the development of the RTC Model to analyze capital projects and develop new train schedules. Directed the DMU Inner Core Study and responsible for optimizing train crew assignments.

HDR ENGINEERING CONSULTANTS

2012-2012 **Associate Vice President – Freight Railroad Practice Leader** **Fort Worth, TX**
Consultant providing guidance and advice to heavy haul and passenger operations worldwide. Developed a 2030 strategic infrastructure plan for the transportation of new energy production (oil & gas from fracturing shale), export of coal and development of new intermodal markets (international & domestic containerization). Focus on civil engineering design for railway infrastructure expansion.

BNSF RAILWAY COMPANY

2005-2012 **Assistant Vice President – Service Design & Performance** **Fort Worth, TX**
Led and directed the BNSF Merchandise Service Design & Performance team. Department accountabilities include Service Planning team, Analytics team and Gathering and Distribution team. The Service Planning team was responsible for the development of train plans for 500+ daily trains operating over a 32,000 mile network in 28 states and 2 providences of Canada. Train design and trip plans at BNSF employed 350 yards and terminals making up to 6,000 blocks for the movement of approximately 70,000 new rail car trips per week. The Analytics team provided operational research support for all BNSF business units and is involved with hump yard and flat yard simulation for capital expansion plans. The Gathering and Distribution team was responsible for developing new tools and processes to improve "first mile / last mile" local switching performance to approximately 4,000 BNSF customers at 8,400 station locations using a network of 700 local switching jobs. While at BNSF, my position directed the "Velocity Program" to improve car transit times and train speeds. Started in January 2006, the program netted a 30% improvement in velocity in 5 years.

While at BNSF, John was assigned to a project that received US Trade & Development Agency grant to assess the development of railways to connect the countries of Rwanda, Burundi and Tanzania in east Africa. Project documents developed for USTDA reported findings that would generate a GDP multiplier of $ 33 B over a 20 year period.

2005-2005 **Consultant** **Fort Worth, TX**
Assist BNSF on projects of strategic importance to improve railway network operations and to achieve corporate goals. Projects include assessment of joint BNSF/UPRR operation on the "Tehachapi" from Bakersfield to Mojave, CA. Recommendations included multiple siding extensions and elimination of tunnels. Conducted a survey for the potential alignment for a new line costing $ 780 M. Tehachapi line expansion is currently underway with project cost of $ 80 M.

PACER STACKTRAIN

2002-2004 **Executive Vice President – Strategic Planning** **Concord, CA**
Established Strategic Planning Group to manage company's Key Objective Program for 2002 and 2003. The Program focused on development of new Intermodal transportation products for services inter and intra Mexico, reduction of Intermodal terminal operating costs and expansion of various initiatives with several North American railroads. Results of 2002-2003 programs included exceeding the year over year 10%+ revenue growth plan and year over year 10%+ net income plan. Pacer Stacktrain net income exceeded 2002 plan by over 40%. Developed comprehensive Intermodal service plans from the Ports of Los Angeles/Long Beach to the Inland Empire.

THE KINGSLEY GROUP

2000-2001 **Vice President – Transportation Services Practice** **Atlanta, GA**
Directed consulting practice for clients in trucking, railway operations and maritime shipping. Engagements included trade flow analysis from the Asian/Pacific rim to USA. Assessed distribution networks for the LA region. Developed the 2020 Master Plan forecasts for the Ports of Los Angles and Long Beach and determined Intermodal flows.

CSX CORPORATION

2000-2002 **Consultant** **Richmond, VA**
Retained by CSX Corporation to provide special assistance and serve as an expert witness in the CSX/NS acquisition of Conrail. Assignments included case related depositions and briefings for the US DOT Surface Transportation Board on issues relating to the acquisition. Acquisition approved by STB and completed by CSX/NSC.

1998-2000 **Vice President – Network Planning** **Jacksonville, FL**
Directed the development of CSX strategic network plans (post-Conrail acquisition years 2000-2005). Identified opportunities to leverage core route efficiencies and restructure 30% of the overall network. Designed and applied analytical routines to prioritize expenditure of capital funds to improve railroad operations and lower system operating cost. Implemented new operating plans that integrated Conrail and CSX lines to achieve 25% reduction in system-wide freight car miles to save $ 20 M demurrage costs annually. Elected Co-Chairman of AAR Committee (Chicago Planning Group) to improve Chicago railroad operations. Appointed Chairman of the Chicago Corridor Development team – delivered Red Book plan with 11 major corridors identified for Chicago Create Project.

1996-1998 **Vice President – Service Design** **Jacksonville, FL**
Supervised and managed the development of CSX Transportation's train profiles, freight car blocks and freight car disposition rules. Accountable for car hire budget of $ 250 M. Implemented Conrail acquisition operating plan. Design plans for new Intermodal hubs network between Chicago and New York City. Overall plans resulted in capturing 70% of former Conrail market share and reduced operating ratio.

1995-1996 **General Manager – Field Operations Development** **Jacksonville, FL**
Implemented Operational Re-Engineering Program initiatives and provided oversight to Quality Process Management System that monitored daily operating performance in 40 railway terminals. Results of PMS initiatives: 30% reduction in car dwell time and 15% improvement in transit speeds. Improved shipment delivery performance by 25%.

1993-1995 **Division Superintendent – Detroit Division** **Detroit, MI**
Managed railroad operations located in Michigan, Ohio and Ontario Canada. Supervised 2,000 employees and managed a $ 200 M annual budget. Prototype new short haul Intermodal train service between Chicago and Detroit. Launched initiatives to improve train performance, yard operations and employee safety. Achieved a reduction of human factor derailments by 50% and awarded Best Improved Division for Safety in 1994

1991-1993 **Assistant Vice President – Operations Research** **Jacksonville, FL**
Established advance technical group responsible for design and development of railway operations analytical routines and computer based network models.

1990-1991 **Assistant Vice President – Operations Development** **Jacksonville, FL**
Developed Technology Plan for CSX Centralized Dispatching Center. Implemented new Train Management system for freight car shipment tracking that provided CSX customers with state-of-industry shipment services.

CSX CORPORATION

1987-1989 **Assistant Director – Service Quality & Control** **Jacksonville, FL**
Directed rapid development team that designed and prototyped computer based Special Customer Monitoring System. CSX used the new system to win new $ 20 M contract to move US mail. Received CSX Corporation's highest employee honor, the "Chairman's Award of Excellence" for the successful implementation of the system.

1986-1987 **Manager – Strategic Planning** **Baltimore, MD**
Completed analysis for CSX with respect to probable transcontinental railway mergers. Develop strategy for new market development and comprehensive segmentation analysis to improve revenue yield. Responsible for financial analysis of various Short-line transactions

1985-1986 **Assistant Terminal Trainmaster** **Hamlet, NC**
Directed shift operations at 2,100 freight car/day hump yard. Received Hostler Helper Certification. Learned operating culture.

NORFOLK SOUTHERN CORPORATION

1983-1985 **Cost and Analysis Manager** **Atlanta, GA**
Summer Internship with Norfolk Southern while attending Harvard Business School. Assisted development of a new material management system for the recently combined Norfolk Western and Southern railroads. System objective to reduce cost of carrying inventory achieved.

1980-1983 **Project Engineer** **Charlotte, NC**
Supervised and directed construction forces for new Rail Welding Facility – Atlanta, GA, Maintenance Equipment Facility – Charlotte, NC, and new connecting main tracks in East St. Louis and Demopolis, AL. All projects supervised completed on time and within allocated project budgets.

1976-1980 **Co-operative Education Student/Management Trainee** **Atlanta, GA**
Assisted civil engineering surveys for the development of customer industrial tracks. Completed Southern Railway Management Trainee Program. Assigned to Division Engineer in Louisville, KY to assist track gangs and perform duties including track inspection, valuation inventories and installation of new railroad crossings.

Professional Publications

1997 **USDOT – Surface Transportation Board** **Washington, DC**
Before the Surface Transportation Board: Finance Docket No. 33388, "*Railroad Control Application Volume 3A of 8 – CSX Operating Plan, Labor Impact Exhibit, Density Charts and Supporting Statements* – June 1997. Docket includes Intermodal train plans, Intermodal terminal plans and financial statements.

Before the Surface Transportation Board: Finance Docket No. 33388, *"Verified Statement of John W. Orrison in the District of Columbia"* – June 9, 1997. Supporting Testimony on behalf of CSX Corporation and CSX Transportation Inc, Norfolk Southern Corporation and Norfolk Southern Railway Company for Control and Operating Lease/Agreements of Conrail Inc and Consolidated Rail Corporation.

2009 **US Trade & Develop Agency – US Department of State** **Washington, DC**
Completed US Trade & Development Agency cost-matching grant of $ 900,000 to assess the rehabilitation of the existing Tanzanian Dar es Salaam to Isaka railway and to construct the Central Corridor in East Africa to connect to Burundi and Rwanda. Complete Project documentation is available through USTDA.

I, John Orrison, verify under penalty of perjury that I have read the portions of TPI's Rebuttal Evidence that I am sponsoring, as described in the foregoing Statement of Qualifications, that I know the contents thereof, and that the same are true and correct based on my knowledge, information, and belief. Further, I certify that I am qualified and authorized to file this statement.

John Orrison

Executed on November 2, 2014

I, John G. Pinto, verify under penalty of perjury that I am the same John G. Pinto whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to land valuation (Part III-F); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

John G. Pinto

Executed on October 29, 2014

WALTER H. SCHUCHMANN

Mr. Schuchmann is Vice President, Operations Planning for R.L. Banks & Associates, Inc. He has 33 years of transportation experience, including service as a Norfolk Southern operating and safety officer. His various responsibilities have included supervising commuter, intermodal and merchandise freight operations in Chicago, and supervising local, road, and terminal operations at multiple locations. The details of Mr. Schuchmann's experience are presented in the attached vita. Mr. Schuchmann is co-sponsoring TPI's evidence in Part III-C-5.a. and b. on yard classification tracks and receiving and departure tracks.

Walter H. Schuchmann
Vice President, Operations Planning

Education
MBA, Beta Gamma Sigma business honorary society, Indiana University, 1979
BS Industrial Management, Beta Gamma Sigma business honorary society, Purdue University, 1972

Professional Certifications and Affiliations
Certified Member, American Society of Transportation and Logistics; American Association of Railroad Superintendents; National Defense Transportation Association

Years of Transportation Experience
33

Qualifications
With RLBA since 1988, Mr. Schuchmann has advised public bodies evaluating the initiation or expansion of intercity passenger, commuter or light rail services in Atlanta, Nashville, Orlando, Baltimore, Cleveland, Kansas City, Cincinnati, Portland (OR), Fort Worth, Burlington (VT), Detroit, Stockton, Peoria-Bloomington, Northern and Southern California, Central New Jersey, Northern Virginia, Vermont, Maine, Colorado, Indiana and New Mexico with respect to: 1) service planning (what the passenger encounters: a rail service package responsive to estimated passenger volume and timing demands); 2) operations planning (consideration of which the passenger may be oblivious, comprehending development of a safe and efficient operations plan) including equipment and crew requirements, passenger-freight capacity and conflict resolution, effective station location and configuration, required sidings, layover yards and facilities for train consist turn around and servicing and 3) railroad institutional issues (most importantly, the identity and nature of the passenger service operator and the relationship between existing and/or contemplated passenger operations and existing/future freight requirements, to minimize passenger/freight conflicts). Additionally, Mr. Schuchmann has led and/or participated in analyzing operations and viability of numerous railroads on behalf of carriers, government agencies and major financial institutions. He has participated in coal and bulk commodity transportation studies, stand-alone cost development and rail service, switching and rate studies. Mr. Schuchmann has contributed to evaluations of applicable intermodal technologies and existing and potential intermodal services, as well as intermodal terminal configuration and operations and waste-by-rail movements. He also has advised counsel and prepared testimony in legal proceedings in which railroad safety procedures and violations were at issue.

Relevant Project Experience

- ***Ramsey County Regional Rail Authority (RCRRA, Twin Cities)*** Assisted the renovation and rehabilitation of the former Saint Paul Union Depot, now the Minnesota Union Depot, and the relocation of the Amtrak station and Empire Builder service from its current location in the Midway. Coordinated among the station designers, Amtrak and affected Class I, regional and short-line railroad operators. Specifically: 1) determined how to connect the proposed Amtrak platform tracks to the adjacent Union Pacific mainline track; 2) determined how the Amtrak Empire Builder service will be routed into and out of the station; 3) identified any operational issues that need to be addressed to allow Amtrak to provide service to Minnesota's Union Depot; 4) identified any engineering, signaling, and communication issues that need to be addressed to allow Amtrak to provide service; 5) determined what services and functions Amtrak will transfer from the existing Amtrak facility at Midway station to Minnesota's Union Depot and 6) reported to the RCRRA and the rest of the Mortenson team any concerns or issues raised by the railroads as the project proceeds.

- ***Florida Power & Light*** Created a Rail Traffic Controller simulation network and participated in conceptualizing a hypothetical stand-alone railroad focusing on coal movements between Illinois Basin

- ***Kansas City Power & Light*** Created a Rail Traffic Controller simulation network and participated in conceptualizing a hypothetical stand-alone railroad focusing on coal movements between Powder River Basin mines and the Montrose Generating Station in Ladue, MO as part of a Surface Transportation Board Stand Alone Cost proceeding.

- ***Arizona Department of Transportation*** As part of the **State of Arizona High Speed Passenger Rail Strategic Plan,** conducted operations, schedule, equipment and operating cost reviews of nine-year-old previous plan.

- ***Washtenaw and Livingston Counties, Michigan*** Mr. Schuchmann conducted a hi-rail inspection trip over the proposed commuter route accompanied by Great Lakes Central Railroad officials, noting potential station sites and sidings and other locations significant to potential operations. Evaluated potential extension to the Ann Arbor business district and south campus areas and participated in operations planning, cost estimation and overall feasibility analysis.

- ***New York State Senate Task Force on High Speed Rail*** Conducted operational analysis and field inspection and contributed strategic direction to RLBA's support of the implementation of the Task Force's Rail Action Program, specifically directed toward the issue of whether to purchase CSX right-of-way between Poughkeepsie and the Capital District used to by Amtrak to provide New York-Albany "Empire Service". Analyzed CSX going concern value of the line as well as Amtrak and freight operations and Amtrak causes of delay. (NYV)

- ***Florida Department of Transportation*** Assisted FDOT in negotiations with CSX by reviewing CSX's existing and prospective operating plans in detail to determine whether freight train schedules could be shifted to minimize the impact on prospective Central Florida (Orlando) passenger trains and vice versa so as to evaluate whether the commuter rail plan under consideration was realistic.

- ***Confidential Private Client*** Assisted a coal user of railroad transportation with strategies to obtain better rail cycle times and lower rates. Explored several operations scenarios by which the company could reduce its transportation costs.

- ***New Jersey Transit*** Advised the agency concerning shared freight/light rail transit use of the River Line between Camden and Trenton, NJ. Developed freight operating plans and outlined facilities required to conduct joint freight and light rail operations on the Bordentown Secondary trackage owned by Conrail (part of the NS-CSX Shared Assets Area). Participated in acquisition and shared use negotiations with CSX, Norfolk Southern and Conrail as well as review of DBOM contractor solicitation documents. Evaluated impacts of construction upon freight operations and resultant costs and Conrail billings. Construction is complete, including a new freight yard facility proposed by RLBA, and passenger service has been implemented. Current freight operations closely resemble the RLBA plan.

- ***Downtown Indianapolis Railroad Relocation Working Group*** Managed a railroad relocation assessment on behalf of a working group composed of prominent Indianapolis business and government representatives to facilitate downtown redevelopment. The team evaluated the reroute of all CSX freight and Amtrak trains off of CSXT's downtown main line on to the existing, circumferential Indianapolis Belt Line. The study addressed: capacity and condition improvements to the Belt; impacts on through and local freight service involving up to 50 trains daily; community impacts; safety, mobility and environmental benefits and relocation capital cost estimation.

- ***City of Lincoln, Nebraska*** Participated in meetings with City officials and a field inspection as well as drafted a Verified Statement submitted before the Surface Transportation Board addressing the

- ***Napa County Transportation Planning Agency and Solano Transportation Authority*** Developed alternatives and participated in screening rail passenger and tourist service concepts as part of the Napa/Solano Passenger/Freight Rail Study. Constructed rail passenger service plans on three routes serving resident and tourist markets, meeting standards set by the agencies.

- ***Port Authority of New York and New Jersey*** Evaluated capacity of all major rail lines in the North Jersey Shared Assets Area. Inspected lines, identified future shortfalls in line capacity, evaluated ten capacity improvement initiatives developed by the Authority and its serving railroads for their ability to remedy future capacity shortfalls and prioritized recommended improvements.

- ***METRO Regional Transit Authority, Akron, OH*** Evaluated operations and ownership issues surrounding a rail line acquisition. Post-acquisition corridor management, railroad freight franchise contracting and supervision, and preservation of future passenger rail options were addressed.

- ***Chittenden County (Vermont) Metropolitan Planning Organization*** Developed operating plans in connection with various service alternatives related to extending existing commuter rail service from Burlington to Essex Junction, Vermont. Staffing, track and signal improvements and equipment requirements were identified. Evaluated shared freight and passenger use impacts were estimated in connection with each scenario.

- ***Virginia Department of Rail and Public Transportation*** Participated in evaluating Norfolk passenger terminal locations and alternative routes into downtown Norfolk as part of assessing of the corridor linking Petersburg with Norfolk as a potential extension of the planned Southeast High Speed Rail Corridor between Washington and Charlotte.

- ***North Carolina Department of Transportation*** Analyzed intercity rail passenger services to determine potential for increasing speeds and improving service.

- ***Mid-America Regional Council, Kansas City, MO*** Project Manager of RLBA's five-firm team which conducted a commuter rail feasibility and implementation planning study of the Greater Kansas City region. Nineteen rail lines in eight corridors were screened to determine preliminary commuter rail service feasibility. That process resulted in three lines being selected for in-depth examination. RLBA evaluated route and service alternatives; considered issues associated with operational hubs, transit centers and station site selection and calculated capital and operating costs reflecting various service levels. A passenger rail service implementation action plan was developed addressing prioritization of corridors, financial planning, potential institutional arrangements and next steps.

- ***Montana Department of Transportation*** Assisted in updating the State Rail Plan. Evaluated the feasibility of intercity rail passenger service between Missoula and Billings, addressing route, service, ridership and operating cost. Examined freight lines, identified and evaluated rail user needs and analyzed economic impacts of anticipated rail system changes.

- ***Mid-Ohio Regional Planning Commission*** Evaluated freight operations and facilities in the Columbus area, identifying operational opportunities to increase freight efficiency and expand passenger rail service. Examined operational benefits of proposed capital improvement projects.

- ***Indiana Department of Transportation*** Led a team performing a statewide passenger rail feasibility study, evaluating eleven potential corridors.

- ***Canton Railroad*** Led the firm's evaluation of opportunities for physical and operational expansion of this Port of Baltimore terminal railroad. Operational, infrastructure, financial and institutional considerations related to assumption of switching duties at Maryland Port Authority terminals and nearby locations were examined.

- ***Georgia Rail Passenger Authority*** Reviewed, analyzed and commented on extensive commuter rail, intercity rail and multimodal passenger terminal studies previously conducted, focusing upon the infrastructure improvements, operational issues and costs associated with introducing commuter service on the CSX-owned Atlanta-Athens corridor. Assisted in developing and implementing a strategy for engaging CSX in meaningful negotiations concerning use of its facilities.

- ***Commonwealth Department of Transportation*** Assisted in preparing recommendations hosting Amtrak intercity passenger rail service regarding restoration of the Keystone Corridor between Philadelphia-Harrisburg to a state of good repair, the state's role in management of the corridor and the business plan to support same.

- ***Virginia Department of Rail and Public Transportation*** Used the Berkeley Software computer simulation to examine infrastructure needs and operational impacts of successive additional passenger trains and increased speeds on the already busy CSX line between Washington, DC and Richmond, VA. Shared work and results with Virginia Railway Express. Findings were incorporated into state planning and the subsequent CSX/VRE Operating Agreement.

- ***Federal Railroad Administration "High Speed Rail Commercial Feasibility Study"*** Assisted in the multi-task order contract supporting FRA's Congressional mandate to show the feasibility of high speed ground transportation in the United States.

- ***Southern California Regional Rail Authority (SCRRA)*** Assisted in negotiating operating provisions in the commuter service operations contract awarded to Amtrak and examined passenger and freight operating issues as part of right-of-way acquisition efforts by five Southern California counties. Also participated in trackage rights negotiations with Southern Pacific and operator selection and commuter service contract negotiations with Amtrak. Investigated operational impacts of the BNSF merger upon SCRRA's *Metrolink* commuter service, especially with respect to the San Bernardino Subdivision, a key shared track commuter and freight route.

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Prior to joining RLBA, worked as a Norfolk Southern Railway (NS) operating and safety officer. On the busy coal-originating Pocahontas Division, as Superintendent of Safety, Mr. Schuchmann worked with department heads to develop and administer effective programs to reduce accidents and employee injuries. He participated in development, training and implementation of NS's first applications of Voice Block Authority to control train movements. At Chicago, he supervised commuter, intermodal and merchandise freight operations. At several locations, he was responsible for service to local shippers as well as road and terminal operations.

VERIFICATION

I, Walter H. Schuchmann, verify under penalty of perjury that I have read the Rebuttal Evidence of Total Petrochemicals & Refining USA, Inc. in this proceeding that I have sponsored, as described in the foregoing Statement of Qualifications, that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Walter H. Schuchmann

Executed on October 28, 2014

I, Charles A. Stedman, verify under penalty of perjury that I am the same Charles A. Stedman whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to the development of the SARR system (Part III-B) and the roadbed preparation/earthworks component of the road property investment cost of the SARR, exclusive of culverts, roadbed specifications and yard drainage (Part III-F-2); that I am sponsoring the development of SARR route and track miles (Part III-B); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Charles A. Stedman

Executed on November 3, 2014

STEPHEN M. SULLIVAN

Mr. Sullivan is a Managing Director for R.L. Banks & Associates, Inc. He has over 38 years of transportation experience, including 25 years working for Class I railroads and 13 years with the American Short Line & Regional Railroad Association. As relevant to his testimony in this proceeding Mr. Sullivan's experience includes serving as District Superintendent of Operations for Conrail's northwest Ohio and southwest Michigan territory and as a Terminal Trainmaster in charge of supervising operations at a major Conrail hump yard, the Stanley Yard, in Toledo, OH. A more detailed summary of Mr. Sullivan's experience is contained in the attached vita. Mr. Sullivan is co-sponsoring TPI's evidence in Part III-C-5.a. and b. on yard classification tracks and receiving and departure tracks.

Stephen M. Sullivan
Managing Director

Education
BA, Economics, College of William and Mary, 1977

Professional Development and Certifications
Corporate Finance, the Wharton School, University of Pennsylvania
Executive Management, Penn State University
Project Management, Drexel University
Modal Analysis, University of Texas – Texas Research Development Foundation
Economic Development, Ohio State University
Total Quality Management
Professional Facilitator
Professional Negotiating
Professional Sales

Years of Transportation Experience
38

Qualifications
Mr. Sullivan joined RLBA in 2013 after twenty five years with Class I railroads and thirteen years with an industry trade association representing more than 500 Class II and Class III railroads. During his Class I railroad careers Mr. Sullivan held managerial responsibilities in line operations, strategic planning, multi-modal analysis, capital planning, terminal optimization studies, as well as mergers and acquisitions. His trade association career featured daily interaction with freight and passenger railroads, both large and small, regarding service planning and design, capital investment, data analysis and regulatory compliance. Mr. Sullivan developed working relationships with Class I railroads, short lines, Amtrak, commuter railroads, State, local and Federal government agencies. He has prepared position papers and testimony on behalf of Class II and Class III railroads and he has testified before Congress on railroad infrastructure and capital investment.

Prior Work Experience

Litigation Support

- Testified as an expert witness on behalf of a Class I railroad in New York in dispute with a shipper over interchange rules and tariffs regarding the movement of cars and the rights of the railroad to receive revenues for such movements.

- Expert witness on behalf of a private landowner in suit with a Class I railroad in Illinois over the rights to a private railroad crossing and its impact on safety, commerce, and railroad operations.

- Filed verified statement with the US Surface Transportation Board in rebuttal to a Class I railroad's testimony that a new highway crossing in Wichita, KS would adversely impact Interstate Commerce and create an undo restraint of trade through changes in railroad operations.

Conrail, Inc.
($7B Corporation), premiere Northeast and Midwest freight railroad, Philadelphia, PA

Operating Department positions:

- As District Superintendent of Operations, based in Toledo, Ohio but overseeing northwest Ohio and southwest Michigan, developed and directed changes to operations and workforce alignment, resulting in improved on-time performance while lowering operating costs.
- As Supervisor of Rules and Operating Practices, based in Toledo, Ohio and Detroit, directed the training of operating employees and applying of rules and practices on Conrail's largest division. Supervised 120+ employees.
- As Terminal Trainmaster, based in Toledo, Ohio and Detroit, supervised operations at a major hump yard (Stanley Yard in Toledo, OH) handling automotive and industrial commodities.
- As Conductor and Brakeman, performed freight and passenger train service in New York City.

Strategic, Capital and Commercial Planning positions:

- Director, Corporate Strategy – Operations and geography expert re $12B merger, leading managers in areas of financial analysis, asset management, technology application and budgeting. Championed a cross-departmental strategic geographic plan of business growth, with the applied goal of maximizing the return on newly acquired and surplus assets.
- Director, Planning and Strategy – Directed the asset management staff's deployment of TQM and continuous improvement processes, championing and applying a strategic GIS to capital investment analysis, operations optimizations and market/asset development. Provided corporate strategy consulting to NJDOT re its 25 year strategic transportation plan.
- Manager, Strategic Planning – Developed a $500M corporate asset strategy and facilitated the resulting reorganization that more efficiently employed cross-functional business processes.
- Manager, Capital Planning – Directed the $100M commercial capital plan, negotiating across department leadership to achieve internal consensus.
- As Manager of Commercial Planning, through close interaction with marketing managers, developed and validated strategic industrial development projects across all lines of business.
- As Manager of Industrial Development, implemented new business projects, coordinating resources across multiple departments to attract new customers within budgets and timelines.

Consultant to Amtrak
U.S. National Passenger Railroad Corporation, Northeast corridor operations, Philadelphia, PA

- Created processes that more easily identified variable costs and provided financial/cost-benefit analyses for senior management to focus on market changes, new business potential and revenue growth.

RAILWORKS Corporation, Director, Marketing and Planning
($1B parent company), specializing in construction, manufacturing and technical services to the rail and transit industries, Baltimore, MD

- Developed the corporate branding message and business integration plan, capitalizing on the strengths, synergies, and best practices of component companies. Created line of business marketing strategies and implementation plan re $300M of accounts, linking business opportunities to strategic asset development.

American Short Line & Regional Railroad Association, Vice President and Executive Director
Trade association for 950 private and public sector companies, Washington, DC

- As Chief Operating Officer, directed initiatives and staff strategic alliances, financial management, administration, industrial safety and security, technology development/deployment, training, legislative and regulatory matters. Developed new business processes, including technical process integrations that increased revenues and membership six to eight percent annually.

- Represented ASLRRA in discussions with Tom Woll at the Federal Railroad Administration concerning completion of grade crossing inventories over US short line railroads. Addressed issues concerning a shift in liability associated with private crossings due to changes in FRA grade crossing identification requirements and impacts therewith concerning the contractual easements associated with private crossings between the railroads and private crossing land owners.

- Spearheaded railroad security/anti-terrorism challenges with Federal agencies at all levels, developing and implementing a comprehensive post-911 security plan re the industry's 550 railroads. Directed, from concept to application, the design and deployment of a first of its kind railroad risk mitigation process/model.

- As an ex officio Officer of the Board of Directors, directed continual corporate governance and a reoccurring series of five year strategic planning processes and implementation thereof.

- Received commendations and letters of appreciation from The White House, the Department of Transportation, the United States Coast Guard and the Department of Defense.

VERIFICATION

I, Stephen M. Sullivan, verify under penalty of perjury that I have read the Rebuttal Evidence of Total Petrochemicals & Refining USA, Inc. in this proceeding that I have sponsored, as described in the foregoing Statement of Qualifications, that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Stephen M. Sullivan

Stephen M. Sullivan

Executed on October 28, 2014

I, Daniel C. Vandermause, verify under penalty of perjury that I am the same Daniel C. Vandermause whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to land valuation (Part III-F); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Daniel C. Vandermause

Executed on October 30, 2014

I, Elizabeth W. Vandermause, verify under penalty of perjury that I am the same Elizabeth W. Vandermause whose Statement of Qualifications appears in Part IV of the Narrative portion of TPI's Opening Evidence in this proceeding; that I am co-sponsoring the portions of the Rebuttal Evidence that relate to land valuation (Part III-F); that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

Elizabeth W. Vandermause

Executed on October 30, 2014