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BEFORE THE
SURFACE TRANSPORTATION BOARD

SEMINOLE ELECTRIC COOPERATIVE, INC. **Complainant,** **v.** **CSX TRANSPORTATION, INC.** **Defendant.**	**Docket No. 42110**

OPENING EVIDENCE OF COMPLAINANT SEMINOLE ELECTRIC COOPERATIVE, INC.

NARRATIVE

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SEMINOLE ELECTRIC COOPERATIVE, INC.

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ACRONYMS

The following acronyms are used:

2009 AEO	2009 Annual Energy Outlook April Update Forecast
AAR	Association of American Railroads
AIILF	All-Inclusive Less Fuel Index, published by AAR
ATC	Average Total Cost
CMP	Constrained Market Pricing
CSXI	CSX Intermodal, Inc.
CSXT	CSX Transportation, Inc.
DCF	Discounted Cash Flow
FRA	Federal Railroad Administration
EIA	Energy Information Administration
HDF	On-Highway Diesel Fuel Index
MGA	Monongahela Railway
MMM	Maximum Markup Methodology
NS	Norfolk Southern Railway Company
RCAFA	Rail Cost Adjustment Factor, adjusted for productivity
RCAFU	Rail Cost Adjustment Factor, unadjusted for productivity
r/vc	Revenue-to-Variable Cost
RTC	Rail Traffic Controller Model
SARR	Stand-Alone Railroad
SAC	Stand-Alone Cost
SECI	Seminole Electric Cooperative, Inc
SGS	Seminole Generating Station, located near Palatka, FL
URCS	Uniform Railroad Costing System

CASE GLOSSARY

The following short form case citations are used:

AEP Texas	*AEP Tex. N. Co. v. BNSF Ry.*, STB Docket No. 41191 (Sub-No. 1) (STB served September 10, 2007).
APS	*Ariz. Pub. Serv. Co. and Pacificorp. v. The Atchison, Topeka and Santa Fe Ry.*, 2 S.T.B. 367 (1997)
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 Corp.	*Coal Trading Corp. v. The Baltimore & Ohio R.R., et al.*, 6 I.C.C.2d 361 (1990)
CP&L	*Carolina Power & Light Co. v. Norfolk S. Ry.*, STB Docket No. 42072 (STB served December 23, 2003)
Duke/CSXT	*Duke Energy Corp. v. CSX Transp. Inc.*, STB Docket No. 42070 (STB served February 3, 2004)
Duke/NS	*Duke Energy Corp. v. Norfolk S. Ry.*, STB Docket No. 42069 (STB served November 6, 2003)
FMC	*FMC Wyo. Corp. v. Union Pac. R.R.*, 4 S.T.B. 699 (2000)
KCP&L	*Kansas City Power & Light Co. v. Union Pac. R.R.*, STB Docket No. 42095 (STB served May 19, 2008)
Major Issues	*Major Issues in Rail Rate Cases*, STB Ex Parte No. 657 (Sub-No. 1) (STB served Oct. 30, 2006)
OG&E	*Oklahoma Gas & Electric Co. v. Union Pac. 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 January 27, 2006)
PSCo/Xcel	*Public Service Co. of Colorado d/b/a Xcel Energy v. Burlington N. and Santa Fe Ry.*, STB Docket No. 42057 (STB Served June 8, 2004)

PSCo/Xcel II	*Public Serv. Co. of Colorado d/b/a Xcel Energy v. Burlington N. and Santa Fe Ry.*, STB Docket No. 42057 (STB served Jan. 19, 2005).
TMPA	*Texas Mun. Power Agency v. Burlington N. and Santa Fe Ry.*, 6 S.T.B. 573 (2003)
WFA/Basin	*Western Fuels Ass'n, Inc. and Basin Electric Power Coop. v. BNSF Ry.*, STB Docket No. 42088 (STB served September 10, 2007)
WFA/Basin II	*Western Fuels Ass'n, Inc. and Basin Electric Power Coop. v. BNSF Ry.*, STB Docket No. 42088 (STB served February 18, 2009)
Wisconsin P&L	*Wisconsin Power and Light Co. v. Union Pac. R.R.*, 5 S.T.B. 955 (2001)
West Texas Utilities	*West Tex. Utils. Co. v. Burlington N. R.R.*, 1 S.T.B. 638 (1996), aff'd sub nom. *Burlington N. R.R. v. STB*, 114 F.3d 206 (D.C. Cir. 1997)

I Counsel's Argument

BEFORE THE
SURFACE TRANSPORTATION BOARD

SEMINOLE ELECTRIC COOPERATIVE, INC.	)	
Complainant,	)	
v.	)	**Docket No. 42110**
CSX TRANSPORTATION, INC.	)	
Defendant.	)	

PART I

COUNSEL'S ARGUMENT AND SUMMARY OF EVIDENCE

This is the Opening Evidence of Complainant, Seminole Electric Cooperative, Inc. ("SECI"). In this proceeding, SECI challenges the reasonableness of the common carrier rates established by Defendant, CSX Transportation, Inc. ("CSXT"), for application to the transportation of coal in unit train service, either in SECI-supplied private railcars or in railcars supplied by CSXT, from CSXT-served mine origins in Kentucky, Illinois, Indiana, West Virginia and Pennsylvania, and from the CSXT-served coal and petroleum coke transfer terminal facilities at Charleston, South Carolina, to SGS.

The challenged rates were established in CSXT's common carrier rate publication CSXT-32531. *See* Exhibit I-1. As of the Second Quarter of 2009, the rates established by CSXT for coal transportation to SGS from the subject origins in CSXT-supplied railcars were as follows:

Origin	Rate per ton
Dotiki, KY	$41.68
Pattiki, IL (Epworth)	$44.18
Warrior, KY (Cardinal 9)	$41.68
Elk Creek, KY (Cimarron)	$41.68
Gibcoal, IN	$44.93
Consol 95, WV	$49.71
Bailey Mine, PA	$51.66
Port of Charleston, SC	$28.48

CSXT-32531 provides that for shipments that take place in railcars supplied by SECI, a mileage allowance of $0.19 per car-mile will be rebated by CSXT to SECI, based on claims filed on a monthly basis. As applied to the carrier car rates shown above, the allowance yields the following rates applicable to shipments in SECI-supplied railcars:

Origin	Rate per ton
Dotiki, KY	$40.39
Pattiki, IL (Epworth)	$42.78
Warrior, KY (Cardinal 9)	$40.43
Elk Creek, KY (Cimarron)	$40.42
Gibcoal, IN	$43.49
Consol 95, WV	$47.98
Bailey Mine, PA	$49.80
Port of Charleston, SC	$28.01

CSXT-32531 also provides that the carrier railcar transportation rates – but not the private railcar mileage allowance – will be adjusted on the first day of each calendar quarter, based on quarterly changes in the RCAFU.

Herein, SECI presents its Opening Evidence in support of the following relief: (1) a ruling by the Board that CSXT possesses market dominance over the transportation of coal and petroleum coke to SGS, within the meaning of 49 U.S.C. § 10707; (2) a Board determination that the challenged CSXT rates for shipments both in SECI-supplied railcars and CSXT-supplied railcars exceed a reasonable level, and therefore violate 49 U.S.C. § 10707(d)(1); (3) the prescription by the Board of lawful maximum rates for coal transportation to SGS both in SECI-supplied and CSXT-supplied railcars from the origins covered by CSXT-32531, pursuant to 49 U.S.C. §§ 10704(a)(1) and 11701 (a); and (4) an award by the Board of reparations payable by CSXT to SECI for all charges collected by CSXT pursuant to CSXT-32531 in excess of the rates prescribed by the Board between January 1, 2009 and the date of CSXT's compliance with the Board's prescription order, together with interest at a rate sufficient to fully compensate SECI for its damages, and preclude CSXT from profiting from its violation of applicable law.

By way of example, at Second Quarter 2009 wage and price levels, the maximum rates which the evidence shows the Board should prescribe for coal service to SGS – and which clearly demonstrate the unreasonable, monopoly pricing that CSXT has inflicted on SECI, its 10 cooperative members (owners) and their member ratepayers – are as follows:

TABLE I-1
Maximum Rates to SGS
SECI-Supplied Railcars

Origin	Variable Cost Per Ton	Jurisdictional Threshold	Stand-Alone Cost Per Ton	Maximum Rate
Dotiki, KY	$11.36	$20.45	$17.45	$20.45
Pattiki, IL	$12.15	$21.87	$18.66	$21.87
Warrior, KY	$11.18	$20.12	$17.17	$20.12
Elk Creek, KY	$11.17	$20.11	$17.16	$20.11
Gibcoal, IN	$12.10	$21.78	$18.58	$21.78
Consol 95, WV	$14.79	$26.62	$22.72	$26.62
Bailey Mine, PA	$15.75	$28.35	$24.19	$28.35
Port of Charleston, SC	$4.56	$8.21	$7.00	$8.21

TABLE I-2
Maximum Rates to SGS
CSXT-Supplied Railcars

Origin	Variable Cost Per Ton	Jurisdictional Threshold	Stand-Alone Cost Per Ton	Maximum Rate
Dotiki, KY	$ 11.88	$21.38	$18.25	$21.38
Pattiki, IL	$12.70	$22.86	$19.51	$22.86
Warrior, KY	$11.69	$21.04	$17.96	$21.04
Elk Creek, KY	$11.68	$21.02	$17.94	$21.02
Gibcoal, IN	$12.64	$22.75	$19.41	$22.75
Consol 95, WV	$15.43	$27.77	$23.70	$27.77
Bailey Mine, PA	$16.42	$29.56	$25.22	$29.56
Port of Charleston, SC	$4.84	$8.71	$7.43	$8.73

A. BACKGROUND FACTS[1]

1. The Seminole Generating Station

SGS presently is comprised of two (2) coal-fired generating units, with a combined rated output of 1300 megawatts. SECI manages and operates SGS on behalf of its ten (10) members, which are distribution cooperatives and own SECI and—like SECI—are non-profit entities owned by their respective members. Together, SECI and its members provide electric service to nearly 900,000 metered residential and business consumers, located throughout 46 of Florida's 67 counties.

The most compatible fuel for the SGS units, based on their design, is a relatively high Btu (*e.g.*, 11,500 to 13,000 Btu/lb.) coal with a sulfur content in the 2.5-3.5% range and an ash content of 12% or less. In the East, coal meeting these specifications is found predominantly in the Illinois Basin and Western Kentucky, though significant deposits also exist in parts of West Virginia and Pennsylvania. SGS also is permitted to utilize up to 30% refined petroleum coke ("petcoke"), with a higher heat content of 14,000 Btu/lb. and a sulfur content in the 6.0-7.0% range, as a blend fuel with coal.

Total annual solid fuel consumption at SGS is approximately 4,000,000 tons, for the existing two (2) units. However, SECI has been in the permitting and planning stages for a new, third unit at the station, which will use

[1] The facts set forth in this Part I-A are verified by Mr. William J. Reid, SECI's Director of Fuel Supply, based on first-hand knowledge and a review of SECI's business records.

the same type and quality of fuel, and once completed, could increase total annual consumption at SGS to approximately 6,000,000 tons. Since SGS commenced full operation, over 60% of SECI's annual coal requirements have been purchased under a long-term contract entered into by SECI in 1979 with Alliance Coal LLC and its predecessors in interest, which contract has a term that runs at least through 2016. Currently, more than 68% of the fuel for SGS is acquired under this contract. The principal coal sources specified under the contract are the Dotiki Mine at Dotiki, KY, and the Pattiki Mine at Epworth, IL, though Alliance has rights under the contract to supply coal from other sources under certain circumstances (subject to quality parameters). SECI also generally obtains a portion of its annual requirements from the spot market, including mines and suppliers other than Alliance. The range of suitable solid fuel origins is represented by the origins listed in CSXT-32531, all of which have been past sources of fuel for SGS.

Throughout its service life, SGS has been operated as a "baseload" station; that is, subject to periodic planned and forced outages for maintenance or repair, the station is run at or near its full available capacity on a continuous basis. This status is expected to continue into the future, including after the output of SGS is augmented by new units that may be added to the SECI system. As is commonly understood – and specifically is the case with respect to SECI and SGS – a baseload station is central to the ability of an electric utility to meet the needs and demands of its consumer-ratepayers. SECI's success in providing reliable service to its members depends directly on stable and predictable operational and economic conditions at SGS.

2. Coal Transportation to SGS, Pre-1998

In the years following commercial start-up, coal for SGS originated exclusively at Dotiki and Pattiki, each of which was served solely by CSXT's predecessor, and today are served or controlled by CSXT. The coal moved by rail to a river barge transfer terminal at Mt. Vernon, IN. Responsibility for arranging the origin rail service rested with SECI's coal supplier, which also owned the company that operated the barge terminal. From Mt. Vernon, the coal moved in barges owned by SECI and transported by Central Gulf Lines Inc. ("CGL"), an inland barge operator, down the Mississippi River and across the Gulf Intercoastal Waterway to Port St. Joe, Florida. There, the coal was reloaded into railcars and transported by a regional railroad, the Appalachicola Northern Railroad ("ANR"), to an interchange with the Seaboard System Railroad (a CSXT predecessor) at Chattahoochee, Florida. Seaboard/CSXT then transported the trains approximately 260 miles to SGS at Palatka. Seaboard was, and CSXT is, the only railroad with trackage that serves SGS.

In addition to its coal supply contract with Alliance Coal, LLC's predecessors (which also covered the delivery of coal from the mine to the Mt. Vernon terminal), SECI was a party to contracts with the terminal operators at Mt. Vernon and Port St. Joe, and ANR, covering their respective services. The Seaboard service from Chattahoochee to SGS, however, initially was governed by a common carrier tariff, subject to the jurisdiction of the Board's predecessor. As such, and in contrast to the other components of SECI's transportation arrangements, the cost to SECI of service from Chattahoochee to SGS was in the sole control of Seaboard.

Concerned with the level of rates it was paying for the 260-mile rail movement to SGS, SECI evaluated the reasonableness of those rates under the federal regulatory guidelines then governing maximum rates on market dominant coal movements. In a series of meetings and other exchanges throughout 1991, SECI shared the results of that evaluation with CSXT, which by that time had absorbed Seaboard. The outcome of the ensuing negotiations was a contract between SECI and CSXT, which became effective in January, 1992. The contract established rates, service rules and other terms to govern the transportation of SECI's coal from Chattahoochee to SGS. However, the contract also made provision for "direct rail" service via CSXT from the origin mines supplying coal to SECI, which was available for coal volumes that were not contractually committed to the rail-water-rail arrangements. CSXT offered SECI economic incentives to use the direct rail service (which extended the length of CSXT's haul from less than 300 to over 800 miles), and between 1992 and December 31, 1998, approximately 4.2 million tons of coal were transported to SGS in that manner.

3. Coal Transportation to SGS, 1999-2008

Throughout 1998, SECI and CSXT re-engaged in negotiations over a potential, new contract to take effect upon the expiration of their then-current agreement. During the course of those negotiations, both sides perceived economic benefits in converting SECI's coal transportation arrangements to 100% direct rail. For CSXT, greater volumes hauled over a longer distance offered obvious profit enhancements on SECI's traffic. SECI stood to gain by simplifying its coal transportation logistics, avoiding costs associated with "floating inventory" resulting from the longer transit times for barge service, and relieving itself of the cost of maintaining a barge fleet.

Late in 1998, SECI and CSXT reached agreement on a new contract pursuant to 49 U.S.C. § 10709, covering all-rail service from SECI's principal coal origins to SGS. Pursuant to the requirements of the contract, denominated CSXT-68681, SECI acquired a fleet of railcars dedicated to the service, and provided them to CSXT for use in transporting coal to SGS. The new contract also enabled SECI to renegotiate and/or retire its prior arrangements with CGL, ANR and the Mt. Vernon and Port St. Joe terminal operators, and relieved Alliance of the obligation to arrange for origin transportation from Dotiki and Pattiki. In accordance with the terms of CSXT-68681, its expiration date eventually was set for December 31, 2008.

4. <u>This Proceeding</u>

Given the critical importance of stable and economic fuel supplies for SGS, and duly cognizant of the complexity which had characterized its long commercial relationship with CSXT, SECI resolved to ensure that adequate time and resources could be dedicated to efforts to negotiate an extension of CSXT-68681 or a new successor contract, to take effect on January 1, 2009. SECI therefore approached CSXT almost two (2) years before the scheduled expiration of CSXT-68681 to initiate negotiations. After some preliminary fits and starts, the parties commenced discussions.

Prior pleadings filed by CSXT in this proceeding have purported to characterize the nature and substance of the parties' negotiations. SECI submits that such claims have no relevance to the merits of this rate reasonableness proceeding, and while it takes great issue with a number of CSXT's prior statements, SECI does not intend here to engage in an exchange over the parties' respective positions in negotiations. Suffice it to say that despite their efforts, the parties were not able to come to an agreement on a new contract, and differed significantly on the matter of what would constitute reasonable rates for the rail transportation of coal from the subject origins to SGS.

As SECI detailed in its Complaint, the lack of a new or extended contract for post-2008 shipments coupled with an urgent need for reliable projections of 2009 fuel supply and transportation costs compelled SECI in March, 2008 to request that CSXT establish rates and service terms for the transportation of solid fuel to SGS in common carriage. CSXT's initial response was to direct SECI to its general coal tariff CSXT-8200, and related fuel surcharge Publication 8661-B. As calculated under these instruments, the CSXT common carriage coal rates to SGS ranged between $48.57 per ton and $33.83 per ton (before application of CSXT's fuel surcharge) from the various coal origins and the Charleston terminal, all as of October 1, 2008. *See* Verified Complaint, at 4-6.

SECI filed its Verified Complaint challenging the reasonableness of the CSXT-8200 rates (including the CSXT Publication 8661-B fuel surcharge) on October 3, 2008. Paragraph 19 of the Verified Complaint stated:

> This Complaint shall be deemed to apply to and likewise challenge any changes to the provisions of Tariff CSXT-8200 or Publication 8661-B, or any tariffs, circulars or publications referenced therein, as well as to any new tariffs, circulars, rates or charges that might be established by CSXT and applied to coal transportation service to SGS.

CSXT filed its Answer on October 23, 2008. Therein, CSXT denied that the common carrier rates that would apply to SECI's solid fuel traffic as of January 1, 2009 were those determined under CSXT-8200/CSXT 8661-B, and stated that CSXT:

> [w]ill provide Seminole-specific common carriage rates before the 1998 Contact expires. CSXT denies that the levels of the Tariff-8200 rates plus fuel surcharge for the movements Seminole lists would necessarily be as stated [in SECI's Verified Complaint] in January 2009.

See Answer, at 4. Some three (3) weeks later, on November 14, 2008, CSXT published the initial version of CSXT-32531, which CSXT designated as establishing the common carrier rates for 2009 coal and petcoke shipments to SGS. A revised version of CSXT-32531 subsequently was published on February 11, 2009, in which one of the covered origins was updated, and the effective rates were updated further effective July 1, 2009.[2] By letters filed with the Board on November 18, 2008 and March 12, 2009, respectively, SECI confirmed that the rates and terms set forth in CSXT-32531 or any successor tariff, as they subsequently might be adjusted, are subject to the Verified Complaint, and will be shown to be unreasonable and unlawful based on the evidence submitted in this preceding.

By Order served October 22, 2008, the Board established a procedural schedule to govern this matter, which schedule subsequently was modified by Orders served May 6, 2009 and July 13, 2009. SECI's Opening Evidence is submitted in accordance with that revised schedule.

B. THE BOARD HAS JURISDICTION OVER THE CHALLENGED RATES

The law provides that "[i]f the Board determines, under section 10707 of this title, that a rail carrier has market dominance over the transportation to which a particular rate applies, the rate established by such carrier for such transportation must be reasonable." 49 U.S.C. § 10701(d)(1). Section 10707 defines market dominance as "an absence of effective competition from other rail carriers or modes of transportation for the transportation to which a rate applies."

[2] *See* Exhibit I-1.

49 U.S.C. § 10707(a). This "qualitative" test also is subject to a Congressionally-mandated "quantitative" threshold: the Board cannot find market dominance if the challenged rate does not exceed 180% of the variable cost of providing the subject service. 49 U.S.C. § 10701(d)(1)(A).

The evidence presented here by SECI conclusively establishes that CSXT possesses market dominance over the transportation of SECI's essential utility fuels to SGS, and that the Board has jurisdiction to adjudicate the reasonableness of the CSXT rates at issue.

1. **The Challenged Rates Exceed the Jurisdictional Threshold**

SECI's Opening Evidence on the issue of variable costs is sponsored by witness Thomas D. Crowley of L.E. Peabody & Associates, Inc., and is detailed in Part II-A. As shown therein, since taking effect on January 1, 2009, all of the rates established under CSXT-32531 (whether for transportation in SECI-supplied railcars or CSXT-supplied railcars) have and continue to produce r/vc ratios in excess of 180%. Throughout this period, the relevant r/vc ratios have ranged from a low of 315% to a high of 614%.

For movements to SGS from all origins, variable costs were developed using CSXT's 2008 URCS[3] unit costs as developed by SECI, and the traffic and operating characteristics referenced below for the most recent complete time period for which data was available. For Dotiki, this would be the First

[3] Uniform Rail Costing System, as prescribed in *Adoption of the Uniform Railroad Costing System As A General Purpose Costing System For All Regulatory Costing Purposes*, 5 ICC 894, 899 (1989).

Quarter of 2009. For mines that did not originate shipments in 1Q09 but did so in 2008, average traffic and operating characteristics for that calendar year are used. For the origins which did not generate traffic for SECI's account in either period but are covered by CSXT-32531 (*i.e.*, Gibcoal, IN, Charleston, SC, Consol 95, WV and Bailey Mine, PA), SECI used the weighted average of the characteristics for all 1Q09 shipments.

Coal shipments from the Pattiki Mine at Epworth are originated by the Evansville & Western Railroad ("EVWR"), a corporate affiliate of CSXT,[4] and transferred to CSXT at Evansville, IN for movement to SGS. Because of the affiliation and CSXT's control over the establishment of all line-haul rates from Epworth to SGS, SECI treats this movement as local to CSXT for purposes of variable cost calculations.

In *Major Issues*, the Board determined that for purposes of future maximum rail rate adjudications, variable costs would be calculated on the basis of unadjusted system average Phase III URCS costs, using as inputs nine (9) prescribed operating characteristics: (1) the railroad; (2) loaded miles (including loop track miles); (3) shipment type (originated and terminated [local], originated

[4] According to information shown on EVWR's website, (www.evwr.com), the carrier is a subsidiary of Four Rivers Transportation, Inc. CSX Corporation's Annual Report discloses that it owns a majority interest in Four Rivers. *See* CSXT Annual Report Form R-1, December, 2007 at 12. As reflected on CSXT-32531, CSXT has and exercises the authority to set the full line-haul rate on coal shipments from Epworth.

and delivered, received and delivered [bridge], or received and terminated); (4) number of freight cars; (5) tons per car; (6) commodity; (7) type of movement (single car, multiple car, unit train); (8) car ownership (shipper or railroad); and (9) type of car. *See, e.g., KCP&L* at 6. According to the Board, the only permitted adjustments are those set out in *Review of the General Purpose Costing System,* 2 S.T.B. 659 (1997).[5] *See also KCP&L* at 8.

The variable costs presented herein were calculated in accordance with the foregoing mandates. Pursuant to the governing Procedural Order, SECI exchanged proposed traffic and operating characteristics with CSXT, in an effort to achieve a stipulation on these data. While the parties were able to agree on seven (7) of the nine (9) inputs for all origins except Epworth, and six (6) of the nine (9) inputs with respect to Epworth, they could not reconcile their differing positions with respect to lading weights for four (4) origins, car ownership for all origins and the shipment type for movements from Epworth. As discussed in further detail in Part II-A, SECI's approach with respect to these disputed points is sound, and represents the better evidence of record. Using 2008 URCS data indexed to 2Q09 wage and price levels, the variable costs and resulting r/vc ratios for the movements and rates at issue are as follows:

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[5] These include what colloquially are referred to as the "270" volume shipment adjustments, the "make-whole" adjustments, the "rail trailer-on-flatcar/container-on-flatcar" adjustments, and the "RoadRailer" adjustments. Additionally, the circuity factor is set to one where, as here, actual miles are used in the variable cost calculation.

TABLE I-3 SECI-Supplied Railcars			
Origin	Challenged Rate per Ton	Variable Cost	r/vc Ratio
Dotiki, KY	$40.29	$11.36	356%
Pattiki, IL	$42.78	$12.15	352%
Warrior, KY	$40.43	$11.18	362%
Elk Creek, KY	$40.42	$11.17	362%
Gibcoal, IN	$43.49	$12.10	359%
Consol 95, WV	$47.98	$14.79	324%
Bailey Mine, PA	$49.80	$15.75	316%
Port of Charleston, SC	$28.01	$4.56	614%

TABLE I-4 CSXT-Supplied Railcars			
Origin	Challenged Rate per Ton	Variable Cost	r/vc Ratio
Dotiki, KY	$41.68	$11.88	351%
Pattiki, IL	$44.18	$12.70	348%
Warrior, KY	$41.68	$11.69	357%
Elk Creek, KY	$41.68	$11.68	357%
Gibcoal, IN	$44.93	$12.64	355%
Consol 95, WV	$49.71	$15.43	322%
Bailey Mine, PA	$51.66	$16.42	315%
Port of Charleston, SC	$28.48	$4.84	388%

See Part II-A, *infra*. The quantitative threshold in 49 U.S.C. § 10707(d)(1)(A) is easily met in this case.

2. There is an Absence of Effective Intermodal or Intramodal Competition for CSXT Service to SGS

As noted *supra*, the governing statute defines market dominance as "an absence of effective competition from other carriers or modes of transportation for the transportation to which a rate applies." 49 U.S.C. §10707(d)(1)(A). As applied by the Board, the "qualitative" component of this test inquires whether a complainant such as SECI has any intermodal or intramodal transportation alternatives that provide effective competition for the rail service to which the challenged rates apply.[6] *See, e.g., Wisconsin P&L,* 5 S.T.B. at 962. To be "effective," an alternative must be both feasible and practical,[7] and must be shown to represent an actual deterrent against monopoly pricing by the defendant railroad. *Arizona Public Service Co. v. United States,* 742 F.2d 644, 650-51 (D.C. Cir. 1984).

SECI demonstrates in Part II-B that there are no feasible, practical transportation alternatives that could provide an effective check on CSXT's monopoly pricing power. Neither the coal origins at issue nor SGS are directly accessible to any navigable waterways, and distance, volume limitations, the lack of transload and unloading facilities, and community and/or environmental

[6] In making this determination, the Board only considers evidence of direct transportation competition between the origin(s) and destination(s) to which the challenged rates apply. *See, e.g., Market Dominance Determinations – Product and Geographic Competition,* STB Ex Parte No. 627 (STB served April 3, 2001).

[7] *See, e.g., Westinghouse Electric Corp. v. Alton & Southern RR,* ICC Docket No. 38188 (ICC served Feb. 9, 1988); *General Electric Co. v. Baltimore & Ohio RR*, ICC Docket No. 38125 (ICC served Oct. 22, 1984) at 2.

impacts – particularly in Florida – effectively preclude motor carriage as an option for any meaningful measure of SECI's annual fuel requirements.

The record shows that on several occasions, SECI investigated hypothetical, pro-active strategies to break CSXT's transportation monopoly, including the construction of new barge unloading and coal conveyor facilities on the St. Johns River to allow limited shipments of petcoke to move from the Port of Jacksonville, and new rail construction designed to link SGS to private trackage in the Palatka area that may be reachable by NS on a limited basis via trackage rights. However, after analyzing each potential project, SECI found that none was feasible on a cost basis. Moreover, each one was plagued by significant permitting and related obstacles, a lack of cooperation from essential third parties, and – in the case of petcoke through Jacksonville – an absence of key facilities and infrastructure. Additionally, even assuming *arguendo* that CSXT service could be circumvented for some traffic, SECI's contractual commitment to the CSXT-captive Dotiki and Pattiki Mines through 2016 for over 68% of the SGS coal requirements insured CSXT the ability to easily recoup any erstwhile lost profits.

Finally, there is no evidence that CSXT's pricing practices vis-à-vis coal and petcoke transportation to SGS were influenced in any way by concern over whether SECI could direct a portion of its solid fuel requirements to another carrier or mode. The fact that CSXT could act unilaterally to double SECI's rail rates with a single stroke belies any notion that CSXT perceives its service to be subject to effective competition.

The evidence clearly establishes that the Board has jurisdiction over CSXT's common carrier coal and petcoke rates for service to SGS.

C. THE CHALLENGED RATES ARE UNREASONABLY HIGH AND UNLAWFUL

In *Coal Rate Guidelines,* the Board's predecessor adopted CMP as the methodology for determining maximum reasonable rate levels for market dominant coal traffic, such as the SECI traffic at issue in this case. As the Board recently explained, "[t]he objectives of CMP can be simply stated. A captive shipper should not be required to pay more than is necessary for the carrier involved to earn adequate revenues. Nor should it pay more than is necessary for efficient service. And a captive shipper should not bear the cost of any facilities or services from which it derives no benefit." *WFA/Basin* at 7, citing *Coal Rate Guidelines*, 1 I.C.C. 2d at 523-24. CMP imposes three primary constraints on the extent to which a railroad may charge differentially higher rates on captive traffic. They are: (1) revenue adequacy; (2) management efficiency; and (3) stand-alone cost. *Id.*,1 I.C.C. 2d at 535-46.

The evidence demonstrates that the common carrier rates established by CSXT for application to SECI's coal and petcoke traffic exceed the levels permitted under the stand-alone cost ("SAC") constraint. The SAC constraint gives effect to the principle that a captive shipper's rates should not exceed the level that would be charged by a least-cost, optimally efficient transporter participating in a "contestable" market, unaffected by barriers to entry or exit. As the Board has explained:

> A SAC analysis seeks to determine the lowest cost at which a hypothetical, optimally efficient carrier could provide the service at issue free from any costs associated with inefficiencies or cross-subsidization....To begin the analysis, the complainant hypothesizes a stand-alone railroad (SARR) that could serve a selected traffic group if the rail industry were free of barriers to entry or exit.

TMPA, 6 S.T.B. at 586. Under the SAC constraint, the complainant is entitled to identify the group of traffic to be served by the SARR (a group that is not limited to the issue traffic), and design the transportation system that will service that group efficiently and at the lowest cost, taking account of all essential facilities and operating assets. *See, e.g., WFA/Basin* at 8; *FMC*, 4 S.T.B. at 721; *Coal Rate Guidelines*, 1 I.C.C. 2d at 543-544.

Through proper application of the Board's DCF Model and other elements of the SAC test as currently in place and implemented by the agency,[8] SECI has calculated SAC for the movement of coal and petcoke from the origins to which Tariff CSXT-32531 applies to SGS. The results of that analysis are explained in Part III-H. As shown therein, the rates established under the subject tariff exceed by substantial margins the rates that would be charged by a least-cost, optimally efficient alternative transporter, which SECI has designated the Seminole Florida Railroad ("SFRR").

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[8] *See Major Issues; WFA/Basin II.*

There are four (4) basic steps involved in the determination of SAC with respect to a particular coal movement: (1) identify the traffic group to be served by the SARR and the revenues that would be generated by that group; (2) design the configuration, infrastructure and operating plan for the SARR; (3) determine the construction and operating costs for the SARR system; and (4) select the appropriate economic forecasting and depreciation methodologies for use in the DCF model. Each of these is explained in detail in Part III.

1. <u>Stand-Alone Traffic Group</u>

The SFRR traffic group selected by SECI is consistent with the parameters delineated in *Coal Rate Guidelines*. *See, WFA/Basin* at 10-11; *TMPA,* 6 S.T.B. at 589. However, the SFRR is designed to transport a broader range of commodities than typically is the case in proceedings wherein the reasonableness of utility coal rates are at issue.

Approximately 61.6% of the SFRR's base year (2008) tons are coal, most of which moves in unit train and trainload service. Additionally, the SFRR will transport eight (8) commodities in intermodal container service (5.1% of 2008 base tonnage), principally in intact trainloads, and sixteen (16)[9] commodities in general freight service (33.3% of 2008 base tons), moving in homogenous and mixed trainloads. Base year traffic volumes are determined by reference to actual CSXT records produced in discovery, and consist of 74.3 million tons of coal and

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[9] Six (6) of the eight (8) intermodal commodities also are handled by the SFRR in general freight trains.

petcoke, 6.1 million tons of intermodal freight, and 40.2 million tons of general freight. *See* Part III-A-1.

Future SFRR coal volumes are projected using CSXT's 2009 internal forecast, which was produced in discovery, for 2009-2013 (the period covered by the forecast), grouped on an Energy Information Administration ("EIA") production region basis in order to account for the propensity of the Eastern coal shippers in the SFRR traffic group to shift origins from year to year. *See CP&L* at 14. Over the remainder of the DCF period (2014 to 2018), projections are based on EIA's 2009 Annual Energy Outlook April Update Forecast ("2009 AEO"), subject to a maximum individual destination volume cap for utility shippers equal to the greater of the minimum volume commitment in any applicable contract, or a volume level that equates to an 85% generation unit capacity factor.[10] Coal volumes for the issue traffic are based on SECI's own internal long-term delivery forecast, prepared in the ordinary course of business. *See* Part III-A- 2.

Projected future volumes of SFRR intermodal traffic are based on CSXT's own 2009 Intermodal Forecast for the 2009-2013 period, with movements grouped on an origin-destination pair basis. For 2014-2018, volumes are adjusted using the average annual growth rate indicated by the 2009 Intermodal Forecast, consistent with CSXT's own public statements regarding sustained rail freight

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[10] This approach is consistent with established Board precedent. *See WFA/Basin* at 27-28; *TMPA*, 6 S.T.B. at 599.

traffic growth. General freight volumes for 2009-2013 and 2014-2018 are determined in the same manner using CSXT's 2009 Carload Forecast, with commodities grouped by business unit for the first six (6) months of 2009 and an origin-destination/commodity (2 digit STCC) basis for the remainder of the DCF period.

The "peak year" volumes for the SFRR are shown in Table III-A-3.

2. **Stand-Alone Revenue**

The base year revenues for the SFRR are calculated separately for each of the three general traffic categories (coal, intermodal and general freight) in accordance with governing precedent for each of the three types of movements taking place: single-line (local) traffic; joint line movements with carriers other than CSXT; and so-called "cross-over" traffic; *i.e.*, traffic that in actuality moves over a longer segment of the CSXT system than its length of haul over the SFRR would be.

SFRR revenues attributable to SECI's coal traffic to SGS are calculated based on the rates established in the issue Tariff CSXT-32531. SFRR revenues for other single-line shippers are derived from CSXT revenue data produced in discovery. *See* Part III-A-3. For interline traffic where the SFRR would replace CSXT for the entire length of CSXT's current haul, it is assumed that the revenues earned by SFRR are the same as CSXT's actual revenues from the same traffic.[11] *See FMC*, 4 S.T.B. at 725. These also are derived from the CSXT revenue data produced in discovery.

The calculation of SFRR revenues from cross-over traffic is accomplished using the ATC methodology adopted by the Board in *Major Issues*, as subsequently modified and applied in *WFA/Basin II* and *AEP Texas*. A detailed description of SECI's execution of the ATC formula in this case is set forth in Part III-A-3.

Certain intermodal and general freight trains that are handled by the SFRR in cross-over service include traffic that is not part of the SFRR traffic group. The SFRR transports this traffic, and SECI includes the costs associated with the subject carloads in the calculation of operating expenses for the SFRR. In lieu of a revenue division, however, the SFRR receives a cost credit for transporting non-SFRR carloads, determined using the same agreed-upon approach employed by CSXT and CSXI where carloads belonging to one party are handled in the other party's train (*e.g.*, CSXI trailer units included in a CSXT general freight train). The cost credit formula is described in Part III-A-3-d.

Future revenues for the SFRR are projected using methods consistent with Board precedent and past practice, as reasonably applied in light of the data produced by CSXT in discovery. *See TMPA*, 6 S.T.B. at 601; *Wisconsin P&L*, 5 S.T.B. at 977-978.

[11] For this purpose, CSXT's revenues are assumed to include the revenues of its intermodal affiliate, CSXI.

Revenues from SFRR coal movements covered by contracts are projected based on the rate adjustment provisions of the contracts, using publicly available forecasts of the index or mix of indices specified, through the end of the contract term. For contracts expiring prior to 2014, the CSXT 2009 Forecast is used through 2013, and the 2009 AEO from 2014 through 2018. Movements under contracts expiring between 2014 and 2018 follow the contract adjustment terms through expiration, after which revenues are forecast based on the 2009 AEO. *See* Part III-A-3-e.

Revenues from coal moving in common carriage (other than the SGS traffic) are projected using the CSXT 2009 Forecast for the period 2009-2013, and the 2009 AEO for the period 2014-018. Tariff CSXT-32531 provides that rates on coal moving to SGS adjust quarterly, based on changes in the RCAFU. Therefore, SFRR revenues from the subject traffic are projected based on Global Insight's RCAFU forecasts.

For SFRR contract movements that are subject to fuel surcharges, surcharge revenue is calculated separate from transportation revenue, based on the terms of each contract and EIA's forecasts of future changes in diesel fuel and crude oil prices (as applicable). Following expiration of a contract, it is assumed that CSXT's On-Highway Diesel Fuel ("HDF")-based surcharge set out in Tariff 8661-B will apply. The CSXT HDF program also is applied to all non-contract coal movements, with the exception of the subject traffic. As provided in Tariff CSXT-32531, coal moving to SGS is not subject to a fuel surcharge.

Future SFRR revenues from intermodal and general freight traffic are calculated in a similar manner. For movements covered by contracts, revenues before fuel surcharges are forecast based on the provisions of the contracts through expiration, and on the CSXT Forecasts[12] thereafter. Because there are no intermodal or general freight counterparts to the rate forecasts included in the 2009 AEO, however, intermodal and general freight revenues for the 2014-2018 period from traffic not under contract are projected based on the 2012-2013 rate of change in the CSXT Forecast, *See* Part III-A-3-e-iv and v.

Fuel surcharge revenues for intermodal traffic are projected based on contract terms (where applicable) and the surcharge terms published on CSXI.com, adjusted forward through 2018 using the EIA HDF forecast. Fuel surcharges on general freight traffic are calculated based on the terms of applicable contracts and the EIA forecasts of HDF prices through 2018.[13] *See* Part III-A-3-e-iv.

For all mileage-based surcharges (coal, intermodal and general freight), the actual miles traversed on the SFRR are used in the calculation.

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[12] The 2009 CSXT Forecast contains separate revenue projections for intermodal container traffic and carload traffic, which were applied accordingly. *See* e-workpaper "CSXT Carload Forecast Jan 2009.xls."

[13] CSXT's general fuel surcharge tariff CSXT-8661-B calculates the surcharge based on HDF price levels.

3. The SFRR System

The SFRR system configuration and operating plan are described in detail in Parts III-A, III-B and III-C. As shown, the SFRR route is comprised of two divisions, generally laid out in a wishbone form. As depicted on Exhibit III-B-1, the West Division extends from Princeton, IN to Bostwick, FL (the location of SGS), and replicates portions of CSXT's existing Nashville, Atlanta and Jacksonville Divisions. The East Division starts in northeastern West Virginia, and replicates parts of CSXT's Huntington East, Baltimore, Florence and Jacksonville Divisions en route to Folkston, GA, where it connects with the West Division. The East Division also includes some of the former MGA lines over which CSXT now has joint access with NS. *See* Part III-B-1-a.

The SFRR route system includes ten (10) branch lines, which serve origin coal mines, power plants and other final destinations, water/rail transfer terminals and interchange points with other rail carriers (including CSXT). Three (3) of these branch lines are on the West Division, and are designated as the Morganfield, Paradise and Stilesboro Branches. The remaining seven (7) – the Robinson Run, Dahlgren, Richmond, Roanoke Rapids, Stone, Cross and Charleston Branches – are located on the East Division.

The configuration of the SFRR includes the "internal" re-routing of certain trains moving between pairs of points at two places along the system. Specifically, all SFRR trains moving between Nashville, TN and Manchester, GA will be routed via Chattanooga, TN and Atlanta, GA, instead of the trains being split between that route and an alternate route via Birmingham and Talladega, AL, as occurs on CSXT. Likewise, all trains moving between Waycross and Jessup, GA will be routed by the SFRR via Folkston and Nahunta, GA, rather than using the current CSXT route between those points. In each case, the re-routes enable the SFRR to avoid the construction and operation of multiple, duplicative line segments to serve the same points on its system. *See* Part III-C-3-a.

Consistent with the re-routing principles applied by the Board in, *e.g.*, *TMPA* and *Duke/NS*, SECI's evidentiary presentation demonstrates that "the combined operations of the SARR and the residual carrier would be at least as efficient as the existing operations." *Duke/NS* at 26. The evidence shows that CSXT itself uses the Nashville-Chattanooga-Atlanta-Manchester route, which also is 39 miles shorter than the alternate route via Birmingham and Talladega. These facts make the first internal SFRR re-route presumptively valid. *See* Part III-C-3-a-i. While the second re-route (Waycross-Folkston-Jessup) adds about 49 miles to the total distance traveled by the affected trains, the SFRR adds infrastructure to the existing CSXT facilities to promote more efficient operations, and the RTC Model simulation[14] of the SFRR's peak operations shows transit times for the re-routed trains that are at least equal to (if not faster than) those experienced by CSXT in 2008. *Id.* at III-C-a-ii. Additionally, the re-route has no effect whatsoever on the residual CSXT; it will receive interline traffic from the SFRR at

[14] As discussed in Part III-B, the RTC Model has been endorsed by the Board as a preferred modeling tool to test the reasonableness of a proposed SARR layout and operating plan. *See, e.g., WFA/Basin* at 15; *PSCo/Xcel* at 27.

a point along the "real world" route of movement. There will be no "ramifications of requiring the residual carrier to alter its handling of the traffic. . . ." *Duke/NS* at 26. *See also Coal Rate Guidelines* 1 I.C.C. 2d at 543-544.

4. **Operating Costs**

The operating plan and associated base year costs for the SFRR are described in detail in Parts III-C and III-D.

The SFRR operating plan reflects the efficiencies that are available to a system with a base year traffic volume of 121 million tons and a peak year volume of 122.3 million tons. All trains moving overhead on the SFRR are transported intact, including general freight and intermodal trains that when received by the SFRR contain cars that are not part of the SFRR's selected traffic group. The SFRR moves these cars through to the appropriate off-line junction, thereby avoiding the need for intermediate classification switching (which the SFRR does not perform anywhere on its system), and avoiding the imposition of additional switching costs on connecting carriers.[15]

As discussed further in Parts III-B and III-C, the SFRR's main lines consist primarily of a single main track, with sections of second main track at appropriate intervals to allow trains to pass. All main track and passing sidings that handle 20 million or more gross tons per year consist of new 136-pound continuous welded rail. Segments that handle less than 20 million gross tons per

[15] The handling of these cars for purposes of SFRR revenues is discussed at I-24, *supra*, and Part III-A-3-d.

year are equipped with new 115-pound rail. The SFRR also operates ten (10) branch lines (described *supra*), as well as origin and destination spur tracks, tracks for helper locomotives, set-out tracks for bad-order cars, and equipment and car storage tracks, all of which are right-sized to meet the specific needs of the customers in the SFRR traffic group.

Because the SFRR performs no classification switching, its yard requirements basically are limited to the capacity needed for train staging, inspections and 1000/1500 mile FRA car inspections and 92-day FRA locomotive inspections. The SFRR has a total of four (4) yards, two (2) on the West Division and two (2) on the East Division. The West Division yards are at Nashville and Folkston, the site of the SFRR's headquarters. The East Division yards are at Newell, PA and Petersburg, VA. *See* Part III-B-3.

While the diversity of the SFRR traffic group and resulting complexity of its operations differ from those of the stand-alone systems at issue in the most recent cases under the *Coal Rate Guidelines*, as compared to the entire CSXT system the SFRR still is designed to serve a relatively limited traffic group dominated by unit train and intact trainload movements. As such, its configuration, train speeds and transit times, and staffing and other requirements are significantly different from those of the real-world CSXT. The principal differences are (a) a track configuration that is designed to meet the needs of a specific and pre-determined traffic group; (b) yards that do not have to accommodate classification and car storage functions; and (c) staffing levels, particularly as regards general and administrative personnel, that are set to reflect the specific operational and other needs of the SFRR traffic group served by a railroad that will not be soliciting traffic from new customers. *See, e.g., TMPA,* 6 S.T.B. at 606-607; Part III-D-3. To be sure, the SFRR will replicate many of the functions and services performed today by CSXT and CSXI, much as it will many elements of the existing CSXT rail infrastructure. Those functions and services, however, properly are matched to the subset of CSXT's overall traffic profile that the SFRR has been designed to serve.

The SFRR operating plan and related, required facilities and service functions were developed by SECI's expert witness Paul Reistrup, former President of Amtrak and the MGA, and a former CSXT Vice President, with assistance from Walter Schuchmann of R.L. Banks & Associates. While the SFRR operating plan contemplates more efficient operations than CSXT currently experiences, there are no meaningful changes in the manner in which individual shippers are served as compared to the present day. *See* Part III-C-3; *compare Duke/NS* at 32-33. The viability of the SFRR plan was tested and verified through use of the Board-approved RTC Model. *See* Part III-C-2-a.

Base period operating costs for the SFRR have been developed by SECI expert witnesses Thomas Crowley and Philip Burris, using actual cost data produced by CSXT in discovery and actual costs incurred by other railroads for comparable functions and services, along with documented data accumulated by witnesses Reistrup and Schuchmann. The costs and related functions are detailed in Part III-D, and in the workpapers supporting that Part.

Base year operating costs for the SFRR are adjusted forward over the 10-year DCF period based on Global Insight's forecasts of expected changes in the RCAFA and the RCAFU, combined using the phase-in approach prescribed by the Board in *Major Issues* at 42-46.

5. **Road Property Investment Costs**

Part III-F describes and documents in detail how the SFRR is designed and will be constructed in accordance with governing standards of the American Railway Engineering and Maintenance-of-Way Association for track, roadbed, bridge, culvert and other requirements,[16] and consistent with determinations made by the Board in recent cases addressing construction parameters and costs for stand-alone rail systems. *See, e.g.*, *WFA/Basin* at 77-133. Specific grading and other design characteristics have been derived from CSXT data regarding existing lines that was produced in discovery, as well as direct observation and evaluation of the geography, terrain, topography and general conditions of the SFRR route.[17] Design parameters for elements such as roadbed

[16] *See TMPA*, 6 S.T.B. at 708-715; *Wisconsin P&L*, 5 S.T.B. at 1025-1030.

[17] As detailed in the introduction to Part III-F, the route of the SFRR differs significantly from that of the SARR at issue in the last proceeding before the Board wherein the reasonableness of CSXT's coal rates was in issue (*Duke/CSXT*). In that case, much of the stand-alone system traversed mountainous terrain in Appalachia, eastern Kentucky and western North Carolina. By contrast, the SFRR predominantly traverses relatively level terrain in areas such as South Carolina, southern Georgia and Florida. In many relevant respects, most of the

width, side slope measurements and other features are based on Board-approved parameters from previous cases. *See, e.g., AEP Texas* at 79-80; *PSCo/Xcel* at 90-92; *TMPA,* 6 S.T.B. at 700-708; *Duke/CSXT* at 76.

The evidence submitted in Part III-F and accompanying Exhibits and workpapers documents SECI's calculations of material and construction costs, including design, engineering and contingencies. Total construction costs for the roughly 2,092 constructed route-miles that comprise the SFRR system, including associated land acquisition costs, are $6.322 billion, or approximately $3.02 million per route-mile. *See* Part III-F at III-F-3.

Also consistent with Board precedent, SECI projects a 30-month time period for design and construction of the SFRR, based upon the time needed to construct the longest tunnel on the system (the most time-consuming single component). This estimate reasonably employs the principles of unconstrained resources and simultaneous construction of different segments of the SFRR system that spring from the entry-barrier free principle that is among the core components of CMP. *See, e.g., CP&L* at 11; *Coal Trading Corp. v. The Baltimore & Ohio Railroad Company, et al.,* 6 I.C.C. 2d 361, 413 (1990); *West Texas Utilities,* 1 S.T.B. at 668-669; *Coal Rate Guidelines,* 1 I.C.C. 2d at 529-530.

The same principles apply with respect to such items as utility protection, road detours, environmental regulations compliance, and other such

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SFRR's territory more closely resembles the SARR territories in cases such as *AEP Texas* than the territories examined in the so-called "Eastern Cases." *See* Part III-F-2 at III-F-10-11.

features. Where records or data produced in discovery do not show any expenditures by CSXT or its predecessors when these facilities first were installed, the related costs have been excluded from construction costs for the SFRR as well. *See AEP Texas* at 83; *PSCo/Xcel* at 101; *Duke/CSXT* at 84. However, where there is evidence that CSXT or one of its predecessors incurred the expense – or the age of the facility or line segment indicates that such an expenditure was likely – SECI includes the appropriate cost in its analysis. *See* Part III-F-8.

As detailed in Part III-F-1, the SFRR will require a total of 25,382 acres of land based upon an average right-of-way width of 100 feet in rural areas and 75 feet in cities and large towns, and the real estate requirements for the SFRR yards, buildings, service roads and other auxiliary facilities described in Parts III-C and III-F. Real estate costs are based on direct appraisals performed by SECI's expert, Stuart A. Smith, using the methodology described in Part III-F-1. Consistent with the principle of barrier-free entry cited *supra*, there are no assemblage factors incorporated in the SFRR's real estate costs, as there is no evidence that CSXT's predecessors were burdened by assemblage when they acquired the rights-of-way and contiguous land for their own parallel line segments. *See West Texas Utilities*, 1 S.T.B. at 670-671.

6. <u>Application of the DCF Model</u>

Part III-G outlines the DCF methodology applied by SECI in calculating SAC and the maximum SAC rates, which is consistent with that adopted in *Coal Rate Guidelines,* as subsequently modified in *Major Issues*, and as most recently applied in *WFA/Basin* and *AEP Texas*.

SECI's execution of the DCF Model includes the following elements:

a. Debt and equity cost for the SFRR over its construction period (2006-2008) are based on the Board's annual cost of capital determinations.[18] The average of available annual costs of capital figures from 2006 forward is used to project future returns for DCF purposes. *See* Part III-G-1.

b. The use of inflation indices compiled by the AAR appropriate to various road property components of the SFRR (Part III-G-2), and the "hybrid" RCAFU/RCAFA approach adopted by the Board in *Major Issues* to index the SFRR's operating expenses. *See* Part III-G-2.

c. A determination of federal and state tax liability consistent with the Board's approach in prior coal rate proceedings,[19] and taking account of recent federal economic stimulus legislation. *See* Part III-G-3; Part III-H-1-f.

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[18] For 2008, SECI conservatively employs the cost of capital calculations proposed by the AAR. *See* Part III-G-1.

[19] *West Texas Utilities*, 1 S.T.B. at 714.

d. The use of economic depreciation to determine the value of the SFRR assets at the end of the DCF period (*See* Exhibit III-H-1).

e. The use of a "time-based" capital recovery approach, as applied in *TMPA, Duke/NS* and *CP&L. See* Part III-G-4.

f. The distribution of total excess stand-alone revenues over stand-alone costs in each year of the DCF Model – and thus, the determination of the annual measure of rate relief to which SECI is entitled – using the Maximum Mark-Up Methodology adopted by the Board in *Major Issues* and most recently applied in *WFA/Basin II,* with variable costs forecast in accordance with the Board's recent decision in *OG&E. See* Part III-H-2.

D. RATE RELIEF AND DAMAGES

Based upon the evidence presented herein, the Board should find that CSXT possesses market dominance over the transportation of coal and petcoke from the origins designated in Tariff CSXT-32531 to SGS, in accordance with 49 U.S.C. §10707. the Board further should find that the rates set forth in Tariff CSXT-32531, as applied to the SGS traffic, exceed maximum reasonable levels as determined under the SAC constraint of the *Coal Rate Guidelines*, and therefore are unlawful under 49 U.S.C. §10701(d).

1. **Prescription of Maximum Rates**

In accordance with the provisions of 49 U.S.C. §10704(a), SECI is entitled to a Board order prescribing the maximum rates that lawfully may be charged by CSXT to transport coal and petcoke to SGS. As detailed in Table III-H-3, the maximum rates that should be prescribed for the first two quarters of 2009 are as follows:

Origin	Quarter	Max. Rate Private Cars	Max. Rate Carrier Cars
Dotiki, KY	1Q09	$ 17.45	$18.25
	2Q09	$17.45	$18.25
Pattiki, IL	1Q09	$18.66	$19.51
	2Q09	$18.66	$19.51
Warrior, KY	1Q09	$17.17	$17.96
	2Q09	$17.17	$17.96
Elk Creek, KY	1Q09	$17.14	$17.94
	2Q09	$17.16	$17.94
Gibcoal, IN	1Q09	$18.58	$19.41
	2Q09	$18.58	$19.41
Charleston, SC	1Q09	$7.00	$7.43
	2Q09	$7.00	$7.43
Consol 95, WV	1Q09	$22.72	$23.70
	2Q09	$22.72	$23.70
Bailey Mine, PA	1Q09	$24.18	$25.22
	2Q09	$24.19	$25.22

The corresponding maximum reasonable rates (expressed as r/vc ratios) that should be prescribed for the remainder of the DCF period are set out in Exhibit III-H-2.

2. Award of Damages

Since January 1, 2009, SECI has paid CSXT freight charges for coal transportation service to SGS at tariff rates significantly higher than the lawful maxima summarized in the previous table. Pursuant to 49 U.S.C. §11704(b), upon conclusion of this proceeding SECI will be entitled to an award of damages sustained as a consequence of CSXT's violation of 49 U.S.C. §10701(d).

Traditionally, damages awards in coal rate proceedings have consisted of reparations in a principal amount equal to the difference between the charges actually paid and recalculated charges based on the maximum reasonable rates, together with interest from the first date of payment of the unlawful charges, computed in accordance with 49 C.F.R. Part 1141.[20] If followed in this case, however, such an approach would provide CSXT with an improper financial windfall, and create an incentive for CSXT (and other railroads) to set unreasonably high rates on captive traffic without regard to regulatory action by the Board. As discussed below, a modification of the Board's typical damages formula in this proceeding is required.

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[20] The regulation prescribes an interest rate based on the coupon equivalent yield of 91-day U.S. Treasury bills.

The Board's approach to awards of damages under Section 11704(b) includes what amounts to pre-judgment interest, which the federal courts long have acknowledged is an element of "complete compensation" for economic harm. *In re: Oil Spill by the Amoco Cadiz Off the Coast of France on March 16, 1978*, 954 F.2d 1279, 1331 (7th Cir. 1992) ("*Amoco Cadiz*") (*quoting West Virginia v. United States*, 479 U.S. 305, 310 (1987)). Prejudgment interest is intended to promote fairness and efficiency, and so should be set to ensure both that the successful plaintiff is fully compensated, and that the losing defendant is not unjustly enriched. Michael S. Knoll, *A Primer on Prejudgment Interest*, 75 Tex. L. Rev. 293, 296 (Dec. 1996). In a case calling for reimbursement of unlawful overpayments, these principles at a minimum require a reasonable correlation between the selected rate of interest and the actual time value of the overpayments.

As noted *supra*, the Board's regulations reference interest on reparations at a rate equal to the coupon yield on 91-day Treasury bills. For the 2008 calendar year, the average of that rate was 1.2%.[21] Rates in 2009 have been even lower, approaching zero in certain time periods. An award with interest limited to this rate would allow CSXT to reap an improper windfall from the establishment of unreasonable rates for coal service to SGS, and would create a risk-free incentive for CSXT or any market dominant railroad to set captive rates

[21] *See* e-workpaper "2008 91-day T-Bill Yield.xls."

at exorbitant levels in the future. While data for 2009 is not available, CSXT's 2008 weighted average cost of capital was 11.99%, and its return on investment was 9.39%. Whether SECI's payments are viewed as a "coerced loan,"[22] reducing CSXT's capital requirements, or a cash infusion available for use by CSXT to support rail operations (and, thus, its return on investment), if CSXT is required simply to repay the principal amount with interest at only a fraction of the rate of the retention benefit to CSXT, the carrier improperly would be allowed to profit from its own wrongdoing. *See Amoco Cadiz,* 954 F.2d at 1332. Such an outcome also would raise an incentive that plainly runs against the public interest. If a market dominant railroad reliably can use unreasonable rate increases as a source of cheap capital, the prospect of regulation by the Board would have no deterrent effect on the carrier's pricing. Indeed, through some fairly elementary calculations comparing expected returns and interest rate forecasts, a carrier could render itself indifferent to the cost of defending virtually any rate level that it chose to establish.

To provide SECI with complete compensation and at least minimize the windfall and perverse incentive described above, the Board should award damages based on the difference between the charges paid by SECI under Tariff CSXT-32531 between January 1, 2009 and the date of CSXT's compliance with the Board's prescription order, and the charges that SECI would have paid had the

[22] *See,* Manuel A. Abdala, *Key Damage Compensation Issues in Oil & Gas Int'l. Arbitration Cases*, 24 Am. U. Int'l. L. Rev. 539, 564 (2009).

maximum reasonable rates as shown herein been in effect and applicable, plus interest equal to CSXT's average return on investment during each covered quarter,[23] calculated in accordance with 49 C.F.R. Part 1141.1(b).

Respectfully submitted,

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[23] The Board has the power to depart from the provisions of 49 C.F.R. Part 1114.1(a) in this proceeding, so long as it presents a "reasoned analysis" supporting the action. *See Association of American Railroads v. ICC*, 978 F.2d 737, 740 (D.C. Cir. 1992). *See also, CSX Transportation, Inc. (Reinstatement of Contracts & Contract Summaries)* 1995 WL 111496 (ICC served March 17, 1995).

<u>CERTIFICATE OF SERVICE</u>

I hereby certify that on this 31st day of August, 2009, I caused copies of SECI's Opening Evidence, including the Narrative, Exhibits and electronic workpapers, to be served by hand-delivery on counsel for Defendant CSX Transportation, Inc., as follows:

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Daniel M. Jaffe

II Market Dominance

BEFORE THE
SURFACE TRANSPORTATION BOARD

SEMINOLE ELECTRIC COOPERATIVE, INC.	)	
Complainant,	)	
v.	)	**Docket No. 42110**
CSX TRANSPORTATION, INC.	)	
Defendant.	)	

PART II

MARKET DOMINANCE

II. A. QUANTITATIVE EVIDENCE

49 U.S.C. § 10707(d)(1) defines the quantitative element of the market dominance test as a showing that the revenues produced by the rail movements at issue are at least 180% of the respective variable costs of providing the related transportation service for each of those movements. In this Part II.A, Seminole Electric Cooperative, Inc. ("SECI") demonstrates that the quantitative threshold is met with respect to each of the rates under scrutiny in this proceeding.

Under current rules, the CSXT-32531 tariff rates at issue are compared to the variable costs for the corresponding movements, calculated on an unadjusted system average basis using the Board's Uniform Rail Costing System (URCS) Phase III program, and nine (9) specific traffic and operating inputs for each movement: (1) the railroad; (2) loaded miles (including loop track miles); (3) shipment type (originated and terminated or "local," originated and delivered, received and delivered or "bridge," and received and terminated); (4) freight cars per train; (5) tons per car; (6) commodity, (7) type of movement (single car, multiple car or unit train); (8) car ownership (railroad or private); and (9) type of car. *See KCP&L* at 5-6; *Major Issues* at 60. The variable costs and resulting revenue to variable cost (r/vc) ratios presented by SECI in this Part were calculated in accordance with these guidelines.

1. <u>Traffic and Operating Characteristics</u>

As directed by the Board in the procedural schedule governing this case, SECI and CSXT conferred and agreed upon most of the traffic and operating characteristics for the coal movements to which the challenged rates apply. Tariff CSXT-32531 covers shipments in both railroad-supplied and SECI-supplied railcars, and specifies different rates for each category of ownership. The traffic and operating parameters used by SECI in its calculation of variable costs for the subject traffic are as follows:

Table II-A-1

Summary of Traffic & Operating Parameters

Movement Parameters	Dotiki, KY	Pattiki, Il[1] (Epworth)	Warrior, Ky (Cardinal 9)	Elk Creek, KY (Cimarron)	Gibcoal, IN	Charleston, SC	Consol 95, WV (Robinson Run)	Bailey Mine, Pa[2]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Railroad	CSXT	CSXT	CSXT	CSXT	CSXT	CSXT	CSXT	CSXT
2. Miles	847.1	904.3	834.3	826.4	958.9	316 7	1,113.8	1,188.4
3. Shipment Type	Local	Local	Local	Local	Local	Local	Local	Local
4. Cars per Train	98.6	97 7	99.5	99.6	98.6	98.6	98 6	98.6
5. Car Type	Rotary Gondola	Rotary Gondola	Rotary Gondola	Rotary Gondola	Rotary Gondola	Rotary Gondola	Rotary Gondola	Rotary Gondola
6. Car Ownership	Private or Railroad	Private or Railroad	Private or Railroad	Private or Railroad	Private or Railroad	Private or Railroad	Private or Railroad	Private or Railroad
7. Tons per Car	119.6	118.3	120.4	119 4	119.5	119.5	119.5	119 5
8. Commodity	Coal	Coal	Coal	Coal	Coal	Coal	Coal	Coal
9. Movement Type	Unit Train	Unit Train	Unit Train	Unit Train	Unit Train	Unit Train	Unit Train	Unit Train

2. Variable Costs

Exhibits II-A-1 and II-A-2 show the calculation of variable costs for movements from each of the origins at issue to SGS based upon CSXT's 2008 URCS unit costs sponsored by SECI's witness Crowley, and indexed to First Quarter 2009 (1Q09) and Second Quarter 2009 (2Q09) wage and price levels,

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[1] Coal originating at Epworth, IL is handled by the EVWR for the first 34.5 miles. EVWR is a wholly-owned subsidiary of Four Rivers Transportation, Inc., which in turn is majority owned by CSXT. The annual expenses and operating statistics for the EVWR are included in CSXT's Annual Report Form R-1. Therefore, SECI has designated this movement as a local movement. CSXT has not stipulated to this designation.

[2] Coal originating at Bailey Mine, PA is handled by crews employed by NS for the first 43 miles, running on NS-controlled track but using CSXT locomotives. For purposes of variable cost calculations, the parties have stipulated that this is a local CSXT movement.

respectively, using the Board's established procedure for updating variable costs.[3] All variable costs are calculated on a system average basis, with no adjustments other than those set forth in *Review of the General Purpose Costing System*, 2 S.T.B. 659 (1997) and endorsed in *Major Issues*. *See KCP&L* at 7-8. At 2Q09 levels, the relevant variable cost and resulting r/vc ratios for purposes of establishing Board jurisdiction over this matter are as follows:

[3] The methodology employed is the Interstate Commerce Commission's IE3-80 procedure, supplemented in accordance with *Complaints Filed Under Section 229 of the Staggers Rail Act of 1980*, ICC Ex Parte No. 411.

Table II-A-2

Variable Cost and Revenue/Variable Cost Ratios (Private Railcars)

Item	Dotiki, KY	Pattiki, IL (Epworth)	Warrior, KY (Cardinal 9)	Elk Creek, KY (Cimarron)	Gibcoal, IN	Charleston, SC (Coal)	Charleston, SC (Pet Coke)	Consol 95, WV (Robinson Run)	Bailey Mine, Pa
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1Q09									
1 Phase III Cost Base Year 2007	$12 47	$13.33	$12.27	$12.25	$13.27	$5.01	$5.02	$16.23	$17.28
2 Index to 1Q09	0.91121	0 91121	0.91121	0.91121	0.91121	0.91121	0.91121	0.91121	0.91121
3. Phase III Cost 1Q09 (L1xL2)	$11.36	$12.15	$11.18	$11.16	$12.10	$4.56	$4.58	$14.79	$15.74
4. Jurisdictional Threshold (L3x1.80)	$20.45	$21.87	$20.12	$20.09	$21.78	$8.21	$8.24	$26.62	$28.33
5. Tariff CSXT-32531 Rate (1Q09)	$40.39	$42.78	$40.43	$40.42	$43.49	$28.01	$28.01	$47.98	$49.80
6. Tariff r/vc ratio (1Q09)	3.56	3.52	3.62	3.62	3.59	6.14	6.12	3.24	3.16
2Q09									
7. Index to 2Q09	0.91135	0.91135	0.91135	0.91135	0.91135	0.91135	0.91135	0.91135	0.91135
8. Phase III Cost Index to 2Q09 (L1xL7)	$11.36	$12.15	$11.18	$11.17	$12.10	$4.56	$4.58	$14.79	$15 75
9. Jurisdictional Threshold (L8x1.80)	$20.45	$21.87	$20.12	$20.11	$21.78	$8.21	$8.24	$26.62	$28.35
10. Tariff CSXT-32531 Rate (2Q09)	$40.39	$42.78	$40.43	$40 42	$43.49	$28.01	$28.01	$47.98	$49.80
11. Tariff r/vc ratio (2Q09)	3.56	3.52	3.62	3.62	3.59	6.14	6.12	3.24	3.16

Table II-A-2

Variable Cost and Revenue/Variable Cost Ratios (Carrier Railcars)

Item	Dotiki, KY	Pattiki, IL (Epworth)	Warrior, KY (Cardinal 9)	Elk Creek, KY (Cimarron)	Gibcoal, IN	Charleston, SC (Coal)	Charleston, SC (Pet Coke)	Consol 95, WV (Robinson Run)	Bailey Mine, Pa
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1Q09									
1. Phase III Cost Base Year 2007	$13.04	$13.94	$12.82	$12.81	$13.87	$5.31	$5.32	$16.93	$18.02
2. Index to 1Q09	0.91121	0.91121	0.91121	0.91121	0.91121	0.91121	0.91121	0.91121	0.91121
3. Phase III Cost 1Q09 (L1xL2)	$11.88	$12.70	$11.69	$11.68	$12.64	$4.84	$4.85	$15.43	$16.42
4. Jurisdictional Threshold (L3x1.80)	$21.38	$22.86	$21.04	$21.02	$22.75	$8.71	$8.73	$27.77	$29.56
5. Tariff CSXT-32531 Rate (1Q09)	$41.68	$44.18	$41.68	$41.68	$44.93	$24.48	$28.48	$49.71	$51.66
6. Tariff r/vc ratio (1Q09)	3.51	3.48	3.57	3.57	3.55	5.88	5.87	3.22	3.15
2Q09									
7. Index to 2Q09	0.91135	0.91135	0.91135	0.91135	0.91135	0.91135	0.91135	0.91135	0.91135
8. Phase III Cost Index to 2Q09 (L1xL7)	$11.88	$12.70	$11.69	$11.68	$12.64	$4.84	$4.85	$15.43	$16.42
9. Jurisdictional Threshold (L8x1.80)	$21.38	$22.86	$21.04	$21.02	$22.75	$8.71	$8.73	$27.77	$29.56
10. Tariff CSXT-32531 Rate (2Q09)	$41.68	$44.18	$41.68	$41.68	$44.93	$28.48	$28.48	$49.71	$51.66
11. Tariff r/vc ratio (2Q09)	3.51	3.48	3.57	3.57	3.55	5.88	5.87	3.22	3.15

When compared with CSXT's common carrier rate levels, the CSXT variable costs produce r/vc ratios that range between 316% and 614% for movements in SECI-supplied railcars, and between 315% and 588% for movements in CSXT-supplied railcars. The r/vc ratios for all movement at issue substantially exceed the jurisdictional threshold.

II. B. QUALITATIVE MARKET DOMINANCE

In this Part II-B, evidence is presented showing that CSXT faces no effective, feasible competition from other railroads or other modes of transportation with respect to the movement of coal to SGS that would act as a meaningful constraint on CSXT's pricing practices. As such, CSXT possesses qualitative market dominance over all of the traffic at issue.[4]

1. The Lack of Intramodal Competition

No rail carrier other than CSXT can deliver coal directly to SGS. The other major Eastern Class I coal-hauling railroad -- NS -- has lines that terminate approximately sixty (60) miles to the north in Jacksonville, which has prompted SECI over the years to investigate whether it would be economically and operationally feasible to somehow access NS service, and whether that hypothetical service could offer effective competition for CSXT. However, no realistic options to obtain such access were found to exist.

The construction of 60 miles of duplicative rail lines through central Florida was deemed patently infeasible, and was never considered. Instead, SECI's investigation focused on the possible construction of a 3.5 mile rail line or overhead conveyer system that could link SGS with private rail trackage at a nearby Georgia Pacific Corporation ("GP") plant in Palatka. An agreement between NS and CSXT granted the former limited trackage rights over the latter's

[4] The statements and evidence presented in Part II-B-1 and B-2 are sponsored by SECI's Director of Fuel Supply, William J. Reid. The evidence presented in Part II-B-3 is sponsored by SECI witness Crowley.

line between Jacksonville and the GP plant, which at least hypothetically raised the possibility of an alternative rail coal delivery system for SGS. However, the project was found to be unworkable and infeasible for at least three reasons, and was not pursued.

The first disqualifying feature was cost. A preliminary consultant's analysis completed early in 2002 estimated rail construction costs at approximately $25,000,000.00, but unrealistically assumed that the track could be built using at-grade crossings to traverse both the existing CSXT main line, and a busy highway (U.S. Highway 17). Constructing a bridge over U.S. 17 was estimated to add at least another $4,000,000.00 to the cost, and the only identified way to avoid an at-grade CSXT crossing involved installation of an overhead conveyor. This not only would this push the cost of construction to at least $36,000,000.00, but it would impact the habitat of a threatened and protected indigenous species (the Florida gopher tortoise), which had the potential of blocking the project altogether. As this was a preliminary analysis, numerous other serious issues related to permitting, environmental impact and traffic impacts were not even examined.[5] However, they only would add to the cost of any construction.

A later study was undertaken by Burns & McDonnell in 2005. This analysis concluded that the cost of rail access from the GP property -- solely from

[5] *See* e-workpapers "SECI-005525.pdf," "SECI-005681.pdf," "SECI-005686.pdf," "SECI-005501.pdf," and "SECI-005581.pdf."

a construction and equipment perspective -- would be between $68,500,000.00 and $76,300,00.00, depending upon the type of unloading equipment that was installed.[6] The estimate did not include costs associated with permitting and/or likely environmental impact mitigation, including impacts on wetlands and the gopher tortoise or other threatened species.[7]

The second impediment to the feasibility of construction from the GP facility was GP itself, and the limits on NS' trackage rights. The Burns & McDonnell report assumed a route and track layout that was unacceptable to GP, making it even less likely that the project could go forward even at the high cost estimated by the analysts. GP raised other objections to opening up its plant facilities to act as what amounted to a transfer point for coal destined for SGS, though discussions never progressed far enough to address the payments or other consideration that GP would extract in exchange for necessary rights to use its property. Additionally, SECI was advised that the trackage rights agreement between NS and CSXT limited NS to the movement of only one loaded and one empty train each day, meaning that any use for the benefit of other shippers (such as GP) would directly curtail NS' ability to serve SECI. Serious anticipated and adverse impacts on vehicular traffic using U.S. 17 also militated against further consideration of the project.

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[6] Design restrictions precluded a feasible connection to the existing unloading facilities at SGS.

[7] *See* e-workpaper "SECI-005503.pdf."

Finally, even if the cost and other impediments to pursuing alternative rail service from NS did not exist, the fact remained that NS could not and does not serve the coal origins to which SECI has been committed under a long-term contract for over two-thirds of its SGS requirements. SECI's contract with Alliance Coal, LLC (and its predecessors in interest), which runs at least through 2016, obligates SECI to purchase a total of at least 2,750,000 tons of coal annually from the Dotiki Mine in Western Kentucky and the Pattiki Mine in Southern Illinois.[8] Both mines are served exclusively by CSXT, and neither is reasonably accessible to any station on the NS system. Thus, even if SECI had the ability to create a feasible NS delivery option at SGS at a reasonable cost, at most it would have been able to threaten the diversion away from CSXT of less than a third of its annual coal shipments. Given that CSXT then could respond with rates on the larger remaining volume that recovered any erstwhile lost profits, such a threat would not act as an effective constraint on CSXT's pricing.

2. <u>The Lack of Intermodal Competition</u>

There is no effective, feasible form of intermodal competition available to SECI for shipments of coal to SGS. As shown in the preceding section, CSXT is the sole rail carrier which can deliver coal and petcoke to SGS. This section establishes that neither of the other two modes of transportation that are used in certain circumstances to handle such commodities -- inland barge

[8] *See* e-workpaper "SECI-001090.pdf."

service or motor carriage -- offer feasible alternatives for any meaningful portion of SECI's annual fuel requirements.

a. **Inland Barge Service**

The City of Palatka and SGS are geographically proximate to the St. Johns River, a navigable waterway that flows north[9] to Jacksonville, where it meets the Atlantic Ocean. Because of this, SECI in the past considered whether a portion of the annual fuel requirements for SGS could be diverted from rail to river barge delivery. SECI even commissioned an extensive study of the possibility of inland barge transportation of coal or petcoke to SGS, the preliminary results of which were included in a draft report received by SECI in October, 2003.[10] However, this study simply confirmed for SECI that CSXT rail service was the only practical option for the transportation of any substantial quantities of fuel to the station.

The first factor which disqualified barge service as a potential option was cost. To divert coal or petcoke shipments entirely away from CSXT, the fuel would have to be shipped by ocean vessel to the Port of Jacksonville, transloaded to barges for the approximately 70-mile trip down the St. Johns River to the Palatka area, then off-loaded and moved via conveyer or other means to the SGS coal yard. While the SECI study did find that transloading services might be

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[9] The St. Johns River is one of a few rivers in the United States that naturally flow in the northerly direction.

[10] *See* e-workpaper "SECI-004777.pdf."

available at Jacksonville, the unloading facility at Palatka would need to be constructed and the conveyer system to SGS installed. Capital costs alone were estimated at over $30 million in 2003, and on a per ton basis amortized capital costs and operating and maintenance expenses were estimated at between $6.59 and $25.22 per ton, depending upon annual volumes and the conveyer option selected.[11] When estimated vessel discharge and barge towing costs were added, the 2003 study estimated that SECI would pay at least $10.80 per ton just to move coal or petcoke from Jacksonville to SGS, and could pay over $30 per ton at lower annual volumes, even assuming no other impediments to the barge "option." However, there also were significant, additional impediments.

One such obstacle was (and is) fuel availability. Any hypothetical coal or petcoke that could be delivered via vessel to Jacksonville would have to come from foreign sources, such as South Africa or Venezuela.[12] Most of this fuel is significantly lower in sulfur than the coal for which SGS was designed -- and which is supplied by the rail-served origins to which the challenged CSXT rates apply. Low sulfur coal, even if used in a blend, also impairs SECI's ability to meet contractual commitments for the sale of combustion byproducts (*e.g.*,

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[11] The lower estimate assumed the movement of at least 1,300,000 tons per year, though there was no investigation or information concerning whether SECI actually could procure that quantity of suitable coal and petcoke from reliable foreign sources.

[12] To deliver U.S. source coal by vessel to Jacksonville would require an inland rail movement and a transload to vessel, which would have to be a U.S. flag vessel in order to comply with federal statutory requirements. The costs of such an operation were recognized as being so high that it was not investigated.

synthetic gypsum), and increases the need for landfill space to accommodate scrubber waste. The lowest cost estimates included in the 2003 study simply assumed that up to 1,300,000 tons of suitable fuel (about one-third of SGS' annual requirements) would be available each year from unidentified foreign sources. If it turned out that SECI could procure only half that amount, the lowest cost estimate for the barge "option" rose to over $15 per ton in 2003, *before* consideration of vessel transport costs.

Another identified impediment to inland barge service to SGS concerned the St. Johns River itself. In addition to considerable uncertainty regarding the adequacy of the river's channel draft from Jacksonville to Palatka, the study noted that the St. Johns River has been designated as an "American Heritage River," which meant enhanced state and local scrutiny of any activity that would alter the riverbank or affect recreational access and use (such as the installation of barge unloading and coal conveyor facilities). Additionally, permits would be required both from the U.S. Army Corps of Engineers (under Section 404 of the Clean Water Act) and from the Florida Department of Environmental Protection for any activities affecting air quality (*e.g.*, barge towing and conveyor operations), water quality (dredging, runoff and spillage) and submerged lands. Involvement by the U.S. Coast Guard (because the river is a navigable waterway) and a number of local landowners/residents, local associations and community groups also was assured. At every permitting stage, the potential for project disapproval or significant cost increases would be presented.

The high cost, permitting risks, environmental impacts and uncertainty as to sufficient fuel availability led SECI to conclude that inland barge service was not a feasible option for the transportation of coal or petcoke to SGS. Indeed, after reviewing the initial draft of the 2003 study, SECI made the decision to terminate further consideration of this hypothetical alternative, and did not commission a final report.

b. Motor Carriage

Any hypothetical motor carrier movement of coal or petcoke to SGS would have to begin at a point where the commodity feasibly could be transloaded from a vessel or a railroad other than CSXT[13] into trucks for further shipment. The location closest to SGS that even theoretically could accommodate such facilities is the Jacksonville Port area. There are no rail-truck transloading facilities suitable for coal or petcoke in place there at this time, and the barge-truck facilities that exist are used for aggregates and would have to expand their capacity substantially and obtain new environmental permits for coal and petcoke storage. By themselves, these facts rule out motor carriage as a feasible option. Even if the transload facilities were to materialize, however, trucking coal from Jacksonville to SGS would be foreclosed by a number of practical and logistical obstacles.

[13] As previously established, all sources of coal or petcoke suitable for use at SGS are located hundreds of miles away from the Palatka area, far too distant for motor carriage under any conceivable circumstances.

The distance between the Jacksonville Port and SGS is between 80 and 90 miles, depending on the route traveled. Assuming an ambitious average truck speed of 30 mph, given the type of truck and cargo involved, running time would be approximately six (6) hours. Conservatively assuming that staging, loading, unloading, weighing and refueling could be accomplished within a total of four (4) hours per trip, the total cycle time would be approximately ten (10) hours per truck. With a standard coal load per truck of 25 tons, Seminole would require 45 trucks running nonstop, 24 hours per day 7 days per week, to haul less than a third of its total annual solid fuel requirements (1,000,000 tons). If the operation was subjected to reasonable limits, such as a 12 hour day 5 days per week, Seminole would need more than 125 trucks to haul the same volume. Were Seminole to attempt to move its entire fuel requirements this way, it would need over 376 trucks to make the 10 hour 180 mile round-trip journey.

In addition to the logistical infeasibility of any meaningful diversion of solid fuel transportation to trucks, strong social barriers preclude resort to this "option." Depending on the route, SGS bound trucks would pass through as many as four counties and 15 cities, towns, and other communities. The high number of trucks that would have to continuously pass through population centers, taxing the roadways and bridges, undoubtedly would provoke community outrage. The dust and debris that is certain to result from the movement of 1,000,000 tons or more of coal each year over Florida's roadways -- even assuming reasonable preventative precautions -- would only increase the measure of community opposition.

Federal, state and local regulations, restrictions and other requirements also would combine to render coal/petcoke trucking impractical. At the federal level, for example, 30 C.F.R. Part 392.9 requires that a commercial motor vehicle driver ensure that the cargo is properly distributed before moving the vehicle. The regulation also requires the driver to inspect and secure the cargo after the first 50 miles of driving and again after three hours of driving. Compliance with this regulation would increase travel time to and from SGS, thereby increasing the total number of coal trucks required and the total cost of the operation. Similarly, pursuant to 49 C.F.R. Part 393.100, SECI's trucks would need to be loaded so as to "prevent the cargo from leaking, spilling, blowing or falling from the motor vehicle." Extra care would have to be taken in the loading process to ensure compliance with this regulation, thereby increasing the total trip time and, in all likelihood, the total cost.

At the state level, Florida's strict weight restrictions limit the tons per load that SGS-bound coal trucks could carry, resulting in an increased ton-per-truck ratio and increased expenses. Florida's weight restrictions differ and are dependent on various factors. For example, the restriction on dump-type trucks depends on how many axles a truck has and how wide its tires are, with a maximum gross weight of 70,000 pounds, a maximum per axle weight of 22,000 pounds, and a maximum tandem axle weight of 44,000 pounds. Fla. Stat. Ann. § 316.535 (2008). Florida's weight restriction on tractor-trailer type trucks also depends on how many axles a tractor-trailer has and the distance between the axles, with a maximum gross weight limitation of 80,000 pounds, a single axle maximum weight limitation of 22,000 pounds, and a tandem axle maximum weight limitation of 44,000 pounds. *Id.* Should the tractor-trailer's gross weight exceed 80,000 pounds, a special permit would be required to travel on public roads.[14]

SGS-bound coal or petcoke trucks also would have to meet Florida's secure load and tarpaulin requirements, as set forth in Fla. Stat. Ann. § 316.520(1) (2008). Section 316.520(1) prohibits commercial motor vehicles from being driven on any highway unless the vehicle is loaded so as "to prevent any of its load from dropping, shifting, leaking, blowing, or otherwise escaping therefrom." Section 316.520(2) requires that a tarpaulin or other close fitting cover secure the transport of "aggregate . . . that could fall or blow" from a truck. To comply with these statutes, SECI would have to take steps to ensure that the loads did not shift in transit, and that neither coal dust nor coal pieces escaped from the truck. SECI would have to cover the load with a tarpaulin that meets regulatory standards in order to comply with these mandates.

SECI also would be subject to Florida's greenhouse gas emissions limitation, which would adversely affect the organized and efficient staging of trucks for the loading and unloading of coal or petcoke. The Florida

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[14] Florida Department of Transportation – Motor Carrier Compliance Office, Commercial Motor Vehicle Manual (2006), *available at* http://www.dot.state.fl.us/mcco/downloads/TruckingManual%20-%206th%20Edition%202006%20english.pdf.

Administrative Code limits heavy-duty vehicles' idling time to five minutes, after which the vehicle's engines must be shut down. Fla. Admin. Code Ann. § 62-285.420 (2008). Faced with this limitation, the loading and unloading of a minimum of 45 trucks per day -- nearly a truck per half hour assuming a 24-hour operation -- would be even less practical and more expensive.

Finally, various county ordinances would further restrict any potential truck deliveries of coal or petcoke to SGS. For example, Clay County has weight restrictions that are even stricter than those imposed by the State of Florida. According to Clay County Ordinance §§ 13-1(a), (b), the gross weight imposed on any county road by the wheels of one axle cannot be more than 20,000 pounds, and the vehicle's total gross weight cannot exceed 73,320 pounds. Clay County, Fla., Ordinance art. 1, §§ 13-1(a), (b). Certain roads and bridges in Clay County may have even lower maximum weight requirements. Clay County, Fla., Ordinance art. 1, §§ 13-1(c). These restrictions could limit or preclude SGS-bound coal trucks from traveling on Clay County roads altogether. Even if the weight restrictions would not completely bar SECI from utilizing the county roads, the restrictions could limit the amount of coal carried in each truck, thereby further increasing both the number of trucks required and the total cost.

In sum, there is no reasonable basis on which one could conclude that motor carriage presents a feasible, effective competitive alternative for the transportation of coal to SGS.

3. <u>Other Evidence of CSXT's Market Dominance</u>

Additional evidence of CSXT's market power over solid fuel shipments to SGS is the magnitude of the rate increases that CSXT unilaterally imposed on SECI's traffic upon expiration of the parties' prior contract.

One of SECI's major historic, current, and future sources of coal is the Dotiki Mine in Western Kentucky. When shipments under the former SECI-CSXT contract began in 1999, the applicable rate for SECI's expected volume moving from Dotiki to SGS in private aluminum railcars was { }. Over the ten (10) years that the contract was in effect, SECI's Dotiki rate increased by { }, or an average of { } per year, such that it stood at { } per ton on December 31, 2008. Over the same time period, the Board's broad index of changes in railroad costs -- the RCAFA -- increased by a total of approximately 30%, or 3% per year on average. Changes in the contract rates for shipments from other covered origins over the 1999-2008 time period similarly { }, demonstrating rather clearly that the real value to CSXT of the initially agreed upon rates was preserved over time. When SECI did not accede to CSXT's terms for a new contract, however, CSXT increased the Dotiki rate effective January 1, 2009 by over { } -- to $41.68 per ton -- based solely on the carrier's view as to what constitutes a "market" rate for utility coal shipments into Florida.[15] Clearly, CSXT perceived

[15] *See* Defendant CSX Transportation, Inc.'s Reply to Petition for Injunctive Relief (filed October 17, 2008), V.S. Sullivan at 4-6.

no risk that it might lose any meaningful portion of the SGS traffic as a consequence of its pricing decision.

SECI's experience demonstrates that in fact there is no dynamic "market" for utility coal transportation service that could operate as an effective constraint on CSXT rates to SGS.[16] This experience confirms CSXT's qualitative market dominance over SECI's coal and petcoke traffic.

[16] In a Decision served December 22, 2008, the Board denied a petition by SECI to enjoin all or a portion of CSXT's rate increases on SGS shipments pending the outcome of this proceeding. That Decision includes the dictum that "[h]olding the transportation rates artificially low for the duration of the rate case...could give SECI a competitive advantage over other electric utility companies in the region." *Id.* at 4. SECI assumes that there has been no pre-judgment as to the reasonableness of the challenged rates, merely because of claims by CSXT concerning their comparability to other CSXT coal rates to southeastern U.S. destinations. *See WFA/Basin II* at 2.

III-A Stand-Alone
Traffic Group

BEFORE THE
SURFACE TRANSPORTATION BOARD

SEMINOLE ELECTRIC COOPERATIVE, INC. **Complainant,** **v.** **CSX TRANSPORTATION, INC.** **Defendant.**	)	**Docket No. 42110**

PART III

STAND-ALONE COST

III. A. STAND-ALONE TRAFFIC GROUP

SECI has determined the maximum lawful rates for CSXT coal and petcoke service to SGS using the SAC constraint of the *Coal Rate Guidelines*. As described in detail in Part III-B, the SFRR is designed to replicate 2,279 route-miles of the existing CSXT rail system, including 2,092 miles to be constructed and operated by the SFRR, and an additional 187 miles over which the SFRR would operate under trackage rights (as CSXT does today). The SFRR system includes trackage in twelve (12) states – Pennsylvania, Maryland, West Virginia, Virginia, Indiana, Kentucky, Tennessee, North Carolina, South Carolina, Alabama, Georgia and Florida – as well as the District of Columbia. Schematics of the SFRR routes appear in Exhibits III-A-1 and III-B-1.

1. Stand-Alone Railroad Traffic

As compared to the hypothetical stand-alone railroads that have been presented in most prior coal rate proceedings before the Board, the SFRR is designed to transport a broader range of commodities over its system, as CSXT does over many of the same lines today. The SFRR traffic group was developed utilizing CSXT and CSXI revenue data, CSXT car event data and CSXT train event data for the three-year period ending in 2008, which were produced in response to SECI discovery requests. From this data, the commodities and individual shipments (by origin and final destination points) that would move over the SFRR were identified.[1] A detailed summary of the base year (2008) traffic group for the SFRR is included in Exhibit III-A-2.

Approximately 61.6% of the 2008 base-year tons representing traffic to be handled by the SFRR is coal traffic, most of which moves in unit trains or in

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[1] The general methodology employed by SECI comports with the *Coal Rate Guidelines*, and is consistent with those approved by the Board in previous cases, including *Duke/NS, CP&L* and *WFA/Basin*. Not unexpectedly, however, the organization and format of the data produced by CSXT and relied upon by SECI differs significantly from that produced by the defendants in those cases, as different railroads employ different data collection and retention systems, and continually upgrade their data systems. There also is no inherent coordination between data retained by CSXT in the ordinary course of business and the data inputs typically relied upon by litigants and the Board in assembling and evaluating SAC evidence, as CSXT's records are not organized primarily to facilitate rail rate litigation. The data limitations with which SECI was forced to contend in assembling its evidence are described further in this Part.

trainload service for the entire length of its haul on the SFRR lines. The SFRR will serve six origin mines directly, and will receive trainloads of coal in interchange from CSXT and other carriers at several points, including but not limited to Princeton, IN, Atkinson, KY, Junta, GA, Evansville, IN, Madisonville, KY, Grafton, WV, Cumberland, MD, Richmond, VA, Pembroke, NC and Yemassee, SC. Coal and petcoke moving on the SFRR includes solid fuel from all origins covered by Tariff CSXT-32531, and subject to the rates at issue in this proceeding. Base year coal and petcoke traffic on the SFRR totals 675,368 carloads, or 74,261,770 tons.

The SFRR will serve 14 coal-fueled electric generating stations that are located on its system, including SGS, as well as six (6) industrial facilities in Virginia, North Carolina, South Carolina and Washington, D.C. Additionally, the SFRR will serve 40 utility stations, four (4) ocean coal terminals, 21 industrial plants and four (4) river docks that are located off the system, but whose traffic would travel on the SFRR en route to the final destination.[2] Exhibit III-A-2 shows all on-system and off-system destinations for coal and petcoke handled by the SFRR, along with the base year volumes attributable to each.

In addition to coal and petcoke, the SFRR will transport nine (9) commodities in intermodal service, both local (originated and/or terminated) and overhead. Approximately 5.1% of the base year tons is composed of intermodal

[2] The SFRR also will transport coal to Jacksonville, FL for which the final use cannot be determined from the data produced by CSXT.

container shipments, most of which move in intact trainloads for their entire distance on the SFRR. The intermodal commodities and their respective base year volumes (in numbers of units as well as tons) are as follows:

Table III-A-1
Summary of Base Year SFRR Intermodal Traffic

STCC	Commodity	Containers	Tons
20	Food or Kindred Products	17,158	339,213
23	Apparel or Other Finished Textile Products	4,035	55,225
26	Pulp, Paper or Allied Products	8,472	134,169
28	Chemicals or Allied Products	8,398	172,976
36	Electrical Machinery or Equipment	4,488	42,835
40	Waste or Scrap Materials	5,969	98,733
41	Miscellaneous Freight Shipments	3,977	29,855
42	Containers, Carriers, Returned Empty	107,707	516,267
46	Freight All Kinds	313,081	4,706,213
Total Intermodal		473,285	6,095,486

A detailed description of the intermodal movements handled by the SFRR is shown on Exhibit III-A-2.

Finally, approximately 33.3% of the base year tons consists of commodities moving in general freight service, in homogenous intact trainloads, mixed intact trainloads, and partial trainloads and/or blocks of carloads. As with coal and intermodal traffic, the general freight traffic is handled by the hypothetical SFRR on its system in the same manner that the traffic moves over CSXT in actuality today, as determined according to the data produced by CSXT in discovery. The general freight commodities and their respective base year volumes (in carloads as well as tons) are as follows:

Table III-A-2
Summary of Base Year SFRR General Freight Traffic

STCC	Commodity	Cars	Tons
1	Farm Products	59,516	6,043,158
10	Metallic Ores	8,742	878,100
14	Non-Metallic Minerals	83,283	8,576,966
20	Food or Kindred Products	53,103	4,566,998
24	Lumber or Wood Products	12,204	1,032,684
26	Pulp, Paper or Allied Products	18,584	1,331,549
28	Chemicals or Allied Products	74,487	7,233,845
29	Petroleum or Coal Products	16,584	1,363,189
32	Clay, Concrete, Glass, Stone Products	17,868	1,756,876
33	Primary Metal Products	19,122	1,641,706
35	Machinery, Excluding Electrical	282	12,352
36	Electrical Machinery or Equipment	9,264	172,939
37	Transportation Equipment	114,016	2,391,280
40	Waste or Scrap Materials	44,813	3,131,862
41	Miscellaneous Freight Shipments	2,048	61,732
42	Containers, Carriers, Returned Empty	42	771
Total General Freight		533,958	40,196,007

A detailed description of the general freight movements handled by the SFRR is shown in Exhibit III-A-2.

As is detailed further in Part III-C, the routing of certain trains moving on the SFRR differs in part from the routing followed by these trains on CSXT. These re-routes are entirely internal to the SFRR; that is, the change only affects the manner in which the trains move on the SFRR, and any trains that carry "cross-over" traffic are still interchanged with CSXT at a point along the "real world" route of movement. Board precedent permits such re-routes as long as they are generally reasonable, and do not adversely impact the quality of service that the customers in question otherwise would receive from CSXT. *TMPA,* 6 S.T.B. at 594-595. *See also AEP Texas* at 10-11. The SFRR re-routes meet these standards.

CSXT has two alternative routes over which it moves trains (including SGS trains) between Nashville, TN and points north, and Manchester, GA and points south. One is via Chattanooga, TN and Atlanta, GA, and the other is via Birmingham and Talladega, AL. The SFRR has no need for both routes, and therefore will move all the traffic via Chattanooga and Atlanta in order to maximize traffic density and minimize cost. *See* Part III-C-3-a-i. Because CSXT actually uses the chosen route and it is some 39 miles shorter than the alternative, this SFRR re-route presumptively is valid. *See Duke/NS* at 26.

The second re-route involves trains moving between Waycross and Jessup, GA. Here, too, CSXT maintains two routes: a northeasterly route from Waycross to Jessup and Savannah, and a southeasterly alternative from Waycross to Folkston, GA then north to Jessup and Savannah via Nahunta (Raybon), GA. The SFRR will replicate the second route via Folkston, which also is where its two divisions join together. *See* Part III-C-3-a-ii.

As discussed in Part III-C-3-a-ii, while the route selected by the SFRR is somewhat longer (about 49 miles), it is reasonable under the *TMPA* and *AEP Texas* standards because:

> a. The re-routes will not alter the operations of the residual CSXT, or require it to incur any additional costs;
>
> b. the SFRR will construct additional infrastructure in the Folkston area to increase operational efficiency and improve performance; and
>
> c. SECI's RTC Model simulation of the SFRR's operations shows average transit times for trains via Folkston that are equal to or faster than those recorded by CSXT for 2008.

See Part III-C-3-a-ii.

2. Volumes (Historical and Projected)

Coal, intermodal and general freight volumes for the first year of the SFRR's operation (2009) are based upon actual volumes transported by CSXT in 2008 (the most recent full year for which data is available), as reported in the revenue and car event records maintained by CSXT and CSXI in the ordinary course of business and produced to SECI in discovery,[3] adjusted according to CSXT's January 2009 carload forecast ("2009 Carload Forecast") and intermodal forecast ("2009 Intermodal Forecast"), which also were produced in response to SECI's discovery requests.[4] Traffic volumes for all years of the DCF analysis

[3] *See* e-workpaper "Base_Case_Scenaio_0_Excluded_Train_List_and_Scenario_0_Resultsrun2_Revised.xlsx."

[4] *See* e-workpapers "CSXT Carload Forecast Jan. 2009.xls" and "CSX Intermodal Forecast Jan. 2009.xls."

period (2009 through 2018) are projected using the procedures described below.

a. Projected Non-Issue Coal Traffic

For 2009 through 2013, coal traffic levels (other than for SGS shipments) are adjusted forward in accordance with the 2009 Carload Forecast,[5] grouped on an Energy Information Administration ("EIA") production region level basis; *i.e.*, Central Appalachian ("CAPP"), Northern Appalachian ("NAPP"), etc. Aggregating the forecast data in this manner is appropriate and necessary in this case, to account for the fact that many (if not most) Eastern coal shippers in the SFRR traffic group routinely change sources from year to year, shifting between and among various mines in response to price changes, quantity availability, and other factors.

The CSXT forecast data confirms the propriety of this approach, as there are numerous instances in which origins recorded in 2008 differ from those forecasted over 2009-2013 for the same shippers. For example, coal moving to { } in 2008 originated at mines in CSXT's Beem, Big Sandy and Kanawha rate districts. However, the CSXT 2009 Forecast projects shipments to { } over 2009-2013 from mines in the New River district. Aggregating at a production region level allows the actual 2008 CSXT tonnage levels to be adjusted using the CSXT 2009 Forecast, employing the accurate assumption that the SFRR would retain coal

[5] *See* e-workpaper "CSXT Carload Forecast Jan 2009.xls."

traffic that moved from one mine in 2008, but shifted to another mine also served by the SFRR in 2009 or later years. Using the { } example, base year aggregate carloads originating at CAPP and NAPP mines would be compared to forecast years' annual aggregate carloads originating at CAPP and NAPP mines to develop an annual percentage change in carloads for each region. The annual percentage change for each region then is applied to the base year tons from that region to forecast origin to destination movements for the 2009-2013 time period on a tonnage basis.[6]

The coal forecast approach followed by SECI in this case specifically was endorsed by the Board in *CP&L*. In that proceeding, the complainant adopted a regional forecast method in lieu of projections based on specific and constant origin-destination pairs, owing to the undisputed fact that CAPP coal shippers regularly changed mine origins from year to year without changing rail carriers. In rejecting the defendant railroad's claim that the base year traffic group should be frozen, such that future coal volumes were limited to the exact origin-destination pair matches reflected in the base year, the Board explained:

> An O/D pair-specific approach to the traffic group is too restrictive in this situation. It would be unfair to require the complainant to anticipate specific changes in traffic where traffic patterns are constantly shifting. (This problem appears

[6] While this implicitly assumes that average tons per car will remain constant over the forecast period, the assumption is necessary in order to reconcile the SFRR's coal traffic for SAC purposes, which is represented on the basis of tons, with the CSXT 2009 Forecast, which is stated in carloads.

> to be more of an obstacle for coal rate complainants in the East, where there are many more mines and shippers than in the West. But the SAC test must be workable in both geographical settings.)
>
> The better approach is to view the traffic group selected by CP&L here as meant to encompass all coal traffic served by NS that moves over the lines replicated by the [SARR] . . . and to view the particular coal traffic that moved over those lines in 2001 as representative of the aggregate traffic that would be expected to move on the [SARR] in future years. Thus, the fact that some traffic would not continue to move from a specific mine to a specific destination throughout the SAC analysis period does not mean that other traffic would not move from the mines served by the [SARR].

CP&L at 17.

For those coal movements which the CSXT data indicated are covered by transportation contracts, the CSXT 2009 Forecast is supplemented by the contract minima and/or maxima. If after application of the forecast methodology to a particular movement the projected future tonnage is less than the contract minimum or greater than the contract maximum, volumes are set at those limits through the end of the contract term. Thereafter, future volumes through 2013 are projected using the CSXT 2009 Forecast.

For the 2014 through 2018 time period, volumes for all coal traffic except export (*i.e.,* all-rail utility, industrial, river and coastwise) are projected forward using EIA's 2009 Annual Energy Outlook ("2009 AEO") April Update forecast, based on production regions. Export coal traffic is projected based on the 2009 AEO Total Coal Exporting forecast. Finally, all SFRR utility coal shipment forecasts are capped at a tonnage level that equates to an 85% capacity factor for the generating unit(s) in question, excepting only those instances where a higher minimum contract commitment applies. In such a case, the contract minimum is applied.

b. Projected SGS Coal Traffic

The 2009 coal volumes forecast for movement to SGS are based on SECI's July 27, 2009 Fuel Supply Plan. *See* e-workpapers "Coal Traffic Forecast.xls," tab "Seminole Forecast." SGS volumes for the 2010-2018 period are based on a long-term SECI coal delivery forecast dated June 24, 2009, and entitled "Seminole Forecast of Bostwick Coal by CSXT Rail Origin -- 2009 through 2018." *See id.*

A detailed schedule showing all projected coal volumes for the SFRR for each year of the DCF period is shown in Exhibit III-A-2.

c. Projected Intermodal Traffic

For 2009 through 2013, intermodal volumes are adjusted forward using the 2009 Intermodal Forecast, grouped on an origin-destination pair basis (*e.g.*, Chicago, IL to Atlanta, GA, etc.). For each O-D pair grouping in the forecast, the ratio of 2008 SFRR intermodal traffic to total 2008 CSXT traffic was applied to the 2009-2013 forecasted unit volumes. For 2008 movements between O-D pairs that did not appear in the 2009 Intermodal Forecast, the 2008 volume conservatively was reduced by half for 2009, and that volume for that O-D pair then was reduced by half for 2010 and halved again for each subsequent year throughout the 10-year DCF period.[7]

For the years 2014 through 2018, intermodal volumes for each O-D grouping are adjusted by the 2012-2013 growth rate reflected in the 2009 Intermodal Forecast, where available. This approach is consistent with and supported by recent projections by CSX of steady economic and rail volume growth over the coming decades,[8] and with other industry analyses forecasting strong intermodal volume growth through 2030.[9]

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[7] The methodology implicitly assumes that average tons per container will remain constant over the study period, an assumption which, as with coal, is necessitated by the fact that the 2009 Intermodal Forecast is expressed in units.

[8] For example, during the 2Q2009 CSX Earnings Presentation Conference Call, CEO Michael Ward was quoted as saying "We think the economy is bottoming out." ("CSX CEO says U.S. economy seems to be bottoming out," Reuters, 14, July 2009, retrieved from the web on 29 July 2009 at *http://www.reuters.com/article/ousiv/idUSTRE56D43Y20090714*) and, "it's projected there will be a dramatic increase in freight/rail traffic over the next 25 years. That expansion will require mostly private funding, sound tax policy, and public/private infrastructure partnerships to make the nation's rail system even more competitive. For all of the right reasons, infrastructure is now a key focus of our Washington lawmakers. I believe there is a growing recognition that investments in rail infrastructure combined with the balanced regulatory environment are essential." (Highlights from CSX's Q2 Conference Call: Some Signs of Leveling Off; Projected Dramatic Increase in Rail Traffic Next 25 yrs," StreetInsider.com, 14 July 2009. *See* retrieved from the web on 29 July 2009 at *http://www.streetinsider.com/Earnings/Highlights+CSXT's+Q2+Conference+Call:+some+Sings+Of+Leveling+Off%3B+Projected+Dramatic+Increase+Rail+Traffic+Next+25+yers/4793168.html*.

[9] For example, the director of community relations for the Port of Los Angeles, a key U.S. intermodal intake and distribution center, recently stated: "this downturn is temporary . . . . Not only are we predicting [intermodal container business] to double by 2020, but triple by 2030." (Calabrese, Dan, "Stack Slump Renders Rails Helpless," *Trains,* May 2009, p. 8).

d. <u>Projected General Freight Traffic</u>

General freight volumes for 2009 through 2013 were calculated by adjusting the 2008 base year volumes using the 2009 Carload Forecast, with traffic grouped on an origin-destination/commodity (2-digit STCC) basis; *e.g.*, Chicago, IL to Atlanta, GA STCC01, etc. For each O-D/STCC grouping in the forecast, the ratio of 2008 base year SFRR traffic to 2008 total CSXT traffic was applied to the 2009-2013 carload forecast volumes. For 2008 movements between O-D pairs that did not appear in the 2009 Carload Forecast, the 2008 volume was reduced by 14% for 2009,[10] and that volume for that O-D pair then was reduced by half for 2010 and halved again for each subsequent year throughout the 10-year DCF period.[11]

For the years 2014-2018, general freight volumes for each O-D/STCC grouping are adjusted by the 2012-2013 growth rate reflected in the 2009 Carload Forecast, where available. As with intermodal traffic, this approach is consistent with CSXT's own public pronouncements regarding the prospects for future rail freight volume growth.[12]

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[10] The 14% reduction is based on the average reduction in all SFRR general freight movements that appear in the 2009 Carload Forecast.

[11] As with coal and intermodal traffic, the methodology implicitly assumes that average tons per car will remain the same over the study period.

[12] *See* note 8, *supra*.

e. Peak Year Traffic

As with virtually all of the stand-alone rail systems that have been presented to the Board in prior cases under the *Coal Rate Guidelines*, the peak traffic year for the SFRR will be the final year analyzed under the DCF Model, which in this case is 2018. Taking account of all adjustments to the base year (2008) volumes for the three general categories of SFRR traffic, as described in Subparts III-A-2-a-d, *supra*, and the Exhibits and e-workpapers referenced herein, the SFRR's peak year traffic is as follows:

TABLE III-A-3
Summary of SFRR Peak Year (2018) Traffic

Item	Coal	Intermodal	Gen. Freight	Total
Units	627,969	710,486	592,094	1,930,549
Carloads	627,969	163,706	592,094	1,383,769
Tons	69,782,847	9,314,494	43,195,369	122,292,710

Source: e-workpaper "SARR carload forecast summary comparison 082309.xls."

3. Revenues (Historical and Projected)

The three general categories of traffic that are handled by the SFRR (coal, intermodal and general freight) themselves fall into three groups for purposes of calculating revenues: (1) traffic that originates and terminates on SFRR lines that replicate CSXT lines presently used by that traffic; (2) traffic that is interchanged with a railroad other than CSXT that moves over SFRR lines that replicate CSXT lines presently used for the same interline service; and (3) "cross-over" traffic, which presently moves over a larger portion of the overall CSXT system than the SFRR replicates, and hypothetically is interlined between the SFRR and CSXT. Consistent with now-established Board precedents and methodologies, different procedures are used to calculate the revenues earned by the SFRR from each traffic grouping.

a. **<u>Single-Line</u>**

In its first full year of operation (2009), the SFRR would handle 66,507 carloads of coal, 14,050 intermodal containers, and 22,248 carloads of general freight in single-line service; that is, service in which both the origin and the destination points are located on the SFRR system. In addition to coal service to SGS, single line traffic includes coal moving to six (6) utility generating stations, intermodal containers moving between the Port of Charleston and Jacksonville,[13] and various general freight movements

Stand-alone revenues for SECI's coal traffic are calculated based on the rates established by CSXT in Tariff CSXT-32531 (*see* Exhibit I-1), adjusted as described *infra*. The SFRR revenues attributable to other single-line traffic were derived from CSXT revenue data files produced in discovery.[14] The 2009

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[13] These are bi-directional flows. Other O-D pairs include Savannah-Jacksonville (bi-directional), Charleston-Nashville (bi-directional), Charleston-Atlanta (bi-directional), Atlanta-Jacksonville (bi-directional) and Jacksonville-Evansville.

[14] *See* e-workpapers "Coal Traffic Forecast.xlsx," "Coal Revenue Forecast.xlsx," "Coal Fuel Surcharge Forecast.xlsx," "Intermodal Forecast comparison red traf grp orig 09 fcst final cost ATC sample c97 v1.xlsx," and "CSXT Carload Forecast Jan 2009 GF red traf grp v ATC onoff orig 09 fcst sample v1.xlsx."

revenues attributable to all single-line SFRR traffic are included in Exhibit III-A-3.[15]

b. **Foreign Railroad Interline**

Approximately 28,211 carloads of coal traffic, and 47,176 carloads of general freight that would be handled by the SFRR in 2009 would be interchanged with a carrier other than CSXT – such as coal traffic interlined with the Paducah & Louisville Railway ("PAL") at Atkinson (Madisonville), KY – after receipt from off-SFRR origins or for delivery to off-SFRR destinations. This traffic presently is handled by CSXT in interline service with the same railroads, and the SFRR replicates all of the CSXT lines that are needed to serve the customers in question via the same interchanges that CSXT uses. Additionally, for all internally re-routed movements the SFRR uses the same on-system routing that CSXT uses to and from the foreign railroad interchanges.

Consistent with Board precedent,[16] it is assumed that revenues earned by the SFRR on interline traffic interchanged to or from a carrier other than CSXT would be the same as that earned by CSXT in actuality on the same

[15] Projected CSXT revenues for SFRR single-line moves are shown in Exhibit III-A-3 on a total movement basis. The SFRR's divisions of revenues from foreign railroad interline and CSXT cross-over traffic are also shown on Exhibit III-A-3.

[16] *See FMC*, 4 S.T.B. at 725.

movements. These revenues are derived from data and contracts produced by CSXT in discovery, and are summarized in Exhibit III-A-3.[17]

c. **Cross-Over Traffic**

The largest grouping of traffic in all three general categories (coal, intermodal, and general freight) that would be handled by the SFRR is cross-over traffic; *i.e.*, traffic that currently moves over a larger portion of the overall CSXT system than is replicated by the SFRR. These shipments are assumed to be interlined between the SFRR and CSXT for ultimate delivery by the receiving carrier, or for further interchange by the receiving carrier to another railroad. For cross-over traffic, it is necessary to apportion between the SFRR and CSXT the current and prospective revenues that CSXT would earn from its single-line move, or its division of a joint line move.

Historically, the issue of revenue divisions on cross-over traffic has been highly contentious in coal rate proceedings conducted under the SAC methodology. However, in *Major Issues* the Board settled on an Average Total Cost ("ATC") approach, which subsequently was applied (and slightly modified) in the *WFA/Basin* and *AEP Texas* proceedings,[18] as the sole approved mechanism for performing the allocation. In this proceeding, therefore, SECI employs the

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[17] *See also* e-workpapers "Coal Traffic Forecast.xlxs," "Coal Revenue Forecast.xlsx," "Coal Fuel Surcharge Forecast.xlsx," "Intermodal Forecast comparison red traf grp orig 09 fcst final cost ATC sample c97 v1.xlsx," and "CSXT Carload Forecast Jan 2009 GF red traf grp v ATC onoff orig 09 fcst sample v1.xlsx."

[18] *See WFA/Basin* at 11-14.

ATC methodology to determine the cross-over revenues assignable to the SFRR, as explained below.

Variable costs per net ton for the SFRR portion of each cross-over movement in the SFRR traffic group are developed using the nine (9) URCS inputs identified in *Major Issues* for each movement, as derived from data retained by SECI in the ordinary course of business (in the case of movements to SGS), and data produced by CSXT in discovery. SECI developed 2008 URCS unit costs for CSXT using statistics reported in CSXT's Annual Report Form R-1, and the 2008 rail industry cost of capital as proposed by the Association of American Railroads in *Railroad Industry Cost of Capital – 2008,* Ex Parte No. 558 (Sub-No. 12).[19] The URCS Phase III cost program was run using those inputs and unit costs, to calculate the variable cost for the SFRR portion of each unique movement. The results are shown in e-workpaper "ATC Summary.xlsx."

To determine the weighted average density for each movement's SFRR routing, SECI relied on density data produced by CSXT in discovery. According to CSXT's discovery responses, segment density is only recorded by the carrier on a gross ton (as opposed to net ton) basis, which dictated that

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[19] As discussed in Part I and Part III-G-1, the Board has not yet rendered a final determination in *Ex Parte No. 558 (Sub-No. 12),* and SECI endorses the Western Coal Traffic League's ("WCTL") challenge to the AAR's submission, on the grounds that it overstates the actual 2008 railroad industry cost of capital as computed under the current Board-approved methodology. *See Ex Parte No. 558 (Sub-No.12)*, Reply Comments of the Western Coal Traffic League, May 20, 2009. While conservatively relying on the AAR's figure at this stage, SECI will update its calculations should the Board adopt WCTL's corrections.

densities for purposes of ATC must be measured on a gross ton-mile basis as well.[20] The SFRR density for each density segment[21] was determined using the traffic that traversed the SFRR, multiplied by the SFRR route miles for that segment. The sum of these products was divided by each movement's total SFRR route miles to arrive at a weighted average density for each movement's route.

Fixed costs for the SFRR portion of each cross-over movement are calculated as follows: (i) 2008 base year fixed costs per route mile are determined by subtracting CSXT's total variable costs from its total system costs as identified in the 2008 URCS run, then dividing the difference by CSXT's total system route miles;[22] (ii) CSXT's aggregate annual fixed cost for the "on-SARR" route is calculated by multiplying the 2008 system fixed cost per route mile by each movement's SFRR route miles; and (iii) fixed costs per ton are determined by dividing CSXT's aggregate fixed cost from (ii) by the weighted average annual density (in gross tons) for each movement's on-SARR route. The results of these calculations are summarized in e-workpaper "ATC Summary.xlsx."

In performing the calculations described above, wherever possible SECI relied upon CSXT traffic data produced in discovery to identify the points

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[20] *See* e-workpaper "April 10 2009 Lt. from Hemmersbaugh.pdf."

[21] "Density segments" are defined as each discrete segment of the SFRR system where traffic density is consistent. Thus, a portion of the system that runs from A to C via B where the A-B portion handles 10 million tons and the B-C portion handles 7 million tons would be comprised of two density segments.

[22] Total route miles are taken from CSXT's 2008 Annual Report Form R-1, Schedule 700, Line 57, Column (c).

on the SFRR where cross-over traffic received on the SFRR from CSXT would enter the SFRR system, and where traffic destined for off-SARR delivery would leave the system. For all three general traffic groupings, however, the data produced by CSXT did not always include information sufficient to allow the routes of all trains to be traced with such specificity as would permit precise definitions of on-SFRR and off-SFRR points in all cases. For these movements, SECI determined the most likely and/or most logical routing based on the CSXT data that was produced and, concomitantly, the most reasonable assumed entry points onto and/or exits points from the SFRR system. A summary of these movements is included in Exhibit III-A-2.

As with the on-SFRR portions of cross-over movements, the determination of variable and fixed costs for the CSXT portions of these movements for purposes of the ATC calculation is based on the SFRR traffic group and routings summarized in e-workpaper "ATC Summary.xlsx." Once the off-SFRR routings were identified using the CSXT data produced in discovery, the variable and average fixed costs for the CSXT portion of each cross-over movement (whether coal, intermodal or general freight) were calculated in the same manner as those associated with the SFRR portion. The segment densities were determined using CSXT's 2008 system densities. The density for each segment was determined using this data, and then multiplied by the off-SFRR route miles for that segment. The sum of these products then was divided by each movement's total off-SFRR route miles, to arrive at a weighted average density for each movement's route. The off-SFRR cost and density calculations are summarized in e-workpaper "ATC Summary.xlsx."

To complete the determination of the SFRR's share of each cross-over movement's total revenue using the ATC methodology, the following steps were performed:

> (i) Determine whether the total movement revenues exceeded the sum of the on-SFRR variable cost and the off-SFRR variable cost; *i.e.*, determine if there was a positive or negative contribution;
>
> (ii) For movements with variable costs that exceed revenues, allocate the revenues to the SFRR and the residual CSXT based on the ratio of the railroads' variable cost;
>
> (iii) For movements with revenues that exceed variable costs:
>
> > a. Calculate the movement contribution by subtracting the total variable costs from the total movement revenues.
> >
> > b. Allocate revenues equaling the SFRR and residual CSXT variable costs to each railroad.
> >
> > c. Allocate the contribution using the following procedures:
> >
> > > (1) calculate the total on SFRR cost per net ton for each movement by adding the on-SFRR variable cost per net ton and the on-SFRR fixed cost per net ton;
> > >
> > > (2) calculate the total off-SFRR cost per net ton for each movement by adding the off-SFRR variable cost per net ton and the off-SFRR fixed cost per net ton;
> > >
> > > (3) calculate the ratio of on-SFRR total costs to total movement costs by dividing on-SFRR total costs by on-SFRR plus off-SFRR total costs; and

(4) apply the item (3) ratio to the total CSXT revenue for the evaluated movement to arrive at the SFRR share of the total movement revenue for each cross-over movement.

Once calculated for the base year, the SFRR revenue division ratio for the base revenues (exclusive of fuel surcharges) for each cross-over movement is held constant during each year of the DCF model life, regardless of when during the model life the movement over the SFRR starts or terminates. *See AEP Texas* (STB served November 8, 2006), at 3. A complete summary of SECI's cross-over revenue allocations using the ATC methodology is shown in Exhibit III-A-3.

For coal and general freight traffic, CSXT imposes a car-mile based fuel surcharge on each carload based on the price of On-Highway Diesel Fuel ("HDF") two calendar months prior to the movement. The SFRR will use the same fuel surcharge program and formula that CSXT uses, and thus collect a per mile rate on each carload based on the SFRR movement miles used in the ATC revenue division calculation (the CSXT route on internally re-routed traffic). It is thus assumed that CSXT will continue to collect its per car-mile surcharge on its portion of the movement.

For intermodal traffic, CSXT imposes a fuel surcharge calculated as a percentage of the base rate, again based on HDF prices two calendar months prior to the movement. The SFRR will use this program as well, and allocate fuel surcharge revenues to the SFRR and to the residual CSXT using the revenue division percentage calculated under the ATC methodology.

The SFRR will interchange traffic with 29 short line or regional railroads, and with Norfolk Southern ("NS"), either directly or indirectly via an interchange with CSXT. For revenue division purposes, the short line interchange traffic is divided into three (3) groups, depending upon the data produced by CSXT in discovery. Where data produced by CSXT shows that CSXT collects the full movement revenue from the shipper and pays a junction settlement to the short line out of that revenue, the junction settlement is not included and the ATC divisions methodology is applied solely to the CSXT portion of the revenue. Where the data only reports CSXT revenue – that is, where the movement with the short line is accounted for as a standard interline or Rule 11 movement – the ATC formula is applied to the reported CSXT revenue. Finally, where the data shows only the full movement revenue and no junction settlement, SECI applies the ATC methodology to divide the full movement revenue among the short line, CSXT and the SFRR.[23]

d. **Non-SFRR Traffic On SFRR Trains**

As described further in Part III-D, certain intermodal and general freight trains that are handled by the SFRR in cross-over service include containers and/or cars that are not part of the SFRR traffic group. The SFRR moves these containers and cars between the on-SFRR and off-SFRR junction points as part of the intact trains that are received by the SFRR from CSXT. The SFRR does not claim a share of the revenue from this traffic, though as discussed

[23] *See* e-workpaper "ATC Summary.xlsx."

in Part III-D, the movement of the traffic is accounted for in the SFRR's operating costs. Consistent with the manner in which CSXT and CSXI handle analogous traffic, however, the SFRR receives a credit against operating expenses for each non-SFRR container and carload moved.

CSXT and CSXI are parties to a Transportation Services Agreement dated { }("TSA"), which was produced in discovery.[24] Among the matters governed by the TSA is the circumstance wherein { }[25] In those instances, the party whose train the other party's traffic is on receives a credit, { } Thus, in situations where a CSXT general freight train includes cars carrying CSXI containers, CSXI receives a credit toward the "{ }" that CSXI pays CSXT for providing rail service to CSXI,[26] and { }. According to the TSA, { },[27] and represents { }. Based on the sum of monthly data for 2008

[24] *See* e-workpapers "CSX-SE-HC-015737.pdf" and "CSX-SE-HC-015791.pdf."

[25] *See* e-workpaper "CSX-SE-HC-015737.pdf," at Bates No. CSX-SE-HC-015761.

[26] *See* Part III-D-9.

[27] { }

produced by CSXT in discovery, CSXI received a credit of {

} for CSXT cars moving on intermodal trains, and CSXT would earn the same credit on CSXI traffic handled on non-intermodal trains.

As noted and detailed in Part III-C-2-b, the SFRR trains include both intermodal and general freight cars that are not included in the SFRR traffic group, and for which the SFRR receives no division of line-haul revenue. In lieu of a revenue division, the SFRR receives the same operating cost credit (*i.e.*, {

} at 2008 price levels) that CSXI and/or CSXT receives when the same operating scenario occurs in the real world.

e. <u>Projected Revenues</u>

The procedures used to project SFRR revenues from coal, intermodal and general freight traffic over the 2009-2018 period are tailored to each particular traffic category, and rely on the most specific and accurate data made available by CSXT during discovery.

i. <u>Revenues From Non-Issue Coal Traffic</u>

The revenue forecasts for SFRR coal traffic other than that moving to SGS are based on full-year 2008 traffic data provided by CSXT in discovery, the terms of the individual contracts or other pricing documents under which the traffic currently moves, the 2009 Carload Forecast (which includes both volume and revenue forecast components), and recognized, publicly available forecasts of various published indices. For each movement, classified by origin, destination and governing pricing authority (*i.e.*, contract or common carriage), the starting point is the calculation of CSXT's 2008 net revenue per ton before fuel surcharges.[28] "Net revenue" refers to CSXT's line-haul revenues and other transportation revenues less absorbed switching charges, contract refunds, other revenue claims and junction settlements. Using 2008 net revenues as a base, coal revenues then are projected for each year of the 2009-2018 DCF period.

For coal movements under contracts that expire between 2009 and 2013 (the last year covered by the 2009 Carload Forecast), revenues during the contract term are adjusted based on the rate adjustment provisions of the contract. Following expiration of the contract and through 2013, revenues are projected based on the 2009 Carload Forecast. If that Forecast includes rates between the contract origin rate district and the destination, the percentage changes shown in the Forecast apply. If the Forecast does not include the contract origin district but does include rate forecasts from other districts within the EIA production regions to the same destination, the weighted average annual change in all rates to the contract destination from other rate districts is applied.[29] If the destination is not included in the CSXT 2009 Forecast, revenues through 2013 are adjusted by the CSXT system average forecasted percentage change in rates by movement type;

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[28] Fuel surcharge revenues are calculated separately, as described *infra*.

[29] For example, if 2008 traffic to a particular destination originated in the Big Sandy rate district, but the CSXT 2009 Forecast only included rates to the same destination from the Harlan and Hazard rate districts, which like Big Sandy are located in EIA's Central Appalachian production region, revenues were projected using the weighted average percentage changes forecasted for the Harlan and Hazard districts. This approach incorporates movement specific characteristics, and provides the most accurate forecast given the available data.

i.e., utility, export, coastwise, river, other ocean, industrial or other coal movement, as designated in the 2009 Carload Forecast.[30]

For movements that were not subject to contracts or other non-common carrier pricing authorities prior to 2009, revenue projections for the 2009-2013 time period were developed as follows:

1. If the 2009 Carload Forecast included forecasted rates between the origin rate district and the movement's destination, the forecasted rates were applied.

2. If the 2009 Carload Forecast did not include forecasted rates between the movement's origin and destination but did include rates from other rate districts within the EIA production region to the destination, a two-step process was used. First, the base year 2008 rates were adjusted to 2009 by the change in CSXT's system average revenue per carload between the first half of 2008 and the first half of 2009, according to CSXT's 2Q2009 Financial Report.[31] Then, rates for the 2010-2013 period were adjusted forward by the weighted

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[30] *See* e-workpaper "Coal Revenue Forecast.xls," tab "Carload Forecast".

[31] The CSXT 2009 Forecast does not include information on 2008 rates, such that a percentage change or 2009 rate can be developed. If a 2008 movement originated in Big Sandy, for example, and the Forecast included a projected rate for Big Sandy for the subject movement, the 2009 Forecast rate could be used. However, if the 2009 Forecast instead included only a rate from the Harlan district, that rate could not be applied directly to forecast a rate from Big Sandy. Because the CSXT 2009 Forecast does not include 2008 rates, a methodology is needed to adjust the 2008 rates reported in other data to 2009 levels. Using the actual system average rate of change between the first half of 2008 and the first half of 2009 incorporates CSXT's actual performance into the process, and allows a starting point to be determined for subsequent application of the Forecast.

average percentage change in forecasted rates from other rate districts within the EIA production region to the movement's destination.

3. If the CSXT 2009 Forecast did not include any specific forecast of rates to the movement's destination, the 2008 rates per ton were adjusted forward to 2009 by the same methodology as in 2., above; *i.e.*, the change in CSXT's system average revenue per carload between the first half of 2008 and the first half of 2009 was applied. For 2010-2013, rates were adjusted forward by the forecasted system average change in revenue per unit based on movement type (*i.e.*, utility, export, coastwise, river, other ocean, industrial or other coal movement).

For contract movements with contracts that expired prior to 2018, and for all non-contract coal movements, forecasted revenues for the 2014-2018 period were determined by application of the annual percentage change in the 2009 AEO's Transportation Rate Escalator for the Eastern U.S. or for the Western U.S., consistent with Board precedent.[32] *See, e.g.*, *WFA/Basin* at 30; *PSCo/Xcel* at 55. The SFRR non-issue coal traffic revenues are summarized in Exhibit III-A-3.

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[32] EIA uses its Transportation Rate Escalators to forecast future coal transportation prices. It applies the escalators based on coal origins. EIA uses its Eastern Escalator for coal originating east of the Mississippi River, and its Western Escalator for coal originating west of the river. Coal produced in the Powder River Basin or Rocky Mountains and destined to locations east of the Mississippi River would have transportation rates adjusted based on the Western Escalator.

ii. Fuel Surcharges on Non-Issue Coal Traffic

For contract movements subject to CSXT fuel surcharges, the surcharges are calculated based on the relevant contract terms. Where the contract specifies use of HDF prices, SECI has applied the EIA forecast of HDF prices included in the July 2009 Short Term Energy Outlook through 2010, and the forecast in the 2009 AEO for 2011 through 2018. For contracts specifying a surcharge based on West Texas Intermediate Crude Oil ("WTI") prices, the WTI forecast contained in the same sources[33] were used. After contract expiration and through 2018, fuel surcharge rates are assumed to follow CSXT's HDF surcharge program. The HDF program also is applied to all non-contract coal movements. For purposes of calculating mileage-based fuel surcharges, actual miles on the SFRR are used.

iii. Revenues From SGS Coal Traffic

Tariff CSXT-32531 specifies rate adjustments in accordance with changes in the RCAFU. Therefore, projected revenues for movements of the issue traffic are based on Global Insight's RCAFU forecasts. For movements in CSXT-supplied railcars, the rates established in CSXT-32531 were forecasted through 2018 by applying forecasted changes in the RCAFU to the 1Q2009 rates. For movements in SECI-supplied railcars, forecasted rates were calculated by subtracting the private car mileage allowance specific in the Tariff from the

[33] The 2009 AEO does not include a specific WTI forecast. However, it does forecast oil prices in the Southwestern U.S., which includes West Texas and East New Mexico. This is the forecast used by SECI.

forecasted rates for movements in carrier cars. Under the Tariff, the private car allowance is not subject to adjustment. Likewise, rates under CSXT-32531 are not subject to a fuel surcharge.

iv. Revenues From Intermodal Traffic

Intermodal revenues for 2008 were developed from traffic and revenue data produced by CSXT and CSXI in discovery. As with coal traffic, net revenues exclusive of fuel surcharges were separated from fuel surcharge revenue for all movements. Net revenues were summed for each unique movement (defined by O-D pair, STCC and, where available, contract), and divided by total intermodal units to arrive at 2008 rates per unit.

For intermodal movements covered by contracts that were provided by CSXT in discovery,[34] rates from 2009 forward are determined based on the relevant rate adjustment mechanisms set forth in the contracts, for the duration of the contract term. Following expiration of the contract, rates through 2018 are adjusted based on the change in forecasted revenue per unit (exclusive of fuel surcharge revenue) as reported in the 2009 Intermodal Forecast, grouped on an origin-destination pair basis (*e.g.*, Chicago, IL to Atlanta, GA, etc.). For movements that do not appear in the 2009 Intermodal Forecast, the average per unit rate of increase for all intermodal traffic movements included in the forecast

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[34] Following an initial objection by CSXT to the production of all intermodal contracts for traffic moving through the SFRR states, the parties agreed that CSXT would produce a representative sample, which is the data source used by SECI to project SFRR intermodal revenues over the DCF period.

was used. The 2014-2018 annual rate changes conservatively were assumed to be equal to the forecasted increase from 2012 to 2013, calculated as a change in revenue per unit.

Fuel surcharges for movements covered by provided contracts were calculated based on the relevant contract provisions and the HDF prices forecasted in the EIA July 2009 Short Term Energy Outlook (through 2010) and the 2009 AEO (for 2011 through 2018), for the duration of the contract term. Following expiration of the term, the surcharge rates were set at the base CSXI rates as published on CSXI.com, adjusted forward through 2018 by the EIA HDF forecast.

For intermodal movements that are not covered by the contracts produced by CSXT, the 2008 base year rates are adjusted forward by the change in forecasted revenue per intermodal unit (exclusive of fuel surcharges) as shown in the 2009 Intermodal Forecast, grouped on an origin-destination basis. For movements that do not appear in the 2009 Intermodal Forecast, the average per unit rate of increase for all intermodal traffic movements included in the forecast was used. The 2014-2018 adjustments conservatively were assumed to equal the adjustment from 2012 to 2013, calculated as a change in revenue per unit.

Fuel surcharges on intermodal movements not covered by provided contracts are calculated based on the base CSXI fuel surcharge as published on CSXI.com, adjusted using the EIA HDF forecasts. A summary of forecasted SFRR revenue from intermodal traffic over the DCF period is detailed on Exhibit III-A-3.

v. **<u>Revenues From General Freight Traffic</u>**

Base year 2008 general freight revenues were determined from the traffic and revenue data produced by CSXT in discovery. As with coal traffic, general freight revenues are calculated net of fuel surcharges and junction settlement payments. Net revenues were summed for each unique movement (defined by O-D pair, STCC and, where available, contract) and divided by total units (carloads) to arrive at the 2008 rates per carload.

For general freight movements covered by contracts produced by CSXT,[35] 2008 base year rates are adjusted according to the applicable contract provisions for the remaining contract term. Following expiration of the term and through 2013, rates are adjusted by the change in forecasted revenue per carload (exclusive of fuel surcharges) reported in the 2009 Carload Forecast, grouped on an O-D pair/STCC basis (*e.g.*, Chicago, IL to Atlanta, GA, STCC01, etc.) . For movements that do not appear in the 2009 Carload Forecast, the weighted average per carload rate of increase for all SFRR general freight traffic movements included in the forecast was used. As with intermodal traffic, annual adjustments over the 2014-2018 period conservatively are assumed to equal the adjustment from 2012 to 2013, calculated as a change in revenue per unit (carload).

Fuel surcharges for general freight movements covered by provided contracts are calculated based on the applicable contract provisions and the EIA

[35] As with intermodal traffic, CSXT and SECI agreed to the production of a sample of all contracts covering movements through the SFRR system.

HDF price forecast in the July 2009 Short Term Energy Outlook (through 2010) and the 2009 AEO (for the 2011-2018 period), for the remaining contract term. The applicable per car-mile rates were multiplied by car-miles traversed over the SFRR to estimate SFRR surcharge revenues. Following expiration of the contract term, fuel surcharge rates are assumed to equal the base rates published in Tariff CSXT 8861-B[36] as applicable to miles traversed on the SFRR, adjusted forward according to the EIA HDF forecast.

For movements not covered by contracts produced in discovery but included in the universe of shipments from which the sampled contracts were drawn, the 2008 base year rates are adjusted according to the weighted average contract adjustment provisions in the produced contracts, through the weighted average remaining terms from the produced contracts grouped by strata.[37] Following expiration of the terms and through 2013, rates are adjusted based upon the change in forecasted revenue per carload (exclusive of fuel surcharges) reported in the 2009 Carload Forecast, grouped on an O-D pair/STCC basis. For movements that do not appear in the 2009 Carload Forecast, the weighted average

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[36] Tariff CSXT 8861-B is CSXT's general fuel surcharge tariff applicable to common carrier service.

[37] Because of the volume of CSXT general freight contracts relevant to the SFRR traffic group, the group was divided into three strata based on annual volumes, and contracts from each stratum were sampled. For each stratum, the weighted average of the contract provisions from the sample specific to that group are applied to movements governed by non-sampled contracts. *See* e-workpapers "CSXT Carload Forecast Jan 2009 GF red traf grp v ATC onoff orig 09 fcst sample v1.xlsx" and "Contract summary data_RCP-4-GMA FSC HDF STEO 0910 0609GIRCAF.xls."

per carload rate of increase for all SFRR general freight traffic movements included in the forecast was used. As with the general freight movements governed by produced contracts which expire prior to 2014, the 2014-2018 annual adjustments are assumed to equal the adjustment from 2012 to 2013, calculated as a change in revenue per carload.

Fuel surcharges for general freight movements not governed by produced contracts but included in the universe of shipments from which the sampled contracts were drawn are based on the weighted average fuel surcharge rates for the produced contracts and the EIA HDF forecasts through the weighted average remaining term of the produced contracts, for each appropriate stratum. Relevant per car-mile rates were multiplied by car-miles traversed on the SFRR to calculate surcharge revenue. Following the weighted average contract expiration date, surcharge revenues are assumed to equal the base rate published in Tariff CSXT-8661-B as applied to the SFRR mileage, adjusted in accordance with the EIA HDF forecasts.

For movements not covered by provided contracts and not included in the universe of shipments from which the sampled contracts were drawn, the rates were escalated by the change in forecasted revenue per unit (exclusive of fuel surcharge revenues) as included in the CSXT 2009 Forecast grouped on an origin-destination-STCC basis. For 2008 movements that do not appear in the CSXT 2009 Forecast, the weighted average rate increase from year-to-year for all SFRR general freight moves included in the forecast was used to escalate the rate. The

2014-2018 annual rate increases were assumed to equal the 2013 rate increase from 2012 (calculated as change in revenue per unit).

Fuel surcharges for movements not covered by provided contracts and not included in the universe of shipments from which the sampled contracts were drawn assumed to equal the base CSXT fuel surcharge rates as published in CSXT 8861-B and the EIA HDF forecasts. The relevant per-car mile rates were multiplied by SARR car miles to estimate SARR fuel surcharge revenues.

A summary of the projected general freight revenue for the SFRR over the DCF period is detailed on Exhibit III-A-3.

vi. Contract Adjustment Forecasts

The majority of the rate adjustment mechanisms that govern contract movements included in the SFRR traffic group are based on a single index or basket of indices. Consistent with Board precedent and in keeping with the principle of reliance on the most recent and historically accurate methodology available, SECI uses the following sources to forecast changes in contract rates and common carrier rates that are tied to identical indices:

1. The Global Insight June 2009 Forecast for the RCAFU, the RCAFA, the AII-LF, and the AII-LF with forecasts adjustment.

2. The 2009 AEO April Update for the Gross Domestic Product—Implicit Price Deflator ("GPD-IPD").

3. The Congressional Budget Office Year-by-Year Forecast and Projections for Calendar Years 2009 to 2019, March 2009 Release, for the Index of Personal Consumption Expenditures (Chained Price Index).

Public index forecasts were not readily available for the Producer Price Index (Industrial Commodities less Fuel and Related Products and Power) and the Producer Price Index (All Commodities Except Farm Products). For these two indices, which are used in a number of contracts applicable to SFRR traffic, the historic change in the indices on an individual basis was compared to the historic change in the GDP-IPD on a linear basis. This relationship then was applied to published forecasts of the GPD-IPD to develop estimated future changes in the PPI values.

III-B Stand-Alone
Railroad System

III. B. STAND-ALONE RAILROAD SYSTEM

1. Route and Mileage

The general physical layout of the SFRR route resembles a wishbone. It consists of two geographic divisions:

1. The West Division extends from Princeton, IN to Bostwick, FL. It replicates parts of CSXT's Nashville, Atlanta and Jacksonville Divisions.

2. The East Division extends from northeastern West Virginia to Folkston, GA, where it connects with the West Division. It replicates parts of CSXT's Huntington East, Baltimore, Florence and Jacksonville Divisions. The East Division also includes a portion of the former Monongahela Railway ("MGA") lines now owned by Norfolk Southern Railway Company ("NS"), over which CSXT (and thus the SFRR) has operating rights.

A map showing the SFRR's route, with its two divisions, is shown on Exhibit III-B-1. Exhibit III-A-1 contains a schematic showing the SFRR's local origins and destinations, as well as its interchange points with other railroads.

a. Main Line

West Division – The SFRR's main line starts at Princeton (a/k/a North Gibson), IN, and proceeds south and southeast to Bostwick, FL[1] via Evansville, IN, Madisonville, KY, Nashville and Chattanooga, TN, Atlanta and Folkston, GA and Callahan and Jacksonville, FL. It replicates all or parts of CSXT's CED, Henderson, Nashville Terminal, Chattanooga, W&A, Atlanta

[1] The exact location of SGS is near Palatka, FL. However, the spur to the plant connects with CSXT's main line at Bostwick.

Terminal, Manchester, Fitzgerald, Nahunta, Jacksonville Terminal and Sanford Subdivisions.

East Division – The SFRR's main line starts at Brownsville, PA (CP Brown)[2] and proceeds north to McKeesport (Demmler Yard), PA, and thence southeast and south to Folkston, GA via Connellsville, PA, Cumberland, Brunswick and Point of Rocks, MD, Washington, DC, Richmond, VA, Rocky Mount, NC, Florence and Charleston, SC and Savannah, GA. It replicates all or parts of CSXT's Mon, Pittsburgh, Keystone, Cumberland, Metropolitan, RF&P, Bellwood, North End, South End, Charleston and Nahunta Subdivisions.

b. Branch Lines

The SFRR has ten branch lines, three on the West Division and seven on the East Division. These branch lines serve coal mines, power plants and other industrial destinations, water/rail transfer terminals, and interchange points.

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[2] The SFRR handles coal traffic originating at several mines in West Virginia and Pennsylvania served by the former MGA, which was acquired by NS as part of the Conrail control transaction approved by the Board in *Finance Docket No. 33388*. CSXT has joint use (operating) rights over the former MGA lines pursuant to the Monongahela Usage Agreement between CSXT and NS dated as of June 1, 1999, and the related Monongahela Operating Plan (collectively the "MGA Agreement"). A copy of the MGA Agreement is reproduced in Part III-C e-workpaper "MGA Agreement.pdf." Pursuant to the MGA Agreement, NS operates CSXT coal trains between the former MGA-served mines and CSXT's Newell Yard near Brownsville, PA, using NS crews. The SFRR will step into CSXT's shoes under the MGA Agreement, and most of its coal trains destined to and from these mines will be handled by NS between the mines and Brownsville (Newell Yard).

The three branch lines on the West Division are the Morganfield, Paradise and Stilesboro Branches. The Morganfield Branch extends from Atkinson (Madisonville), KY west to the Dotiki Mine near Providence, KY, and also serves the Cardinal 9 (Warrior) Mine. The Paradise Branch extends from Madisonville east to Drakesboro, KY. It serves the Cimarron (a/k/a Elk Creek) Mine and Tennessee Valley Authority's Paradise power plant.[3] The Stilesboro Branch extends from Junta, GA (near Cartersville) to Georgia Power's Bowen power plant near Stilesboro, GA, and replicates part of CSXT's Cartersville Subdivision.

The seven branch lines on the East Division are the Robinson Run, Dahlgren, Richmond, Roanoke Rapids, Stone, Cross and Charleston Branches.

The Robinson Run Branch extends from Brownsville, PA (CP Brown) to Haywood, WV and the Consol 95 (a/k/a Robinson Run) Mine via Rivesville (Catawba Jct.), Fairmont, Grafton, Clarksburg and Lumberport, WV. This branch serves Allegheny Power's Harrison power plant at Haywood and the Loveridge Mine, and the SFRR also uses it to interchange traffic with CSXT at Grafton and Haywood, WV. The SFRR operates over the NS (former MGA) Loveridge Secondary between CP Brown (Brownsville) and Catawba Jct.

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[3] The SFRR delivers the coal trains destined to the Paradise plant to TVA at Drakesboro, KY. TVA then moves the loaded trains over its own trackage to Paradise for unloading and returns the empty trains back to Drakesboro using its own crews. These operations are specified in the contract between TVA and CSXT.

(Rivesville) and between Catawba Jct. and Loveridge Mine pursuant to joint use rights under the MGA Agreement, stepping into CSXT's shoes under that agreement for this purpose. Between Catawba Jct. and Haywood/Consol 95 Mine, the SFRR replicates (constructs, owns and operates) portions of CSXT's Fairmont, Bridgeport and Short Line Subdivisions.

The other six branches on the East Division serve power plants and other destinations and rail/water transfer terminals in Virginia, North Carolina and South Carolina. The Dahlgren Branch serves the Birchwood power plant at Sealston, VA. The Richmond Branch serves coal-fired power plants and other industrial facilities at Wheelwright, Bermuda Hundred and Hopewell, VA. The Stone Branch serves a Stone Container plant that burns coal at Stone, SC. The Cross Branch serves Santee Cooper's Cross Generating Station in Berkeley County, SC. The Charleston Branch serves ship/rail transfer facilities at Charleston, SC.

c. **Interchange Points**

The SFRR interchanges coal and other traffic with two Class I railroads, CSXT and NS, along with various regional and short-line railroads that CSXT actually interchanges with today. The physical interchange locations, by division, and the railroad(s) with which the SFRR interchanges traffic at each location, are shown in Exhibit III-B-2. It should be noted that the SFRR interlines traffic with additional short lines that are reached via residual CSXT trackage – that is, the SFRR tracks do not physically connect with the short line's tracks.

Details concerning all of the short lines with which the SFRR interlines traffic are shown in e-workpaper "Seminole Short Line RR Summary.pdf."

All traffic interchanged by the SFRR with other carriers is intact trainloads. This traffic consists of interline forwarded, interline received and overhead traffic. The track configurations at each interchange point are shown in Exhibit III-B-3.

Many of the intermodal and general freight trains that the SFRR interchanges with CSXT include carload traffic that is not part of the SFRR's traffic group. As discussed in more detail in Part III-C-2, the SFRR moves these trains intact, as it receives them from CSXT, and does not remove (or add) non-SARR revenue cars at either the on-junction or the off-junction.

d. Route Mileage

The constructed route mileages for the SFRR's principal line segments are shown in Table III-B-1 below. Details are provided in e-workpaper "Seminole Florida Railroad Route Miles.xls." The CSXT operating timetables and track charts that were used to develop the lines being replicated, which were produced by CSXT in discovery, are included in e-workpapers "CSXT Timetables.pdf" and "CSXT Track Charts.pdf." Maps and schematics of various parts of the SFFR route and contiguous areas that CSXT produced in discovery are included in e-workpaper "CSXT Maps.xls."

TABLE III-B-1 SFRR LINE SEGMENTS AND ROUTE MILEAGE		
Segment	**CSXT Subdivision(s)**	**Miles**
West Division		
Princeton to Evansville	CED, Evansville	33.73
Evansville to Nashville	Henderson, Nashville Terminal	153.48
Nashville to Chattanooga	Nashville Terminal, Chattanooga	147.36
Chattanooga to Atlanta	W&A, Atlanta Terminal	131.03
Atlanta to Folkston	Atlanta Terminal, Manchester, Fitzgerald, Jesup	312.25
Folkston to Jacksonville	Nahunta, Jacksonville Terminal	37.96
Jacksonville to Bostwick	Jacksonville Terminal, Sanford	49.02
Morganfield Branch	Morganfield Branch/Pee Vee Spur	25.13
Paradise Branch	O&N	27.53
Stilesboro Branch	Cartersville	10.21
East Division		
Brownsville to McKeesport	Mon, Pittsburgh	42.20
McKeesport to Cumberland	Pittsburgh, Keystone	134.16
Cumberland to Brunswick	Cumberland Terminal, Cumberland	99.70
Brunswick to Washington	Metropolitan, Capital	48.94
Washington to Richmond	Capital, RF&P, Richmond Terminal	119.46
Richmond to Rocky Mount	Richmond Terminal, Bellwood, North End	123.93
Rocky Mount to Florence	South End	172.30
Florence to Folkston	Charleston, Nahunta	305.07
Robinson Run Branch	Loveridge Secondary, Fairmont, Mountain, Bridgeport, Shortline	60.52
Dahlgren Branch	Dahlgren Branch	9.91
Richmond Branch	Hopewell, Bermuda Hundred	18.90
Roanoke Rapids Branch	North End/Roanoke Rapids	5.07
Stone Branch	Stone Spur	5.80
Cross Branch	Cross	13.27
Charleston Branch	Andrews	5.47
Total main line miles		1,910.59
Total branch line miles		181.81
Total constructed route miles		**2,092.40**

All of the 2,092.40 route-miles shown in Table III-B-1 represent lines that are being constructed by the SFRR. In addition, the SFRR operates over

79.60 miles of NS track by means of trackage rights under the MGA Agreement between CSXT and NS, as CSXT does today.

The trackage rights miles involve NS's Loveridge Secondary, shown in Table III-B-1 as part of the Robinson Run Branch. The SFRR uses operating rights over the entire Loveridge Secondary, including the 66.70-mile portion between CP Brown, PA and Catawba Jct. (Rivesville), WV, and the 12.90-mile portion between Catawba Jct. and Loveridge Mine. Thus, the total constructed branch line miles equal 181.81, and the total branch line miles operated by the SFRR under trackage (operating) rights equal 79.60.

The route mileages shown in Table III-B-1 (and the additional trackage rights miles described above) include mileage only for the lines over which the SFRR operates its own trains with its own locomotives and crews. Although not included in its route miles, some SFRR trains are operated by other carriers over certain non-SFRR line segments.[4] The additional miles these trains operate over other carriers are included for certain movements for purposes of calculating locomotive and freight car costs, and for purposes of determining revenue divisions for cross-over traffic using the Board's ATC methodology. The additional operating miles are shown in e-workpaper "Seminole Florida Railroad Route Miles.xls."

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[4] The non-SFRR lines involved are Evansville & Western Railroad ("EVWR") lines in Indiana/Illinois and NS (former MGA) lines in West Virginia/ Pennsylvania. EVWR and NS operate SFRR trains over these lines using their own crews. These operations are described in more detail in Part III-C-1 below.

e. Track Miles and Weight of Track

The SFRR's track and yard configuration was developed by SECI's expert operating witnesses, Paul Reistrup and Walter Schuchmann.[5] The system configuration was developed to accommodate the SFRR's traffic group, using several tools, including information provided by SECI Witness Thomas Crowley (and supported by data produced by CSXT) concerning the SFRR's peak-year traffic volumes and flows, and the trains that will move over the SFRR system in the peak week of the peak traffic year; the SFRR operating plan developed by Mr. Reistrup; CSXT's operating timetables and track charts for the divisions and subdivisions involved; and a simulation of the SFRR's operations executed by Mr. Schuchmann using the Rail Traffic Controller ("RTC") model, which has been accepted by the Board as an appropriate operational modeling tool in several previous rail rate cases.[6] Exhibit III-B-3 contains detailed schematic track and yard diagrams for the entire SFRR system.

The SFRR's track miles are shown in Table III-B-2 below. Details (including a breakdown of the track miles for the West and East Divisions) are provided in e-workpaper "SFRR Track Miles.xls."

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[5] These witnesses' qualifications are detailed in Part IV below.

[6] *See, e.g.*, *PSCo/Xcel* at 27; *WFA/Basin* at 15. A detailed explanation of the RTC Model simulation that was conducted in developing the SFRR system configuration is set forth in Part III-C-2.

TABLE III-B-2 SFRR CONSTRUCTED TRACK MILES	
Main line track – Single first main track[1/]	2,092.40
– Other main track[2/]	750.13
Total main line track	2,842.53
Interchange tracks	75.62
Helper pocket and setout tracks	13.03
Yard tracks[3/]	105.86
Total track miles	**3,037.04**

[1/] Single first main track miles equal total constructed route miles including branch lines, but excluding yard tracks and the 79.60 route miles of the Loveridge Secondary in Pennsylvania and West Virginia which are operating miles that the SFRR does not construct.

[2/] Equals total miles for constructed second main tracks and passing sidings.

[3/] Includes all tracks in yards, such as locomotive inspection tracks and MOW equipment storage tracks.

i. <u>Main Lines</u>

As shown in Exhibit III-B-3, the SFRR's main lines consist primarily of a single main track, with sections of second main track (including signaled passing sidings) at appropriate intervals to enable the SFRR to move its peak period trains efficiently and without delay. The SFRR has a total of 750.13 track miles of second main track/passing sidings.

All constructed main track and passing sidings in line segments carrying 20 million tons or more gross tons per year ("MGT") consist of new 136-pound continuous welded rail ("CWR"). Standard rail is used for all mainline track, except that premium (head-hardened) rail is used on curves of 3 degrees of more, where rail wear is heaviest. The main tracks in segments carrying less than 20 MGT (including all branch mains) consist of new 115-pound CWR.

All of the SFRR's track and structures are designed to accommodate a gross weight on rail ("GWR") of 286,000 pounds per car and maximum train speeds of 60 mph, conditions permitting. However, as explained in Part III-C-3, most trains are limited to a maximum speed (conditions permitting) of 50 mph on the main lines, and all trains are limited to a maximum of 35 mph on the branch lines.

ii. <u>Branch Lines</u>.

As described above, the SFRR will construct and operate ten branch lines: the Morganfield, Paradise and Stilesboro Branches on the West Division and the Robinson Run, Sealston, Richmond, Roanoke Rapids, Stone, Cross and Charleston Branches on the East Division. These branch lines are used to serve origin coal mines, destination power plants and other industrial facilities, water/rail transfer terminals, and interchange points. The track configurations for these branches are shown in Exhibit III-B-3. Each branch consists of a single main track except for the Robinson Run branch, which has several passing sidings due to its length and the volume of traffic moving over it.

iii. <u>Sidings</u>

The SFRR's passing sidings are considered part of its main tracks in both mainlines and branch lines, and are discussed in Subparts a. and b. above.

iv. Other Tracks

Other tracks include interchange tracks, pocket tracks for helper locomotives, and set-out tracks for bad order cars.[7] Yard tracks are discussed in the next section. E-workpaper "SFRR Track Miles.xls" details the track miles by type and quantity.

Interchange tracks. Interchange tracks are located at the points described in Exhibit III-B-2. Most of the interchanges are with CSXT, though some are with NS or various short lines. All interchange tracks have 115-pound new CWR, with No. 14 turnouts. The layout of the interchange tracks at each location is shown in Exhibit III-B-3. The SFRR has a total of 75.62 miles of interchange tracks.

Helper pocket and other setout tracks. The SFRR has two helper districts, located near Cowan, TN and Sand Patch, PA. Trains are helped in both directions in each helper district. Each helper district has helper pocket tracks at both ends of the district, and there are also helper pocket/setout tracks at Sand Patch, which is where most helpers are removed in that district, and at the ends of the southbound and northbound Cowan districts. These tracks are double-ended tracks, 600 feet in length.

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[7] The SFRR's main lines include the portions of the spurs serving origin mines and destination power plants that it owns. The SFRR also has a 1,000-foot maintenance-of-way equipment storage track at each of its four yards; the track miles for these tracks are included in the yard track quantity.

In addition, one setout track is placed on each side of each of the SFRR's Failed-Equipment Detectors ("FEDs"), as described in Parts III-C and III-F below, with one FED on each track in areas with two main tracks. All of these setout tracks are double-ended tracks, 860 feet in length between switches. This provides 600 feet in the clear to accommodate both the occasional bad-order car and the temporary storage of maintenance-of-way ("MOW") equipment. One double-ended setout track also is located at each non-yard interchange point.

The locations of the helper pocket and setout tracks are shown in Exhibit III-B-3. Details are provided in e-workpaper "SFRR Track Miles.xls." They consist of 115-pound new CWR. The SFRR has a total of 13.03 track miles for these tracks.

3. Yards

a. Locations and Purpose

The SFRR has a total of four yards, two on the West Division and two on the East Division. The West Division Yards are located at Folkston, GA and Nashville, TN. The East Division yards are located at Petersburg, VA and Newell, PA. These yards are used for train staging, 1000/1500-mile car inspections, and locomotive fueling.

i. Folkston Yard

The SFRR's largest yard is located near Folkston, GA, where the West Division connects with the East Division. As shown on page 43 of Exhibit III-B-3, the Folkston Yard is located south of the junction between the West and

East Divisions. It has five relay tracks, car setout/storage tracks, and a MOW equipment storage track. The yard also has a locomotive maintenance facility with tracks used for 92-day inspections and locomotive maintenance/repairs.

Folkston Yard is a staging/inspection point for empty coal trains moving from power plant destinations in Florida (including SGS) to mines served via both the East and West Divisions. All empty coal trains moving through Folkston receive a 1,500-mile inspection at this yard, and some intermodal and general freight trains receive a 1,000-mile inspection there as well. The locomotives on these trains are refueled at Folkston Yard, using tanker trucks. Given its proximity to both the West and East Divisions, the SFRR's locomotive maintenance and repair facilities are located at Folkston, and 92-day locomotive inspections are performed at Folkston as needed. Room also is provided at Folkston Yard for a contract car repair shop. The SFRR's corporate headquarters are located adjacent to Folkston Yard, and the yard is a maintenance-of-way and crew base.

ii. <u>Nashville Yard</u>

The SFRR's Nashville Yard is a train staging and inspection yard with three relay tracks, one double-ended setout track used to hold and repair cars that are bad-ordered as a result of the inspection process, as well as repaired/spare cars, a locomotive inspection track with a pit, and a MOW equipment storage track. The yard is located south of the Nashville interchanges with CSXT and the Nashville & Eastern Railroad, and is shown on page 44 of Exhibit III-B-3.

Nashville Yard is used to stage empty coal trains for movement to Illinois Basin mines/interchange points located further north on the West Division. All empty coal trains that move through Nashville receive a 1,500-mile car inspection at Nashville Yard, and some intermodal and general freight trains receive a 1,000-mile inspection at this yard. The locomotives on these trains are also fueled and serviced at Nashville Yard, using tanker trucks, and 92-day inspections are performed on these locomotives as needed.

iii. Newell Yard

The SFRR has a coal train staging and inspection yard on the East Division at Newell, PA. It is located just north of the intersection between the SFRR's tracks and the NS tracks serving the "MGA" mines at Brownsville (CP Brown), PA, at the same location as CSXT's existing Newell Yard. CSXT constructed its Newell Yard after the Conrail split date in 1999, and uses it to stage and inspect empty coal trains to be moved by NS to the former MGA mines for loading, and thence (after loading) back to CSXT at Newell.

The SFRR's Newell Yard is shown on page 45 of Exhibit III-B-3. 1500-mile inspections are performed on all empty coal trains moving through Newell Yard. This yard has two relay tracks, one double-ended car setout/storage track, and a locomotive inspection/fueling track with a pit.

CSXT's Newell Yard is equipped with yard air, which means cars on the relay tracks are connected to air when locomotives are detached. Mr. Reistrup has equipped all of the SFRR's yards with yard air.

iv. Petersburg Yard

The SFRR's Petersburg Yard is located on the East Division near Petersburg, VA.[8] This yard is used for 1,500-mile inspections of empty and loaded coal trains moving to/from mines in Pennsylvania and West Virginia served via the East Division, and for 1000-mile inspections of some intermodal and general freight trains. 92-day locomotive inspections and locomotive re-fueling also are performed on these trains at Petersburg, as needed. As at the SFRR's other yards, locomotives are fueled using tanker trucks.

Petersburg Yard is shown on page 46 of Exhibit III-B-3. It consists of three relay tracks, one double-ended car setout/storage track, a locomotive inspection/fueling track with a pit, and a MOW equipment storage track.

b. Miles and Weight of Yard Track

The SFRR's four yards contain a total of 105.86 miles of track. Details are shown in e-workpaper "SFRR Track Miles Worksheet.xls." As shown in Exhibit III-B-3, the yard tracks have 115-pound new CWR. The main running tracks through the yards and the initial yard leads have the same weight and type of rail as the adjacent mainline tracks.

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[8] This yard is actually situated at the location of CSXT's small yard at Collier, VA, just south of Petersburg.

4. **Other**

a. **Joint Facilities**

The SFRR route has two joint facilities, both owned by NS. One is the NS (former MGA) Loveridge Secondary, which extends between Brownsville, PA and Rivesville (Catawba Jct.), WV and between Rivesville and Loveridge Mine, WV. The SFRR operates trains over the Loveridge Secondary via the joint use rights granted to CSXT in the MGA Agreement. The SFRR also operates coal trains that originate at other former MGA coal mines, but NS handles these trains over the former MGA tracks for the SFRR's account between the mines and Newell Yard, so the NS trackage – except for the Loveridge Secondary – technically is not a joint facility.

The other joint facility involves a small piece (less than one mile) of NS trackage at Petersburg, VA, which connects with industrial trackage owned by a SFRR customer. The SFRR steps into CSXT's shoes under its joint facility agreement with NS to operate over this NS trackage as well.

b. **Signal/Communications System**

All of the SFRR's main lines and the Robinson Run Branch are equipped with a CTC traffic control system, with powered switches that are controlled by centralized dispatchers located at the railroad's headquarters at Folkston, GA. Power switches also are used for the connections between the main line and the SFRR's other branch lines, the helper pocket and setout tracks, the yard lead and relay tracks, and the spurs at local origins and destinations.

Switches on the branch lines themselves, interior yard switches, and set-out track switches are hand-thrown switches.

Communications are conducted using a microwave system, with microwave towers at appropriately-spaced intervals as described in Part III-F-6 below. All locomotive engineers, dispatchers and field supervisory personnel are equipped with radios connected to the microwave system. Certain employees also will be equipped with cellular telephones for emergency railroad use, as a back-up to the radios. Further details on the SFRR's signal and communications system are provided in Part III-F-6-e below.

c. **Turnouts, FEDs and AEI Scanners**

All turnouts between the SFRR's main tracks in CTC territory are No. 20 turnouts. This permits trains to operate through the turnouts at speeds of up to 40 miles per hour (conditions permitting). No. 20 turnouts also are used for the "wye" connections at Folkston and between the main line and branch lines, as well as for the yard leads and the main running tracks at both ends of each of the SFRR's four yards. No. 14 turnouts are used between main tracks and all other tracks, including interchange tracks, the connections with the origin and destination spurs, and helper pocket tracks, where trains move at slower speeds. Trains can operate through these turnouts at a speed of up to 25 miles per hour. No. 10 turnouts are used within yards and for setout and MOW equipment storage tracks.

FEDs, which include hot-bearing, dragging-equipment, cracked-wheel and wide/shifted load detection systems, have been spaced approximately every 25 miles along the SFRR's route. Two FEDs are provided at each location that has two main tracks, one for each track. Each FED is accompanied by two setout tracks, each located within three train lengths on either side of the FED. Each such track is an 860-foot double-ended track (with 600 feet in the clear) to facilitate the setout of bad-order cars from trains operating in either direction. These tracks are used primarily for temporary storage of bad-order cars detected by the FEDs, as well as for temporary storage of work equipment.

Automatic Equipment Identification ("AEI") scanners are located at or near each of the locations where the SFRR interchanges trains with other railroads (CSXT, NS and various short lines), as described in Part III-B-1-c above. A total of 36 AEI scanners have been provided, as shown in Exhibit III-B-3. The AEI scanners have been placed so as to enable them to capture all train movements that occur on the SFRR, including both local and interline movements.

III-C Operating Plan

III. C. STAND-ALONE RAILROAD OPERATING PLAN

The operating plan for the SFRR was designed by Paul Reistrup, one of the nation's leading rail operations and management experts, with assistance from Walter Schuchmann who performed a simulation of the SFRR's peak-period operations using the Rail Traffic Controller (RTC) model with operating inputs provided by Mr. Reistrup. The operating plan is designed to enable the SFRR to transport its peak-year traffic volume, and the trains moving on the system during the peak week of the peak year, in a manner that meets the transportation needs of its traffic group, and in full compliance with all applicable CSXT transportation and service commitments to the customer group involved. The operating plan is also a key to developing the SFRR's system track configuration, as described in Part III-B, and it provides the basis for many of the SFRR's annual operating expenses shown in Part III-D.

The starting point for developing the SFRR operating plan is the railroad's peak year traffic group. As indicated in Part III-A, the SFRR's peak traffic year is 2018, which is also the final year in the 10-year DCF period. As described in Part III-A-1, the SFRR's traffic group consists of coal, intermodal and general freight traffic, moving primarily in trainload service. The traffic moves in various flows over different parts of the system. In 2018, the SFRR will transport the following total traffic volumes:

TABLE III-C-1 SFRR 2018 TRAFFIC VOLUME		
	Cars/Containers	Millions of Tons
Coal	627,969	69,782,848
Local	93,284	10,825,440
Interline Forwarded	12,946	1,497,317
Interline Received	10,157	1,185,728
Overhead	511,182	56,274,363
Intermodal	710,486	9,314,494
Local	22,253	219,695
Interline Forwarded	198.049	2,229,833
Interline Received	224,607	3,385,301
Overhead	265,577	3,479,667
General Freight	592,094	43,195,369
Local	33,326	2,381,387
Interline Forwarded	90,008	8,042,175
Interline Received	90.896	7,178,737
Overhead	377,864	25,595,069
Total	**1,930,549**	**122,292,711**

1. **General Parameters**

The SFRR's operating plan reflects the different commodities it handles and the types of service it provides. The SFRR serves various local origins and destinations, including coal mines, power plants, intermodal ramps, water/rail transfer terminals, and industrial facilities. The SFRR also serves interchange points with other railroads including CSXT, NS,[1] and various short

[1] The principal interchange with NS involves movements to and from certain mine origins in West Virginia and Pennsylvania formerly served by the Monongahela Railway ("MGA"). These lines were acquired and are now operated by NS pursuant to the Conrail control transaction approved by the Board in *Finance Docket No. 33388*, but CSXT has an equal right of access to the origins in the region.

lines. The interchange locations are listed in Exhibit III-B-2. All trains interchanged with other railroads are run-through trains which means the locomotive power stays with the train. Trains moving overhead on the SFRR system are transported intact, regardless of whether the train contains cars that are not included in the SFRR's traffic group, to avoid the need for intermediate switching and to avoid imposing additional switching on the connecting carrier at the on-junction or off-junction points.

As described in Part III-B, the SFRR has been divided into two geographic divisions for operating/engineering convenience: the West Division and the East Division. The West Division extends from Princeton (North Gibson), IN on the north to Bostwick, FL on the south, and includes three branch lines. The East Division extends from Haywood and Consol 95, WV (Robinson Run Mine) and the "MGA" coal mining region in northeastern West Virginia/ southwestern Pennsylvania to Folkston, GA, where it connects with the West Division, and includes seven branch lines. A map showing the SFRR's route, by division, is attached as Exhibit III-B-1.

a. <u>Traffic Flow and Interchange Points</u>

The SFRR's peak-year (2018) traffic volume consists of 69.8 million tons of coal traffic, 9.3 million tons of intermodal traffic, and 43.2 million tons of general freight traffic. The traffic density varies over different line segments. The busiest segment on the West Division is between Junta and Atlanta, GA and the busiest segment on the East Division is between Cumberland and Point of

Rocks, MD. The first-year (2009) traffic densities for the SFRR's principal line segments are shown in Table III-C-2 below.

TABLE III-C-2
SFRR 2009 TRAFFIC DENSITY BY LINE SEGMENT

Line Segment[1/]	Density (millions of gross tons per mile)
West Division	
Princeton (North Gibson) to Evansville	30.7
Evansville to Nashville	35.1
Nashville to Widows Creek	36.7
Widows Creek to Junta	28.7
Junta to Atlanta	57.8
Atlanta to Manchester	41.3
Manchester to Folkston	38.8
Folkston to Callahan	48.2
Callahan to Jacksonville	26.0
Jacksonville to Bostwick	15.4
East Division	
Haywood/Consol 95 to Brownsville [2/]	7.2
Brownsville to McKeesport (Demmler Yard)	27.3
McKeesport to Cumberland	25.9
Cumberland to Point of Rocks	39.9
Point of Rocks to Alexandria Jct.	26.9
Alexandria Jct. to Richmond	25.3
Richmond to Bellwood	31.1
Bellwood to Roanoke Rapids	22.0
Roanoke Rapids to Pembroke	16.0
Pembroke to Charleston	12.9
Charleston to Savannah	11.4
Savannah to Folkston	8.6

[1/] Tonnages shown for a line segment are the maximum tonnages moving over any part of the segment – volumes may not be uniform for the entire segment.

[2/] The maximum density shown for the Robinson Run Branch (Haywood/Consol 95 to Brownsville) is for the portion south of Catawba Jct. that the SFRR is constructing.

The SFRR directly serves six coal mine origins or coal loadout facilities in Indiana, Kentucky and West Virginia, and 21 coal destinations (14 power plants and seven industrial facilities) to which it delivers 32.1 million tons of coal in 2009. The SFRR also handles coal originated and terminated by other railroads, including CSXT, NS and various short lines. In addition, the SFRR handles intermodal and general freight traffic in interline and local service, interchanging such traffic with CSXT and other railroads at various locations.

The SFRR's operating plan takes into account its total traffic volume and the traffic flows described in Part III-A and summarized above. It was designed by Mr. Reistrup to enable the SFRR to handle efficiently the trains moving over the various parts of the SFRR system during the peak one-week period in the peak year ({ }, 2018).[2] The trains that the SFRR will transport during the peak week and corresponding study period for the RTC simulation are shown in Exhibit III-C-1.

The operating plan also reflects the SFRR's relationship with NS and various regional railroads and short lines with respect to traffic interchanged with those rail carriers. This relationship is based on CSXT's joint use and interchange agreements with such carriers; the SFRR steps into CSXT's shoes under these agreements.

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[2] The peak-week train frequencies were developed using the procedures described in Part III-C-2-b below.

One of these agreements, involving CSXT's (and thus the SFRR's) relationship with NS in transporting coal from the "MGA" mines in Pennsylvania and West Virginia, warrants a brief comment. Following consummation of the Conrail control transaction approved by the Board in *Finance Docket No. 33388*, CSXT and NS entered into the MGA Agreement for purposes of originating coal traffic at mines served by the former MGA (now NS) including Bailey and Emerald Mines in Pennsylvania and Blacksburg No. 2, Federal 2 and Loveridge Mines in West Virginia.[3] The SFRR transports coal traffic originating at these mines under single-line rates, and the coal moves in SFRR trains (cars and locomotives) under the MGA Agreement.[4] However, with two exceptions noted below, NS operates these trains between the SFRR's Newell Yard near Brownsville, PA and the mines, using NS crews.

Pursuant to the MGA Agreement, the SFRR does use CSXT's operating rights to move certain trains over the former MGA (now NS) Loveridge Secondary between Brownsville and Rivesville (Catawba Jct.), WV and between Rivesville and Loveridge Mine, WV. Two movements are implicated. One involves trains (including in particular coal trains loaded at Consol 95/Robinson

[3] A copy of the MGA Agreement, including the associated Monongahela Operating Plan, is reproduced in e-workpaper "MGA Agreement.pdf."

[4] The SFRR has a similar arrangement with the Evansville Western Railroad ("EVWR") with respect to coal traffic originating at the Pattiki Mine at Epworth, IL and traffic terminating at the Mt. Vernon rail/water transfer terminal at Mt. Vernon, IN, both of which are served by the EVWR. The EVWR handles SFRR trains using its own crews between Evansville, IN and the Pattiki and Mt. Vernon facilities.

Run Mine) moving between points south of Rivesville, WV and points north of Brownsville (Newell), PA. The lines south of Rivesville are owned by CSXT and replicated (constructed) by the SFRR. Like CSXT, the SFRR moves these trains over the Loveridge Secondary between Brownsville and Rivesville as well as over its own line between Rivesville and points south including Consol 95 Mine.

The second movement involves coal trains that operate between Grafton, WV and Loveridge Mine, which the SFRR interchanges with CSXT at Grafton. Given that the one-way distance between Grafton and Loveridge Mine is only 39.3 miles, the SFRR operates these trains using its own crews, rather than having NS operate the trains between Rivesville and Loveridge Mine. This avoids the inefficiency inherent in changing crews at Rivesville, which is only 12.5 miles from the mine. (The other SFRR trains that originate at Loveridge Mine move via Brownsville/Newell, and are handled by NS between the mine and Newell pursuant to the MGA Agreement.)

With respect to the SFRR's intermodal and general freight traffic, it should be noted that such traffic includes cross-over traffic consisting of blocks of cars that CSXT moves in trains that also contain other, non-SFRR traffic. The SFRR operating plan provides for the movement of complete trains of cross-over traffic interchanged with CSXT. Thus, the SFRR operates trains containing non-SFRR traffic exactly as they are received from CSXT, without removing non-SFRR cars from the train at the "on-SARR" points where they are received from CSXT. Such trains that move in overhead service with CSXT are also delivered to

CSXT at the "off-SARR" points exactly as the trains moved through those points on the real-world CSXT – thus, CSXT does not have to switch non-SFRR cars into the train at these points. In short, the SFRR handles these trains as it receives them, regardless of the cars on them, so that neither it nor CSXT needs to remove car from or add cars to the trains at the interchange locations.[5]

b. <u>Track and Yard Facilities</u>

The SFRR's track and yard facilities are described in Part III-B-2 and shown schematically in Exhibit III-B-3. The main lines on both the West and East Divisions consist of single track with appropriately-spaced sections of second main track (essentially signaled passing sidings with power switches). The branch lines consist of a single main track, except that there are some passing sidings on the Robinson Run Branch. The siding configuration and spacing were developed by SECI Witness Reistrup with assistance from Witness Schuchmann's RTC Model simulation of the SFRR's peak-period operations.

All of the SFRR's main tracks are constructed to a standard that allows for maximum train speeds of 60 mph, conditions (including gradient and curvature) permitting. Trains on all branch lines are limited to a maximum speed of 35 mph. All tracks are being constructed to permit a maximum GWR of 286,000 pounds per car.

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[5] To the extent such a train drops off or picks up cars at an intermediate point that is a local SFRR destination or origin, the SFRR crew performs this work as well. As described in Part III-C-2-a below, these movements are treated as complete trains for purposes of the RTC Model simulation

All of the SFRR's main lines are equipped with CTC and main-track power switches. Power switches are also installed at a few key points on the SFRR's branch lines, as shown in Exhibit III-B-3.

Wood crossties are being used on all SFRR tracks. The tie and other track and subgrade specifications (including rail section, turnouts, other track material, ballast and side slopes) are described in Parts III-F-2 and 3 and associated e-workpapers. The track and subgrade specifications enable the SFRR to handle its expected peak-period traffic volume efficiently, consistent with lowest feasible cost, while enabling all customer service requirements to be met.

c. **Trains and Equipment**

i. **Train Sizes**

The SFRR operates complete trains, including coal trains, intermodal trains, and general freight trains, in local and interline (including overhead) service. The SFRR's train sizes are the same as those for the comparable CSXT trains operated in the most recent calendar year (2008) for which CSXT produced car movement data. As noted earlier, non-coal trains that are interchanged with CSXT have the same mix of traffic as the comparable CSXT trains that moved between the same points in the base year (2008). As also noted previously, a train received in interchange from CSXT may have cars that do not carry revenue traffic that is part of the SFRR's traffic group, including empty cars. The SFRR moves these trains as it receives them from CSXT, without removing or adding any cars unless cars with SFRR traffic were removed or added at an intermediate point for the comparable 2008 train operated by CSXT. The SFRR's peak-period trains are treated essentially this way in the RTC model simulation.

All trains have sufficient locomotives to provide a horsepower-to-trailing ton ratio that assures they are adequately powered to meet present contractual transit-time commitments and service requirements. This was confirmed by the RTC simulation.

The SFRR operating plan assumes that the maximum train sizes (for a given train symbol) and locomotive consists will remain the same throughout the 10-year DCF period. Increased volumes are accounted for by adding cars to existing trains consistent with the SFRR's (and CSXT's) ability to handle them with the same locomotive consist and track configuration (yards/sidings). If a train would be too long using this procedure, "growth" trains are added that are equivalent or smaller in size to the comparable trains CSXT operated in 2008, as shown in the car event and train movement data it produced in discovery. The maximum train size is 150 cars.

ii. Locomotives

The SFRR requires a total of 188 locomotives to handle its peak-period traffic volume. The railroad has two types of locomotives: GE AC4400CW locomotives for road and helper service, and EMD SW1500 locomotives for yard switching and work-train service. The number of locomotives required for each kind of service is shown in Table III-C-3 below.

The SFRR's road locomotive requirements take into account the need to equalize the locomotive power used in run-through service for the CSXT and other interchange trains, any intermediate setting out or picking up of blocks of cars, and a spare margin which is described below.

TABLE III-C-3 SFRR PEAK LOCOMOTIVE REQUIREMENTS	
Type of Service	**Number**
Road/Helper – AC4400CW	180
Switch/Work Train – SW1500	8
Total	**188**

(a) **Road Locomotives**

The SFRR's road locomotives consist of General Electric AC4400CW locomotives. This is a modern AC locomotive that is well-suited to heavy-haul service, and data produced in discovery indicate that CSXT uses this locomotive type extensively.[6]

The SFRR's "standard" road locomotive consist for all trains is two locomotives in a 1/1 distributed power ("DP") configuration, although some heavy coal and general freight trains require three or more road locomotives for all or

[6] Data produced by CSXT in discovery indicate that the carrier operates coal and other trains with a variety of road locomotive types, probably because it inherited locomotives from Conrail and acquired locomotives at different times. However, it is more efficient for the SFRR – with its limited traffic group and with one start-up date for all operations – to use a single locomotive type for road service. The road locomotive type selected is the locomotive CSXT presently prefers for coal trains based on its discovery responses.

part of their runs on the SFRR system (not including helpers at certain locations). Where additional units are needed, they are placed at the front of the train.

The DP configuration involves positioning one locomotive on the front of the train and one locomotive on the rear of the train (hence the "1/1" designation). The rear (DP) locomotive has no engineer and is remotely controlled by radio signals from the lead locomotive. The use of a DP locomotive configuration reduces the drawbar tension between cars and enables the same number of locomotives to haul heavier trains or the same size trains at higher speeds. It also facilitates reversal of direction by a train, as locomotives do not have to be repositioned from one end of the train to the other. DP locomotive configurations are standard practice on the western Class I railroads, and DP is also being used by CSXT.[7]

The count of road locomotives for the peak year includes a spare margin and a peaking factor, consistent with prior STB decisions (*e.g.*, *WFA/Basin* at 33-34). The spare margin and peaking factor were calculated as follows:

Spare Margin. The locomotive hours spent on the SFRR (as well as the number of locomotives required for the SFRR's local movements) were developed from the analysis of the SFRR's peak-period operations using the RTC Model, as described in Part III-C-2 below. The total number of road locomotives required includes a spare margin of {   } percent. This spare margin is based on

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[7] *See*, *e.g.*, http://www.csx.com/?fuseaction=about.news_detail&i=49630 and e-workpaper "Helper Locations on CSXT.pdf."

information provided by CSXT in response to SECI's discovery requests. Specifically, the CSXT spreadsheet titled "Loco stats 200801-200901.xls" provides days in service by category and locomotive type for 2008. The spare margin calculation is based on the out-of-service days for AC4400 locomotives shown in CSXT's data and summarized in e-workpaper "CW44 loco spare margin.xls."

Peaking Factor. In addition to using the { } percent spare margin, SECI's experts determined the SFRR's peak locomotive requirements by applying the methodology approved by the Board in *PSCo/Xcel II*. In *PSCo/Xcel II*, the Board determined that the peaking factor is to be determined by dividing the trains in the peak week by the average number of trains per week in the peak year. In this proceeding SECI's experts have modified this procedure slightly and have developed the locomotive peaking factor by dividing the trains moving in the peak week of the 2008 base year ({ }) by the average number of trains moving per week in the 2008 base year.[8] This results in a peaking factor of 1.107. *See* e-workpaper "SFRR peaking factor.xls."

[8] In *PSCO/Xcel II*, the base year trains were forecasted to the peak year and then the peak year statistics were developed and forecasted back to the base year. This process is time-consuming, costly to develop, and unnecessary. To eliminate these unnecessary steps, SECI's experts developed the annual statistics from the base year train list and forecasted these statistics forward to develop the required statistics in each year of the DCFF model life.

(b) <u>Helper Locomotives</u>

Based on information provided by CSXT in discovery and the results of SECI's RTC Model simulation of the SFRR's operations, the SFRR has two helper districts. SECI Witness Reistrup has decided to use AC4400CW road locomotives for helper service to minimize the diversity of road locomotive types in SFRR service. This is consistent with current CSXT practice at several locations. The SFRR uses two-unit helper consists, with the locomotives coupled back-to-back. This enables the helper consist to operate in either direction with the cab end forward on the lead locomotive.

One of the SFRR's helper districts is located on the West Division and the other is located on the East Division. The West Division helper district is the Cowan district on the Chattanooga Subdivision near Cowan, TN. Helpers are required for some southbound and northbound trains at this location. The southbound portion of this district extends from Milepost 86.95 to Milepost 96.85, a distance of 9.9 miles. The northbound portion of the district extends from Milepost 94.35 to Milepost 85.45, a distance of 8.9 miles. Helpers are removed from trains in both directions at the ends of the respective districts, and then run light back to their point of origin.

The East Division helper district is the Sand Patch district on the Keystone Subdivision in Pennsylvania. Helpers are required for some trains operating in both directions over Sand Patch Grade which crests the Allegheny

Mountains between Connellsville, PA and Cumberland, MD.[9] The eastbound portion of this helper district extends from Milepost 270.0 at Connellsville to Milepost 211.0 at Sand Patch, PA, a distance of 59 miles. The westbound portion of the district extends from Milepost 193.0 at Hyndman, PA to Milepost 211.0 at Sand Patch, a distance of 18 miles. The helpers on most eastbound trains are removed from the train at Sand Patch, and then run light back to their point of origin at Connellsville. On a maximum of two trains per day, the eastbound helpers stay on the train to Hyndman, where they are removed and then added to westbound trains requiring assistance over Sand Patch. The helpers stay on these trains to Connellsville, where they are again available to assist eastbound trains.

The RTC Model simulation indicates that a total of 302 trains moving during the 14-day simulation period require helper assistance. The breakdown of these trains for the entire simulation period and for the peak day for each district, used to determine the SARR's helper locomotive needs, is shown in Table III-C-4 below.

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[9] CSXT also operates a helper district west of Grafton, WV, for coal trains moving to/from Consol 95/Robinson Run Mine. The helpers are used in part for reversing the direction of these trains at Lumberport, which is required so they can move to and from the Robinson Run Industrial Track. The SFRR's coal trains have DP locomotives which facilitates the reverse movements, and the RTC simulation indicates that 100-car coal trains with a 1/1 DP locomotive configuration do not require helpers to move to/from Consol 95 Mine.

TABLE III-C-4 SFRR PEAK TRAINS REQUIRING HELPER ASSISTANCE		
Helper District	**Simulation Period**	**Peak Day**
Cowan – southbound	92	8
Cowan – northbound	32	4
Sand Patch – eastbound	167	15
Sand Patch – westbound	11	2
Total	**302**	**--**

Mr. Reistrup has provided two 2-unit helper consists for each of the Cowan and Sand Patch helper districts to cover the trains needing helper assistance on the busiest days during the simulation period.

(c) Switch/Work Train Locomotives

Mr. Reistrup has decided to use EMD SW1500 locomotives for switch and work-train service. This type of locomotive is commonly used by Class I and other railroads (including CSXT) for such service.

The SFRR requires a total of eight SW1500 locomotives for use in switch and work-train service. Two SW1500's are stationed at each of the SFRR's four yards (Nashville, Folkston, Newell and Petersburg) where 1000/1500-mile inspections are performed and switching of bad order and spare cars is needed. The SFRR has one 24/7 switch crew assignment at each yard, and each assignment uses one of the SW1500 locomotives. The second SW1500 at each location serves as a spare and is also used for work-train service on an as-needed basis.

iii. Railcars

Car ownership for the SFRR traffic group was determined from the shipment data produced by CSXT in discovery. This data shows that most of the SFRR's coal and general freight traffic moves in shipper-provided equipment and that nearly all of its intermodal traffic moves in shipper-provided containers and trailers. It is assumed that all flatcars used to transport intermodal containers and trailers are system cars. Table III-C-5 below summarizes the ownerships of railcars and intermodal units for each traffic type.

TABLE III-C-5 PERCENTAGE OF CAR OWNERSHIP BY TRAFFIC TYPE			
Traffic Type	**System**	**Foreign**	**Private**
Coal	25.2%	4.8%	70.0%
General Freight	42.2%	13.2%	44.6%
Containers & Trailers	--	9.3%	90.7%
Intermodal Flats	100.0%	--	--

The SFRR system car requirements for all of the movements in its traffic group were developed based on the 2008 base-year traffic and the simulated transit time output from the RTC Model. The resulting SFRR car requirements were increased by a 5.0 spare margin[10] and the 1.1207 peaking factor described earlier. A complete description of the development of car ownership costs for system, foreign and private cars is set forth in Part III-D-2.

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[10] The 5.0 percent spare margin is based on a review of transportation contracts provided by CSXT in discovery, { }. The 5.0 percent spare margin for shipper-provided cars was also accepted by the Board in *WFA/Basin* at 39 and *Otter Tail* at C-5.

2. Cycle Times and Capacity

A SARR's operating plan must enable it "to meet the transportation needs of the traffic the SARR proposes to serve."[11] As the Board noted in *WFA/Basin*, a SARR

> need not match existing operating practices of the defendant railroad, as the objective of the SAC test is to determine what it would cost to provide the service with optimal efficiency. However, the assumptions used in the SAC analysis, including the operating plan, must be realistic, i.e., consistent with the underlying realities of real-world railroading.

Id. at 15. As a practical matter, this means that the complainant shipper must demonstrate that its SARR can provide service to its traffic group members that meets its customers' requirements. In recent SAC rate cases this has been done by showing that the train cycle times during the peak period in the peak year are similar to or lower than the defendant's actual cycle and transit times during the comparable period of the most recent year for which data is available.

The starting point for the analysis in this case is the SFRR's peak-year traffic volume and its peak-period train counts, which were developed from CSXT's train movement data for the traffic included in the SFRR's traffic group for the most recent year (2008) for which such data is available. The peak trains, SFRR system configuration and relevant aspects of the operating plan were then input into the RTC Model to verify that the configuration and operating plan are

[11] *WFA/Basin* at 15; *see also PSCo/Xcel* at 11 ("the [operating] plan must be capable of providing, at a minimum, the level of service to which the shippers in the traffic group are accustomed").

realistic and adequate to enable the SFRR to operate its peak-period trains efficiently and in accordance with its customers' requirements as measured by train cycle/transit times.

a. Procedure Used to Determine the <u>SFRR's Configuration and Capacity</u>

The SFRR's track configuration and facilities (including yards and interchange facilities), and its operating plan, were developed by Paul Reistrup,[12] with assistance from Walter Schuchmann of R.L. Banks & Associates, Inc., who performed the RTC Model simulation of the SFRR's peak-period operations. The SFRR's configuration and operating plan have been designed to accommodate its peak seven-day traffic volume and train frequencies during the 10-year DCF period. The peak traffic volume and train movements were developed by SECI Witness Thomas Crowley using the 2008 traffic and car/train movement data provided by CSXT in discovery, and the traffic forecast procedures described in Part III-A-2.

The process used to develop the SFRR system and operating plan was as follows. First, in late 2008 and early 2009, Mr. Reistrup conducted field trips during which he observed many of the CSXT lines and other facilities (such as yards) being replicated by the SFRR, as well as the NS/CSXT operations in the MGA region and the track layouts and train loading/unloading procedures at the

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[12] Mr. Reistrup has considerable direct experience with many of the CSXT and other lines being replicated by the SFRR. *See* Part IV, pp. IV-2-9.

origin mines served by the SFRR and at SGS.[13] Mr. Reistrup reviewed the CSXT operating timetables and track charts for the lines being replicated,[14] as well as maps of various facilities, joint facility/joint use agreements between CSXT and other railroads for the lines being replicated as well as for CSXT's use of the NS/MGA facilities, and CSXT interrogatory responses describing the operation of SECI coal trains and other trains. He then developed a preliminary track configuration for the SFRR, starting with CSXT's present main-track/passing siding configuration for all of the lines being replicated, and began developing the operating plan elements to be input into the RTC Model.

The essential elements of the operating plan (described below), the main-track configuration, and the yard and interchange locations were then provided to Mr. Schuchmann for input into the RTC Model. Mr. Schuchmann also input various physical characteristics for the lines in issue, which were obtained from CSXT track charts, operating timetables and other documents produced in discovery. These included train speed restrictions at various locations, grades, curves, topography and turnouts (switches). The final steps were to populate the Model with the SFRR's trains during the simulation period,

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[13] Mr. Reistrup's notes from his field trips are reproduced in Part III-B e-workpaper "Reistrup field trips.pdf."

[14] The CSXT operating timetables and track charts for all of the lines involved are reproduced in Part III-B e-workpapers "CSXT Timetables.pdf" and "CSXT Track Charts.pdf."

which includes the peak traffic week (in terms of train movements) in the SFRR's 10-year DCF existence, and input random "outage" events.

b. **Development of Peak-Period Trains.**

SECI Witness Crowley provided SECI Witnesses Reistrup and Schuchmann with the SFRR's trains moving during the peak-seven day period in the SFRR's 10-year DCF life, based on the CSXT trains carrying traffic in the SFRR's traffic group that moved during the peak week of 2008.

The peak week was developed based on the peak volume of carload traffic selected for inclusion in the SFRR's traffic group. The peak week train list was then developed from CSXT car and train movement data provided in discovery for the most recent calendar year available (2008). In particular, Mr. Crowley matched the SFRR's revenue carloads to the CSXT trains that moved the relevant cars (including corresponding empty cars). CSXT's peak traffic week in the base year was { }, 2008.

Mr. Crowley then determined the number of SFRR trains that would transport the coal, intermodal and general freight traffic included in the SFRR traffic group in the comparable period of 2018, which is the peak volume year during the DCF period. He did this by applying the percentage increase in the SFRR's traffic from 2008 to 2018 for each movement to the 2008 car/train movement data provided by CSXT in discovery. The "growth" trains thus developed were added to the trains that moved during the 2008 peak week on a random basis, as instructed by Messrs. Reistrup and Schuchmann.

Based on the probable transit and train cycle times for a railroad the size of the SFRR, Messrs. Reistrup and Schuchmann also requested that Mr. Crowley provide them with the SFRR's peak-period trains operating over its lines during a five-day warm-up period (used to populate the RTC Model with trains) and a two-day cool-down period.[15] The study period used in the RTC simulation thus covers a total of 14 days, from { }, 2018. A total of 2,239 trains were analyzed during this period, of which 1,098 operated in the peak week. The study period trains are shown in Exhibit III-C-2; further details are provided in e-workpaper "SFRR Operating Statistics.xls."

Mr. Schuchmann then populated the RTC Model with the study period trains. Finally, he ran the trains through the Model using the configuration and operating inputs provided by Mr. Reistrup, as described in the next section.

Some of the SFRR's traffic consists of blocks of cars (a minimum of 15 cars per block) that CSXT moved in trains (particularly general freight trains) containing other, non-SFRR cars. For purposes of the RTC simulation, these trains were kept intact from origin to destination; that is, the SFRR did not switch non-SFRR revenue cars out at origin, destination or any intermediate location. In addition, CSXT's car and train movement records appeared to show that a number

[15] The five-day warm-up period was selected because, on the basis of CSXT's train movement records and preliminary modeling of SECI's coal trains moving to and from the farthest-distant mines on the West and East Divisions, it was apparent that the maximum time any train would spend on the SFRR would be less than five days.

of the general freight trains included in the RTC simulation period picked up and set out cars at intermediate points. Some of these trains were local trains whose crews went on-duty and off-duty at the same locations, or trains that were engaged primarily in yard switching activity. However, it was impossible to tell from the movement data, which had numerous inconsistencies and anomalies, exactly which cars on these trains were picked up or set off at which locations and whether the cars were SFRR revenue cars or other cars.[16]

For these reasons, SECI's experts did not attempt to model local trains or to replicate the operation of other trains with intermediate pick-ups and set-outs in the RTC simulation. Rather, they modeled complete trains as though they moved intact between each O/D pair for SFRR traffic. The simulation of a SARR's operations using the RTC Model is designed to show that the SARR has the capacity and ability to move trains containing the traffic of its customers between the O/D pairs involved, not to simulate activity at yards or other local switching activity. By moving complete trains intact, as the SFRR receives them in interchange or at a local origination point, regardless of whether the trains have cars of non-SFRR traffic on them, the simulation demonstrates that the SSRR

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[16] For example, where CSXT's movement data for a particular train indicated that a train stopped to pick up and/or set out cars at intermediate stations, the data often showed that the train had a specified number of cars on it when it left a particular station, but arrived at the next station shown in the movement record with either fewer or more cars than it left the preceding station with. These kinds of anomalies indicated that the CSXT event-data for these kinds of trains was incomplete and/or erroneous, and it simply could not be used to model intermediate set-outs and pick-ups with any assurance of accuracy.

system has the capacity to handle its customers' traffic in accordance with their service needs, thus meeting the fundamental objective of a simulation using the RTC model in a SAC rate case.

SECI recognizes that the cost of intermediate, yard and local switching operations that involve the SFRR's traffic must be accounted for. Accordingly, as shown in Part III-D-9-a, whenever such switching is known to have occurred for a car moving SFRR revenue traffic (or the corresponding empty car), SECI's experts have included costs associated with these operations.

To ascertain the level of switching activity that occurred, SECI's experts identified any yard or local train which moved SFRR traffic in 2008 from CSXT's car event files. A yard train is defined here as a train which moved a SFRR revenue car and had a CSXT train identification number that begins with a "Y." A local train as defined here is any train which moved a SFRR revenue car and which began and terminated its work activity at the same SFRR station Trains identified as meeting these definitions were not included in the RTC modeling of peak period trains. All trains moving in the 2008 Base Year meeting these definitions were identified and form the basis for development of yard and local switch activity costs discussed in Part III-D-9-a.

In addition to yard and local trains, I&I switch activity at intermediate points was identified from the peak period train list. Each train was evaluated to determine if the cars on the train originated, were interchange-received or forwarded, or terminated at the SFRR start or end point for each CSXT train in the train list. For any train whose cars were not originated, received, forwarded or terminated, the activity at the SFRR start or end point was determined to be an I&I switch. In other words, if none of the identified activities occurred, the cars, by default, were put on another SFRR train for furtherance and thus an I&I switch occurred. The number of cars in this category was accumulated at each SFRR location and the higher of the arriving or departing cars at each location was selected as the car count for I&I switches. This I&I switch activity is the basis for the development of I&I switch expense developed in Section III-D-9-a.

c. **<u>Operating Inputs to the RTC Model</u>**

The following elements of the SFRR's operating plan were developed by Mr. Reistrup and input into the RTC Model for purposes of simulating the SFRR's peak-period operations and developing train transit times:

i. Road locomotives – Most trains have two AC4400CW locomotives in a 1/1 DP configuration. A third locomotive is added to some coal trains where needed, and additional locomotives are added to certain heavy general freight trains where needed. The additional locomotives are placed at the front of the train.

ii. Train sizes and weight – The actual size and trailing weight for each 2008 CSXT train carrying traffic in the SFRR traffic group is used. Growth trains replicate trains that moved in 2008. The maximum train size is 150 cars and six locomotives.

iii. Helpers – Helpers are required for certain trains at two locations, as noted in Part III-C-1-a-ii above. The time allotted to add and detach helper locomotives is 20 and 15 minutes, respectively.

iv. Maximum train speeds – 50 mph on the main lines (conditions permitting), and 35 mph on the branch lines.

v. Dwell times for coal trains at SFRR-served destination power plants – 6.5 hours at SGS; for other power plants generally based on unloading loading free time from the relevant CSXT transportation contracts or other pricing authorities or information from CSXT's train movement records.

vi. Dwell times at SFRR-served origin mines – generally based on loading free time from the relevant CSXT transportation contracts or other pricing authorities.

vii. Dwell time at yards – six hours for coal trains requiring a 1,500-mile inspection; three hours for non-coal trains requiring a 1,000-mile inspection; 15 to 30 minutes for all other trains depending on the activity performed at the yard.

viii. Time required to interchange trains with CSXT and other railroads – 30 minutes.

ix. Crew-change time at crew-change points other than yards and interchange points – 15 minutes.

x. Time required for trains to reverse direction – 15 minutes where trains change crews at the reverse-direction point; 30 minutes for other trains.

xi. Time for track inspections and maintenance windows – none.

xii. Time for random track, signal and equipment outages – *See* SECI Exhibit III-C-2.

These operating functions, and the times allotted for them, are explained in the following subsections.

i. <u>Road Locomotive Consists</u>

The locomotive consists and requirements for the SFRR trains are described in Part III-C-1-c-ii above. The RTC simulation shows that most trains can operate over the SFRR system (other than the helper districts described below) with two AC4400CW locomotives in a 1/1 DP configuration, except some heavy trains need a third (and in some cases a fourth and/or fifth) locomotive at certain locations. The additional locomotives are placed on the fronts of the train, usually at crew-change locations, during crew-change time.

For example, the RTC simulation shows that some heavy southbound coal trains originating in the "MGA" region of Pennsylvania/West Virginia require an additional locomotive to avoid stalling on the grade just east of Point of Rocks, MD. These trains receive an extra unit during the crew change at Cumberland, MD and the locomotive is removed at the next crew-change point at Alexandria Jct., MD. One additional locomotive is also needed on some coal train for the grades northward and southward from Catawba Jct. (Rivesville) on the Robinson Run Branch.[17]

ii. Train Size and Weight

The forecast (2018) trains in the RTC simulation are based on the corresponding "actual" 2008 trains described in Part III-C-1-c above. The maximum train size is 150 cars and six locomotives. All growth trains (trains carrying additional tonnage that did not move in 2008) are limited to the same size and weight, and no growth train has more than six locomotives (excluding helpers).

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[17] *See* e-workpaper "Additional Unit on Coal Trains.pdf" for more details on these moves.

iii **Helpers**

As described in part III-C-1-c-ii above, loaded SFRR coal and some non-coal trains require helper assistance at two locations: Cowan, TN on the West Division and Sand Patch, PA on the East Division. Helpers are needed on some trains operating in both directions at these locations. Mr. Reistrup has specified that AC4400CW locomotives be used for helper service at both locations, and the RTC simulation confirms that all trains requiring helper assistance can negotiate the respective grades with a two-unit helper consist. The helpers are placed on the rear of all trains except intermodal trains, where they are placed on the front of the train.

The specific helper locations are as follows:

Cowan (Chattanooga Subdivision) – Southbound helper district extends 9.9 miles from MP 86.95 to MP 96.85. Northbound helper district extends 8.9 miles from MP 94.35 to MP 85.45.

Sand Patch (Keystone Subdivision) – Eastbound helper district extends 59 miles from MP 270.0 at Connellsville to MP 211.0 at Sand Patch. A few westbound trains also need to be helped between MP 193.0 at Hyndman and MP 211.0 at Sand Patch, a distance of 18 miles.

Mr. Reistrup instructed Mr. Schuchmann to allow 20 minutes for each train requiring helper assistance to add helper locomotives at the beginning of the helper district and 15 minutes to detach helper locomotives at the end of the helper district.

The coupling and uncoupling of helper locomotives is a simple process that takes only a few minutes in terms of the physical operations required.

Twenty minutes have been allotted for adding helper locomotives to provide sufficient time to perform a brake test after the lead helper has been coupled to the train. Modern technology permits helpers to be removed without stopping the train, but Mr. Reistrup has conservatively assumed the train will stop for the removal of helpers and has allotted 15 minutes for this process. This includes time for the helper crew to verify that the brakes on the DP road locomotive on the rear of the train have been released.

Except in one instance described in the next paragraph, after being detached from a train (regardless of direction), the 2-unit helper consist returns light back to its point of origin at the beginning of the helper district. Light helper movements follow trains moving in the same direction, on the same block, with dispatcher authority (unless there is a long interval between trains, in which case they move on a separate block). This is consistent with real-world railroad practice based on Mr. Reistrup's personal observation and experience. Thus, light helper movements are not treated as separate trains for purposes of the RTC simulation.

The RTC simulation shows that during the peak week a maximum of two westbound trains per day require helper assistance at Sand Patch. These trains are assisted by the helpers stationed at Connellsville. The helpers on two eastbound trains operate through to Hyndman, where they are removed and placed on the westbound trains requiring assistance over the Sand Patch grade. These helpers then stay with the trains to Connellsville (their home base), rather than being removed at Sand Patch.

iv. Maximum Train Speeds

The maximum permissible train speeds input into the RTC Model are 60 mph on the SFRR's main lines.[18] All trains are limited to a maximum speed of 35 mph on the SFRR's branch lines. Except as noted in the footnote below, these maximum speeds are consistent with CSXT's real-world practice on the lines being replicated by the SFRR.

Maximum train speeds are reduced below those specified above where a speed restriction is required by CSXT's operating timetables for the divisions and subdivisions in question. These restrictions exist for safety reasons (such as to maintain a safe braking distance), to reduce underbalance in curve superelevation per FRA track safety regulations and reduce track/curve wear, and to avoid high-speed gage separation on curves exceeding 3 degrees. In addition, trains do not reach maximum authorized speed in some areas due to grades and curves. All of these restrictions and limitations have been incorporated into the RTC Model for application to the SFRR's peak-period operations.

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[18] Mr. Reistrup actually instructed Mr. Schuchmann to use 60 mph as the maximum authorized speed for empty coal trains, as well as intermodal trains and most general freight trains – which is consistent with CSXT and other real-world railroads' operating practice – and to limit only loaded coal and bulk/grain trains to 50 mph. However, Mr. Schuchmann inadvertently input a maximum mainline speed of 50 miles per hour for empty coal trains into the RTC Model. The actual input thus is conservative for these trains.

v. Dwell Times at Power Plants and Other Destinations

The SFRR directly serves and delivers coal trains to a number of power plants and other industrial facilities. The plant and facility locations to which the SFRR delivers coal trains in the RTC simulation period, and the dwell time allotted at each, are as follows:

West Division

TVA/ Paradise, KY – 3 hours
TVA/Widows Creek, AL – 12 hours
Georgia Power/Stilesboro, GA – 2 hours
SECI (SGS)/Bostwick, FL – 6.5 hours

East Division

Allegheny Energy/Haywood, WV – 24 hours
Mirant/Dickerson, MD – 24 hours
Birchwood/Sealston (Dahlgren Jct.), VA – 24 hours
Cogentrix/Ampthill, VA – 24 hours
Dominion Power/Wheelwright, VA – 24 hours
Smurfit - Stone Container/Hopewell, VA – 24 hours
Appalachian Fuels/Bermuda Hundred, VA – 24 hours
Cogentrix/Roanoke Rapids, NC – 24 hours
Cogentrix/Battleboro, NC – 36 hours
Cogentrix/Rocky Mount, NC – 24 hours
Cargill/Fayetteville, NC – 24 hours
Stone Container/Stone, SC – 72 hours
Santee Cooper/Cross, SC – 5 hours
SCPUA/Pinopolis Jct., SC – 5 hours

Mr. Reistrup allotted train dwell time at SGS based on discussions with plant personnel, during his field trip to SGS in May of 2009, as to how much time CSXT trains normally spend at the plant. Dwell times at the other coal destinations were based on average dwell time in 2008 if shown in CSXT's train movement data and the operation is consistent with the SFR's operation; otherwise destination dwell time was based on the unloading free time permitted under the relevant CSXT transportation contract or pricing authority. In a few cases where unloading free time was not available (Bermuda Hundred, Rocky Mount, Fayetteville), 24 hours of dwell time were allotted in the absence of better information.

Dwell times at local destinations are relevant only when an inbound train is linked to a subsequent outbound train. Only coal trains are linked in this manner. Therefore, no dwell time was allotted at the SFRR's other local destinations.

vi. Dwell Time at Mines and Other Origins

The SFRR directly serves and originates coal trains at six coal mines, four of which are located on the West Division and two of which are located on the East Division. These mines are:

West Division

Gibson County (Gibcoal) Mine near Princeton, IN
Dotiki Mine near Providence, KY
Cardinal 9 (Warrior) Mine near Madisonville, KY
Cimarron (Elk Creek) Mine near Cimarron, KY

East Division

Consol 95 (Robinson Run) Mine near Lumberport, WV
Loveridge Mine near Rivesville, WV[19]

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[19] The SFRR also handles coal trains that NS moves between Newell Yard (Brownsville), PA and Loveridge Mine, and interchanges with the SFRR at Newell Yard. The time allotted to those trains while on NS and at the mine is discussed below in the text.

Mr. Reistrup allotted four hours of dwell time at each of these mines. This dwell time equals the loading free time for unit trains allowed at each of these mines in CSXT Tariff 8200 which is referenced in the CSXT common carrier pricing authority in issue in this case, as well as in most of the transportation contracts between CSXT and its coal shippers.

Empty and loaded coal trains moving to the "MGA" mines served by NS are also linked for purposes of establishing the on-SARR time for loaded trains the SFRR receives from NS at Newell Yard (Brownsville), PA. The following "dwell" time on NS and at the mines were allotted by Mr. Reistrup based on his personal knowledge and observations of the operations to/from and at these mines:

Newell to Bailey Mine and return – 10 hours
Newell to Emerald Mine and return –7.5 hours
Newell to Blacksville #2 Mine and return – 8 hours
Newell to Federal #2 Mine and return – 12.5 hours
Newell to Loveridge Mine and return – 11.5 hours

The SFRR also originates shipments of coal and petroleum coke at the Kinder Morgan water/rail transfer terminal at Charleston, SC. Where trains moving to/from the Kinder Morgan Terminal are linked in the RTC Model, a dwell time of 24 hours has been allotted based on the maximum loading free time under the appropriate CSXT transportation contract.

No dwell time has been allotted at any other local origin because the trains moving from such origins are not linked with any other subsequent trains in the RTC Model.

vii. Dwell Time at Yards

Dwell times have been allotted for trains at the SFRR's yards based on the kinds of activities performed there. These activities include 1000/1500-mile car inspections and associated bad-order car switching, locomotive fueling and 92-day inspections, and crew changes.

Trains requiring inspection. All empty coal trains that move through at least one of the SFRR's four yards receive at least one 1,500-mile extended-haul inspection. Non-coal trains that travel more than 500 miles on the SFRR receive a 1,000-mile inspection at one of the SFRR's yards.

Each of the SFRR's four yards (Folkston, Nashville, Petersburg and Newell) is an inspection point. Empty coal trains that move from points in Florida to a mine origin in the Illinois Basin (served by the West Division) or in PA/WV (East Division) receive two inspections, at Folkston and Nashville or Folkston and Newell, depending on the mine where the train is to be loaded. The only empty coal trains that are inspected at Petersburg are trains that do not move as far as Newell on the SFRR. Some loaded coal trains also require a 1,500-mile inspection. These are loaded trains moving between Consol 95 Mine in West Virginia and Bostwick, FL. In addition to being inspected in the empty direction, these trains are inspected in the loaded direction at Petersburg Yard, as the total round-trip distance for these trains is such that the 1,500-mile limit would be exceeded if they are inspected only in the empty direction, at Folkston and Newell.

Mr. Reistrup has allotted a total of six hours of dwell time at each yard for coal trains requiring an inspection. This includes time for the inspection itself (three hours) and removal of any bad order cars from the train and addition of spare or repaired cars (one hour). Locomotives requiring FRA-mandated 92-day inspections are removed from the train upon arrival, and replaced with fresh locomotives when the inspection and bad-order switching processes are completed. If locomotives that are not removed for a 92-day inspection require fueling, it is performed while the car inspection is taking place and the train is "blue-flagged." Another two hours of dwell time have been allotted for these procedures, as well for train staging time and contingencies.

Six hours of dwell time at the SFRR's yards for coal trains requiring inspection were conservatively allotted to be consistent with the six hours of yard dwell time for empty coal trains that was allotted for the RTC simulation conducted in the *WFA/Basin* rate case. That dwell time was accepted by the defendant railroad and Board. *See WFA/Basin* at 17. Coal trains handled by the SARR in *WFA/Basin* were longer than those handled by the SFRR, and additional functions were performed on empty SARR coal trains at the yard involved in that case that are not performed on the SFRR's coal trains (the locomotives on all inbound trains were removed and swapped with other locomotives for the outbound movement to the mines). The allotment of six hours of dwell time for the SFRR coal trains requiring inspection thus is conservative.

All intermodal and general freight trains that move at least 500 miles on the SFRR also receive an inspection at one of the SFRR's yards (assumed to be a 1,000-mile inspection[20]). Non-coal trains that move less than 500 miles on the SFRR do not require an inspection because they are interchanged with CSXT or another railroad at either the on-SARR or off-SARR point (or both), and are inspected while on the other railroad. For example, non-coal trains interchanged with CSXT at Nashville are inspected (and their locomotives fueled and serviced) at CSXT's Radnor Yard, which is located a few miles from the SFRR/CSXT interchange at Nashville.[21] The same is true of trains received in interchange from CSXT at points in Florida and at North Gibson (Princeton), IN and Demmler Yard (McKeesport), PA.

Mr. Reistrup has allotted three hours of dwell time at the SFRR's yards for non-coal trains requiring a 1,000-mile inspection. In general these trains have fewer cars than the SFRR's coal trains, and inspections using the procedures specified by Mr. Reistrup (*see* Part III-C-3-c below) can be accomplished in two hours. An additional hour is allotted for bad-order switching and for removing

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[20] Some of these trains are intermodal or auto trains that probably qualify for extended-haul status, thus permitting a 1,500-mile interval between inspections, but to be conservative Mr. Reistrup has assumed a 1,000-mile inspection is required.

[21] Based on Mr. Reistrup's personal knowledge, the SFR's non-coal trains received in interchange from CSXT at Nashville are inspected and have freshly fueled and serviced locomotives, such that these trains do not require car or locomotive inspection or fueling while on the SFRR regardless of the distance traveled.

and replacing locomotives requiring a 92-day inspection, as described below (these trains do not need to be staged for movement to the mines, as coal trains often do). Thus, a total of three hours of dwell time at the yard is appropriate for intermodal and general freight trains.[22]

Locomotive inspections and fueling. FRA-required 92-day locomotive inspections are performed at all four of the SFRR's yards on an as-needed basis. These inspections are performed during the car-inspection process for all trains receiving a 1500-mile or 1,000-mile car inspection. The road locomotive(s) requiring inspection are removed from the train and moved to the inspection track (where fueling is also be performed), and fresh locomotives with full fuel tanks are placed on the train. If a locomotive requires fueling but not a 92-day inspection, it is fueled during the dwell time allotted for car inspections. All fueling is performed by tanker truck.

Since the RTC Model simulation is a snapshot of the SFRR's operations over a 14-day period, there is no way to tell in advance which road locomotives on which trains require a 92-day inspection or fueling upon arrival at one of the SFRR's yards during that period. Based on Mr. Reistrup's experience, it is likely that trains received in interchange from CSXT or another railroad will

[22] As noted earlier, six hours of yard dwell time was allotted for empty coal trains to be consistent with the dwell time allotted for empty coal trains in the *WFA/Basin* case. Less dwell time would be needed to inspect and service the SFRR's non-coal trains because they tend to be shorter, there is less need to drill out bad-order cars and replace them with spare cars, and no need to swap all locomotives on each train for new locomotives, which was the procedure used for empty SARR coal trains in *WFA/Basin*.

have locomotives with full fuel tanks and that do not require 92-day inspection while on the SFRR. However, to be conservative, for all empty coal trains (and certain loaded coal trains as described earlier) that move through a SFRR yard, and for all non-coal trains that move at least 500 miles on the SFRR, Mr. Reistrup has assumed that the locomotives on the train may need fueling and or a 92-day inspection at one of the SFRR's yards, as well as a 1,000-mile or 1,500-mile car inspection. Accordingly, he has allotted the time for these activities described above in the discussion of yard dwell time for car inspections.

Crew Changes. Each of the SFRR's yards is also a crew-change point. If a train is undergoing a 1500-mile inspection and/or locomotive fueling/swapping, there is plenty of time to change crews during the dwell time allotted. (This also applies to trains that are interchanged at the yard.) If no other activity is required for a train at a yard, 15 minutes of dwell time were allotted for a crew change. These time allotments are discussed further below.

viii. Time Required to Interchange Trains With Other Railroads

The SFRR interchanges complete trains, including locomotives, with two Class I railroads, CSXT and NS, and a number of regional or short-line railroads. The physical interchange points and the railroad(s) involved are shown in Exhibit III-B-2.

Mr. Reistrup has allotted 30 minutes for the interchange of trains at all of these points. All that is required for the interchange of run-through trains is a change of crews, a brake set/release and a roll-by inspection, which can easily be accomplished within 30 minutes. The same 30 minutes of SARR interchange time were accepted by the Board in *WFA/Basin*.

A train received in interchange from CSXT may have more locomotives than the SFRR needs to move the train over its system, or may not have the locomotives arranged in a DP configuration. The inbound SFRR road crew removes any extra locomotives and leaves them on the setout track at the interchange point during the time allotted for the interchange, and the outbound SFRR crew rearranges locomotives into a DP configuration if necessary during the interchange time.[23]

ix. Crew-Change Locations/Times

Road Crews. Many of the SFRR's crew changes take place at mines or other origins, yards, interchange points or destination power plants. There is plenty of time to change crews during the performance of other functions at these locations.

The SFRR follows the efficient modern railroad practice of calling train crews sufficiently in advance of a train's arrival at the designated crew-change point so that the crew can complete paperwork, receive any necessary

[23] The Class I railroads are converting to DP at a rapid pace; Union Pacific reported at a recent RTC Model users' conference that 70 to 75 percent of its road trains now have a DP locomotive configuration. With the peak RTC simulation period ten years hence, it is reasonable to assume that the SFRR will have in place run-through agreements that specify trains are to be received with DP power and that foreign-road locomotives will be equipped for DP operation.

briefing, and be ready to board the train when it arrives and the in-coming crew has de-trained. At SFRR crew-change points where the change of crews is the only function performed, Mr. Reistrup has allotted 15 minutes for this function. Again, this is consistent with the time allotted for SARR crew changes in *WFA/Basin*.

Mr. Reistrup's operating plan for the SFRR provides for the following crew districts and assignments:

West Division

1. Crews based at Nashville (home terminal) operate in straightaway service between Nashville and Princeton (North Gibson), IN, Evansville, IN, Dotiki Mine, KY, Cardinal 9 Mine, KY or Cimarron Mine, KY.

2. Turn crews based at Atkinson (Madisonville), KY operate to Hopkinsville or Paradise, KY and return. These crews take loaded trains from Atkinson (PAL interchange), Dotiki Mine and Cimarron Mine to the Paradise power plant and return with empty trains.

3. Crews based at Nashville operate in straightaway service between Nashville and Hopkinsville, KY or Chattanooga, Junta or Atlanta, GA. These crews also operate in turn service from Nashville to Amqui, Tullahoma, Smyrna, Springfield or Bridgeport, TN or Stevenson or Widows Creek, AL.

4. Crews based at Junta, GA operate in straightaway service between Junta, Atlanta, Cordele or Manchester, GA and Waycross or Folkston, GA. These crews also operate in turn service from Junta to Stilesboro, Fulco Jct., Vaughn Connection or Atlanta, GA or Chattanooga, TN.

5. Crews based at Folkston operate in turn service to Waycross, Cordele, Fitzgerald, Doctortown or Savannah, GA or

Callahan, Jacksonville or Bostwick, FL. (These crews operate the coal trains moving to/from SGS.)

East Division

1. Crews based at Grafton, WV operate in straightaway service between Grafton and McKeesport (including Demmler Yard), PA. These crews also operate in turn service from Grafton to Consol 95 Mine, Haywood or Loveridge Mine, WV.

2. Turn crews based at Newell (Brownsville), PA operate to McKeesport/Demmler Yard or Grafton and return. Crews based at Newell also operate in straightaway service to Cumberland, MD.

3. Crews based at McKeesport operate in straightaway service between McKeesport/Demmler Yard and Cumberland, MD. These crews also operate in turn service to Connellsville or Sinns, PA.

4. Crews based at Cumberland operate in straightaway service between Cumberland and Alexandria Jct., MD or Benning, DC. These crews also operate in turn service from Cumberland to Cherry Run, Green Spur, Hancock or Martinsburg, WV or Brunswick, MD.[24] They also operate in turn service from Alexandria Jct. to Brunswick, Sandy Hook or Dickerson, MD or Martinsburg, WV or Fredericksburg, VA.

5. Crews based at Petersburg, VA operate in straightaway service between Richmond, Petersburg or Sealston, VA and Alexandria Jct. or Benning. Crews based at Petersburg also operate in straightaway service between Richmond or Petersburg and Pembroke or Fayetteville, NC. These crews also operate in turn service from Petersburg to Ampthill, Wheelwright, Bermuda Hundred or Hopewell, VA, and/or from Petersburg to Weldon Connection/Roanoke Rapids or Rocky Mount, NC.

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[24] The SFRR and CSXT interchange trains at Brunswick. These trains operate to/from the Baltimore area; CSXT has trackage rights over the SFRR (without charge) between Brunswick and Point of Rocks, MD, where CSXT's line to Baltimore connects with the SFRR.

6. Crews based at Pembroke operate in straightaway service between Pembroke and Dillon or Charleston, SC. These crews also operate in turn service from Pembroke to Fayetteville or Florence, SC or Rocky Mount or Contentnea, NC.

7. Crews based at Charleston operate in straightaway service between Charleston and Folkston, GA or Florence, SC. These crews also operate in turn service from Charleston to Yemassee, SC or Savannah, GA and from Savannah to Yemassee, Cross, Mt. Holly, Lane or Pinopolis Jct., SC.

The crews in each district also can operate to and from other intermediate origins, destinations and interchange points within the district, as needed.

These crew districts and assignments reflect the SFRR's status as a least-cost SARR that is not constrained by prior mergers and union work rules that limit a Class I railroad's flexibility to maximize the efficiency of its crew assignments. This gives the SFRR much more flexibility in scheduling crews and maximizing their use within the constraints of the federal "12-hour" (hours of service) law, including the amendments thereto wrought by the recently-enacted Rail Safety Improvement Act of 2008 ("RSIA") (Public Law No. 110-432). The RTC simulation confirms that the distance for each crew assignment, as well as the allotted time at mines or other points served by turn crews, can be covered by a single tour of duty including an allowance of one hour for crew preparation/taxi time. A few crews expire under the Hours of Service law and need to be taxied to their next terminal, while some trains are able to skip a crew change point and the crew can run through to the next crew-change point.

The crew districts and assignments described above are different from those of the real-world CSXT on the lines being replicated by the SFRR. CSXT has different crew districts, numerous additional crew-change points along the SFRR's routes, and it does not use the same crews (for example) for back-to-back straightaway and turnaround assignments. CSXT also operates coal trains between intermediate yards and coal mines with yard or "shifter" crews. All this is the product of numerous mergers that resulted in the present-day CSXT,[25] as well as collective-bargaining agreements inherited from predecessor carriers. Since the SFRR is a new, start-up, non-unionized operation, its crew districts can be, and have been, designed for maximum efficiency.

Helper crews. The helper crews are engineer-only crews. They are based at Cowan, TN, Connellsville, PA and Hyndman, PA A total of 12 employees are needed to man the helpers on a 24/7 basis, with each crew working a 12-hour shift.

x. Time for a Train to Reverse Direction

The SFRR's track configuration is such that certain of the SFRR's trains must reverse direction at seven locations: Lumberport, WV, Grafton, WV, McKeesport, PA, Central City, KY, Roanoke Rapids, NC, Richmond, VA and

[25] Just since the 1960's, the following once-independent railroads have merged to form the present-day CSXT: Chesapeake & Ohio, Baltimore & Ohio (which consolidated to form the Chessie System), Richmond, Fredericksburg & Potomac, Western Maryland, Atlantic Coast Line and Seaboard Air Line (which consolidated to form the Seaboard Coast Line), Louisville & Nashville, Clinchfield, and Monon.

Wheelwright, VA.[26] The reversal of direction at these locations is facilitated by the SFRR's use of DP locomotives on all trains.

Mr. Reistrup has allotted 30 minutes of dwell time to reverse direction for trains that do not change crews at the reverse-direction point; this time is needed for the crew to walk to the other end of the train and board the locomotive on that end. No additional time is allotted for reversing direction if the procedure occurs at a location where the train is interchanged with another railroad or otherwise undergoes a crew change. At these locations the outbound SFRR crew simply boards the locomotives at the opposite end of the trains from the locomotive where the inbound crew leaves the train. Thus no extra time is needed beyond the normal 30 minutes allotted for interchange or 15 minutes allotted for crew changes at non-interchange locations. [27]

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[26] There are several other locations (*e.g.* Oglethorpe, GA) where trains are backed into interchange or other facilities. In these instances the conductor would be dropped at the switch, the train would pull forward, the switch would be thrown, and the train would back a short distance into the facility.

[27] At Richmond, the reversal of direction by the SFRR is only for trains interchanged with CSXT that the SFRR moves to or from points south of Richmond. CSXT's east-west line through Richmond crosses the SFRR's north-south line (which replicates CSXT's Bellwood Subdivision) via a grade separation just west of Rivanna Junction. The interchange trains move via CSXT's Fulton Yard, which is east of Rivanna Junction, and the trains reverse direction on CSXT before moving north onto (or south from) the Bellwood Subdivision which is the SFRR's north-south line through Richmond. The interchange occurs on the Bellwood Subdivision just north of Amtrak Junction. Interchange trains moving to/from the north on the SFRR do not need to reverse direction again, but interchange trains moving to/from the south do need to reverse direction. The reversal of direction occurs at the interchange, during the normal 30 minutes of interchange dwell time.

xi. Track Inspections and Maintenance Windows

Consistent with the SARR operating plans accepted by the Board in previous cases (*e.g. WFA/Basin* and *AEP Texas*), Mr. Reistrup has not allocated any time for scheduled track inspections or maintenance windows for purposes of the RTC simulation.

FRA rules require twice-weekly inspections for Class 4 track, which is the classification for the SFRR's main tracks. As described in Part III-D-4 (which describes the SFRR's maintenance-of-way plan), the SFRR's main and branch lines are inspected twice a week by the railroad's Track Inspectors using hi-rail vehicles (SUV-type vehicles equipped with retractable flanged wheels so they can operate either on highways or on railroad tracks). These inspections of course have to be performed during the peak traffic (RTC simulation) period. However, they can be performed between train movements, and during periods of heavy traffic the hi-rail vehicle can follow a train on the same block (with the dispatcher's approval). Accordingly, there is no need to allot separate time for FRA-prescribed track inspection in the RTC Model.

No program maintenance will be performed during the SFRR's 14-day peak traffic period, which occurs primarily in the first half of { }. Program maintenance will be performed during other, less-busy periods. Since the SFRR is being designed and configured for its peak traffic week, there is ample time for normal track maintenance during non-peak periods, and track/facility repairs of an emergency nature are accounted for in the time allotted for random outages (described below). Thus there is no need to provide for separate track maintenance windows during the RTC simulation period.

xii. Time for Random Outages

Random events that affect track, signals and equipment are a part of everyday railroading. It is unrealistic to expect that no such events would occur during the SFRR's peak traffic period used for the RTC simulation, or that such events would not affect train operations during that period. Accordingly, Mr. Reistrup determined that time for such random outages should be input into the RTC Model.

It is impossible to determine exactly what events that might affect train operations will occur during the 2018 peak period, or when they will occur. SECI requested information from CSXT in discovery on events of an unexpected or "random" nature that affected train operations on the lines being replicated by the SFRR in 2008, including train-related, track-related and signal-related events. However, CSXT did not provide any information on such events in response to SECI's discovery requests.[28]

Notwithstanding the lack of data from CSXT, Mr. Reistrup did not deem it appropriate to exclude random outage events from the RTC simulation, as

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[28] In *WFA/Basin*, in contrast, the defendant railroad (BNSF) provided extensive data on operational and track/signal related outages. Mr. Reistrup (who was also the complainants' operating witness in that cases) used this information to develop similar outages for the *WFA/Basin* SARR's operations and facilities during the peak RTC simulation period. The Board described these outages in general terms both in its *First Compliance Order* (Docket No. 42088, STB served March 17, 2006, at 2) and in *WFA/Basin* at 17.

such events will inevitably occur even on a rail system that is only 10 years old. Accordingly, Mr. Reistrup developed an appropriate number of outage events, by type, based on the SFRR's physical and operational parameters and the public record on random outages in the *WFA/Basin* case. He then provided them to Mr. Schuchmann for input into the RTC Model on a random basis during the 14-day simulation period.

The procedure used by Mr. Reistrup to select the random outages to be included in the RTC simulation in this case was as follows. First, Mr. Reistrup selected the kinds of outages that he deemed most likely to occur based on his own experience and the public record in *WFA/Basin*. These included operational outages, such as a broken knuckle or drawbar, a train going into emergency braking mode, or a train stopped by a FED alarm, and track/signal outages, such as a broken rail, a switch point failure producing a restrictive signal when no train is present, or a dark signal (*i.e.*, a signal with its bulb out). Mr. Reistrup also developed a number of outages for each kind of occurrence during the peak RTC simulation period based on the ratio of outages per route-mile encountered by BNSF during the peak period of the base year used for the final RTC Model simulation of the SARR's operations in the *WFA/Basin* case, as applied to the SFRR's route miles (with some additional outages to account for the slightly longer simulation period used in this case compared with *WFA/Basin*). Finally, Mr. Reistrup assigned an average duration for each outage, based on his experience and familiarity with such outages on CSXT and other Class I railroads.

Mr. Reistrup then instructed Mr. Schuchmann to assign the outages to the SFRR's lines (including the date and time for each outage) on a random basis.

The end result of the analysis was to include 27 operational and 209 track/signal outages as inputs to the RTC Model. The 236 total outages included in the RTC simulation are shown, by date and time, location, and type, in Exhibit III-C-3. Details on how the number and type of outages was developed are provided in e-workpaper "Random Outage Procedure.xls."

d. **Results of the RTC Simulation**

After inputting the SFRR's track and other relevant facilities, peak-period trains and operating parameters (including random outages) into the RTC Model, the runs began. During the modeling process several changes were made to the SFRR's initial track configuration, in particular the relocation, addition or deletion of certain passing sidings and segments of second main track, refinement of the locations and configuration of yards and interchange tracks, and the addition of locomotives to certain trains. With these refinements, the Model ran to a successful conclusion.

The key outputs generated by the RTC Model were elapsed train running times over each of the SFRR's line segments, and train cycle and transit times (used to develop locomotive and car hours and train-crew counts) over the portion of the SFRR system used by each train during the peak seven days of the 14-day period modeled by SECI's operating experts. A schematic diagram of the SFRR's tracks as they appear in the Model is attached as Exhibit III-C-3. The electronic files containing the RTC Model runs, output and case files are included in SECI's Part III-C e-workpaper folder "RTC."[29]

In maximum rate proceedings under the SAC constraint involving Western coal movements, the complainant often developed peak-week train cycle times from the RTC Model for most of the movements involved (which generally were unit-train movements), and compared them with the defendant's cycle times for the same movements for a comparable period in the base year to demonstrate that the SARR's operations met its customers' requirements. This convention was relatively easy to employ, because the nature of SARR traffic groups (and Western utility coal movements in general) and the train movement data produced by the defendants allowed a train-for-train transit-time comparison to be made for most of the trains comprising the traffic group, from SARR origin to SARR destination and often from initial origin to final destination and return. *See, e.g.*, *AEP Texas* at 17; *WFA/Basin* at 15-16.

This kind of comparison of train cycle or transit times is not possible in this case, which involves a traffic group that reflects the more broad and diverse mix of commodities transported by CSXT, due to the nature of the SFRR's quintessentially Eastern traffic group, and inherent limitations of the CSXT car event and train movement data that was produced in discovery. The traffic group

[29] SECI understands that the Board's staff is a licensee of, and has, the RTC Model, so the Model itself is not being provided to the Board Mr. Schuchmann used Version RTC 2.7 L52B of the Model for the simulation of the SFRR's peak-period operations presented in e-workpaper folder "RTC."

consists of a variety of commodities that move between hundreds of SFRR O/D pairs in the modeling period, involving different (and occasionally overlapping) segments of the SFRR system. Typical of rail operations in the Eastern United States, and CSXT operations in particular, and in contrast to the "coal corridors" that characterize the Western rail grid, the SFRR has few trains carrying local traffic that it both originates and terminates, and carries traffic in blocks of cars on trains that include other, non-SARR traffic. The SFRR also moves some cars in more than one train, and moves a number of trains a relatively short distance over its system, with the bulk of the movement on another railroad.[30] Separately, but equally important, the CSXT car event and train movement data produced in discovery were incomplete in many cases, such that matching locations and times for SFRR and CSXT trains on the same segments was not always possible. Indeed, in many cases the CSXT data did not enable SECI to determine the points at which trains would enter and leave the SFRR, after interchange from and for interchange to the residual CSXT.

Given these data and other limitations, SECI had to modify the approach to matching the RTC-generated peak-week train transit times with real-world base-year transit times. To accomplish a valid comparison, SECI used a random sampling approach in which the transit times of 30 distinct trains were

[30] An example of this is coal trains carrying coal traffic originated by CSXT at Central Appalachian mines in West Virginia/Eastern Kentucky and moving to Georgia Power's Plant Bowen near Stilesboro, GA, a total distance of over 500 miles. The SFRR receives this traffic in interchange from CSXT at Junta, GA, and carries it about 10 miles to the power plant.

compared. The random sample of 30 trains (observations) was used to measure in an unbiased manner how the RTC-generated transit times compared with CSXT transit times that were included in the records provided in discovery.[31]

The 30 trains that were randomly selected for comparison are shown on page 1 of Exhibit III-C-4. These trains include both coal and non-coal trains, as well as several of the internally-rerouted trains discussed in Part III-C-3-a below.[32] Page 1 of Exhibit III-C-4 compares the SFRR trains' transit times for these peak-week trains with CSXT's actual transit times for the same trains in 2008. The average SFRR transit time for these trains is 2.40 hours faster than the average CSXT transit time for these trains in 2008.

Several of the trains shown on the first page of Exhibit III-C-4 moved short distances on the SFRR. To confirm that the inclusion of these trains did not bias the result, SECI removed from the sample all of the trains that moved

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[31] The objective of the sample was to determine how the train transit times generated by the RTC Model compared with train transit times on CSXT. The sample population consisted of all trains evaluated in the RTC Model. A random number generator was used to select each sample observation from the universe of trains evaluated in the RTS simulation. For each sample observation, the transit time as generated by the RTC Model was identified. For the same sample observation, the 2008 train transit time was also identified from the records provided by CSXT. A simple average of the train transit times generated by the RTC Model was compared to a simple average of the train transit times gathered from CSXT's records. A comparison of these sample results provides the user with the ability to draw conclusions about the universe of data being evaluated.

[32] Details on all of the trains moving between each O/D pair during the peak week are shown in e-workpaper "Final Trainlist_RTC_Trainlist.xls."

100 miles or less on the SFRR.[33] The result, which is shown on page 2 of Exhibit III-C-4, is that the transit time differential increased; that is, the average SFRR transit time for the longer-haul trains is 4.39 hours faster than the average CSXT transit time for the same trains in 2008.

As the Board has acknowledged, the SAC test must be equally workable in the Eastern and Western contexts. *See CP&L* at 17. The same holds true with regard to variances in the amount and usability of railroad traffic and operating data in a given proceeding. Accommodating both the nature of Class I rail operations in the East generally, and the CSXT traffic data produced in discovery in particular, the RTC simulation of the SFRR's operations in the peak week of its peak traffic year, and the transit-time comparisons discussed above, confirm that the SFRR's configuration, facilities and operating plan are feasible. The SFRR's trains operate in a manner that produces faster train speeds and transit times on average than CSXT demonstrated in 2008. The SFRR's ability to provide service equal to or better than CSXT's, and thus commensurate with its customers' requirements, therefore is confirmed.

3. Other

a. Rerouted Traffic

As described in Part III-A-2, the SFRR's traffic group includes some traffic that has been rerouted – that is, the SFRR transports it in part over a route

[33] Transit time comparisons for short-haul trains that the SFRR carries over a small portion of the traffic's total movement distance are meaningless in terms of whether the customer's overall service requirements are being met.

that is different from the route used by the real-world CSXT in 2008. All of the rerouted traffic is internally-rerouted traffic, that is, (a) the change in routing is entirely internal to the SFRR, and (b) to the extent the change in routing involves cross-over traffic, the traffic is interchanged with CSXT at a point on its real-world route of movement. Thus, SECI need only show that the reroutes are reasonable and meet the shippers' transportation needs. *TMPA*, 6 S.T.B. at 594-595; *AEP Texas* at 10-11; *WFA/Basin II* at 11-12.

Two separate internal reroutes are involved. One reroute involves trains moving in both directions between Nashville, TN and Manchester, GA, on the West Division. The other reroute involves trains moving in both directions between Waycross, GA (and points north thereof) on the West Division and points north of Jesup, GA on the East Division.[34]

[34] For coal traffic moving from the "MGA" mines in PA/WV to points east/south of Cumberland, MD, CSXT occasionally uses a different route than the SFRR route for some empty coal trains. Like CSXT, the SFRR moves all loaded coal trains to Cumberland via Brownsville, McKeesport and Connellsville, PA; this route is operationally superior to CSXT's alternate route via Grafton and Terra Alta, WV, as CSXT acknowledged in its response to SECI's Interrogatory No. 4. (*See* e-workpaper "Interrogatory Responses.pdf." at Bates No. CSX-SE-C-013162.) CSXT moves the comparable empty coal trains via both routes, but the SFRR has no need for two routes west of Cumberland and thus moves all empty coal trains via Connellsville and McKeesport. The SFRR's route is 19 miles shorter than the alternate CSXT route via Grafton, and thus presumptively reasonable under the Board's standards for assessing the propriety of SARR reroutes even if it were not used by any empty CSXT trains. *Duke/NS* at 26.

i. Nashville/Manchester Reroutes

CSXT has two, alternative routes over which it moves trains (including the issue coal traffic) between Nashville, TN (and points north) and Manchester, GA (and points south). One route (the "Atlanta route") is via Chattanooga, TN and Atlanta, GA. The other route (the "Birmingham route") is via Birmingham, Parkwood and Talladega, AL.[35] The SFRR has no need for two routes between Nashville and Manchester, and SECI's experts have selected the Atlanta route because, consistent with the Board's *Coal Rate Guidelines*, that route enables the SFRR to maximize its traffic density and minimize its capital and operating costs.

Since CSXT uses both routes to move trains between Nashville and Manchester (and vice versa), technically the SFRR's exclusive use of the Atlanta route is not a reroute. But even if it were, it is presumptively reasonable because the Atlanta route is 39 miles shorter than CSXT's alternative Birmingham route.[36] *Duke/NS* at 26 ("The starting point for the Board's analysis of rerouted traffic will

[35] In its interrogatory responses, CSXT stated that it usually moves SECI's coal trains via Birmingham/Talladega, but acknowledged that it also uses a route via Chattanooga/Atlanta. CSXT's train movement data produced in discovery confirms that CSXT operates numerous trains via both routes. CSXT moved a total of 82 trains between Nashville (or points north) and Manchester during the 2008 period that is comparable to the SFRR's peak period, of which 35 trains or 42.7 percent moved via Chattanooga/Atlanta.

[36] *See* e-workpaper "Interrogatory Responses.pdf" at Bates No. CSX-SE-C-013156 (Nashville to Manchester is { } miles via Bimingham route, { } miles via Atlanta route).

be length of haul. If a rerouting shortens the distance, the Board will presume it is acceptable, unless the defendant railroad demonstrates otherwise.").

ii. Waycross/Jesup Reroutes

CSXT also has two alternative routes that can be used to move trains between Waycross and Jesup, GA (and vice versa). One is a direct route extending northeast from Waycross to Jesup and thence on to Savannah, GA. The other route extends from Waycross southeast to Folkston, GA, and thence north to Jesup (and on to Savannah) via Nahunta (Raybon), GA. The SFRR's lines replicate the route via Folkston (where the West and East Divisions come together). The SFRR carries traffic between Waycross and Jesup over this route as it has no need for two routes between these points. Most of the trains involved move between Manchester, GA or points north thereof, and Savannah, GA or points north thereof.

The train movement data produced by CSXT in discovery do not indicate which route CSXT uses to move trains between Waycross and Jesup or vice versa, or the extent to which it uses both routes. However, it is likely that CSXT uses its direct route because (i) it is 49 miles shorter than the route via Folkston, and (ii) CSXT does not have a "wye" at Folkston (a track connecting its two lines extending northwest and north from Folkston). This means CSXT trains would have to reverse direction at Folkston to operate from points north on one line to points north on the other. Thus, SECI assumes that the SFRR's operation of trains between points from Waycross north and points north of Jesup via

Folkston involves an internal reroute. However, the SFRR route is reasonable and meets the involved shippers' transportation needs under the standards of *TMPA* and *AEP Texas*, notwithstanding the 49-mile additional distance.

First, insofar as these reroutes involve cross-over traffic, the traffic is interchanged with CSXT at a point on the real-world route of movement. The reroutes will not cause CSXT to incur any additional operating costs; nor will they require CSXT to change crews at a different location than if the trains traveled over the direct route between Waycross and Jesup rather than the route via Folkston.

Second, Mr. Reistrup has provided for the SFRR to construct, at its expense, a wye connection between the West Division and the East Division at Folkston. This enables trains to operate from the West Division to the East Division efficiently in all directions, without the need for reverse movements at Folkston. The cost of the Folkston wye is included in the SFRR's capital costs, and all mileage-related operating costs related to the operation of trains via Folkston are included in the SFRR's annual operating expenses.

Third, SECI's RTC Model simulation of the SFRR's peak-period operations has yielded average transit times for trains moving via Folkston that are as short or shorter than the cycle times for the comparable 2008 real-world trains operated by CSXT that move between Waycross and Jesup – regardless of their actual route of movement. A comparison of the SFRR's average peak-period transit times for trains moving in both directions between Waycross and Jesup with CSXT's actual average transit times for the comparable trains operating between the same O/D pairs in 2008 shows that the SFRR moves trains between these locations at an average transit time of 14.41 hours, while CSXR moved these trains at an average transit time of 18.13 hours.[37]

This showing confirms that the SFRR's reroute between Waycross and Savannah (if in fact it is a reroute) is reasonable and meets the shippers' needs. *See AEP Texas* at 10; *WFA/Basin II* at 11.

b. Fueling of Locomotives

As described earlier, the SFRR re-fuels the road locomotives on trains that stop at one or more of its four yards for a 1,000-mile or 1,500-mile car inspection, as needed. The road locomotives on trains that do not pass through one of the SFRR's yards (and on non-coal trains than move less than 500 miles on the SFRR system) are fueled on other railroads and do not need to be fueled while on the SFRR. Fueling is performed by tanker truck, either while the locomotive is attached to the train, or while it is on the locomotive inspection track in the case of a locomotive that is removed from the train for a 92-day inspection. The SW1500 switch/work train locomotives stationed at each yard are also fueled at that yard. All locomotives (including helper locomotives) are fueled by a contractor using tanker trucks.

[37] Details for each movement, including the number of trains that moved between each O/D pair during the CSXT 2008 and SFRR 2018 peak periods, are shown in e-workpaper "Peak_Waycross Jesup_Transit Times.xls."

c. **Car Inspections**

i. **Inspection Locations**

As described above, the SFRR conducts 1,000/1,500-mile inspections of certain trains at each of its four yards. All empty coal trains receive a 1,500-mile extended-haul inspection at one or more of these yards. Loaded coal trains operating between Consol 95 Mine in West Virginia and Bostwick, FL also receive a 1,500-mile inspection at Petersburg Yard. Intermodal and general freight trains that move at least 500 miles on the SFRR system are also inspected at one of the SFRR's yards, as they pass through the yard.

The SFRR's coal trains that do not pass through one of the SFRR's yards, and non-coal trains that move less than 500 miles on the SFRR system, are inspected at off-SARR locations. For example, coal trains on the East Division that move between the CSXT interchange at Richmond and a power plant on the Richmond Branch do not move through either Newell or Petersburg Yard, and are inspected by CSXT at other locations. Similarly, non-coal trains interchanged with CSXT at Nashville move through CSXT's Radnor Yard and are inspected there by CSXT.

ii. **Inspection Procedures**

The SFRR conducts 1,500-mile inspections of coal trains and 1,000-mile inspections of non-coal trains using state-of-the-art procedures, while complying at all times with FRA-mandated safety and inspection rules. It uses four-person inspection crews, with one crew member on each crew serving as foreman. Three crews are on duty on a 24/7 basis at Folkston Yard, two crews are on duty 24/7 at both Petersburg and Newell Yards, and one crew is on duty 24/7 at Nashville Yard.

Gravel roadways are provided between each of the yard relay tracks where inspections are performed. Each inspection crew stationed at a yard is equipped with four low-slung, four-wheel ATV-type vehicles from which the inspectors can inspect cars at wheel/truck/air hose level which minimizes the need to dismount from the vehicle. The vehicles carry spare parts, such as brake shoes and air hoses. Some parts are also placed periodically adjacent to the rails on the inspection tracks for ready availability. Coupler knuckles are rarely replaced during 1,500- or 1,000-mile inspections and can be transported to a specific car needing a knuckle by a company pick-up truck as needed. One car inspector, each with an ATV, is placed on each side of the train at the front of the train and one inspector (again each with an ATV) is placed on each side of the train at the rear. The inspectors meet in the middle as the inspection progresses.

Mr. Reistrup has allotted three hours per train for 1,500-mile inspections (coal trains) and two hours per train for 1,000-mile inspections (non-coal trains) at each yard. This is conservative given the deployment of the four-person inspection crews as described above. Additional time has been allotted to remove bad-ordered cars from trains and insert spare/repaired cars.[38]

[38] FRA "blue flag" rules prohibit the switching of cars in or out of a train while inspections and locomotive fueling are being performed.

d. Train Control and Communications

i. CTC/Communications System

The facilities reflected in the SFRR's operating plan include a Centralized Traffic Control ("CTC") system covering the SFRR's main lines. This system involves remotely controlled power switches between all main tracks and crossovers, and between main tracks and yard/interchange track leads, with appropriately-spaced wayside signals. Trains can operate in either direction on any track covered by the CTC system, which provides maximum flexibility and capacity. Just as CSXT controls all system train operations using centralized dispatchers at its Jacksonville control center, all SFRR train operations are controlled by centralized dispatchers located in the SFRR's headquarters building at Folkston. This includes the SFRR's branch lines, which are "dark" with no signals or power switches. The centralized dispatchers control train operations on the branch lines by means of radio communications and track warrants.

Communications among dispatchers, train crews, track inspectors and supervisory field personnel are conducted using radios connected to the SFRR's microwave system (described in Part III-B-4-b). The microwave system is also linked with the CTC system. Each train crew, track inspector and field supervisor also has a company-issued wireless (cell) phone for emergencies.

The FEDs, installed at appropriate intervals along the tracks as shown in Exhibit III-B-2, broadcast a local radio signal to the crew on the affected train. If a set-out is required, the train crew uses one of the double-ended setout tracks which are located on either side of each FED (one on each track in areas with two main tracks, *i.e.*, a passing siding).

ii. <u>Dispatching Districts</u>

The SFRR's dispatchers are stationed at its Folkston headquarters. There are six dispatching districts or "desks," three for the West Division and three for the East Division. Each desk is manned by one dispatcher for three shifts per day, seven days per week. Each dispatching desk is responsible for dispatching trains, inspection vehicles and work equipment in a defined district, which includes both main lines and associated branch lines (if any). The dispatching districts are as follows:

<u>West Division</u>

Desk 1 - Princeton to Widows Creek, AL (305 miles)
Desk 2 - Widows Creek to Manchester, GA (265 miles)
Desk 3 - Manchester to Bostwick, FL (322 miles)

<u>East Division</u>

Desk 1 - Consol 95/Brownsville to Point of Rocks, MD (417 miles)
Desk 2 - Point of Rocks to Fayetteville, NC (416 miles)
Desk 3 - Fayetteville to Folkston, GA (409 miles)

Based on Mr. Reistrup's experience, the dispatchers in each district can handle the volume of train movements given that the railroad generally handles trainload movements and no passenger or commuter trains, and the SFRR's use of modern, computer-aided train control technology and communications. The length of each district reflects the volume of activity in that district. Train frequencies are generally higher on the West Division compared to the East Division, so the West Division Districts are shorter than the East Division Districts. The heaviest train volume occurs in West Division Desk 2's territory, so it is the shortest district. Desk 3's volume is the lightest of any of the West Division districts, so it is the longest. It should also be noted that the SFRR's operations are repetitive. The SFRR operates only complete trains, and it has no local or way freights or passenger trains.

The six dispatching desks are located in the same room in the Folkston headquarters building. Modern computer-assisted dispatching technology, combined with close physical proximity, enables the dispatchers at the adjacent desks to communicate with each other quickly and easily. In addition, the territories can be rearranged temporarily, so that (for example) West Division Desk 3 can cover part of West Division Desk 2's normal territory as necessary.

Under the new RSIA law, the lines of each Class I rail carrier that carry regularly scheduled intercity or commuter rail passenger trains and/or toxic- or toxic-by-poison hazardous materials (as defined in DOT regulations) must be equipped with positive train control ("PTC") systems by December 31, 2015. This is three years before the end of the 10-year DCF period applicable to the SFRR, which is a Class I railroad based on its annual revenue. The SFRR does not have any regularly-scheduled intercity passenger or commuter trains, but its traffic group does include some toxic- or toxic-by-inhalation hazardous materials as defined by applicable DOT regulations, which means it will be subject to RSIA's PTC requirements as of December 31, 2015. As shown in e-workpaper "SFRR

Hazardous Shipments.pdf," these materials move over most of the SFRR's main lines.

Under RSIA, each Class I rail carrier that handles the listed categories of trains/traffic must submit a plan for implementing a PTC system no later than 18 months after the law's date of enactment of RSIA, or by April 16, 2010. Although the real-world Class I railroads have commenced RSIA PTC compliance planning, their plans are far from final this much in advance of the April 16, 2010 deadline.

Mr. Reistrup is familiar with the status of PTC implementation in his role as Chairman *Emeritus* of the Transportation Research Board's AR030 Railroad Operating Technologies Committee, which met most recently in mid May of 2009. The discussions at that meeting, which was attended by representatives of the four major Class I railroads including CSXT, indicated that the railroads' plans for implementing PRC are in the early stages of development and the PTC systems tested to date have not been successful. Based on these discussions, Mr. Reistrup believes it quite possible that the April 2010 deadline (if not the December 31, 2015 implementation date itself) will be pushed back due to the lack of progress to date in developing workable PTC systems.

Other, publicly-available information confirms that the railroads' implementation of PTC is encountering numerous obstacles. The major technical obstacles are developing braking software algorithms to stop trains of different weights and lengths, freeing up radio bandwidth for the required communications, and interoperability between railroads whose tracks regularly host other railroads' locomotives.[39] Given these obstacles, the Class I carriers have expressed concern with meeting the federally imposed deadlines. Tom White, a spokesman for the AAR, said in December 2008 that "the technology is not ready for implementation. There's so many variables given all the technical issues to be resolved . . . we can't say with confidence when PTC will be implemented."[40] More recently, on August 26, 2009, BNSF CEO Matt Rose stated that his company would ask Congress to scale back the PTC implementation requirements of RSISA. *See* e-workpaper "Bloomberg PTC Article.pdf."

The ultimate result of these issues and discussions may well be to delay the critical dates for PTC implementation. Given this state of affairs, SECI has not included any capital or other operating costs for implementation of the PTC requirements of RSIA in its SAC analysis.

e. **Miscellaneous Aspects of the Operating Plan**

Other elements of the SFRR operating plan are described in Part III-D. These include locomotive maintenance facilities and procedures, equipment maintenance facilities and procedures, and operating personnel requirements – including Train & Engine ("T&E") crews and non-train operating personnel

[39] John Dodge, *Railroad Safety at What Price?,* Design News, December 8, 2008 (*see* http://www.allbusiness.com/print/11783115-1-22eeq.html).

[40] *Id.* In the same article BNSF's director of corporate communications also said that "[w]e do have a rollout plan, but I would not be comfortable in stating the time frame."

involved in field supervision, yard operations, dispatching, and mechanical functions. As described in Part III-D-4, the SFRR's maintenance-of-way plan has been carefully coordinated with its operating plan and is fully consistent with the operating plan.

III-D Operating Expenses

III. D. OPERATING EXPENSES

This Part of SECI's Opening Narrative explains the SFRR's annual operating expenses for equipment, personnel, general & administrative, information technology and maintenance-of-way requirements and the development of the related service units and costs. The expert witnesses responsible for the evidence in this Part include Paul Reistrup (locomotive requirements and operating and general and administrative personnel and equipment); Joseph Kruzich (information technology costs); Philip Burris (operating statistics, crew requirements, locomotive and freight car requirements, fuel costs, personnel compensation, equipment lease/maintenance costs and operating units cost); and Harvey Crouch (maintenance-of-way costs).

Mr. Reistrup and SECI Witness Walter Schuchmann developed train transit/cycle times from the RTC simulation of the SFRR's operations. The RTC Model output was directly used to calculate the SFRR's locomotive hours and car hours for the peak week of the 2018 peak year. Mr. Burris, using the 2018 peak week transit times and locomotive requirement outputs from the RTC model, calculated locomotive hours and car hours for all trains moving in the 2008 Base Year. In addition, locomotive unit miles and car miles were calculated for all trains moving in the 2008 Base Year.[1] The locomotive and car statistics were then

[1] Development of the locomotive miles, car miles, locomotive hours and car hours is shown in e-workpaper "SFRR Base Year Service Units.xls." Development

indexed from 2008 to 2009 levels based on the change in ton-miles in these two periods for coal, general freight and intermodal traffic separately. The resulting statistics were utilized to determine overall locomotive requirements and car ownership requirements, as shown in e-workpapers "SFRR Operating Statistics.xls" and "SFRR Car Cost.xls." T&E (train crew) personnel requirements were developed for all trains moving in the 2008 Base Year as shown in e-workpaper "SFRR Crews and Overnights.xls." The 2008 T&E personnel requirements were indexed to reflect 2009 levels using an overall tonnage index.

The actual locomotive and car hours and associated expenses derived from train transit/cycle times for the year would be lower than those presented here because the average number of daily trains containing SFRR traffic moved during the 2008 base year is less than the daily trains moved by the SFRR during the peak one-week period of the 2018 peak year. Thus the SFRR's transit/cycle times should be faster on a daily average basis for the entire year than as compared to the peak week.

The SFRR's annual operating expenses for its first year of operations are shown in Table III-D-1 below.

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of T&E crew requirements is shown in e-workpaper "SFRR Crews and Overnights.xls."

TABLE III-D-1 SFRR 2009 OPERATING EXPENSES ($ Millions)	
Locomotive Lease [Ownership]	$ 0.3
Locomotive Maintenance	$ 23.2
Locomotive Operations	$ 84.0
Railcar Lease	$ 33.6
Materials & Supply Operating	$ 1.1
Train and Engine Personnel	$ 55.0
Operating Managers	$ 20.3
General & Administrative	$ 19.7
Loss & Damage	$ 2.2
Ad Valorem Tax	$ 14.1
Maintenance-of-Way	$ 53.8
Trackage Rights	$ 7.2
Intermodal Lift and Ramp	$ 11.5
Switch Expense Additive	$ 16.7
Insurance	$ 5.0
Startup and Training	$ 24.9
Manifest Line Haul Credit	$(108.6)
Total*	**$ 263.9**

* Total may differ slightly from the sum of the individual items due to rounding.

1. Locomotives

The SFRR's peak-year locomotive requirements are summarized in Table III-C-3 in Part III-C. The SFRR uses two types of locomotives – GE AC4400CW locomotives for road service (including helper service), and EMD SW1500 locomotives for yard switching and work-train service. The SFRR needs a total of 177 AC4400CW locomotives to transport its 2018 trains (including spares), and a total of eight SW1500 locomotives for non-road service.

a. **Purchasing**

The SFRR purchases its AC4400 locomotives and, as discussed in Part III-G, it capitalizes these locomotives in the DCF model. The SFRR purchase price for AC4400 locomotives is $1.813 million per locomotive. This purchase price is based on CSXT's most recent purchase price for these locomotives of ${ } million,[2] indexed to 1Q09 using the AAR equipment rents index.

The SFRR leases its SW1500 locomotives at an annual lease price of $36,433 per unit. This lease price is developed from an article in the June 2008 issue of *Railway Age*, titled "2008 Guide to Equipment Leasing."[3] Application of this annual lease payment to the eight SW1500 locomotives results in an annual lease payment of $291,463 in 2009.

As explained in Part III-C-2-c-i, SECI's experts used a road locomotive spare margin of { }% for AC4400 locomotives, based on CSXT's actual experience as shown in materials it produced in discovery. SECI's experts also applied a peaking factor, as mandated by the Board in *WFA/Basin*, to arrive at the SFRR's total annual road locomotive requirements. The peaking factor equals 1.107 and is equal to the trains moving in the { }, 2008 peak week divided by the average number of trains moving per week during 2008.

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[2] *See* e-workpaper "Copy of Locomotive Assets.xls."

[3] *See* e-workpaper "Locomotive Cost.pdf." The lease price for SW1500 locomotives ranges from $75 to $125 per day. Using the average price of $100 per day, indexed to 1Q09 using the AAR equipment rents index, produces an annual lease payment of $36,433.

b. **Maintenance**

The SFRR's locomotives undergo FRA-required 92-day inspections and minor repairs at each of the railroad's four yards. The locomotives are maintained primarily at Folkston, GA, where the SFRR has provided a locomotive maintenance facility to be used by its locomotive maintenance contractor.[4] Locomotives used for trains that do not operate through Folkston or any other locomotive inspection/maintenance point on CSXT (in the case of cross-over traffic) are exchanged with locomotives on trains that do operate through Folkston as necessary to enable them to receive required maintenance, including periodic overhauls.

Annual maintenance costs of ${ } and ${ } per locomotive are used for AC4400CW and SW1500 locomotives, respectively. These amounts are based on the daily rates CSXT pays General Electric Company for maintaining locomotives as shown in the { } agreement between these two companies. *See* e-workpaper "Locomotive Cost.pdf." The total locomotive maintenance cost for the SFRR equals $23.2 million in 2009.[5]

c/d. **Servicing (Fuel, Sand and Lubrication)**

Contractors based at the SFRR's four yards fuel, sand and lubricate locomotives. All locomotives on empty coal trains moving through one of the

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[4] This locomotive maintenance facility is shown on page 43 of Exhibit III-B-3. It is described in more detail in Part III-F-7.

[5] *See* e-workpapers "SFRR Operating Expense.xls" and "Locomotive Cost. pdf." The maintenance cost under the CSXT/GE agreement { }.

yards are fueled by the SFRR, and locomotives on some loaded coal trains are fueled at Petersburg Yard. Locomotives on intermodal and general freight trains that move at least 500 miles on the SFRR system are also fueled at one of the yards. All locomotive fueling is performed by contractors using tanker trucks (known in the railroad industry as direct-to-locomotive or "DTL" fueling). The locomotives on other trains that move less than 500 miles on the SFRR system are not fueled or serviced while on the SFRR. The SFRR's fuel cost is based on the average consumption per gross ton-mile and price of fuel as calculated from the monthly payment data supporting the CSXT/CSXI TSA that CSXT provided in discovery.[6] The components of the SFRR's fuel costs are discussed below.

Other SFRR locomotive servicing costs (primarily sand and lubrication) are based on a cost of $0.2085 and $0.5831 per diesel unit-mile for AC4400 and SW1500 locomotives, respectively, calculated using CSXT's 2008 R-1 with the cost indexed to 1Q09. *See* e-workpaper "III-D-1 Servicing Cost.xls."

i. <u>Fuel Cost</u>

The SFRR's fuel cost is based on CSXT's average cost per gallon of diesel fuel for 4Q2008, as calculated from the monthly statement from CSXT to CSXI for 2008 per the TSA. *See* e-workpaper "2008 CSXT-CSXI Summary.xls." The 4Q08 average fuel price was indexed to 2009 using the AAR's forecast of the

[6] The TSA agreement between CSXT and CSXI is described in Part III-A-3-d, *supra*).

fuel component of the RCAF-U. Use of this index is consistent with the indexing of fuel costs in the Board's DCF model.

ii. Fuel Consumption

An average fuel consumption rate for the SFRR was also developed from the 2008 monthly statements from CSXT to CSXI per the TSA. The fuel consumption rate underlying the CSXI/CSXT transfer payments for 2008 equals { }. *See* e-workpaper "2008 CSXT-CSXI Summary.xls."

2. Railcars

a. Leasing

The SFRR uses a mixture of railroad-provided cars and private cars. For railroad-provided cars, SECI developed car costs using three different approaches. First, for non-coal traffic moving in cars owned by foreign roads, car costs are based on time and mileage by car type developed from CSXT's 2008 R-1.

Second, for non-coal traffic moving in CSXT equipment, an annual full service lease cost was developed for each car type from information provided by CSXT in discovery or from publicly available sources.[7] A weighted annual car cost for all car types was then developed based on the percentage each car type moves on the SFRR system. The weighted average annual car cost was then

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[7] *See* e-workpapers "III-D-2 Car Cost.pdf" and "SFRR Car Costs.xls" for details.

converted to a cost per hour and cost per mile and applied to the car hours and car miles for the 2008 base year trains.

Third, for SFRR-provided coal cars, car lease payments are based on annual full service lease costs developed from lease agreements provided by CSXT in discovery of ${ } and ${ } for equipped gondolas and hopper cars, respectively.[8]

The cars provided by the SFRR for non-coal traffic include boxcars, covered hoppers, gondolas, open-top hoppers and flat cars. The annual full service lease cost per car for each car type is as follows:

Boxcars	$3,000
Covered Hoppers	$4,068
Open-top Hoppers	$5,196
Flat Cars	$5,292

The lease costs for these car types are based on the June 2008 Railway Age Guide to Equipment Leasing, with costs indexed to 1Q09 using the AAR Equipment Register-East Region. *See* e-workpaper "SFRR Car Cost.xls."

The SFRR's freight car requirements include a spare margin of 5.0 percent. This spare margin is based on {

}. A 5 percent spare margin was also accepted by the Board in *WFA/Basin*.

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[8] *See* e-workpapers "III-D-2 Car Cost.pdf" and "SFRR Car Costs.xls."

b. **Maintenance**

As described above, the SFRR uses full service car leases for the railcars it provides. As full service lease payments include maintenance costs, no other maintenance costs are included.

Shippers who supply railcars for their SFRR movements make their own separate arrangements for maintenance of their cars at existing car repair facilities on or near the route of movement.

The SFRR provides an End-of-Train Device ("EOTD") for each of its locomotives. The annual EOTD cost is detailed in e-workpaper "SFRR Materials and Supplies.xls."

c. **Private Car Allowances**

For SFRR coal movements that occur in private cars, the cars are provided per diem and mileage free under the terms of the relevant CSXT transportation contracts and other pricing authorities (that is, the cars are provided free of charge to CSXT and the freight rates reflect the fact that CSXT is not incurring car costs). Because the SFRR is replacing CSXT with respect to its coal traffic, the SFRR also pays no per diem or mileage allowances with respect to coal movements in private cars.

With respect to private cars used for non coal traffic, SECI's experts have included a private car charge per car-mile by car type which is applied to all private car-miles on the SFRR. The private care mileage charge by car type was developed from data contained in CSXT's 2008 R-1. *See* e-workpaper "SFRR Car Costs.xls."

3. Personnel

The SFRR has a traffic group that moves primarily in trainload quantities. Accordingly, the SFRR does not need anything remotely approaching the level of staffing of a large, unionized Class I railroad such as CSXT, which was assembled from several smaller railroads that had their own union agreements and work rules prior to their incorporation into the CSXT system. Consistent with the stand-alone concept of identifying the least-cost, most-efficient feasible hypothetical alternative to the incumbent, the SFRR is a non-union railroad that is built from the ground-up to handle a defined traffic group, and is not bound by existing CSXT collective bargaining agreements and crew districts/assignments.[9] Many of its employees can perform more than one function with appropriate training, without regard to traditional craft boundaries. This provides considerable flexibility in staffing the railroad, particularly its field transportation, mechanical and maintenance-of-way forces.

SECI's experts have developed a staffing plan and associated personnel for the SFRR that minimizes cost and takes full advantage of modern technology. At the same time, the staffing plan permits the railroad to handle its

[9] The Board has accepted the concept of a non-unionized SARR. *See TMPA* at 687; *PSCo/Xcel* at 68, 69.

projected peak traffic volume safely and efficiently while maintaining its facilities in good condition.

a. Operating

i. Staffing Requirements

The SFRR's operating personnel include train crew and line supervisory and field employees in the Transportation, Engineering/Maintenance-of-Way and Mechanical departments. The senior Operations staff (headquartered at Folkston) report directly to the Vice Presidents of Transportation, Engineering and Mechanical. For the most part they are not included as operating personnel but are included in the SFRR's General & Administrative ("G&A") staff, which is described in Part III-D-3-c below. The SFRR's operating personnel requirements are discussed below.

(a) Train/Switch Crew Personnel

The SFRR requires a total of 502 Train & Engine ("T&E") crew members to transport its peak-year trains. This count, which includes helper crews and switch crews based at the SFRR's four yards, is based on the number of trains moving over the various parts of the SFRR system during the peak year; the crew assignments developed by Mr. Reistrup (as described in Part III-C-2-c), and the switch assignments at the SFRR's four yards. The RTC Model simulation performed by Mr. Schuchmann was used to confirm that train crews operating in these crew districts generally could complete each tour of duty within 12 hours and otherwise comply with the federal Hours of Service law, as amended. Crews were assigned to each train moving in the 2008 base year and then indexed to 2009 levels using the 2008/2009 ton-mile ratio. Details on the development of the SFRR's T&E personnel are provided in e-workpaper "SFRR Crews and Overnights.xls."

Consistent with Board precedent, T&E crews were developed using the total number of crew starts as determined by the actual train counts over an entire year. *See PSCo/Xcel* at 62. In this instance, crews were determined for all trains moving in the 2008 base year and then indexed to 2009 using the change in ton-mile levels.[10] The total crew starts from each crew base were then adjusted upward to reflect the 1.51% re-crewing requirements determined from a review of the number of crews whose on-duty time expired under the Hours of Service law, based on the results of the RTC simulation. The adjusted crew count was then used to determine the total number of T&E crews required using the standard formula employed by the Board to determine how many crews are required to cover the number of crew starts assuming that each crew member is available 270 days a year. *Id.*[11]

[10] In previous SAC rate cases the crew requirements were developed for the peak year and then indexed to the first year based on the change in tonnage levels. As explained in Part III-C-1-c-ii above, SECI's experts have not developed a peak-year train list due to the needless complexity of the undertaking.

[11] The Board accepted crew members' availability to work 270 crew shifts per year in *WFA/Basin II* at 47. This number is not affected by the hours-of-service provisions of RSIA.

(b) <u>Non-Train Operating Personnel</u>

The SFRR's staffing requirements for operating personnel other than train and switch crews and maintenance-of-way ("MOW") personnel are summarized in Table III-D-2 below. MOW personnel are discussed separately in Part III-D-4.

TABLE III-D-2 SFRR NON-TRAIN OPERATING PERSONNEL	
Position	**No. of Employees**
Vice President – Transportation	1
Assistants	2
Directors of Operations Control	2
Managers of Train Operations	6
Assistant Managers of Train Operations	10
Managers of Locomotive Operations	6
Managers of Yard Operations	20
Crew Manager	1
Crew Callers	9
Dispatchers	28
Director- Operating Rules, Safety & Training	1
Managers of Safety & Training	2
Manager of Intercarrier Relations	1
Vice President – Engineering	1
Assistant	1
Vice President – Mechanical	1
Assistant	1
Director of Mechanical Services	1
Manager of Testing & Environmental	2
Equipment Inspectors	141
Total	**237**

The operating staff shown in Table III-D-2 is consistent with that approved by the Board in *WFA/Basin II*, taking into account the geographically larger SARR system and more diverse traffic group involved in this case. A description of each operating position is provided below.[12]

Vice President – Transportation. This position is responsible for all transportation, customer service, and marketing functions. The Directors of Operations Control report to him. He has two assistants to help him with administrative matters, one for the West Division and one for the East Division.

Directors of Operations Control. There are two Directors of Operations Control, one for each of the SFRR's two operating divisions. These individuals are responsible for all train operations on their respective divisions and supervise the SFRR's field operating managers. The Managers of Train and Locomotive Operations report to them.

Managers and Assistant Managers of Train Operations. The SFRR needs six Managers of Train Operations ("MTO"), with the positions split evenly among the two operating divisions which are of relatively equal length. This position is the equivalent of Trainmaster on a Class I railroad. The MTOs on the West Division are stationed at Nashville, TN, Junta, GA and Folkston, GA. Their territories extend from Princeton, IN to Chattanooga, TN, Chattanooga to Manchester, GA, and Manchester to Bostwick, FL, respectively. The MTOs on the East Division are stationed at Cumberland, MD, Petersburg, VA and Charleston,

[12] In *WFA/Basin* the Board treated Customer Service personnel as Operating personnel and Marketing personnel as G&A staff. Mr. Reistrup believes all of these personnel are more appropriately considered G&A personnel (discussed below). This is how they were treated in *AEP Texas* at 51, 54.

SC. Their territories extend from Newell, PA to Brunswick, MD (including the Robinson Run Branch), Brunswick to Rocky Mount, NC, and Rocky Mount to Folkston, GA, respectively.

The SFRR also has six Assistant Manager of Train Operations positions. These positions are located at Atkinson (Madisonville), KY, Manchester, GA and Callahan, FL on the West Division, and at Newell, PA, Brunswick, MD and Savannah, GA on the East Division. This enables the MTOs and Assistant MTOs to provide direct coverage at each of the SFRR's four yards, its largest interchange points, and key junction points for trains moving to and from the SFRR's principal branch lines. The Assistant MTO at Junta, GA is a 24/7 position due to the high volume of trains moving through that point, most of which are interchanged with CSXT. This is the only location where supervision of train crews and operations is needed around the clock. At the other locations the MTOs and Assistant MTOs are on call as needed at any hour of the day or night.

The MTOs and Assistant MTOs are responsible for train operations in their respective territories and for supervising train crews. They also perform FRA-mandated and other appropriate testing, and respond to and investigate accidents and day-to-day operating problems encountered by any busy railroad.

Managers of Locomotive Operations. The SFRR needs six Managers of Locomotive Operations ("MLO"), who are responsible for the safe and efficient handling of locomotives and trains by the SFRR's engineers. They are based at the same locations as the MTOs, as described above, and their territories are the same as the MTOs' territories. Their duties are similar to those of a Road Foreman of Engines or Traveling Engineer on a Class I railroad. They are FRA-certified locomotive engineers and qualified on their respective territories. They perform FRA-mandated training and observation of engineers in train handling, efficiency testing, and other assistance as needed.

Managers of Yard Operations. One Manager of Yard Operations is based at each of the SFRR's four yards (Nashville, Folkston, Newell and Petersburg). These are 24/7 positions, which work in coordination with the MTOs or Assistant MTOs based at the same locations to supervise the movement of power, equipment and trains in the yard and contiguous main lines, as well as the yard switching operations involved in the removal/replacement of bad-order cars from trains.

Given the supervisory coverage at the SFRR's four yards by the Managers of Yard Operations and the MTOs and Assistant MTOs (as well as the SFRR's Managers of Operations Control), and the relatively simple operations at these yards, the SFRR does not need any separate Yardmaster positions.[13]

Crew Manager and Crew Callers. The SFRR has an automated crew-management system, as described below in Part III-D-3-c-i-d. Although the

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[13] Nor does the SFRR need any crew haulers to transport train crews to/from their trains in yards or relief points in the case of crews that exceed their hours of service. The SFRR's T&E personnel transport themselves between their reporting locations and the train, and SECI has included an expense for taxi service to ferry crews to and from trains as needed. *See WFA/Basin* at 42.

automated crew-management system is designed to handle virtually all basic crew interactions via automated calling and response systems (including identifying the proper crews for the proper jobs and automatically routing calls from crews to the appropriate dispatcher), the system requires some augmentation by human personnel. Accordingly, Mr. Reistrup has staffed the SFRR with one Manager of Crews and two Crew Caller positions (one each for the West and East Divisions). All three of these positions are based at the Folkston headquarters.

The Crew Manager manages the crew-calling system, and supervises and assists the crew callers as needed. He also interfaces with the SFRR's IT personnel as needed. The two crew callers (one for each Division) are on duty on a 24/7 basis to augment the automated crew-management system. The crew callers' principal duties are to define the necessary jobs, assure the proper operation of the automated crew-calling system, and answer questions. The 24/7 staffing for these positions means a total of nine employees are required to man them. *See* e-workpaper "Personnel Counts.xls."

Dispatchers. The SFRR has six dispatching desks located at the SFRR's Folkston headquarters, as described in Part III-C-3. As described in Part III-C-3, three desks are responsible for dispatching trains, track inspection vehicles and work equipment on the West Division, and three desks are responsible for dispatching trains and equipment on the East Division. Each desk is manned by one dispatcher three shifts per day, seven days per week. A total of 28 employees are required to man the six dispatcher positions on a 24/7 basis. *See* e-workpaper "Personnel Counts.xls."

Director and Managers of Operating Rules, Safety & Training. The SFRR requires one Director and two Managers of Safety & Training. The Director is responsible for safety and training on the SFRR system. He is also responsible for the SFRR's operating timetable, operating rules and related instructions, and for interfacing with the FRA and other government agencies in matters pertaining to rules and operating practices.

The SFRR has two Managers of Safety & Training who report to the Director. One Manager is responsible for the West Division and the other is responsible for the East Division. These individuals monitor safety and conduct training of operating personnel in their respective territories, and assist the Director in the performance of his functions.

The final position reporting to the Vice President – Transportation is the Manager of Intercarrier Relations. This position is responsible for the SFRR's relations with the railroads with which it interlines traffic, which include CSXT, NS and 29 regional railroads and short lines. This includes administration of the SFRR's interchange and other agreements with its connecting carriers.

Vice President – Engineering. The Vice President – Engineering is responsible for all engineering matters on the SFRR. This primarily involves MOW, since the SFRR does not need to construct any new facilities during the 10-year DCF period. In addition to supervising the MOW function and personnel (described in detail in Part III-D-4 below), the Vice President Engineering is responsible for the annual MOW capital and operating budgets, and for interfacing with the contractors involved in program and other maintenance-of-way work. This Vice President has one assistant who is chiefly responsible for engineering administration and secretarial duties.

Vice President – Mechanical. This Vice President supervises the SFRR's mechanical function, which largely involves overseeing the acquisition and maintenance of the SFRR's equipment (including rolling stock) as well as administration of the AAR Interchange Rules with respect to the SFRR's use of other railroads' locomotives and equipment on trains that operate in interline service. The Vice President-Mechanical is also responsible for the interface with the SFRR's locomotive and car maintenance contractors. Like the other Vice Presidents, he has an Assistant, who is responsible for mechanical and departmental secretarial work as needed.

Director of Mechanical Services. This position, which reports to the Vice President – Mechanical, is responsible for equipment repairs and for supervision of the Equipment Inspectors at the SFRR's four yards. This individual is also responsible for the day-to-day interface with the SFRR's locomotive and car maintenance contractors, as well as contract administration.

Managers of Testing & Environmental. The SFRR has two Managers of Testing & Environmental, who report to the Director of Mechanical Services. One Manager is assigned to each of the SFRR's two divisions. These individuals are responsible for testing of materials and environmental compliance, including investigation of any problems involving cars containing hazardous commodities while on the SFRR (and related federal reporting requirements).

Equipment (Car) Inspectors. The SFRR's Equipment Inspectors have duties similar to those of Carmen on a Class I railroad. They are located at the SFRR's four yards where the railroad performs 1,000-mile/1,500-mile car inspections.[14] The number of Equipment Inspector positions (which are manned 24/7) is based on the number of daily trains requiring inspection that move through the SFRR's inspection points during the peak week. The car inspection procedures are described in Part III-C-3-b.

The Inspectors at each of the SFRR's three car inspection locations are divided into four-person crews, with each crew assigned two small ATV-type vehicles which can travel on the roadways between the inspection tracks during the inspection process. This enhances the productivity of the crews, and the SFRR has invested capital for roadways between the inspection tracks to achieve these savings. The inspection vehicles are equipped with tools and parts (such as brake shoes) needed for performing light car repairs.

A total of 141 employees are required to man the inspection crews on a 24/7 basis. The crews are broken down by location as follows:

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[14] The SFRR's coal trains operate as unit trains from initial origin to final destination and thus qualify for 1,500-mile "extended haul" inspections. It is assumed that the SFRR trains carrying non-coal traffic may not operate as unit trains from initial origin to final destination, and thus that they do not qualify as extended-haul trains and require inspections at intervals of 1,000 miles or less.

Folkston Yard	3 crews, 53 employees
Nashville Yard	1 crew, 18 employees
Newell Yard	2 crews, 35 employees
Petersburg Yard	2 crews, 35 employees

The number of crews at each location is based on the maximum number of trains per day requiring inspection that operate through that location during the SFRR's peak traffic period in 2018.[15] Details are provided in e-workpaper "equip inspectors.xls."

ii. Compensation

Salaries and total compensation for the SFRR's train crew (T&E) members and for the non-train operating personnel listed in Table III-D-2 above are shown in Table III-D-3 below.

[15] CSXT {

}. Therefore, costs for only 124 Equipment Inspectors are included in the SFRR's operating expenses.

TABLE III-D-3 SFRR OPERATING PERSONNEL SALARIES (BASE YEAR)			
Position	**No. of Employees**	**Annual Salary**	**Total Salaries**
T&E and Switch Crew members	502	$ 74,219	$37,258,121
Vice President – Transportation	1	$327,509	$ 327,509
Assistants	2	$ 58,816	$ 117,632
Directors of Operations Control	2	$103,522	$ 207,044
Managers of Train & Locomotive Operations	6	$ 81,591	$ 489,548
Assistant Managers of Train Operations	10	$ 81,591	$ 815,914
Mangers of Locomotive Operations	6	$ 81,591	$ 489,548
Managers of Yard Operations	20	$ 81,591	$ 1,631,827
Crew Manager	1	$ 81,591	$ 81,591
Crew Callers	2	$ 62,853	$ 565,678
Dispatchers	28	$ 48,582	$ 1,360,307
Director – Operating Rules, Safety & Training	1	$103,522	$ 103,522
Managers of Safety & Training	2	$ 81,591	$ 163,183
Manager of Intercarrier Relations	1	$ 81,591	$ 81,591
Vice President – Engineering	1	$327,509	$ 327,509
Assistant	1	$ 58,816	$ 58,816
Vice President - Mechanical	1	$327,509	$ 327,509
Assistant	1	$ 58,516	$ 58,816
Director of Mechanical Services	1	$103,522	$ 103,522
Manager of Testing & Environmental	2	$ 81,591	$ 163,183
Equipment Inspectors	124[1/]	$ 56,561	$ 7,013,585
Total	**715**	**xxx**	**$51,745,955**

[1/] As explained in footnote 15 on the preceding page, the SFRR's operating expenses do not include costs for the equivalent of 17 Equipment Inspector positions, so the number shown in the table is reduced from 141 to 124 for salary purposes.

Details concerning the compensation levels set forth in Table III-D-3 are included in e-workpaper "SFRR Salaries.xls."

Compensation for the T&E personnel and other non-train operating personnel as shown above is derived from CSXT's 2008 Wage Forms A&B and is established at the same levels as those paid by CSXT for comparable positions, with two exceptions. First, CSXT's average wages for engineers and conductors have been reduced to 90.0% of the CSXT system average. This reduction is based on a comparison of the average wages paid by Norfolk Southern to its train and enginemen and those paid by CSXT to comparable employees, as shown in these carriers' Wage Forms A & B. *See* e-workpapers "SFRR salaries.xls." Second, dispatchers' wages are based on the average wage paid to the ten highest-paid dispatchers by CSXI, as shown in electronic spreadsheet "CSXI payroll 2006-2008.xls" provided by CSXT in discovery.[16]

The T&E wages include all constructive allowances paid by CSXT to its train and enginemen.

Fringe benefits for all SFRR employees are included based on 39.8 percent of wages. This number is based on CSXT's average ratio of fringe benefits to total wages paid in 2008 to all operating employees in the states in which the SFRR operates. This method of determining the fringe benefit ratio was approved by the Board in *WFA/Basin* at 66. Calculation of this fringe benefit ratio is shown in e-workpaper "Fringe ratio.xls."

The SFRR also incurs taxi and overnight expenses for train crews. The number of taxi trips required and the cost per trip are shown in e-workpaper "SFRR Operating Expense.xls." This workpaper also shows the number of overnight stays and the cost per stay.

[16] A copy of this spreadsheet is reproduced in SECI's electronic workpapers for Part III-D.

Consistent with Board precedent, taxi trips and overnight stays were developed using the actual train counts (and the crews' related taxi and hotel requirements) over an entire peak year. *See WFA/Basin* at 48 and *PSCo/Xcel* at 69. Details of the requirements for each service type are shown in e-workpaper "SFRR Crew and Overnights.xls," tab "Crew-Taxi."

The SFRR's unit cost for taxi trips is estimated at $1.00 per mile. This amount was accepted by the Board in both *WFA/Basin* and *PSCo/Xcel.* The cost per overnight stay ranges from $29.99 to $68.39 and is based on hotel room rates throughout the SFRR system. These rates are shown in e-workpaper "SFRR Crews and Overnights.xls."

iii. <u>Materials, Supplies and Equipment</u>

Materials, supplies and equipment for operating personnel (other than maintenance-of-way personnel) include office furniture and equipment, office supplies, safety equipment, EOTDs, motor vehicles including railcar inspection vehicles, and tools and supplies. The total annual operating expense for these items equals $1.08 million in the base year. Detailed development of these expenses is found in e-workpaper "SFRR Materials and Supplies.xls."

Information Technology ("IT") requirements, including computers and software, are described in Part III-D-3-c-iv below. Maintenance-of-way equipment requirements are described in Part III-D-4 below.

b. Non Operating

The SFRR's personnel have all been designated as operating personnel or as General & Administrative ("G&A") personnel. The maintenance-of-way employees, while considered operating personnel, are discussed separately in Part III-D-4. Those employees who might be considered non-operating personnel on a Class I railroad are all included in the G&A staff, discussed below.

c. General and Administrative

The G&A expenses for the SFRR include its headquarters (corporate) management and administrative staff, buildings and equipment, and other expenses, including information technology ("IT") requirements. These expenses have been developed on the basis of the experience of SECI's Witnesses Reistrup, Burris and Kruzich. Mr. Reistrup in particular has held a number of senior management positions at several Class I railroads including CSXT, as well as the presidency of the Monongahela Railway ("MGA") before its acquisition by Conrail and, more recently, NS. Mr. Burris developed G&A personnel salaries based on salaries paid to comparable CSXT or (where appropriate) other railroad personnel. SECI's IT expert, Mr. Kruzich, developed the SFRR's IT requirements and costs including computer hardware, systems, software, and support personnel as well as out-sourcing needs.

The SFRR's engineering staff was developed by SECI's engineering witness, Harvey Crouch, in consultation with Mr. Reistrup. As the engineering function principally involves maintenance-of-way, the SFRR's engineering personnel are discussed below in Part III-D-4.

i. Staffing Requirements

The SFRR's G&A staff is consistent with the G&A staffing for the SARRs approved by the Board in recent SAC cases, including *PSCo/Xcel*, *AEP Texas* and *WFA/Basin*, taking into account the SFRR's larger geographic scope, traffic volumes and train flows, and the diversity of commodities handled. It should be noted, however, that many G&A functions do not vary with the number of route-miles or the traffic volume. The repetitive nature of most G&A functions means that a railroad the size of the SFRR can achieve greater staffing economies of scale than a small railroad such as the SARR involved in *WFA/Basin*, which ultimately had only 310 route miles, notwithstanding the greater complexity of the SFRR's traffic.

The G&A staff is based at Folkston, GA, where the SFRR's corporate headquarters building is located. This staff covers all executive and administrative functions including marketing, legal services, accounting and bookkeeping, budgeting, financial reporting, payroll, information systems, human resources, secretarial and clerical services, and supervising contractors in the performance of some out-sourced functions.

The SFRR's G&A staff is summarized in Table III-D-4 below. This table does not include the operating and MOW employees located at the Folkston headquarters, who are discussed elsewhere in this Part.

TABLE III-D-4 SFRR GENERAL & ADMINISTRATIVE STAFF	
Department/Position	**Employees**
Executive	
Outside Directors	[3 non-employees]
President and CEO	1
Administrative Assistant	1
Directors – Corporate Relations	2
Marketing and Customer Service	
Director – Marketing & Customer Service	1
Marketing Managers	4
Customer Service Managers	16
Finance and Accounting	
Vice President – Finance & Accounting	1
Administrative Assistant	1
Treasurer	1
Assistant Treasurer	1
Cash Manager	1
Controller	1
Asst. Controller – Revenue Accounting	1
Asst. Controller – Disbursements	1
Asst. Controller – Taxes	1
Asst. Controller – Financial Reporting	1
Revenue Analyst/Clerks	5
Director – Budgets and Purchasing	1
Managers of Budgets/Purchasing	2
Manager of Equipment Accounting	2
Director of Internal Auditing	1
Law and Administration	
Vice President-Law & Administration	1
General Attorneys	3
Paralegals/Administrative Assistant	2
Director of Claims	1
Managers of Claims	2
Director – Human Resources	1
Managers of Training	2
Director – Information Technology	1
IT Specialists	12
Total	**71**

(a) **Executive Department**

The SFRR's Executive department consists of the President's Office, as well as the SFRR's Board of Directors. The President's office consists of four people: the President, two Directors of Corporate Relations, and an Administrative Assistant. The SGR has a five-person Board of Directors, with two inside and three outside directors.

President's Office. The President serves as the railroad's CEO, and the other department heads (*i.e.*, the Vice Presidents) report to him. The President is also responsible for the SFRR's external relations (other than marketing of its transportation services). This includes community and government relations other than those involving operating, legal and financial matters, which are the responsibility of the Vice President having jurisdiction over each function. The President does not need a large staff to assist him with these functions because the company is not publicly-owned/traded and does not have to compete for business with other railroads or modes of transportation.

The two Directors of Corporate Relations report directly to the President and are responsible for community and government relations. They interface with state and local governments. Two Corporate Relations positions are needed for the SFRR rather than only one, as approved in recent SAC rate cases,[17] because the SFRR operates in 12 states and the District of Columbia. The

[17] *E.g.*, *AEP Texas* at 54; *WFA/Basin* at 43.

Executive Department's Administrative Assistant is also available to assist with corporate relations in addition to assisting the President.

Board of Directors. The President is also a member of the SFRR's Board of Directors, and serves as its Chairman. The SFRR is not a publicly-owned company, so it does not need the kind of large board of directors with numerous outside directors that is typical of such companies. Rather, it has a five-person Board, consisting of the President, the Vice President-Transportation, and three outside directors. The outside directors would likely include a representative of the SFRR's customer group, a representative of its investors, and an independent director with no other connection to the SFRR.

This size and composition of a SARR's Board of Directors has been approved by the STB in several recent SAC rate cases. *See, e.g., WFA/Basin* at 44.

(b) Marketing and Customer Service

The SFRR's Marketing and Customer Service function reports to the Vice President – Transportation (who is also located at the Folkston headquarters) since there is considerable interaction between the Transportation Department and the marketing/customer service personnel. However, these personnel are more appropriately considered part of the G&A staff than as operating employees (as the Board recognized in one recent SAC decision).[18]

[18] *See AEP Texas* at 51, 54. As noted earlier, in *WFA/Basin* the Board treated the SARR's Customer Service personnel as Operating personnel and Marketing personnel as G&A staff. SECI's experts believe all of these personnel should be treated as G&A personnel Consistent with the *WFA/Basin* treatment, the

Director of Marketing & Customer Service. This position is responsible for the SFRR's marketing and customer service functions, which include communications with the railroad's customers and the operators of the coal mines served by the SFRR. Although part of the SFRR's G&A staff, this position reports to the Vice President-Transportation due to the need to coordinate with other operating personnel in dealing with the mines and customers. The Director supervises a staff of four Marketing Managers and 16 Customer Service Managers.

The SFRR does not need a large marketing department, like CSXT's, because it out-sources the bulk of the marketing function. Many railroads out-source their marketing functions to firms that specialize in transportation marketing, such as High Road Consulting. These firms have the resources and personnel to perform most day-to-day marketing functions including direct customer contact. Out-sourcing most of the marketing function is cost-efficient because the SFRR has known traffic flows. Thus, the SFRR needs only a small internal staff of four Market Managers who supervise and interface with the marketing contractor as well as the railroad's customers as described below.[19]

Marketing Managers. The four Marketing Manager positions are divided along commodity lines. One Manager is responsible for coal and petcoke

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Vice President-Engineering and the Vice President-Mechanical and their staffs are treated as Operating personnel, like the Vice President-Transportation and his staff.

[19] The concept of out-sourcing part of a SARR's marketing function with supervision/supplementation by a small in-house marketing staff was accepted by the Board in *WFA/Basin* at 54 and *AEP Texas* at 45-46.

traffic, one is responsible for intermodal traffic, and two are responsible for the general freight commodities handled by the SFRR.

One Marketing Manager position is sufficient to interface with the SFRR's coal customers because of the relatively small number of mine origins served by the SFRR and its relatively small number of coal movements. The SFRR directly serves only six mines (four in the Illinois Basin and two in West Virginia). It also moves coal in single-line service from one additional mine in the Illinois Basin and five additional mines in West Virginia/Pennsylvania although other railroads (the EVWR in the case of Pattiki Mine in Illinois, NS in the case of Bailey, Emerald, Blacksville #2 and Federal #2 Mines in the "MGA" region of West Virginia/Pennsylvania, and the AD&DRR in the case of Evergreen Mine) actually serve the mines themselves. The SFRR handles a total of nine local coal movements where it serves both the mine origin and the power plant destination, and various interline movements where it serves either the origin or the destination but not both, as well as overhead movements. The SFRR moves or participates in movements of coal or petcoke to a total of only 36 distinct utility customers, including SECI.[20] Based on Mr. Reistrup's personal knowledge and experience at the MGA and the Illinois Central (which served several Illinois Basin coal mines), one Marketing Manager can service this relatively small number of coal/petcoke accounts.

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[20] The SFRR handles one petcoke movement from a rail/water transfer facility at Charleston, SC to FP&L's Crystal River generating station.

One Marketing Manager is responsible for the SFRR's intermodal movements. The SFRR's intermodal traffic moves in a few discrete flows, and most of this traffic is interlined with CSXT which means the CSXT/CSXI marketing personnel will be actively involved in the marketing activity for most of the SFRR's intermodal movements.

Two Marketing Managers are needed to handle the SFRR's general freight business (although most of it is also interlined with CSXT and various short lines, whose marketing personnel will also be involved with this traffic). The SFRR's general freight traffic consists of 16 commodities moving between various O/D pairs.[21] General freight traffic constitutes 35.0 percent of the SFRR's total volume in 2009 based on carloads. This volume and diversity of business warrant the attention of two in-house Marketing Managers. Again, all of these Marketing Managers will be assisted by the SFRR's marketing contractor.

Customer Service Managers. The 16 Customer Service Managers cover three positions which are staffed around the clock seven days a week, and three additional positions which are on duty during normal business hours on weekdays. These personnel are responsible for monitoring train locations, maintaining contact with the origin mine operators and destination facilities, answering customers' questions concerning the locations of specific trains and cars,

[21] The specific commodities (other than coal and intermodal containers) transported by the SFRR are listed in e-workpaper "CSXT CARLOAD FORECAST JAN 2009 GF red praf grp V ATC onoff orig.09 fcst sample V1.xls."

and responding to customers' requests for diversion of trains/cars to different origins or destinations.

This level of staffing, which is higher than that in recent rate cases such as *WFA/Basin*, is appropriate for the SFRR's larger and more diverse traffic group, given that a large percentage of the SFRR's traffic is interchanged with other railroads that have their own customer personnel that interact with the same customers. Most customer contacts occur during the second shift which includes normal business hours, which is why three additional Customer Service positions have been added during those hours.

(c) **Finance and Accounting Department**

The Finance and Accounting Department is responsible for the SFRR's basic financial and accounting functions, including treasury, taxation, revenue collection, disbursements for accounts payable, financial reporting, and budgeting and analysis. It consists of 21 employees and is headed by the Vice President – Finance & Accounting who (like the other vice presidents) has an Administrative Assistant/Secretary. The department has a Treasurer, a Controller, a Director of Budgets and Purchasing, and a Director of Internal Auditing with various support positions reporting to these sub-department heads.

Many of the SFRR's accounting and finance functions are performed using computerized packages and programs now common in the railroad industry, rather than being performed manually by in-house staff employees. These functions and the related programs are described in more detail below, in the discussion of the IT function. Given the advances in financial technology and the SFRR's well-defined customer group, the SFRR does not require a large finance and accounting staff to handle these functions. The personnel described below are consistent with those accepted by the Board in recent SAC cases including *WFA/Basin* and *AEP Texas*, although several positions have been added due to the SFRR's more varied traffic base and larger number of carload transactions.

Treasury Function. The Treasury function is headed by the SFRR's Treasurer, who is responsible for managing the company's cash and investments and manages the company's cash and interfaces with the outside investment company that manages the SFRR's 401K retirement plan.

The Treasurer is assisted by an Assistant Treasurer and a Cash Manager. The Assistant Treasurer advises the Controller's Office on the receipt of funds from customers and the SFRR's connecting carriers, monitors and supervises debt payment requirements, and assists the Treasurer in the performance of his functions. The Cash Manager is responsible for day-to-day management of the company's cash.

Controller Function. This function is headed by the SFRR's Controller who is responsible for all accounting functions, including direction of all billing, vendor payment processing, payroll, budgeting, and auditing. As the railroad's chief accounting officer, he advises the Vice President-Finance & Accounting on all accounting issues.

The Controller is assisted by four Assistant Controllers. These positions and their functions are as follows:

The Assistant Controller-Revenue Accounting oversees all customer and interline freight billing and collection, and is also responsible for supervising billing for demurrage, storage, and easements and utility crossings, as well as inputting contract and tariff rate and payment terms into the SFRR's billing system.

The Assistant Controller-Disbursements is responsible for overseeing all accounts payable and payroll processing, issuing vendor payments, advising the Vice President and Treasurer on cash requirements, and reviewing all contracts with outside suppliers.

The Assistant Controller-Taxes manages the preparation of the SFRR's federal and state income tax returns, state sales and use tax returns, and ad valorem property tax returns. He is the advisor to the Vice President-Finance & Accounting on all tax matters. Actual tax returns are prepared by an outside accounting firm with property and payroll tax specialists. A financial accounting computer is used to track all of the SFRR's physical assets and asset replacements.

The Assistant Controller-Financial Reporting is responsible for overseeing monthly accounting closing of the books, preparation of monthly, quarterly and annual reporting packages for review by the Controller and senior management, and maintenance of the company's chart of accounts. One individual is sufficient to perform the SFRR's accounting reporting functions (with assistance from one of the Analyst/Clerks), largely because the SFRR is not a publicly-held company and does not need to prepare reports to the SEC or the equity-investment community.

The four Assistant Controllers are assisted by five Analyst/Clerks, one of which is assigned to each Assistant Controller and an additional position that deals primarily with revenue accounting matters but that can assist any of the Assistant Controllers as needed. They perform routine administrative duties in addition to assisting the Assistant Controllers in the performance of their functions.

Budgeting and Purchasing Function. Consistent with the Board's *AEP Texas* and *WFA/Basin* decisions, the SFRR's budgeting and purchasing function has been centralized within the Finance and Accounting Department. The function is headed by a Director of Budgets and Purchasing, who is responsible for preparation of the annual budget and for the company-wide purchasing function. He is assisted by two Managers of Budgets/Purchasing and two Managers of Equipment Accounting.

One of the Managers of Budgets and Purchasing works primarily on budgeting and one works primarily on purchasing, but they also assist each other with these functions. They assist with preparation of the annual company budget, monitor monthly performance against plan, and prepare forecasts and cost and revenue analyses. One of the two Managers of Equipment Accounting is responsible for managing car hire and receivable issues. The other Manager interfaces with the SFRR's equipment repair contractors, and oversees outsourced transactions such as locomotive and freight car repairs.

Internal Auditing. Although the SFRR employs an outside auditing firm, consistent with the Board's decision in *AEP Texas* at 56-57, SECI's experts have added a Director of Internal Auditing to ensure adequate oversight of the company's various financial and accounting functions. (This position was not included in the SARR G&A personnel in the *WFA/Basin* case.)

(d) Law and Administration Department

The Law and Administration Department consists of 25 employees. It is headed by the Vice President – Law and Administration (with assistance from an Administrative Assistant) who is responsible for the SFRR's legal affairs including litigation control, risk management and claims, and regulatory compliance. This Vice President is also responsible for other administrative functions including training, human resources and information technology.

Legal/Claims Function. The Vice President-Law & Administration is an attorney and serves as the company's General Counsel. Most of the railroad's legal work is handled by outside counsel, who are supervised by the Vice President with the assistance of three in-house General Attorneys. Two of the General Attorneys are primarily responsible for claims and litigation; the third is primarily responsible for regulatory and environmental compliance and contract matters. They are assisted by two Paralegal/Administrative Assistants, who also handle departmental secretarial duties.

The legal side of the department is also staffed by a small claims sub-department, consisting of a Director of Claims who is responsible for the administration of claims on a system-wide basis (including supervision of the out-sourced risk and claims management contractor), and two Managers of Claims who are primarily responsible for claims involving the SFRR's West Division and East Division, respectively. These two Managers provide assistance in investigating claims, and are also responsible for government safety reporting and representing the SFRR in industry associations and safety forums.

Human Resources and Training Function. The SFRR's start-up and training needs are met largely by out-sourcing. This means that the primary responsibility of the in-house human resources staff is to interface with the outside contractor and assure that the SFRR has a pool of employees that enable it to engage in ongoing operations.

Human Resources lends itself well to out-sourcing, and plenty of external resources exist that will support a small in-house human resources department. Accordingly, the appropriate staffing for the human resources function is a Director of Human Resources and two Managers of Training (one of whom is responsible for training on each of the SFRR's two divisions).[22] This staff is sufficient to manage recruiting, compliance, compensation and benefits, employee relations, and training since most of these functions will be out-sourced.

IT Function. The SFRR's IT systems and associated personnel were developed by SECI Witness Joseph Kruzich, who has considerable experience with

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[22] These two staff Managers interface with the two line Managers of Safety & Training who are Operating employees that report to the Vice President – Transportation, as discussed earlier.

the IT function at Class I and other railroads. The IT systems (described in the next section) is administered by a staff consisting of a Director-Information Technology and 12 IT Specialists. As discussed in more detail in the next section, the SFRR does not have a main-frame environment, but rather a NT?PC-based system. This means far less IT effort is required than at a Class I railroad due to the relative simplicity of a NT/PC-based system.

A staff of 13 people (including the Director) is adequate to provide 24/7 coverage with at least one person on duty each shift seven days a week, and seven full-time specialists on duty five days per week during normal business hours. As most of the SFRR's application software is available off-the-shelf, very little development and maintenance effort is required.

The primary IT staff function is to trouble-shoot various problems with vendors, coordinate the transportation software applications with the outside vendor (RMI) and the business users, and monitor the network infrastructure. There will also be occasions when enhancements will be required to the crew-calling and dispatching systems. The SFRR's staff of IT specialists will be active participants in this effort.

The Director oversees the IT department's daily activities, provides senior management with updates on new technology, and advises as to the future strategic direction of the department. This includes formulation of the logical and physical computer architecture plans and assessment of the cost and feasibility of all user requests.

The 12 IT Specialists perform the following specific functions:

- One Lead RMI Technician - responsible for all RMI applications (RMI is the SFRR's principal software vendor/contractor, as described in the next section) and serves as a liaison to RMI and the user Departments. This person ensures that all the users' needs are met in an efficient and timely manner.

- One Help Desk PC Technician - takes incoming calls from the various users and reroutes the call to a Programmer Technician for immediate handling. This position follows-up with the user to make sure the problem has been resolved. This assignment is during regular business hours with an answering machine to take calls during the night and the weekends. These messages are monitored by the on-duty Programmer Technician to assure prompt handling.

- Five Programmer/PC Technicians - a 24/7 position that provides user support in the day-to-day operation of the SFRR's operating system and applications, software and computers. These employees provide technical support, including configuring desktops and maintaining network connectivity and printing capability.

- Two Network Engineers - responsible for overseeing network security matters and local area network (LAN) and wide area network (WAN) functionality. These two positions are also responsible for planning, designing and managing transmission facilities and cabling and communications devices, and also handle any telecommunications issues that may occur.

- Two Programmers/Development - responsible for maintaining and upgrading the crew calling and dispatching systems. These employees help manage the crew calling, dispatching and accounting systems, and they also are responsible for developing a corporate information web site. The SFRR's web site will not be elaborate because its customer base is small.

- One Exchange 2007 Engineer - responsible for messaging design and implementation of the Windows 2007 Exchange (server) environment. Handling the Exchange server is not a full time job, so this position also assists the PC technicians and network engineers as needed.

ii. Compensation

The salaries and benefits for the SFRR's G&A personnel described above are based on comparable and competitive compensation packages presently available in the railroad industry (and in other service industries).

Specifically, annual salaries for the G&A personnel are based (or, in some cases, estimated) on data contained in CSXT's Wage Forms A and B, with several exceptions. Salaries for the President and the three Vice Presidents includes in the G&A staff are based on the salaries, including bonuses, paid for similar positions by the Kansas City Southern Railway ("KCS") in 2008.[23] As shown previously, fringe benefits for all employees are based on 39.8% of wages.

The G&A staff salaries are summarized in Table III-D-5 below.

[23] This is also true of the salaries for the Vice President-Transportation and the Vice President-Engineering & Mechanical, which are included in the salaries for the SFRR's Operating personnel.

TABLE III-D-5 SFRR GENERAL & ADMINISTRATIVE STAFF SALARIES			
Position	**No. of Employees**	**Annual Salary**	**Total Salaries**
President and CEO	1	$ 783,115	$ 783,115
Administrative Assistant	1	$ 58,816	$ 58,816
Directors – Corporate Relations	2	$ 103,522	$ 207,044
Director – Marketing & Customer Service	1	$ 103,522	$ 103,522
Marketing Managers	4	$ 88,702	$ 354,807
Customer Service Managers	16	$ 88,702	$1,419,227
Vice President – Finance & Accounting	1	$ 247,881	$ 247,881
Administrative Assistant	1	$ 58,816	$ 58,816
Treasurer	1	$ 169,591	$ 169,591
Assistant Treasurer	1	$ 81,591	$ 81,591
Cash Manager	1	$ 81,591	$ 81,591
Controller	1	$ 169,591	$ 169,591
Asst. Controller – Revenue Accounting	1	$ 82,794	$ 82,794
Asst. Controller – Disbursements	1	$ 82,794	$ 82,794
Asst. Controller – Taxes	1	$ 82,794	$ 82,794
Asst. Controller – Financial Reporting	1	$ 82,794	$ 82,794
Revenue Analyst/Clerks	5	$ 60,915	$ 304,577
Director – Budgets and Purchasing	1	$ 103,522	$ 103,522
Managers of Budgets/Purchasing	2	$ 81,591	$ 163,183
Manager of Equipment Accounting	2	$ 81,591	$ 163,183
Director of Internal Auditing	1	$ 103,522	$ 103,522
Vice President-Law & Administration	1	$ 327,509	$ 327,509
General Attorneys	3	$ 103,522	$ 310,566
Paralegals/Administrative Assistant	2	$ 58,816	$ 117,632
Director of Claims	1	$ 103,522	$ 103,522
Managers of Claims	2	$ 81,591	$ 163,183
Director – Human Resources	1	$ 103,522	$ 103,522
Manager of Training	2	$ 81,591	$ 163,183
Director – Information Technology	1	$ 103,522	$ 103,522
IT Specialists	12	$ 60,915	$ 730,984
Total	**71**	**xxx**	**$ 7,028,377**

Details supporting the derivation of the compensation numbers in Table III-D-5 are included in e-workpapers "SFRR Salaries.xls" and "SFRR Operating Expense.xls." It should be noted that the numbers in the Total Salaries column in this table may not equal the number of employees times annual salary due to rounding.

iii. Materials, Supplies and Equipment

The LRR owns or leases various types of vehicles and equipment used by its Operating and G&A staffs. Costs for this equipment have been included in the calculation of the SFRR's annual operating expenses. *See* e-workpapers "SFRR Operating Expense.xls" and "SFRR Material and Supplies.xls" for details concerning equipment and supplies (except for IT and MOW equipment and supplies, which are discussed separately below).

Company vehicles are needed at the SFRR's Folkston headquarters and by field operating personnel. A pool of Ford Explorers (a small SUV with all-wheel drive) is maintained at headquarters for use primarily by the headquarters G&A, Operating and Engineering staffs while traveling to the field on SFRR business. Ford Explorers are also needed for the field transportation, mechanical and MOW personnel, and pick-up trucks and ATV-type vehicles are needed for the car inspection personnel. A total of 40 Ford Explorers are needed, including five Headquarters G&A vehicles. Each of the four car inspection locations (the SFRR's yards) requires one pick-up truck for use by the inspection crews, and SECI's experts have selected a 4WD 4-door extended-cab pickup for use by each yard's car inspectors. A total of 16, 4-wheel ATV-type vehicles are also needed for use by the inspection crews.

The SFRR also needs miscellaneous office equipment and supplies including desks, telephones and janitorial supplies. Details on the miscellaneous equipment are provided in e-workpaper "SFRR Materials and Supplies.xls."

iv. <u>Other</u>

(a) <u>IT Systems</u>

The SFRR's information technology systems have been developed by SECI Witness Joseph Kruzich, its experienced railroad IT expert. Mr. Kruzich reviewed the SFRR's operating plan and G&A requirements to determine the railroad's basic computer and communications needs and the kind of support needed by its staff. The IT systems described below enable the SFRR to operate safely and efficiently and to perform all administrative functions.

It should first be noted that SFRR does not have many of the complex computer system requirements that a large Class I railroad has. Although the SFRR has more customers than the SARRs in other recent SAC rate cases such as *WFA/Basin*, it does not have extensive yard or switching operations and it does not provide service to its customers on an individual car basis. It has a maximum of 196 train movements per day, as well as a limited number of local customers and interchange points. It also handles primarily trainload movements, with multiple-car billing (using the RMI Revenue System to allocate revenues), rather than billing for individual railcars. This reduces the complexity of the computer and communication systems required to support operations, and renders unnecessary the colossally expensive mainframe systems that large carriers such as CSXT use. The

SFRR thus does not require a large data center facility to house mainframe computer systems and associated peripheral equipment. As described below, the SFRR's IT system design is NT/PC-based, with outsourcing of many IT requirements to RMI in Atlanta, GA. This SFRR's system can be housed in a room approximately 15' x 20', with normal office-environment heating and air conditioning. This room is located in the SFRR's Folkston headquarters.

Based on the SFRR operating plan and G&A staff departments, the capital requirements for IT and communications systems equal $2.28 million. *See* e-workpaper "SFRR-Capital Budget.xls." The annual operating cost for IT and related communications equals $6.51 million at 2008 price levels. *See* e-workpaper file "SFRR-Operating Budget.xls." Table III-D-6 below shows the capital and annual operating expenses separately for information technology and related communications systems.

TABLE III-D-6
CAPITAL AND OPERATING COSTS FOR SFRR IT AND COMMUNICATIONS SYSTEMS

Item	Capital Cost	Operating Expense
Information Technology	$2,241,995	$6,380,873
Communications	$ 39,689	$ 128,675
Total	**$2,281,684**	**$6,509,548**

The SFRR's computer and IT communications systems are described below. They have been designed to meet the company's mission-critical technology needs to achieve operating efficiencies, customer satisfaction, optimum staffing,[24] maximum productivity, and safe train operations. The costs shown in the workpapers are based on the SFRR's highest daily train counts and number of annual carload transactions.

Transportation System. The key item in the LRR information technology architecture is RMI's Transportation Management Services ("TMS") package. TMS is an integrated system for managing day-to-day rail operations that is in use on several railroads. It includes modules for yard and inventory control, waybilling, train operations, switching settlements, demurrage, EDI consists, waybills, bill of lading, blocking instructions, work orders, switch instructions, and many other features. This system is outsourced to RMI using frame relay communications from Folkston, GA (where the major transactions reporting occurs) to Atlanta, GA, where RMI is located. Field personnel access the RMI system via the Internet. The annual operating expense for the RMI system is detailed in e-workpaper "SFRR RMI Price Sheet.xls."

Crew Management System. A crew management system is needed to efficiently manage the SFRR train crews and equipment. The SFRR will purchase a license from PS Technology for the SCAT Client Server system, and related equipment and software (Oracle Data Base). This system provides the capacity needed to schedule crew requirements involving approximately 500 train/engine/ yard employees (peak year) and less than 20 crew-change points over the SFRR

[24] The SFRR's IT personnel requirements are described above in the discussion of G&A personnel. The IT staff size is largely a function of the systems described in this section.

system. It also minimizes the need for a large staff of crew callers or other crew management personnel. Costs for the crew management system are further detailed in e-workpaper "SFR-Capital Budget.xlx."

Dispatching System. A computerized dispatching system, assisted by six human dispatchers on a 24/7 basis, monitors the movement of trains and other equipment at all times, and distributes traffic efficiently across the railroad. The SFRR will purchase and implement a PC-based version of the Alstom CTC Dispatching system. This system is similar to the one that is currently being used by the KCS. This system has plenty of capacity to meet the SFRR's needs and includes all necessary equipment, installation and on-site tests. A detailed description of the system's capacity is included in e-workpaper "Technology and Communications Budget.pdf."

Revenue Accounting. The SFRR needs a revenue system to handle interline settlements for all the trainload transactions and the multiple-car transactions (the smallest revenue block of cars handled by the SFRR in a single transaction is 15 cars).[25] RMI has a revenue system that meets the SFRR's requirements. In particular, the RMI Revenue Management Services ("RMS") is a full-function revenue management system that has been certified by the AAR for Interline Settlement System ("ISS") processing. *See* e-workpaper "Technology and

[25] As discussed in Part III-C, the SFRR will handle some complete trainloads in which only a portion of the traffic is in the SFRR's traffic group for revenue purposes. In such circumstances, the entire train is handled intact between the on-SFRR and off-SFRR junction points.

Communications Budget.pdf." This certification allows railroads using ISS/Connect to participate in the ISS. ISS/Connect provides complex rate management, EDI management, freight billing, support for industry reference files, revenue protection, and additional functionality. The RMS costs are based on the total monthly settlements. The SFRR has an estimated 2.2 million carloads annually that are processed through the revenue management system at a cost of $6.0 million. These costs are shown in e-workpaper "SFRR-Operating Budget.xls."

Car Accounting. The SFRR needs a receipt and a payable car hire system, because the SFRR owns some railcars and uses some railcars provided by its connecting carriers. RMI has a car hire system for receipts and payables that provides the necessary features needed by the SFRR to keep track of its cars off-line and foreign cars on-line. This system computes charges due SFRR from foreign railroads and the SFRR's payables to foreign roads. The system separates car earnings by designated owner groups, issues remittance and settlement summaries, flags non-moving cars and missing junctions, and helps keep track of assets with on-line access to car movement data. The annual operating expense for this system ($96,264) is based on the number of non-private interchange cars handled per month. *See* e-workpaper "SFR-Operating Budget.xls."

General Accounting. The SFRR uses the Peachtree MAS 200 package for its general accounting system. Peachtree MAS 200 is an industrial-strength accounting software package that will adequately support all of the SFRR's general accounting functions. It is capable of handling high-volume accounting transactions daily, and has multi-user network capabilities. Peachtree MAS 200 provides financial snapshot and business analysis reporting and has the core accounting features needed to run a medium-size business. The software is designed to run on Windows 2007 and a Windows NT operating system. The system includes a Dell OptiPlex GX280 PC, cables, HP LaserJet 4250tn printer and the Peachtree MAS 200 software. Details are included in e-workpaper "SFR-Capital Budget.xls."

Human Resource Management. The SFRR uses Optimum Solutions, Inc.'s NT/PC-based system for human resources. This system covers the SFRR's human resource data needs at an affordable cost. The software package includes all basic employee reporting features, employee profile tracking, attendance reports, benefit, insurance and COBRA reports, compensation/job history reports, EEO and citizenship reports, organizational reports, and all OSHA and workers' compensation reports. The system uses a Dell OptiPlex GX280 PC, cables, an HP Laser Jet 4250tn printer and a Dell PowerEdge 1800 Server. *See* e-workpaper "SFR-Capital Budget.xls."

Network and Router Equipment. The SFRR needs networking capability and routers because it has a relatively small number of computers in multiple locations. Networking and router equipment permit these computers to communicate with one another. The SFRR needs one router at each field reporting location and two at its headquarters. The SFRR's communications network consists of a microwave and commercial telephone system. The costs for these items are included in the network infrastructure costs discussed elsewhere in this Part and in Part III-F. The IT operating-expense budget for a network computer system for LAN and WAN, routers at various locations, and internet access for headquarters and field locations is shown in e-workpaper "SFR-Operating Budget.xls.".

Workstations and Printers. Both desktop and laptop PC's are provided, and included in the SFRR's IT costs, with a high-end configuration to run a state-of-the-art operating system while avoiding the need to purchase other applications. One PC is provided for each G&A employee as well as for operating personnel located at headquarters. Additionally, one PC is provided at each crew change point and the major yard locations where employees are assigned. Laptops are provided for use by employees who are required to travel a considerable amount of their time. The total capital cost for desktop and laptop computers is detailed in e-workpaper "SFRR-Capital Budget.xls."

The SFRR needs a variety of printers for work orders, safety bulletins and normal office work such as printing contracts, correspondence and reports. A color printer is needed for various maps, charts and diagrams. Printers are also needed in the field and at major interchange locations to print information relating to the work performed there. The equipment needs include a desktop laser printer for each desktop PC, a printer for laptop PCs where needed, one color and two line printers at headquarters, and one line printer at each of the SFRR's four yards. *See* e-workpaper "LRR-Capital Budget.xls."

Voice and Data Communications. The SFRR needs a telephone system and telephone service to handle external and internal telephone activity. This system includes traditional telephones for each administrative employee, the NTS telephone system, a voicemail system and a calling card system. NexPath Telephony Server-NTS Server Rack Mounted Systems is capable of handling 51 outside lines and up to 85 extensions. This system is capable of handling internal calls over the microwave system and external calls from various parties. The external calls consist of local and long-distance telephone servers, 800 services, paging and faxing.

Data telecommunications to support the RMI transportation system from Folkston to Atlanta is provided by AT&T. This is a frame relay system that is based on estimated transactions. The Internet is used for data communications for all the field offices. The field offices also have Internet access to the RMI transportation system in Atlanta. Cellular phones and pagers are provided for employees who need them to perform their work efficiently. *See* e-workpapers "SFR-Capital Budget.xls" and "SFR-Operating Budget.xls" for details on the capital and operating costs for all of these items.

Automatic Equipment Identification. Automatic equipment identification (AEI) includes a track-side scanner that reads information from each car (car number and initial) in a manner similar to reading a bar code. That information is accumulated on a PC while the train passes a specific site where the scanner is installed. These readings are then compared to the train consist residing on a computer to determine if there are any discrepancies. If discrepancies exist, the consist record is adjusted to agree with the reading from the scanner.

The SFRR's AEI scanner locations are shown in Exhibit III-B-3 and discussed in Part III-F-6. The capital costs are included in the SFRR's road property investment costs.

Software Maintenance. Software products such as PC accounting packages that run on a server, and tools such as security software and monitoring software, require payment of annual maintenance fees for support and upgrades. Some of these fees are included in the licensing agreement, such as that for the Optimum Solutions program, which has an annual fee payable for the use of its product. Other providers have a flat charge for the package with no annual fees, but they will have enhancement upgrade announcements from time to time with a specified charge for the upgrade. The annual fees payable by the SFRR are detailed in e-workpaper "SFR-Operating Budget.xls."

Railinc Services. The SFRR requires some Railinc services to pass and receive car location information to/from CSXT and its other interchange partners for the various interchange locations. The annual cost for Railinc service is shown in e-workpaper "SFR-Operating Budget.xls."

Network Security. The SFRR also needs security software to protect its network from exterior intrusion due to the large amount of data that is transmitted to Atlanta and other parts of the railroad. The system to be used is the Watchguard Firebox X6500e UTM Software Suite. The Watchguard suite offers comprehensive Unified Threat management and is an easily managed firewall abs AV/IPS security appliance for mid-size businesses requiring a secure, private network. The specifications for this system and its capital and operating costs are shown in e-workpapers "SFRR-Capital Budget.xls" and "SFR-Operating Budget.xls.

(b) <u>Other Out-Sourced Functions</u>

As described earlier, several functions customarily provided in-house by large Class I railroads can be efficiently out-sourced by the SFRR. Consistent with the stand-alone concept of an efficient, least-cost railroad, out-sourcing is used wherever the economics so justify without sacrificing the SARR's feasibility or service quality.

Out-sourced functions, in addition to those described in the preceding section, include marketing, initial training of operating employees (discussed in more detail below); several finance and accounting functions, including preparation of income, property and payroll tax returns and financial/account auditing; legal services, including claims administration and investigation; and administration of the company's retirement plan. *See* e-workpaper "SFRR GA Outsourcing.xls."

A number of independent accounting, payroll service and other firms have the experience and systems to perform these functions. For example, the payroll service firm Paychex has experience in complying with Railroad Retirement and other railroad-specific tax and regulatory reporting requirements. In the human resources area, regional and industry employers' associations are available as a resource for the SFRR's internal human resources staff.

Estimated annual costs have been developed for outsourcing all of the functions described above. Details are provided in e-workpaper "SFRRGA Outsourcing.xls."

(c) **Start-Up and Training Costs**

The SFRR's start-up and training costs have been calculated using the procedures approved by the Board in *WFA/Basin* at 51-54.

Initial training costs for the SFRR's train crew personnel amount to $19.8 million. Training for these T&E employees is based on the actual training costs available in the marketplace, including the average of the training costs charged by Dakota County Technical College in Rosemount, MN, MODOC Railroad Academy in Pleasant Grove, CA, and the National Academy of Railroad Sciences in Overland Park, KS, for training conductors.[26] The SFRR's training costs are based on the assumption that 25 percent of the train and enginemen are experienced enginemen, 50 percent are experienced conductors (one-half of which

[26] The out-sourcing of initial training for the SFRR's operating employees to appropriate training schools is very common for regional railroads, and this approach is increasingly being used by Class I railroads. This approach also eliminates the need for expensive training tools such as locomotive simulators that have been used by Class I carriers.

will receive training to become engineers) and 25 percent have no railroad experience.[27]

The duration of training for conductors is based on CSXT "REDI" training. Novice conductors are compensated during classroom training at a rate of ${ } per week which, while less than the wages paid to experienced conductors, equals 80% of the rate paid by CSXT to new conductors. The duration of training for novice and experienced conductors is 24 weeks. The duration of training for new engineers is 25 weeks based on CSXT's REDI training program, and the duration of training for experienced conductors becoming engineers is 17 weeks based on FRA regulations (and as accepted by the Board in *WFA/Basin*. Compensation for experienced conductors and all engineers is based on 80 percent of wages (the compensation rate approved in *WFA/Basin*). *See* e-workpaper "Training cost.xls" for details.

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[27] In *WFA/Basin* the Board accepted the defendant's argument that the SARR would have to train nearly all new hires because of the increasing rail traffic demand and substantial hiring of new employees by the major Class I railroads at the time (early 2005). *Id.* at 51-52. In today's market, however, numerous experienced train crew personnel are available as the Class I carriers (including CSXT and NS in the East) have laid off large numbers of these personnel because of the economic downturn. For example, in their 4Q08 Earnings Calls, both CSXT and NS announced substantial furloughing of train and engine employees – over 1100 T&E employees have been furloughed by CSXT, and over 500 T&E employees have been furloughed by NS. *See* http://media.corporateir.net/media_files/irol/92/92932/presentations/4Q08.pdf and http://www.nscorp.com/nscportal/nscorp/Investors/Executive%20Speeches/2009/pdf/transcript012809.pdf. This means the SFRR would have a pool of experienced trainmen and enginemen to draw upon prior to the 1/1/09 start-up of operations.

As shown in e-workpaper "SFRR Operating Expense.xls," tab "T&E Training," the average training cost for train and enginemen is $39,529 per individual, including tuition, travel and salary as appropriate.

Training for the SFRR's dispatchers is based on the training available at Johnson County Community College ("JCCC") in Overland Park, KS. JCCC has a 14-week training course for new untrained dispatchers, which includes four weeks of classroom training and ten weeks of field training. According to the JCCC website, individuals attending its dispatcher training are responsible for paying their own tuition, room, board and travel expenses. The SFRR reimburses each dispatcher $3,498 for training tuition costs.

Training costs for the SFRR's MOW employees are based on the training cost incurred by CSXT. The training cost for signal and track employees equals ${ } and ${ } per employee, respectively. This cost includes wages, fringes, training cost and room and board – *i.e.*, this is an all-inclusive training cost paid by CSXT to train MOW employees. *See* e-workpaper "SFRR Operating Expense.xls," tab "Training" for further details on CSXT's MOW employee training costs.

IT Specialists are paid four weeks' salary to set up the SFRR's computer system, a figurer that has been accepted in prior SAC cases including *AEP Texas* at 75 and *WFA/Basin* at 53.

Recruiting costs have been added at $1,000 per employee for rank-and-file employees based on the amount accepted by the Board in *PSCo/Xcel* and

WFA/Basin. Recruiting costs for managerial and executive employees equal { } percent of their first year's salary based on information provided by CSXT in discovery. *See* e-workpaper "III-D-3 Training and Recruiting.pdf." Subsequent annual recruitment and training expenses are based on a 3 percent average annual attrition rate, which is the training failure rate experienced by MODOC Railroad Academy. *Id.*

A total amount of $24.9 million has been provided for initial SFRR training and recruiting costs. Further details concerning the development of this figure are included in e-workpaper "SFRR Operating Expense.xls," tab "Training." Consistent with *WFA/Basin*, start-up training and recruitment costs are treated as operating expense in the SFRR's first year of operations.

Travel expenses have been included for all SFRR employees at the Manager level and higher (except for the Customer Service Managers and the Assistant Controllers, as these positions do not require travel) and for the three outside members of the Board of Directors. Annual travel expenses of $8,000 per employee are included. This amount is based on the most recent available annual survey of corporate travel managers performed by Runzheimer International, which estimates the annual cost of corporate business travel. *See* e-workpapers "SFRR Operating Expense.xls" and "III-D-3 Material and Supplies.pdf."

The SFRR's other start-up costs are covered elsewhere in Part III. These costs include road property investment costs (and in particular, the construction of fixed facilities), which are included in the SFRR's capital costs, and equipment acquisition. Consistent with the stand-alone principles of unlimited resources and barrier-free entry, the ready availability of materials and equipment is assumed.

4. Maintenance-of-Way

The MOW plan for the SFRR was developed by SECI's expert railroad engineering witness, Harvey Crouch.[28] It was also reviewed and approved by Paul Reistrup, SECI's rail operations expert, who has engineering and operating experience with CSXT's predecessors.

Mr. Crouch is well-qualified to prepare and co-sponsor the SFRR's MOW plan and associated costs. Mr. Crouch served in the Southern Railway's and then NS's Engineering Department from 1977 to 1987, including service as a Project Engineer and Track Supervisor in the Maintenance of Way & Structures Department. His duties in these positions are detailed in his Statement of Qualifications in Part IV. Suffice it to say here that as Track Supervisor, Mr. Crouch was responsible for the inspection and maintenance of a portion of NS's mainline trackage in Virginia, including track inspection, day-to-day supervision of work gangs, ordering material, budgeting and planning, as well as management of rehabilitation and maintenance of track and bridges. As Project Engineer, Mr. Crouch was responsible for engineering design and plan review, and the bid and

[28] Mr. Crouch is also sponsoring SECI's evidence on the SFRR's construction costs in Part III-F below. The staffing for the SFRR's MOW Communications & Signals Department is also sponsored by SECI's communications and signals expert, Victor Grappone.

construction engineering phases for major capital track and bridge construction and rehabilitation projects in the geographic areas served by the SFRR.

a. General Approach to Developing the MOW Plan

Mr. Crouch prepared the MOW plan for the SFRR following the precepts approved by the Board in *WFA/Basin*, considering the SFRR's larger size and the different geographic region in which its facilities are located. In this regard, while the geographic region in which the SFRR's lines are situated is different from the eastern Wyoming/western Nebraska area served by the *WFA/Basin* SARR, it generally has less severe grades and curves than the mountainous Central Appalachian territory primarily served by the SARRs involved in the most recent Eastern rate cases decided by the Board (*Duke/NS* and *Duke/CSXT*).

In particular, the SFRR's West Division lies in portions of the Midwest and the rolling terrain of western Kentucky and central Tennessee, and then proceeds south through Georgia to the flat terrain of northeastern Florida. The SFRR's East Division lies partly in the Northern Appalachian region of eastern West Virginia, south-central Pennsylvania and western Maryland, but nearly 70 percent of it is situated in the eastern Piedmont and coastal-plain areas of the Middle Atlantic and Southeastern regions. Mr. Crouch considered the kinds of terrain and climate in which the various portions of the SFRR are located in developing the SFRR's MOW plan and incorporated the significant aspects of the variations in terrain and climate into the MOW plan and staffing.

Consistent with *WFA/Basin*, Mr. Crouch's MOW plan has a substantial field staff to perform day-to-day inspection and maintenance activities, supported by a managerial/office engineering and support staff that reports to the SFRR's Vice President-Engineering & Mechanical. Capital maintenance programs are also required during the 10-year DCF period to renew/replace the fixed facilities, and in particular the principal elements of the track structure. The SFRR's MOW staff has been structured to include planning, budgeting and contracting related to annual capital programs.

Also consistent with *WFA/Basin*, all of the SFRR's program work is performed by contractors. It is more efficient to contract out program work, rather than hiring large seasonal gangs to perform most of this work as most Class I railroads have done until recently.[29] Using contractors is more efficient, in part, because contractors are not subject to internal railroad union craft work-rules (which can be exacerbated for large railroads like CSXT that are the product of numerous mergers and consolidations among predecessor railroads) or the Railroad Retirement program, which makes internal railroad labor very expensive. In addition, it is not cost-effective to hire and equip large mechanized gangs consisting of SFRR employees because most program work is performed on an as-needed basis each year, and gangs simply are not needed throughout the entire year. In

[29] Consistent with the treatment of program renewal work in other rate cases such as *AEP Texas* and *WFA/Basin*, the cost of capital programs is accounted for in the DCF model.

addition, winter work is not feasible on parts of the SFRR due to roadbed freezing and ballast delivered in ballast cars freezing en route to construction areas.[30]

Some maintenance that is considered operating expense will also be contracted out, but the vast majority of the day-to-day spot maintenance work will be performed by the SFRR's field MOW employees with assistance and supervision from the office staff. This includes twice-weekly track inspections, inspections necessitated by hot weather or heavy rain, facility inspections, monthly turnout and walking track inspections, routine day-to-day maintenance including spot-surfacing rough track areas, repairing malfunctioning signals, replacing rail and welding track components, inspecting and performing minor repairs to bridges, and making emergency infrastructure repairs. Other activities that will be conducted by the field MOW forces include lining bucked track, adjusting switch stands, replacing broken switch components, minor gaging, minor vegetation control, replacing a defective or broken rail, joint and frog maintenance, etc.

The field MOW staff, like other Operating employees, is organized for convenience partly on a divisional basis given the SFRR's geographic scope, with some employees assigned to the West Division and some to the East Division. Development of the staff was also guided by the principle that an efficient, least-cost SARR does not require unionized employees and does not face the same

[30] Because the SFRR starts operations with a newly-constructed physical plant, there should be no need for significant program work (and thus large mechanized forces) during the first 10 years of its operations – notwithstanding the way program maintenance is treated under the DCF model, in which a portion of the SFRR's fixed assets are assumed to be renewed each year.

constraints as Class I railroads in terms of the level of supervision required and ability to cross-train, so that employees can be utilized in a more versatile manner (*i.e.*, an employee can perform more than one function where consistent with the level of specialization needed).

In developing the SFRR's MOW plan, Mr. Crouch started by considering the maintenance functions that need to be performed, and then developed an appropriate field organization and supervisory/support staff for each function, given the railroad's geographic scope, terrain, number of trains and gross tonnages. The basic functions include track inspection and routine maintenance, communication and signal inspections, testing and maintenance, bridge inspection and minor building maintenance, and budgeting and administrative support. Mr. Crouch also considered the equipment needs for each function, as well as the maintenance work (other than capital program maintenance) that appropriately could be contracted out. He then developed the field and supervisory/support staff needed to perform each of the various functions efficiently – considering the coincidental fact that the SFRR has approximately the same route miles (2,092) as the average route miles in each of CSXT's nine Operating Divisions. Details are provided below and in Mr. Crouch's supporting e-workpapers.

b. <u>MOW Personnel</u>

The SFRR's in-house MOW personnel requirements are summarized in Table III-D-7 below.

TABLE III-D-7 SFRR MAINTENANCE-OF-WAY PERSONNEL	
Position	**No. of Employees**
HQ Office/Supervisory (based at Folkston)	
Track Engineer	1
Communications & Signals Engineer	1
Assistant Engineer-Signals	1
Assistant Engineer-Communications	1
Bridge Engineer	1
Engineer of Programs and Contracts	1
Public Projects Engineers	2
Manager of Administration and Budgets	1
Manager of Environmental/Safety/Training	1
Manager of Welding & Grinding	1
Manager of Mechanical Operations	1
Supervisor of Work Equipment	1
Administrative Assistants/Clerks	4
Subtotal	17
Field	
Assistant Track Engineers (Field Production)	4
Roadmasters	11
Assistant Roadmasters	21
Track Crew Foreman	26
Track Crew Members	78
Roadway Machine Operators	13
Welders/Helpers/Grinders	22
Rail Lubricator Repairmen	6
Roadway Equipment Mechanic	8
Ditching Crew Foremen	6
Ditching Crew Members	6
Smoothing Crew Foremen	5
Smoothing Crew Members/Machine Operators	10
C&S Supervisors	4
Signal Maintainers	85
Communications Technicians	5
B&B Supervisors	2
B&B Inspectors	2
B&B Machine Operators	2
B&B Foremen	4
B&B Carpenters, Welders/Helpers & Water Service	8
Subtotal	328
Total	**345**

The field MOW personnel shown in Table III-D-7 table equate to 6.38 route miles per employee and 8.67 main-track miles per employee. The SFRR's MOW staffing reflects its size and the resulting economies of scale. These kinds of efficiencies are reflected in the way CSXT manages its own maintenance, using Division sizes of approximately the same mileage as the entire SFRR.[31] In this regard, the SFRR's Track Engineer corresponds, for the most part, to the CSXT Division Engineer position. Unlike CSXT, which has a need for additional management to coordinate MOW on its nine Divisions, the SFRR has no need for a management hierarchy between the Track Engineer (for example) and the Vice President – Engineering.

c. **MOW Organization by Function**

The SFRR's field MOW organization is dictated by the railroad's geographic scope (route miles), track miles, and peak-year traffic volume measured by the gross tons traversing each line segment (tonnage has the greatest impact on railroad infrastructure condition and largely dictates how MOW resources should be allotted). In addition, the distances field forces have to travel to cover their assigned territory were considered. The general office MOW staff (which reports to the Vice President-Engineering) was sized to provide adequate supervisory and administrative support to the field forces, as well as prepare the annual MOW

[31] It should be noted here that the two SFRR divisions, the West Division and the East Division, were created for geographic convenience only. They are not the same as a "Division" on a Class I railroad such as CSXT or NS, which is a distinct administrative unit with its own sub-management.

budget and supervise contractors in their performance of MOW work. The personnel requirements for each MOW function are discussed below.

i. Track Department

The SFRR's Track Department consists of 220 employees, organized into the positions shown in Table III-D-8 below. The annual compensation for each position, by employee and in total, is also shown.[32] A discussion of each position follows the table.

TABLE III-D-8
SFRR TRACK EMPLOYEES

Position	No. of Employees	Comp. Per Employee	Total Comp.
Track Engineer	1	$103,521.98	$ 103,522
Manager of Welding & Grinding	1	$ 81.591.37	$ 81,591
Supervisor of Work Equipment	1	$ 74,387.42	$ 74,387
Administrative Assistant/Clerk	1	$ 58,816.00	$ 58,816
Asst. Track Engineer (Field Production)	4	$ 60,915.35	$ 243,661
Roadmaster	11	$ 81,591.37	$ 897,505
Asst. Roadmaster	21	$ 74,387.42	$ 1,562,136
Track Crew Foreman	26	$ 74,179.83	$ 1,928,676
Track Crew Member	78	$ 61,961.78	$ 4,833,019
Roadway Machine Operator	13	$ 69,240.20	$ 900,123
Welder/Helper/Grinder	22	$ 67,146.90	$ 1,477,232
Rail Lubricator Repairman	6	$ 67,146.90	$ 402,881
Roadway Equipment Mechanic	8	$ 67,146.90	$ 537,175
Ditching Crew Foreman	6	$ 74,179.83	$ 445,079
Ditching Crew Member	6	$ 61,961.78	$ 371,771
Smoothing Crew Foreman	5	$ 74,179.83	$ 370,699
Smoothing Crew Member/Machine Operator	10	$ 69,240.20	$ 692,405
Total	**220**	**xxx**	**$14,980,835**

[32] The derivation of the annual compensation shown for each position is shown in Part III-D-4-b below. Numbers are salaries excluding fringe benefits.

General Office Staff. The Track Department is headed by the Track Engineer. He is responsible for maintenance of all the SFRR's track, preparing the annual track budget, and arranging for contractor performance of track maintenance (capital) programs.

Also reporting to the Track Engineer are a Manager of Welding & Grinding and a Supervisor of Work Equipment. Each of these individuals covers the entire SFRR system within his area of responsibility, as described further below.

One Administrative Assistant/Clerk is assigned to the Track Department (and to each of the other MOW sub-departments) to perform administrative and secretarial duties.

Field Staff. The Track Department's field staff is headed by four Assistant Track Engineers (Field Production) who report to the Track Engineer. The Assistant Track Engineers (Field Production) are based at Nashville, Atlanta, Florence, SC and Cumberland, MD, to enable them to efficiently cover all of the SFRR's territory. They oversee routine contract work (such as weed spraying, use of rail detector and track geometry cars and rail grinding), maintenance programs, and track maintenance by the SFRR's field track forces. They also work with the Roadmasters in their assigned territory in defining annual programs and overseeing contractor performance.

Roadmasters and Assistant Roadmasters. The Roadmasters (equivalent to the Field Maintenance Supervisors described in *WFA/Basin*) are responsible for day-to-day track maintenance in assigned geographic districts. There are 11 Roadmaster districts, each headed by a Roadmaster, averaging about 200 route miles each. The specific territories each Roadmaster is responsible for, by Subdivision and milepost, are described in e-workpaper "MOWRoadmaster Territories.xls."

The Roadmasters are assisted by 21 Assistant Roadmasters. Each Assistant Roadmaster has an assigned territory of about 100 miles. These individuals conduct track inspections in accordance with all applicable FRA regulations, and are trained and certified by the SFRR They are responsible for track inspections and for routine field supervision of the track crews (described below). Each Assistant Roadmaster inspects approximately 50 miles of track per day, four days per week (Monday, Tuesday, Thursday and Friday).[33] They also assist the Roadmasters in other activities, and on Wednesdays they perform activities such as routine switch inspections, vehicle maintenance, working with the local track crews, checking quality behind the track crews, and other light maintenance, as well as additional track inspections as dictated by temperature, weather conditions or emergency situations.

It is common in the railroad industry for Assistant Roadmasters to perform track inspections. This means there is no need for separate Track Inspector

[33] The frequency of track inspections is dictated by the FRA track class involved. The SFRR has mostly FRA Class IV track, which requires inspection twice per week.

positions. When an Assistant Roadmaster is on vacation or otherwise unavailable, the Roadmaster or one of the Track Crew Foremen, who are cross-trained for this purpose, performs the routine track inspections.

Track Crews. The SFRR has a total of 26 field track crews, each consisting of a Foreman and three Crew Members (track laborers). Each crew is responsible for day-to-day maintenance of the track in a defined territory averaging 80 route miles.[34] They perform various tasks in connection with routine track maintenance, such as correcting track geometry defects (surface, line and gauge), repairing detected rail defects, replacing missing/broken joint bars and bolts, replacing failed tie plates/insulators/clips, replacing occasional defective ties at critical locations such as joints, switch points and frogs, removing snow/ice from switches, and replacing/repairing damaged signs.

The territory assigned to each field track maintenance crew, the four-person crew size, and the tasks they are expected to perform are all consistent with the modern practice of Class I railroads (including CSXT and NS) and regional railroads, as well as the approach approved by the Board in *WFA/Basin*. These parameters also reflect the concept that some work traditionally handled by large in-house track gangs at a Class I railroad is contracted out (as described further below). It also should be noted that each Roadmaster has a backhoe and dump

[34] The track crews' territories are described in e-workpaper "MOWRoadmaster Territories.xls."

truck available for his territory, which limits the need for additional track and other field personnel.

Roadway Machine Operators. Mr. Crouch has provided for a total of 13 Roadway Machine Operators, with one Operator assigned to each of the 11 backhoes (one backhoe is assigned to each Roadmaster district) and two additional Operators assigned to the two dozers available system-wide. Other Machine Operators are assigned under other classifications, such as Tamper and Regulator Operators and Ditching Crew Members or Foremen. (The Track Crew members operate the Hi-rail Boom Trucks assigned to each Track Crew, and are not considered machine operators.)

Welder/Helper/Grinders. The SFRR has 11 Welder/Helper/Grinder crews, one for each Roadmaster District, each consisting of a two-person welding and grinding crew with a welder and a welder helper. There are very few turnouts in each district compared to the real-world CSXT, and very few joints to maintain, so there will not be a need for much welding repair on the new SFRR. However, welding/grinding crews are needed to Thermite-weld joints where replacement rail is installed; repair engine wheel burns, chipped rail ends or localized rail flow problems; and maintain turnout and rail crossing frogs and switch points without removing them from the track.[35] Although all of the SFRR's main track has continuous welded rail (CWR), there are some joints, and rail ends must be

[35] It is much more efficient to do the welding in place rather than remove the defective frog, install a replacement, and transport the defective frog to a shop for repairs.

maintained and joints slotted regularly to prevent joint failure and premature rail removal/replacement caused by significant rail-end batter and chipping. In addition, the welding crews can provide backup support on larger jobs such as contracted flash butt/Thermite welding programs and rail detector car/rail grinding operations. Each welding crew is assigned a hi-rail flatbed truck equipped with a self-contained, diesel-driven electric welding generator, winches for handling molds, oxygen and acetylene tanks, and the necessary hand tools and other welding equipment.

Rail Lubricator Repairmen. The SFRR needs six Rail Lubricator Repairmen, each covering approximately 350 route miles on average. The Rail Lubricator Repairmen inspect and repair the SFRR's 210 rail lubricators on a regular basis. The number of lubricators is based on the 10 miles of carry per lubricator recommended by the manufacturer (Portec). There are more lubricators in the mountainous areas west of Point of Rocks, MD – thus the Lubricator Repairmen cover fewer route miles in these areas, and more route miles in the Piedmont/coastal plain and other areas where there is more tangent track. *See* e-workpaper "MOWRailLubrication.xls" for more details on the Lubricator Repairmen territories.

Roadway Equipment Mechanics. The SFRR also needs eight Roadway Equipment Mechanics, which are assigned as needed among the 11 Roadmaster territories. These individuals are responsible for maintaining and performing routine repairs to the SFRR's field equipment, including tampers, regulators, backhoes, and the other specialized equipment assigned to the field MOW forces. The Machine Operators perform simple daily maintenance tasks on their machines. Trucks are maintained at dealerships and local mechanics are used for most auto or truck-related repairs and maintenance.

Ditching Crews. The SFRR has six two-person ditching crews, with three crews assigned to each division. Each ditching crew consists of a Foreman and a Ditching Crew Member. The primary function of each of these crews is to keep the SFRR's ditches free flowing and to clean culverts periodically. Each crew is assigned a Gradall or excavator, a three-way hi-rail dump truck and a conventional pickup truck.[36] The Foreman serves as the machine operator, and the other crew member serves as the dump truck driver. Each crew also has a normal complement of hand tools.

It should be noted that most of the CSXT roadbed for the lines being replicated by the SFRR that was observed during field inspections by Mr. Crouch's team in late 2008 and early 2009 is perched, meaning the roadbed is on fill or embankment with no parallel ditches except in cut sections. Thus most of the SFRR's route does not have any ditches that need cleaning or repairing. Where ditching is needed, it is performed by the SFRR's field Ditching Crews using Gradalls and backhoes. Gradall ditching activities will be concentrated between

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[36] Each Roadmaster is assigned a small rubber-tired backhoe and a dump truck which can also be used by the ditching crews for work in that Roadmaster's territory, as needed. In addition, one large backhoe is assigned to each division.

Louisville and Atlanta on the West Division, and north of the North Carolina/South Carolina state line on the West Division.

Smoothing Crews. The SFRR has five three-person smoothing crews, which perform spot surfacing and lining of the track as needed to correct any significant surface irregularities noted in geometry test car data, or as directed by the Assistant Track Engineer (Field Production). Each crew will cover an average of approximately 420 route miles. Given the SFRR's newly-constructed status, it is highly unlikely that there will be many surface or line irregularities within the first ten years of the railroad's existence.[37] Most of the surfacing will take place in the areas with the highest number of curves. Each smoothing crew consists of a Foreman and two Smoothing Crew Members (Machine Operators), and each crew is assigned a Tamper and a Ballast Regulator. The Tamper is used to surface and line track. The Ballast regulator is used to move ballast, restore the roadbed section and shoulder ballast, fill the tie cribs, and sweep the track following surfacing and lining. These crews also assist the field track forces and contractors with derailments or other problems requiring surfacing work. If additional labor is needed to assist a Smoothing Crew in unusual circumstances, it can be taken from the local Track Crew.

[37] Even where existing railroads have continuous welded rail or CWR, it usually has replaced older, jointed rail. Old roadbed damaged by trains running over jointed rail for many years will not be a factor on the SFRR.

ii. Communications & Signals Department

The SFRR's Communications & Signals (C&S) Department consists of 98 employees. The specific positions and compensation levels for this department are shown in Table III-D-9 below.

TABLE III-D-9 SFRR C&S EMPLOYEES			
Position	**No. of Employees**	**Comp. Per Employee**	**Total Comp.**
Communications & Signals Engineer	1	$ 82,794.03	$ 82,794
Asst. Engineer – Signals	1	$ 60,915.35	$ 60,915
Asst. Engineer – Communications	1	$ 60,915.35	$ 60,915
Administrative Assistant/Clerk	1	$ 58,816.08	$ 58,816
C&S Supervisors	4	$ 74,387.42	$ 297,550
Signal Maintainers	85	$ 81,175.27	$6,899,898
Communications Technicians	5	$ 63,654.82	$ 318,274
Total	**98**	**xxx**	**$7,779,162**

General Office Staff. The C&S Department is headed by the Communications & Signals Engineer. This Engineer position is responsible for the communications and signals functions, which are related, for assuring the proper tests are conducted, and that the necessary maintenance is being performed. He is also responsible for developing the necessary capital programs to keep the signal and communication equipment functioning reliably, and supervising the outside contractors who maintain the communications equipment including microwave towers and associated equipment and radios.

Two Assistant Engineers report to the Communications & Signals Engineer, one in charge of supervising the signals function and the associated field personnel and one in charge of supervising the communications function and associated personnel. This department also has an Administrative Assistant/Clerk who handles secretarial and administrative duties.

Field Staff. The field staff is led by four C&S Supervisors. The C&S Supervisor position is responsible for field supervision of the Signal Maintainers and Communications Technicians (described below). Like the Assistant Track Engineers (Field Production), the C&S Supervisors are located at Nashville, Atlanta, Florence, SC and Cumberland, MD to provide adequate coverage of the SFRR's geographic territory.

Signal Maintainers. The SFRR has 85 Signal Maintainers. This position is responsible for scheduled inspections and routine testing and maintenance of the SFRR's signal system. The Signal Maintainers repair defective trackside signals that govern train movements and grade-crossing protection devices, and change out broken signal bulbs. The number of Signal Maintainers required is a function of the number of AAR signal units involved.[38] Based on input from SECI Witness Victor Grappone, SECI's Signals & Communications expert, Mr. Crouch has provided one signal maintainer per 2,000 signal units. This is consistent with Mr. Grappone's experience with the Long Island Railroad, which has a more complicated signal system than the SFRR.

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[38] An AAR signal unit is a measure of the difficulty of maintaining a particular signal device. There are normally more AAR signal units than there are individual signals.

Communications Technicians. The SFRR has five Communications Technicians. These employees are primarily responsible for maintaining train crew radios and other communications devices. Four of them are based at the SFR's four yards (Nashville, Folkston, Petersburg and Newell). The fifth is a "roving" position and also available to cover for one of the other four during vacations, etc. The Technician based at Folkston Yard (as well as a Signal Maintainer and a General Office IT specialist) are on call if a problem arises in the CTC control center.

iii. Bridge & Building Department

The SFRR's Bridge & Building (B&B) Department consists of 20 employees. The specific positions and compensation levels for this department are shown in Table III-D-10 below.

TABLE III-D-10
SFRR B&B EMPLOYEES

Position	No. of Employees	Comp. Per Employee	Total Comp.
Bridge Engineer	1	$ 82,794.03	$ 82,794
Administrative Assistant/Clerk	1	$ 58,816.08	$ 58,816
B&B Supervisor	2	$ 74,387.42	$ 148,775
B&B Inspector	2	$ 73,914.40	$ 147,829
B&B Machine Operator	2	$ 69,240.20	$ 138,480
B&B Foreman	4	$ 64,178.44	$ 256,714
B&B Carpenter/Welder/Helper.	8	$ 56,137.97	$ 449,104
Total	**20**	**xxx**	**$1,282,512**

General Office Staff. The SFRR's B&B Department is headed by the Bridge Engineer. This Engineer is responsible for inspections and maintenance of the SFRR's bridges, and for minor building inspections and repairs. He is also responsible for preparing the annual bridge repair budget and for supervising the contractors who perform periodic bridge maintenance and major structural repairs, as well as periodic building maintenance. Like the other MOW sub-departments, the B&B Department also has an Administrative Assistant/Clerk.

Field Staff. The B&B field staff is not large, reflecting the fact that all of the SFRR's bridges will be constructed using concrete and steel components, resulting in virtually no annual maintenance to the structures – unlike bridges with timber components which are common on Class I railroads, including CSXT.

B&B Supervisors. The SFRR has two B&B Supervisors, who report to the Bridge Engineer. These individuals are headquartered at central locations on each division, with one located at Atlanta on the West Division and one at Florence, SC on the East Division. They are responsible for performing regular bridge, culvert and tunnel inspections on their division, and for conducting periodic inspections of the SFRR's buildings at locations other than Folkston. They also recommend minor bridge repairs/maintenance to the B&B Crews or, on occasion, the appropriate Roadmaster, to the extent the repairs (such as tightening or restoring missing bolts, clearing drift from bridge piers and cleaning debris from culvert inlets, etc.) are within the capability of the field Track Crews. Major bridge, tunnel and culvert repairs are contracted out, as are periodic detailed, extraordinary inspections of bridges.

Bridge Inspectors and other field B&B employees. The B&B Department's field employees include two Bridge Inspectors, who perform annual bridge inspections as a part of their daily routine, two B&B Machine Operators (one for each division), and four B&B Crews that perform routine bridge, tunnel and culvert maintenance in assigned territories averaging about 550 miles each. Each of the B&B Machine Operators is equipped with a bridge hoist/crane. Each B&B Crew consists of a Foreman, a Welder, a Helper, and a Carpenter. These crews perform bridge and tunnel repairs to the extent they do not involve major pier or superstructure repairs, which are contracted out.

iv. Misc. Administrative/Support Personnel

The SFRR has several Engineering administrative and support personnel at the Folkston headquarters who are dedicated to the MOW function, but who do not support any particular field department by itself. These office personnel, who report to the Vice President-Engineering, develop and administer the annual MOW budget (including the capital or program budget), interface with contractors performing both program and day-to-day work and with governmental agencies involved in public projects that affect the railroad, and deal with other MOW administrative matters including environmental, safety and training. They are summarized in Table III-D-11 below.

TABLE III-D-11 ADMINISTRATIVE/SUPPORT EMPLOYEES			
Position	**No. of Employees**	**Comp. Per Employee**	**Total Comp.**
Engineer of Programs and Contracts	1	$ 60,915.35	$ 60,915
Public Project Engineer	2	$ 82,794.03	$ 165,588
Manager of Administration & Budgets	1	$ 81,591.37	$ 81,591
Manager of Environmental/Safety/Training	1	$ 82,794.03	$ 82,794
Manager of Mechanical Operations	1	$ 81,591.37	$ 81,591
Administrative Assistant/Clerk	1	$ 58,816.08	$ 58,816
Total	**7**	--	**$ 531,295**

The Engineer of Programs and Contracts is responsible for implementation and monitoring of the SFRR's contracts for program and other maintenance, as well as preparing the Engineering Department's overall budget for approval by the Vice President-Engineering and other senior management.

The two Public Project Engineers (one for each of the SFRR's two geographic divisions) interface with governmental agencies and other entities in handling requests for various types of public projects including rail/highway grade separations, new grade crossings, utility projects, and right-of-way encroachments. They also provide engineering expertise and support to the Roadmasters for issues related to such projects in their territory.

The Manager of Administration & Budgets interfaces with the Human Resources Department with respect to hiring MOW employees. He also assists the Engineer of Programs and Contracts in preparing the annual Engineering/MOW budget, and is responsible for the MOW payroll and monitoring/payment of contractor invoices.[39]

The Manager-Environmental/Safety/Training interfaces with federal and state environmental authorities on compliance, and monitors environmental compliance with respect to the SFRR's MOW activities. He also manages the vegetation control program for the Track Department, and is responsible for MOW employee training and compliance with Hazmat practices and procedures.

A separate Manager of Mechanical Operations is needed for the MOW function given the amount of equipment used for this function. This individual is responsible for coordinating the deployment, use and maintenance of MOW equipment. He works closely with the Director of Mechanical Services, who is part of the Vice President-Mechanical's staff (and included with the SFRR's other Operating employees discussed earlier in this Part).

One additional Administrative Assistant/Clerk is assigned to the Engineer of Programs and Contracts/Public Project Engineer and their staff, to assist with secretarial and other routine administrative duties.

d. Compensation for MOW Employees

Salaries for the SFRR's MOW personnel, other than the Vice President-Engineering and his immediate staff (who are included in the Operating

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[39] The SFRR's purchasing function has been centralized in a four-person Budgets & Purchasing section within the Finance & Accounting Department, discussed above under General & Administrative expenses. However, the purchasing for the MOW function is coordinated by the Manager of Administration & Budgets.

personnel discussed earlier in this Part) are set forth in Tables III-D-8 through III-D-11 above. The total annual compensation for these MOW personnel in the base year (excluding fringe benefits) equals $24.57 million The MOW salaries are based on the salaries paid by CSXT to MOW personnel in 2008, as shown in CSXT's Wage Forms A and B, and indexed to 1Q09 levels. Details are provided in e-workpaper "SFRR Salaries.xls."

e. <u>Non-Program MOW Work Performed by Contractors</u>

While the SFRR's in-house MOW forces handle most day-to-day maintenance of the SFRR's track and facilities, it is more cost-effective to contract out some maintenance work that is treated as operating expense. The treatment of such contracted work by SECI's MOW experts is consistent with the approach approved by the Board in *WFA/Basin* at 69-73.

Such contracted work involves several broad categories. These include (i) routine maintenance that can be scheduled on a regular basis, but is not performed frequently enough to justify the SFRR's investment in the equipment and personnel required for it (such as track geometry and ultrasonic rail testing and rail grinding); (ii) unplanned maintenance that experience teaches will be needed, but that does not occur at regular intervals and is more economically handled by contractors who have the requisite expertise and specialized equipment available (such as snow and storm debris removal and bridge superstructure repairs); and (iii) unplanned maintenance events requiring more people or specialized equipment than the SFRR has because of the infrequency and unusual nature of the events (such as repairing the track structure after a major derailment or washout).

The specific areas of maintenance that are performed by contractors are described below.

i. Planned Contract Maintenance

Track Geometry Testing. Track geometry testing is a routine maintenance function. The frequency of such testing is generally a function of the annual gross tonnage moving over the track. Such testing ensures that the track and related structures meet all FRA standards in terms of alignment, gauge and profile. Track geometry test results are used to prioritize work by the Smoothing Crews. Geometry testing is required with varying frequency depending on the annual gross tonnage moving over various portions of the SFRR. Generally, track carrying between 5 and 30 million gross tons per year ("MGT") is tested once per year, track carrying 30 to 60 MGT is tested twice per year, and track carrying more than 60 MGT is tested three times per year. These frequencies are consistent with CSXT's standards based on information produced in discovery (Bates No. CSX-SE-C-005786). The frequencies for testing above 30 MGT are conservative for a newly-constructed railroad that has better roadbed compaction, drainage, ballast and subballast, rail and timber. This means the track structure will hold up better than average. The SFRR also has no roadbed damage from previous use of jointed rail, where low joints developed from batter weaken the subgrade over time.

The cost for track geometry testing is ${ } per track mile. This amount is based on a CSXT long-term contract for track geometry provided in discovery. The total annual miles of testing and the related cost calculations are detailed in e-workpaper "MOW Costs.xls," tab "Annual MOW Expenses."

Ultrasonic Rail Testing. Ultrasonic rail testing is important in preventing derailments because it helps reveal internal rail defects that could cause disruptions in the SFRR's operations. FRA regulations (49 CFR § 213.237) require testing rail in Class 3 track over which passenger trains do not operate for internal defects at least once every 30 MGT or once a year, whichever interval is shorter, and similar testing of Class 4 through 5 track at least once every 40 MGT or once a year, whichever interval is shorter. Consistent with these standards, the SFRR will conduct ultrasonic rail testing at least once a year on all of its main lines, and twice a year on track carrying between 40 and 80 MGT. This is more than adequate given that the SFRR starts operations with all new rail on its mainline tracks and sidings.

Based on a CSXT long-term contract provided in discovery, the average cost for ultrasonic rail testing is ${ } per track mile for each pass over the track with the test car. *See* e-workpaper "MOW Rail Flaw Detection.xls." The total annual miles of ultrasonic testing and the related cost calculations are detailed in e-workpaper "MOW Costst.xls," tab "Annual MOW Expense."

Rail Grinding. No costs for rail grinding were provided by CSXT in discovery. Rail grinding is a part of some Class I railroads' MOW plans as they determine necessary based on traffic, tonnage and rail characteristics, and the potential to extend the service life of the rail. Studies have indicated that premium rail in high-density territory, even with heavy curves, can withstand well in excess of 150 million gross tons ("MGT") without the need for grinding.[40] Here, 136-pound premium CWR rail is being used on the SFRR's main tracks in curves of 3 degrees or more. This rail is extremely durable under heavy loads. However, to be conservative, the SFRR will rail-grind every 100 MGT in the curve areas with premium rail. Consistent with the approach used in *WFA/Basin*, rail grinding will be performed every 30 MGT in other curves and every 60 MGT for tangent track. Tangent rail and rail in curves less than 3 degrees receive one pass, and rail in curves equal to or greater than three degrees receives two passes. Switches, rail crossings (diamonds) and rail located in at-grade road crossings will also be ground at the same time that normal rail grinding is performed.

The annual cost per mile allotted for rail grinding is $1,900 per mile. This cost is based on a recent study by two independent railway engineering experts.[41] The total miles of grinding and the related cost calculations are detailed

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[40] *See* Kevin Sawley, Transportation Technology Test Center Inc, Report 928, "North American Rail Grinding Practices and Effectiveness," August 1999; *Railway Track and Structures*, December 2000, page 15 (included as e-workpaper "grinding.pdf").

[41] "A Quantitative Analysis of Factors Affecting Broken Rails" by Darwin H. Schafer II and Christopher P.L. Barkan. This study, which was compiled using data provided by railroads, was presented on May 9, 2008 at the William W. Hay Railroad Engineering Seminar, University of Illinois. It is reproduced in e-workpaper "Hay Engineering Seminar Rail Study.pdf."

in e-workpaper "NOW Costs.xls," tab "RailGrinding Cap. Costs." Switch grinding is performed at the same intervals as the rail grinding at a cost of $1,900 per mile. The quantity has been included in the total rail grinding quantity.

In *WFA/Basin*, the Board treated the cost of rail grinding as an operating expense, notwithstanding the complainant's argument that it should be capitalized because it extends rail life. *Id.* at 71. Documents produced by CSXT in discovery indicate that, in this case, the cost of rail (and related switch) grinding should be capitalized. {

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Yard Cleaning. The SFRR's yards should be cleaned once a year in order to ensure that debris does not affect rail operations. The SFRR has four yards, at Nashville, Folkston, Petersburg and Newell. The amount and cost of yard cleaning required for these four yards is based on a long-term contract provided by CSXT in discovery. Details of the calculations are shown in e-workpaper "MOWYard Cleaning.xls.", tab "Unit Costs." The total annual cost for yard cleaning is $8,800 per year.

Vegetation Control. Weed spraying, brush cutting and mowing are necessary in order to prevent overgrowth into the rail bed or other structures, which can cause a safety hazard. The most critical vegetation control has to do with the ballast section. If vegetation is allowed to flourish in the ballast section, it will soon foul the ballast and interfere with the most important function of ballast which is to permit water to drain from the track structure, uninterrupted. If water is allowed to be retained in the track structure it can reduce tie life and destabilize the track structure, thus increasing the risk of track failures and derailments. Vegetation control also is critical at grade crossings for the safety of both train operations and the traveling public.

The SFRR's requirements for vegetation control work are based primarily on the climate conditions and annual rainfall in the geographic areas in which it lies. The areas in which the SFRR is located south of Kentucky and Virginia receive considerably more precipitation per year than the areas in and north of those states. As a result, weed spraying is needed once a year in the northerly areas and twice a year in the southerly areas (Tennessee/ North Carolina and south).

The annual cost for vegetation control is based on a prorated value from CSXT's current long-term contracts for vegetation control at grade crossings and for line-of-road vegetation control, produced in discovery. The total cost per mile for vegetation control is ${ }. *See* e-workpaper "MOW Costs.xls," tab "Annual MOW Expenses."

Very little brush-cutting should be required because the SFRR's right-of-way will be cleared during construction, and weed spraying will greatly inhibit the growth of brush. Brush or weeds may tend to accumulate near road grade crossings; the SFRR's dozers will be used as needed to keep the right-of-way cleared around road crossings where contracted vegetation control work is not sufficient.

Crossing Repaving. Highway grade crossings must be repaved periodically. Asphalt pavement is used with treated hardwood crossing timbers in public grade crossings. The life of asphalt pavement is largely a function of road traffic, at least beyond 24 inches outside each rail, although rail traffic is also a factor within the crossing zone proper. A typical pavement application will last 8 to 12 years, or longer. Consequently, there should be little need for the SFRR to begin paving activities immediately. However, to be conservative, and consistent with the approach used in the DCF model, Mr. Crouch has assumed that paving would begin in the SFRR's first year of operations. As the paving should last at least 10 years, Mr. Crouch assumed that 10% of the total crossing paving quantity would be re-paved each year. The total cost of crossing paving is $1,425,000 annually. This amount is capitalized as it is performed in conjunction with the annual capital (renewal) program. {

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Equipment Maintenance. Normal maintenance of company-owned or leased equipment is contracted out, although the SFRR has eight in-house mechanics who perform routine maintenance and repairs to the basic equipment used by the field track forces. The equipment that is maintained by contractors includes hi-rail trucks, dozers, Gradalls and backhoes, ballast regulators, tampers, air compressors and certain power hand tools. The SFRR's mechanics are prepared and equipped to perform preventive maintenance and straightforward repairs to this equipment.

Based on Mr. Crouch's experience, the cost of annual maintenance of the SFRR's equipment is 5 percent of its purchase price.[42] *See* e-workpaper "MOW Costst.xls," tab "Annual MOW Expense."

Communications System Inspection and Repair. Periodic inspection and planned maintenance of the SFRR's communications system, which is described in detail in Part III-F-6 below, is performed by contractors. The SFRR's communications system includes microwave towers and LMR radio facilities, which are inspected annually.

Communications maintenance and inspection costs are normally a component of maintenance agreements for communications systems entered into at the time of installation. In *WFA/Basin*, the complainant proposed and the Board accepted a communications system maintenance cost of 2 percent of original purchase cost. Based on Mr. Crouch's experience this percentage is reasonable, and it has been applied it to the SFRR's communications-equipment acquisition costs developed by SECI Witness Victor Grappone. The result is an annual cost of

[42] In *WFA/Basin* at 69 the Board accepted a higher figure on the basis of a special study performed by the defendant (BNSF). Here, CSXT did not provide any information on its annual equipment maintenance costs in discovery, and Mr. Crouch believes the 5 percent figure is reasonable.

contracted repairs to the SFRR's communications facilities of $770,705. *See* e-workpaper "MOW Costs.xls," tab "Annual MOW Expenses."

Bridge Inspections. As described earlier, the SFRR's Bridge and Building Supervisors and B&B Inspectors perform basic bridge inspections as part of their duties, including annual inspections of all bridges. However, the SFRR's major river bridges require periodic in-depth inspection to assess integrity; these inspections are performed by professional outside contractors in the company of one of the B&B Inspectors, using specialized equipment. It involves careful examination of the substructure and superstructure of each bridge. The bridges will be new at start-up, and will be inspected on a five-year schedule by the outside contractors in addition to the annual inspections by the SFRR's B&B department. CSXT did not provide any cost data in discovery for this type of contract work. Mr. Crouch applied an average cost of $8.94 per track foot of bridge length for contractor inspection, which is based on a total of 46,988 track feet of bridges. On a five-year cycle, the annual cost of inspecting major bridges using contracted inspections is $84,015.15. *See* e-workpaper "MOW Costs.xls," tab "Bridge Inspection."

Building Maintenance. All of the SFRR's buildings are new at operations start-up, so only occasional routine maintenance is required.[43] Other than general plumbing and electrical repairs over time, HVAC systems generally

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[43] Again, CSXT did not provide any information in discovery on building maintenance costs.

require semi-annual inspections and maintenance which is performed by contractors (as is occasional outside maintenance). Mr. Crouch developed an annual cost of $486,558 for contract building maintenance, which is based on 2% of the total building cost. *See* e-workpaper "MOW Costs.xls," tab "Annual MOW Expenses."

ii. Unplanned Contracted Maintenance

Snow Removal. The SFRR's terminals located north of Tennessee (West Division) and north of Virginia (East Division) may require occasional snow removal. Snow removal should not be an issue on most of the SFRR's lines, the principal exception being the area from Brownsville and McKeesport, PA to approximately Point of Rocks, MD on the East Division. Most snow removal activity is performed by the SFRR's field maintenance personnel who are not as busy in the winter as in the summer in the areas where snowstorms are likely.

All main track switches on the West Division north of Junta, GA and on the East Division north of Rocky Mount, NC are equipped with switch heaters. Ballast regulators equipped with snow blowers are used to blow out snow-laden switches and trackage in the northerly areas served with low traffic density; the regulators are run by Smoothing Gang members who are not as busy in the winter in these areas. Snow removal from roadways and parking lots will be contracted out; it is better handled with contractors because it is uneconomical to have extra in-house staff and specialized equipment available to perform this work.

CSXT did not provide any data on snow removal costs in discovery. Based on his experience in the geographic regions served by the SFRR, Mr. Crouch has allocated $10,000 per year for contract snow removal. *See* e-workpaper "MOW Costs.xls," tab "Annual MOW Expense."

Storm Debris Removal. There will be infrequent occasions where severe winds bring down trees or scatter debris on the right of way, and infrequent ice storm damage during winter conditions in the northerly parts of the SFRR system. Depending on the severity and extent of the damage, outside contractors will be called upon to clean up the debris. In-house MOW forces will be available to assist, but the SFRR will not staff for this eventuality. Once again CSXT did not provide any information in discovery on storm debris removal costs. Based on his experience with weather conditions in the geographic regions where the SFRR is situated, Mr. Crouch has provided $10,000 annually for this activity. *See* e-workpaper "MOW Costs.xls," tab "Annual MOW Expense."

Building Repairs. As described earlier, all of the SFRR's buildings are new. Nevertheless, the buildings will require the occasional unplanned repair. Typical occurrences include storm damage, water and sewer line repairs, electrical failure, HVAC repairs, etc. In Mr. Crouch's experience, unplanned annual expense for building maintenance generally is subsumed within the general building maintenance costs described above.

iii. Large Magnitude Unplanned Maintenance

Derailments. A new railroad constructed to modern standards is less likely to experience a major derailment then the older plant of existing railroads. Nevertheless, over the 10-year DCF life of the SFRR, derailments are likely to occur. Removing rolling stock/lading and restoring the track structure after a major derailment usually involve considerable work requiring heavy equipment. Today, few railroads use in-house staff to repair the track after such derailments without assistance from a contractor; in fact, most Class I railroads no longer have auxiliary forces dedicated to derailment response. The same is true for regional/short-line railroads, which are even less able to afford this stand-by resource. Today, these carriers rely primarily on contractors to respond to such occurrences because it is not cost-effective to have a separate complement of employees and heavy equipment on stand-by to deal with infrequent major derailments.

The SFRR's average annual cost for repairing damage from derailments (primarily contractor expense) is $1,680,884. This figure is based on 2008 FRA Accident Reports for CSXT. *See* e-workpaper "SFRR Derailment and Clearing Wrecks.pdf" for details of this calculation. Given the SFRR's brand-new network at start-up (including the fact that it did not replace older, jointed rail with CWR but starts operations with CWR on all of its main tracks), and considering that it moves only complete trains, the SFRR certainly should not incur a greater expense for derailments than the real-world CSXT does.[44] When the estimated cost

[44] In discovery, CSXT provided specific derailment cost data for a single incident, which involved a tunnel collapse and associated derailment at Glencoe, KY (between Louisville and Cincinnati, and thus not on the SFRR route) in October of 2004. The cost associated with this incident was ${ } million. However, this was an unusual occurrence, and not indicative of normal derailment circumstances. The engineering, bridge work, grading and tunnel repairs involved are not typical of most derailments.

of clearing wrecks[45] is added, the SFRR's total annual cost for derailments is $2,459,465.

Washouts. Again, a new railroad roadbed/track structure is not as prone to washouts as older, real-world railroad roadbed that may have experienced previous water-related damage. Nevertheless, washouts may occur – for example, when a culvert through the sub-grade becomes blocked, preventing the flow of water. This blockage can be caused by melting snow or severe rainstorms that cause heavy runoff to move against the right of way. Floating debris at the upstream ends of some culverts can also prevent them from serving their intended purpose.

Based on Mr. Crouch's experience with railroad washouts in the geographic regions served by the SFRR and its length in route miles, the average annual cost of washout repairs should not exceed $20,000. This cost includes furnishing and placing up to 2,000 tons of rip-rap. Other related work would be performed by the local field forces (including ditching and smoothing crews) as needed.

Environmental Cleanups. The SFRR operates locomotive inspection and servicing facilities at its Nashville, Folkston, Petersburg and Newell Yards that might be a source of inadvertent discharge of environmentally hazardous materials. In addition, the SFRR transports some hazardous commodities over several of its

[45] The cost of clearing wrecks is based on CSXT's 2008 R-1. The SFRR's estimated annual cost for clearing wrecks is $778,591. *See* e-workpaper "SFRR Derailment and Clearing Wrecks.pdf.

lines. An infrequent environmental cleanup could occur if hazardous commodities are released during a derailment. Derailments are less likely to occur on the SFRR than on a Class I railroad such as CSXT because the SFRR begins operations in 2009 with a brand-new track structure that includes CWR on all of its main tracks. It does not have to deal with situations where CWR replaced jointed rail that caused ballast and subgrade problems due to compression, which increases the risk of derailments.

CSXT did not provide any information on the cost of environmental cleanups in discovery. However, the SFRR is providing protective drip pads at the location where locomotives are fueled at each of its four yards. This insures that oil emissions from idling locomotives are contained. At each yard, 600 track feet are protected by drip pads, at a cost of $3.00 per track foot. These pads are replaced every three months, at a cost of $7,200 per yard, or a total of $28,800 annually.

f. **Contract Maintenance (Capitalized)**

Program maintenance, such as rail and tie renewal programs, is performed by contractors and is capitalized in the DCF model. Consistent with the Board's SAC precedent and Class I railroad practice, the following more routine MOW work that is contracted out is also capitalized rather than being included in operating expense.

i. **Surfacing**

The SFRR has five field smoothing crews which perform day-to-day surfacing of the track to correct rough spots. In addition, heavy-tonnage track subjected to the high axle loadings of unit coal and other trains needs to be surfaced on a regular basis (once every three years) to prevent it from deviating from acceptable standards. Consistent with standard railroad practice as well as the Board's approach in recent SAC cases, including *WFA/Basin*, this surfacing is performed by a contractor and it is capitalized in the DCF model because it is in the nature of program work

ii. **Rail Grinding**

As noted earlier, since {

}. The rail and switch grinding frequencies developed by Mr. Crouch, as described in the preceding section, were provided to Mr. Crowley for purposes of capitalizing them in the DCF Model.

iii. **Crossing Repaving**

Again, as discussed earlier, {

}. The SFRR follows the same approach. The crossing repaving frequencies developed by Mr. Crouch were also provided to Mr. Crowley for purposes of capitalizing them in the DCF Model.

iv. **Bridge Substructure and Superstructure Repair**

Bridge life expectancy under CSXT's depreciation accounting is 60 years. This longevity generally reflects the stability of bridge superstructure and substructure components.[46] Nevertheless, unexpected minor repairs on a bridge substructure and superstructure will be required from time-to-time. The likelihood

[46] The SFRR's bridges are being replaced through the DCF process.

that steel and concrete repairs will be required is negligible given that the structures are new in year one and have a life expectancy of over one-half a century.

In the experience of Mr. Crouch, the annual cost for bridge superstructure and substructure repairs typically does not exceed the amount accepted by the STB in *WFA/Basin* ($4,000 per major bridge every five years, which assumes a contractor's crew of four working over a period of two days ($2,000) plus material ($1,000) and equipment ($1,000). Accordingly, Mr. Crouch uses this same approach here. This cost is capitalized.

g. **Equipment**

The SFRR's in-house MOW forces require a variety of equipment to perform their duties, some of which has previously been described. The MOW equipment requirements and costs (other than for small tools, whose cost is included as a materials additive to the base compensation cost for each employee) are described below. The costs for all of this equipment are detailed in e-workpaper "MOW Costs.xls," tab "Annual MOW Equipment Cost."

i. **Hi-Rail Vehicles**

Each of the SFRR's 26 field track crews has a hi-rail truck which provides transportation for the crew and is equipped with the tools necessary for the crew to perform its duties. This crew-cab vehicle comfortably seats the Foreman and three track workers. Its hi-rail gear provides the versatility required for maintenance forces to gain access to the track and carry out their duties, particularly on the portions of the SFRR network where traffic density is high. For example, if the track crew cannot access the track at its headquarters due to imminent train arrival, the crew travels by road to a point where the dispatcher can provide positive protection for the crew to get on the track. Alternatively, if the crew is on the track, and it cannot remain or proceed due to an oncoming train, the hi-rail vehicle is removed until the train clears the CTC block and then either returns to the track or moves, by road, to another point where (with authority from the dispatcher) it again gains access to the track.

Each of these hi-rail vehicles is equipped with a boom crane and overhead racks. This allows the crew to load 39 ft. long rails, frogs, switch ties, cross ties and other materials necessary for track maintenance. The vehicle is also equipped with a hydraulic system providing the capability for operating portable tamping tools, impact wrenches, rail saw, rail drill, hammer, spike pullers, etc., which are included in the complement of tools carried on the vehicle.[47] Based on quotations from Stanley Tools, the cost to equip a gang truck or Assistant Roadmaster truck with these tools is $16,000 per vehicle.

Other MOW personnel are assigned smaller hi-rail vehicles. This includes the Roadmasters and Assistant Roadmasters, Signal Maintainers, Welding Crews and Lubricator Technicians. The Assistant Roadmasters' vehicles will also have a hydraulic pump and tool set similar to the system in the track crew vehicles. The HQ Engineering/MOW staff is also assigned hi-rail vehicles as described in

[47] The hydraulic systems on the track crew's hi-rail trucks can perform more functions than an air compressor. Air tools have largely been replaced by the hydraulic tools supplied to each crew and each Assistant Roadmaster.

Part III-D-4-f. In addition, the SFRR has two semi-trailer "lowboys," one for each division, and two rail trucks. There are also trailers for the backhoe assigned to each Roadmaster. These vehicles are used to deliver equipment, tools and materials to the field track and other crews.

The smaller hi-rail vehicles for the supervisory employees are intended essentially for their transportation and that of others who may accompany them together with some capability for small material transport. Vehicles rated 3/4 to 1 ton are suitable. Hi-rail vehicles for Signal Maintainers, Welders and Lubricator Technicians not only provide transportation for the employees but need to be equipped with service bodies for transporting equipment, tools and parts. Here, too, vehicles rated 3/4 to 1 ton are appropriate. The rating tolerance accommodates a wide variety of vehicle manufacturers.

As shown in e-workpaper "MOW Costs.xls," tab "Annual MOW Equipment Cost," the SFRR's total hi-rail vehicle cost is $7.7 million.

ii. <u>Equipment for Track and Related Work</u>

The SFRR's field crews responsible for track maintenance (including the track crews, smoothing crews, ditching crews and welding/grinding crews) have other items of specialized equipment needed to perform their tasks. These include:

<u>Rail Drills</u>. Rail drills are needed by the field track crews for drilling holes in replacement rail when bolted joints are installed, and replacing a rail that is found to be defective through electronic testing or visual detection. Each track

crew has one rail drill, and each Assistant Roadmaster also has a hydraulic rail drill as part of the hydraulic tool set on his truck.

Impact Wrenches. Each track crew and Assistant Roadmaster also has an impact wrench in the hydraulic tool set on its hi-rail vehicle. This piece of equipment is used to loosen and tighten joint bolts where joints are present in the track infrastructure. The impact feature of these tools is especially effective where a nut and bolt are seized and manual attempts to loosen them might prove unsafe. The impact wrench is also equipped with calibration capability so that applied force can be set in accordance with the manufacturer's specifications.

Tamping Tools. The field track crews are equipped with small, hand-held tampers. Major surfacing programs are incorporated into major rail and tie renewal projects to be performed by outside contractors with large tamping equipment. However, additional spot surfacing may be required for joints, switch and railroad crossing frogs, switch points, bridge approaches, at-grade crossing approaches, local spots on the high sides of curves, and as curves move out in the Spring. This spot tamping minimizes speed restrictions due to track conditions. Thus, each track crew is equipped with a set of tamping tools driven by the hi-rail vehicle's hydraulic system.

Tampers and Ballast Regulators. Each of the five smoothing crews is equipped with a modern high-speed tamper with switch-tamping capability to perform spot tamping work, and a ballast regulator which is required for moving ballast, restoring the roadbed section and shoulder ballast, and sweeping the track.

These crews perform virtually all of the spot tamping, lining and surfacing required to maintain proper track line and surface. The cost of five tampers is $2,649,295 and the cost of five ballast regulators is $1,063,500.

Grinders. Each of the 11 welding/grinding crews has a complement of rail grinding equipment, including straight and profile grinders. This equipment is used to grind rail to the designed profile at specific locations. The SFRR's welding crews use the Thermite welding process to eliminate joints created temporarily in CWR where a section of rail is replaced. They also restore, by welding, rail ends which are battered, chipped or crushed, switch and rail crossing frogs, and switch points. Once the welding is complete, the weld zone needs to be ground to conform with the rail profile adjacent to the zone. In addition, these crews slot rail joints to be found in the vicinity of switches, railroad crossings and bridge approaches. The joints require slotting as the railhead flow, under traffic, moves to span the joint gap. If the flow is not checked by slotting, it eventually breaks off causing the rail end to chip.

Each of the 26 track crews also needs a straight grinder in connection with their occasional rail repair work. The cost for 26 straight grinders for the track crews and 11 sets of grinding equipment for the welding/grinding crews is included in the cost of the hydraulic tool sets.

400-Amp Welders. Each of the 11 welding/grinding crews is also provided with a 400-amp welder, which is mounted on the crew's hi-rail truck. This smaller welding tool provides the crews with the needed flexibility to access a work site regardless of the location of the track. The cost for 11 400-amp welders is $143,000, which is included in the truck cost for welders.

Oxy-Acetylene Welders. Each of the 11 welding/grinding crews also needs welding and cutting torches and fuel cylinders. The total cost for oxy-acetylene equipment for the 11 welding crews is $2,860.

Gradalls. The SFRR has four hi-rail Gradall hydraulic excavators (two on each division) which are available to the six ditching crews. These machines, which can be operated either on-track or off-track, are used primarily for cleaning and shaping the parallel and lateral ditches along the right-of-way. The cost of four Gradalls is $1.4 million.

Track Hoes. The SFRR also has two backhoe track excavators (also known as a "track hoe"), one for each division, which are also available for use by the ditching crews. These machines, which are operated off-track, are used primarily for clearing slide areas, installing culverts, and other miscellaneous excavation work which is not suited to a Gradall. They are also occasionally needed by the field track and signal forces. This machine is effective for specialized ditching purposes (such as improving drainage in the vicinity of highway grade crossings and placing signal conduit) and for spot excavating. It also can clear debris and beaver dams lodged at culverts and bridges when equipped with the optional grapple attachment. The total cost for two trackhoes is $469,529.

Backhoes and Dump trucks. Each of the 11 roadmaster territories is equipped with a small rubber-tired backhoe, dump truck, and trailer to transport the backhoe. These additional support vehicles supplement the equipment described in the preceding sections and are available to the track, ditching and smoothing crews on an as-needed basis. The cost of this equipment is $1,678,413.

Details on the costs for all of the items of equipment described above are provided in e-workpaper "MOW Costs.xls," tab "Annual MOW Equipment Cost."

iii. Work Trains

Contractors provide the equipment (except locomotives) for large track programs. As explained in Part III-C-2-c, the SFRR has several SW1500 locomotives available for periodic use in contractor work-train service, as needed.[48] These locomotives can also be used to move the occasional car of ballast, etc. needed by the SFR's field MOW track forces.

The SFRR does not need any separate work-train equipment of its own. Spot ballast is purchased by the carload, and the SFRR simply moves the carload supplied by the vendor to the location where it is needed. Spot ties can be moved to the location where they are needed by truck. Based on Mr. Crouch's personal knowledge and observation, many railroads (including Class I's) are now using this approach and no longer have fleets of work-train equipment for use by in-house MOW forces.

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[48] For example, CWR is laid in 1600-foot strings from a rail train of specialized flatcars that requires a locomotive. Other contractor equipment items such as a spike pullers, nipper-spikers, tampers and ballast regulators are self-propelled and do not require motive power.

The SFRR does need several locations to store or hold work-train equipment temporarily, both for contract jobs and cars of material supplied by outside vendors. Mr. Crouch has provided four 1,000-foot MOW equipment storage tracks for this purpose, located at each of the SFRR's four yards. These tracks, and the setout tracks on either side of each FED, can also be used for temporary storage of some of the SFRR's larger hi-rail equipment as well as contractor on-track equipment.

h. Scheduling of Maintenance

Spot maintenance work carried out by the SFRR's MOW crews is not scheduled in planned maintenance windows. Although much of the work is routine, some occurrences are unplanned but require immediate attention and do not reflect the normal, routine approach to spot maintenance designed by SECI's MOW experts. Given the flow of traffic on the railroad, spot MOW work must be fluid and flexible, while structured where possible.

In general, the field MOW crews (including signal maintainers) are responsible for all routine maintenance work that occurs on the SFRR's right-of-way. However, the in-house crews do not perform all the work that is required. As described earlier, any condition requiring remedial action that cannot be met by the MOW field crews is referred to the proper authority, usually the Roadmaster or an Assistant Roadmaster, who calls in the needed resources. In the meantime, the field MOW forces provide protection for such situations.

Each day for a SFRR field maintenance crew may involve different work than the previous day. In addition to regular duties, which the Foreman of each crew will have planned, the Roadmaster or other supervisor will have specific tasks which will be referred to a particular crew or a combination of crews.

On a given day, knowing what the expected traffic will be, and thus the work window available, a track crew (for example) may be able to move on track by hi-rail vehicle directly from its base to a location requiring, for example, the change-out of a defective rail which has precipitated a temporary slow order, thereby restricting the speed of trains. Another crew could have a similar task but, because of a differing circumstance with respect to train location and work window, must move by road (in its hi-rail vehicle) closer to the task's location, and then obtain a work window from the dispatcher.

Other activities can be scheduled more easily. For example, following the passage of an ultrasonic rail test car, some rails will require removal and joints must be Thermite-welded. Since the testing is planned, the replacement of defective rails can be scheduled. The field track crew, assisted by a welding crew, can then be in position to replace the defective rail and weld it.

Ultimately, the SFRR's field MOW crews are not relying on specific maintenance windows that are planned substantially in advance of the needed work. Instead the crews plan their days around specific information about the number of trains expected that day in their territory and the work that needs to completed.

Obviously, no scheduled maintenance would be performed during the SFRR's peak traffic period.

i. <u>Capital Program and Annual Operating Expense</u>

A SARR's annual capital needs are addressed by application of the DCF model. All of the SFRR's capital (program) MOW work (including rail grinding and crossing paving, as described above) will be performed by outside contractors, using equipment they provide except for locomotives for contractor-supplied work trains, such as rail trains. Therefore, the only remaining question is the extent to which the salaries and equipment of the SFRR's in-house MOW forces should be divided between capital and operating expense.

The Vice President-Engineering and the headquarters MOW administrative/support staff shown in Table III-D-11 above spend part of their time evaluating, planning and helping to execute capital MOW projects, as well as program contractor supervision. The field MOW forces assist in this effort to some extent, but their primary focus is on the day-to-day MOW work that is expensed. Consistent with the practice of most real-world railroads, SECI's operating and engineering experts have concluded that one-third of the salaries of the Vice President-Engineering and the MOW administrative/support staff shown in Table III-D-11 should be capitalized and two-thirds should be treated as operating expense, and that 100% of the salaries and equipment used by the remaining supervisory and field forces should be treated as operating expense.

The SFRR's total annual MOW budget for the staff and equipment described above that is assigned to operating expense in the first year of operations is $51.1 million. *See* e-workpaper "MOW Costs.xls."

5. **Leased Facilities**

The SFRR has no leased track facilities. It shares a joint facility with one other railroad, NS (it operates over NS's Loveridge Secondary between Brownsville, PA and Rivesville/Loveridge Mine, WV). The SFRR's operations over this NS trackage are included in the development of stand-alone operating costs. As a replacement for CSXT under its joint facility agreement with NS covering its operations over this line,[49] the SFRR incurs the same joint facility payments that CSXT incurs under that agreement. This cost equals ${ }. The development of the annual payments to NS for use of these trackage rights (as well as CSXT's annual payments to NS and for handling its coal trains between Brownsville and mines served by the former MGA) is shown in e-workpaper "SFRR Trackage Rights Fee.xls."

The SFRR also operates over an NS connecting track in order to serve Chaparral Steel near Petersburg, VA. The SFRR pays NS { }. The total trackage rights fee in 2009 associated with this joint facility equals ${ }. *See* e-workpaper "SFRR Trackage Rights Fees.xls."

[49] This agreement, the MGA Usage Agreement, is included in e-warkpaper "III-D-9 Trackage Rights.pdf."

6. **Loss and Damage**

The SFRR's annual loss and damage cost equals $2.2 million. This cost was developed based on CSXT's actual 2008 loss and damage per ton for the commodities moving on the SFRR multiplied by the number of tons of each commodity moved on the SFRR in the base year, then multiplied by the traffic group ton-mile ratio to reflect 2009 SFRR trains.[50] *See* e-workpaper "2008 SFRR Loss and Damage.xls."

7. **Insurance**

The standard practice of large railroads is to self-insure against potential liability except for catastrophic risks. The SFRR also self-insures for most types of claims, and obtains insurance at competitive rates to cover catastrophic loss and Federal Employers Liability Act exposure.

Insurance expenses for the SFRR were calculated using CSXT's 2008 insurance ratio of 1.93 percent of operating expenses, which is the latest available. *See* e-workpaper "CSXT Insurance.xls."

8. **Ad Valorem Tax**

The SFRR operates in the states of Indiana, Kentucky, Tennessee, Alabama, Georgia, Florida, West Virginia, Pennsylvania, Maryland, Virginia, North Carolina and South Carolina, and in the District of Columbia. To develop ad valorem taxes, the amount of tax that CSXT paid per route mile was calculated for

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[50] For cross-over traffic, the SFRR's share of the loss and damage payments was calculated on the percentage of the SFRR's car-miles to CSXT's total car-miles by two-digit STCC code.

CSXT's route miles in these states. These amounts were then applied to the SFRR's route miles in each of these jurisdictions.

9. Other

a. Manifest Line Haul Credit

As described in Part III-C-3, the SFRR is assumed to operate only complete trains intact from origin to destination for purposes of SECI's simulation of its peak-period operations using the RTC Model. The SFRR's trains may contain non-SFRR cars, to the extent they are received in interchange from CSXT or another railroad with traffic that is not included in the SFRR's traffic group. Any such non-SFRR cars remain on the SFRR's trains, and the SFRR carries them along with its own cars. However, it still incurs all costs incurred in moving them in its trains on its system. The costs related to moving non-SFRR cars in the SFRR's trains are included in the SFRR's annual operating expenses as though the cars contained SFRR traffic, with one exception. Car ownership costs for CSXT, foreign and private equipment are not included in the SFRR operating costs. Unlike fuel, crew and locomotive costs, car ownership costs are clearly identifiable and attributable to the non-SFRR cars. The owners of these cars are assumed to bear the associated car ownership costs.

As discussed in Part III-A-3-d, the SFRR receives the same operating cost credit {

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Application of the operating cost credit to CSXT's general freight and intermodal cars moving in SFRR trains results in a manifest line haul credit of $108.6 million in 2009. *See* e-workpaper "manifest line haul credit.xls" for the details of this calculation.

b. Costs Related to Intermediate Switching

The 2008 CSXT car and train movement data produced in discovery indicates that in some cases, involving primarily general freight traffic, a CSXT train containing SFRR traffic (which could include a local train whose crew began and ended its tour of duty at the same point) dropped off or picked up cars at intermediate points. Some of these cars were SFRR cars, and some were not. As described in Part III-C-3, it is impossible to discern based on the CSXT data exactly which cars were picked up or dropped off at which points. However, SECI's experts recognize that, like CSXT, the SFRR will incur costs for intermediate switching of some blocks of its cars that move in trains assumed (for RTC modeling purposes) to operate intact between a particular O/D pair.

To account for these costs, SECI Witness Crowley assumed that each time CSXT's 2008 car/train movement data showed that a train carrying SFRR traffic dropped off or picked up a SFRR car at an intermediate point, the SFRR incurs a switching cost. As a surrogate for this cost, Mr. Crowley used CSXT's 2008 system-average I&I switching cost. The total number of I&I switches incurred by the SFRR's trains in the base year equal 419,164, and the total I&I switching cost assigned in the base year is $7.3 million.[51]

As discussed in Part III-C-2, SECI's experts have also included costs associated with yard trains and local trains that move SFRR traffic but that were not included in the RTC Model simulation. In the 2008 base year this includes 2,134 yard trains and 3,246 local trains (defined as trains that begin and end operations at the same location which carry SFRR cars). The cost associated with these trains is based on the costs of switching activities included in the transfer payments between CSXT and CSXI under the TSA, which CSXT provided in discovery. The total cost included for yard and local switching in 2009 equals $9.3 million. *See* e-workpaper "SFRR Switch Expense additive.xls" for the details of this calculation

c. <u>**Intermodal Lift and Ramp Cost**</u>

In addition to the line haul costs associated with intermodal traffic related to locomotives, fuel, crews and maintenance-of-way, the SFRR incurs lift and ramp costs. These costs have been included for all containers and trailers originating or terminating on the SFRR based on costs actually incurred by CSXT or CSXI. A lift cost of ${ } per container or trailer is included based on the amount CSXI pays contractors for providing lift services. *See* e-workpaper "CSX cost per lift and 3rd party contracts.xls."

[51] *See* e-workpaper "SFRR Switch Expense additive.xls" for the details of this calculation.

In addition, ramp costs of ${ } per container or trailer are included based on the amount CSXI reimburses CSXT for providing ramp services under the TSA. These ramp services include costs for {

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The total intermodal lift and ramp expenses incurred by the SFRR equal $11.9 million in 2009. *See* e-workpaper "2008 CSXT CSXI_summary.xls."

d. **Costs related to Rerouted Traffic**

As described above in Parts III-A-1 and III-C-3-a, the SFRR has two groups of internally-rerouted traffic. The first group consists of issue and other coal traffic that CSXT moves between Nashville and Manchester, GA via Birmingham, Parkwood and Talladega, AL. CSXT moves a considerable amount of this traffic via Chattanooga, TN and Atlanta, GA, which is the only route used by the SFRR (this means that this is really not a "reroute" at all).[52] The second group consists of traffic that moves from points on the CSXT lines north of Waycross, GA and points on the CSXT lines north of Jesup, GA. Although CSXT's car and train movement data do not indicate exactly how CSXT routes this traffic, SECI assumes is routed via CSXT's direct line between Waycross and Jesup. The SFRR routes this traffic via Folkston, GA.

SECI Witness Reistrup has considered whether CSXT would be likely to incur any net additional costs as a result of the reroutes described above,

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[52] The SFRR's route between Nashville and Manchester via Atlanta is about 39 miles shorter than CSXT's alternative route via Birmingham. Thus it is presumptively reasonable. *See Duke/NS* at 26.

and has concluded that it will not. With respect to the "reroute" between Nashville and Manchester, both Nashville and Manchester are existing CSXT crew-change points, so CSXT will not have to establish any new crew bases or otherwise incur any additional crew-related costs. In fact, it will avoid the cost of assigning crews between Birmingham and Manchester for the trains moved by the SFRR. Both routes have helper districts; CSXT will also save the cost of helper locomotives and crews used to operate these trains at Falksville, TN (on the route via Birmingham). The SFRR route has a helper district near Cowan, TN, but all of the costs associated with the use of helpers (and the SFRR's other operations between Nashville and Manchester) have been included in the SFRR's capital and annual operating costs.

With respect to the rerouted movements between Waycross and Jesup, GA, the SFRR's route via Folkston is about 49 miles longer than CSXT's direct route. The SFRR's trains that operate via this route originate/terminate at Waycross (or points north) and Savannah, GA (or points north). Both Waycross and Savannah are existing CSXT crew-change points, so again CSXT will not have to establish any new crew bases or otherwise incur any additional crew-related costs as a result of this reroute. All of the SFRR's costs associated with using the longer route via Folkston have been included in its annual operating costs.

e. **Calculation of Annual Operating Expenses**

As noted at the beginning of this Part, the statistical inputs used to develop the SFRR's annual operating expenses (equipment and operating personnel needs, locomotive unit miles, crew starts, *etc.*) were developed by SECI's expert operating, IT and engineering/MOW witnesses, with assistance from SECI Witness Philip Burris. Mr. Burris also developed the annual salaries, equipment and operating unit costs. Mr. Burris used all of these inputs to develop the SFRR's base year operating expenses as shown in e-workpaper "SFRR Operating Expense.xls." The base year operating expenses were then provided to SECI Witness Crowley who developed operating expenses for each period in the DCF model.

The procedures used to develop the SFRR's annual operating expenses for the peak year and the base year were those approved by the Board in *WFA/Basin*, including the annualizing of certain operating statistics to reflect the peak traffic year (2018) from the peak-week analysis using the RTC Model. The resulting operating statistics were then adjusted to the 2009 requirements by applying the ratio of 2009 ton-miles to 2008 ton-miles by type of traffic, *i.e.* coal, general freight and intermodal traffic. The deflator methodology is similar to that used by the Board in *PSCo/Xcel* and *WFA/Basin.*

The resulting 2009 operating statistics were used to develop first-year operating expenses which were then input into to the DCF model.

III-E Non-Road
Property Investment

III. E. NON-ROAD PROPERTY INVESTMENT

1. <u>Locomotives</u>

As previously described, the SFRR purchases and leases its locomotives. The SFRR purchases road locomotives and the associated capital carrying costs are included in the DCF model. The SFRR leases switching/work train locomotive and the annual lease cost is included as an operating expense. The acquisition of all locomotives is described in Part III-D-1.

2. <u>Railcars</u>

The SFRR also leases all of the railcars needed to serve the traffic group which are not supplied by the shippers themselves. The annual lease cost is included as an operating expense, as described in Part III-D-2.

3. <u>Other</u>

As explained in Parts III-D-3 and III-D-4, most of the SFRR's other equipment, including company vehicles, maintenance-of-way equipment such as hi-rail trucks, radios and telephones will be leased. The annual lease cost for this equipment is included as an operating expense.

Some items of equipment will be purchased, in particular computers and related hardware. The SFRR's computer system needs, and the associated capital investment, are described in Part III-D-3-c-iv.

The SFRR operates over two joint facilities, which are owned by NS. One is the former Monongahela Railway line between Brownsville, PA and Catawba Jct. (Rivesville), WV and extending on to Loveridge Mine, WV, over which the SFRR (like CSXT) has operating rights. The second covers NS trackage at Petersburg, VA, which connects with industrial trackage. The SFRR (like CSXT) has operating rights over both joint facilities. Payments to NS for these operating rights are on a usage basis and are included in the SFRR's operating expenses.

III-F Road Property Investment

III. F. ROAD PROPERTY INVESTMENT

SECI's SARR road property investment testimony is being sponsored by Stuart Smith (land acquisition costs), Harvey Crouch (construction costs), Charles Stedman (grading/roadbed preparation costs), Kevin Lindsey (bridge designs and costs) and Victor Grappone (signal and communications system costs). These witnesses' qualifications are set forth in Part IV and summarized later in this Part.

The SFRR replicates existing CSXT rail lines in West Virginia, Pennsylvania, Maryland, Washington, D.C., Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Kentucky and Indiana. Most of the lines being replicated do not traverse difficult terrain from a construction perspective. In particular, the SFRR's West Division lies in Indiana, Kentucky, Tennessee, Georgia and Florida (a small amount of track in the northeast corner of Alabama is also included). This division includes rolling terrain in western Kentucky and central Tennessee. The areas in Indiana, Georgia and particularly Florida are largely flat. Likewise, most of the East Division of the SFRR lies in the easily-traversable I-95 corridor. The only portion of the SFRR that replicates mountainous territory similar to the mountainous territory replicated in the *Duke/CSXT* case is the portion of the East Division west of Point of Rocks, MD. This includes the SFRR's mainline from Point of Rocks to Demmler Yard

(McKeesport), PA, and the lines from McKeesport to Brownsville, PA and from Catawba Jct. to Haywood/ Lumberport, WV.

While the SFRR's East Division lies partly in the Northern Appalachian region of eastern West Virginia, south-central Pennsylvania and western Maryland, nearly 70 percent of the railroad is situated in the eastern Piedmont and coastal-plain areas of the Middle Atlantic and Southeastern regions. Mountainous territory represents only 16% of the lines being replicated by the SFRR. Thus, the SFRR presents a very different stand-alone railroad from the one involved in the last SAC rate case involving CSXT, *Duke/CSXT*, where much of the SARR replicated CSXT lines in the mountainous Central Appalachia region. SECI's engineering experts have specified construction techniques and costs consistent with the great majority of the territory traversed by the SFRR.

The SFRR's road property investment costs are summarized in Table III-F-1 below and Exhibit III-F-1.

TABLE III-F-1
LRR ROAD PROPERTY INVESTMENT COSTS
(millions)

	Item	Investment
1.	Land	$ 921.1
2.	Roadbed Preparation	1,072.0
3.	Track	1,950.5
4.	Tunnels	261.3
5.	Bridges	819.1
6.	Signal, Communications and Other Equipment	227.0
7.	Buildings & Facilities (including Fueling Facilities)	27.2
8.	Public Improvements	Included Above
9.	Subtotal	$ 4,357.1
10.	Mobilization	117.6
11.	Engineering	435.7
12.	Contingencies	491.0
13.	**Total Road Property Investment Costs**	**$ 6,322.5**

1. Land

The following evaluation of land acquisition costs for the SFRR was prepared by Stuart A. Smith of MilleniuM Real Estate Partners. Mr. Smith has over 40 years of real estate appraisal experience. Mr. Smith has prepared land acquisition cost testimony in prior STB maximum-reasonable rate cases, including *Wisconsin P&L*. Mr. Smith's experience also includes real estate management for the General Services Administration. His extensive qualifications in the real estate appraisal field are set forth in Part IV.

The SFRR passes through large stretches of rural and mostly undeveloped areas. However, portions of the SFRR route do pass through major metropolitan areas, including Washington, D.C., Richmond, Nashville, Atlanta and Jacksonville. Mr. Smith's land acquisition Report focuses in more detail on these major urban centers, where land acquisition costs are higher than in rural areas.

Mr. Smith's methodology and his determination of land acquisition costs for the SFRR are set forth in his Report which is included as e-workpaper "Land Valuation Report.pdf." A summary of Mr. Smith's conclusions is provided in Table III-F-2 below.

TABLE III-F-2 SFRR LAND ACQUISITION COSTS		
Property Type	**Acreage**	**Cost**
ROW – Fee Simple	22,212	$913,136,003
Yards	260.85	$6,061,105
Microwave Towers	267	$1,879,415
Easements	2,642.81	$3,911.36
Total	**25,382.66**	**$921,080,434**

a. Right-of-Way Acreage

The SFRR will acquire 22,212 acres in fee simple for its right-of-way at a cost of $913,136,003. The SFRR will also acquire 2,642.81 acres via easement for its right-of-way. The payments for the 2,642.81 acres of the easement-related acres are in the form of one-time payments totaling $3,911.36.

Consistent with established Board precedent, the right-of-way is based upon an average width of 100 feet in most areas, plus additional width at locations as needed. *See PSCo/Xcel* at 86. However, an average width of 75 feet was used in industrial, commercial, and urban areas in and around Washington, D.C., Richmond, Charleston, Savannah, Atlanta, Nashville, Jacksonville and other locations as indicated in Mr. Smith's report. *See Duke/CSXT* at 72-73; *Wisconsin P&L* at 1018; *West Texas Utilities* at 702.

b. <u>Yard Acreage</u>

The SFRR has four yard locations. As explained in Part III-B-3, the SFRR's principal yard is located near Folkston, GA. This yard includes space for the SFRR's headquarters building, a locomotive shop and other key facilities. The SFRR has three smaller yards located at or near Nashville, TN, Newell, PA and Petersburg, VA. These yards are used primarily for train (car) inspections and locomotive inspections and fueling. The total yard acreage required is 260.85 acres. Details of the yard acreage calculations are included in e-workpaper "Facilities Costs.xls."

c. <u>Microwave Tower Acreage</u>

The SFRR has 89 microwave tower locations located on and near its right-of-way. Consistent with Board precedent, the SFRR has purchased three acres per microwave tower site. *See TMPA* at 699. Thus, the SFRR will acquire 267 acres for microwave towers at a total cost of $1,879,415.

d. Property Values

Consistent with recent Board decisions, property values were determined by evaluating the land adjacent to the CSXT right-of-way ("ROW") being replicated by the SFRR. "The land along the ROW is a prime indicator of a ROW's value and has been used in all prior SAC cases." *Duke/CSXT* at 74; *see also Duke/NS* at 88. The total cost of the property necessary for construction of the SFRR is $921,080,434 million. The methodology used and analysis developed in determining the acquisition cost is summarized below.

i. Methodology

Vacant land is best appraised using the sales comparison approach. *PSCo/Xcel* at 87-88. This method provides a price indication by comparing the subject properties to similar properties that have sold recently, applying appropriate units of comparison, and making adjustments based on the elements of comparison to the sale price of the analogues. Generally, the sales in the rural areas served by the SFRR are analyzed using price per acre as the key determinant to establish a value estimate. Land sales in metropolitan areas traversed by the ROW were appraised using a variety of measures, such as cost per square foot and cost per acre, but all values were converted to per-acre costs in order to develop a final acquisition cost.

In valuing the SFRR's ROW, Mr. Smith utilized a method that is consistent with traditional and accepted real estate practices applied to all types of rights-of-way when a corridor value is not required. Land sales in the vicinity of a right-of-way are examined to develop across-the-fence ("ATF") land prices. *See PSCo/Xcel* at 88-89 (supporting ATF values). Land sales adjacent to or near the CSXT rail lines being replicated form the basis for the SFRR's real estate acquisition cost estimate.

Mr. Smith acquired land sale data from various land sale vendors for all states traversed by the SFRR's lines. In addition, Mr. Smith consulted with local real estate appraisers where necessary.

ii. <u>Application</u>

Mr. Smith inspected most of the SFRR right-of-way by driving near the right-of-way on public roads. Areas where physical inspection was not possible were reviewed using other data such as topographic maps and satellite imagery. Mr. Smith details his various inspection techniques in his Report (e-workpaper "Land Valuation Report.pdf").

Mr. Smith's inspections aided in the determination of the highest and best use of the property along the ROW, the specific breaks between land use segments, and the overall impression of an area relevant to potential value. Such inspections are inherently of more value in populated areas than in the isolated rural areas where land patterns are consistent for long stretches. Consequently, Mr. Smith concentrated his inspection efforts in the major metropolitan areas traversed by the SFRR.

After completing his inspections, Mr. Smith subdivided the ROW into various segments based on the land use types he identified. In particular, Mr. Smith utilized seven (7) different land use categories: Residential, General Commercial, Open Space/Wooded, Industrial/Warehouse, Small Town, Retail, and Open Space/Agriculture. Mr. Smith then examined comparative sales data for each segment and assigned a per acre value to the segment. The analysis was performed assuming a fee simple ownership interest in property in undeveloped and unimproved condition. The appraisal includes the right-of-way for the tracks, yards and other facilities shown in Exhibit III-B-2 and as described in Part III-F-1-a to c.

iii. Costing

The purpose of the costing process herein described is to provide the most probable hypothetical cost to acquire a fee simple interest in the right-of-way for the railroad lines being constructed by the hypothetical SFRR. Land was evaluated in its undeveloped condition, without consideration of adjacent ownership boundaries, abutting ownership, or severance damages, with costs determined as of January 1, 2009.

The SFRR rail lines consist of 2092.40 miles of railroad right-of-way, covering 24,855 acres. The SFRR's land requirements include four yards at several points along its lines. Total yard acreage is 260.85 acres. As explained above, the right-of-way width varies in different areas based on inspection and other evaluations of the existing CSXT right-of-way being replicated, and Board precedent. An average width of 100 feet was used in rural areas. An average width of 75 feet was used in industrial, commercial, urban, and suburban areas in and near the larger cities and towns traversed by the ROW. Thus, if an area was classified as General Commercial or Industrial/ Warehouse, a right-of-way width of 75 feet was used.

iv. Easements

A SARR is not required to purchase a greater interest than the incumbent railroad possesses. *See CP&L* at 76 and *Duke/CSXT* at 74. Consistent with this principle, SECI's Witness Philip Burris conducted an extensive review of CSXT valuation maps and easement documents provided in discovery, and determined that numerous easements and other conveyances exist along the rail lines being replicated by the SFRR. *See* e-workpaper file "SFRR Easements.xls." Applying the length of the ROW times the width of the ROW at the various easement locations yields total easement acres of 2,642.81. *Id.* Mr. Burris further determined that the average cost per acre, as determined from the easement documents, is $1.48. Therefore, the 2,642.81 acres of easements will cost a total of $3,911.36 based on actual CSXT easements and related documents.

v. Conclusion

Based on the investigation and analysis undertaken by Mr. Smith, and the easement costs developed by Mr. Burris, SECI has determined that the cost of the fee simple estate and easements in the ROW needed for the SFRR's lines as of January 1, 2009, subject to all stated assumptions and limiting conditions delineated in Mr. Smith's Report, is $921,080,434.

2. **Roadbed Preparation**

SECI's expert engineering witnesses, Harvey Crouch and Charles Stedman, have developed the SFRR's roadbed preparation costs in a manner generally consistent with prior Board decisions including *WFA/Basin, AEP Texas, PSCo/Xcel, Duke/CSXT, Duke/NS,* and *CP&L.* Their expert qualifications are set forth in Part IV. Mr. Crouch has over 30 years of freight railroad engineering experience, including 15 years as a project engineer and track supervisor with the Norfolk Southern. In those NS positions, Mr. Crouch designed and supervised the construction of a myriad of track construction projects, including mainline tracks, sidings and yards, as well as a wide variety of railroad buildings and appurtenances, including locomotive and car shops. Mr. Crouch was also involved with the conversion of a portion of NS's system from so-called "Dark" territory to CTC-controlled territory. As noted in Part III-D-4, Mr. Crouch was also responsible for the rehabilitation and maintenance of bridges and track in Virginia, including areas near the lines being replicated by the SFRR.

Mr. Stedman has 28 years of experience with L. E. Peabody & Associates, Inc. He has developed and presented evidence pertaining to roadbed preparation in numerous proceedings before the ICC and the Board. He has conducted several field inspections of eastern and western carriers' rail lines as well as detailed research into the valuation records of these same carriers. Mr. Stedman has also researched ICC records including the ICC's Bureau of Valuation B.V. Form No. 561, commonly referred to as the ICC Engineering Reports.

Mr. Crouch and his associates conducted an extensive field inspection of most the SFRR's route in late 2008 and early 2009. He and Mr. Stedman took into consideration the types of terrain involved, and as well the practices and procedures for earthwork in the states traversed by the SFRR. Mr. Crouch's associate, Arthur Walker also worked as a senior project engineer for CSXT from 1983-2002, and he is personally familiar with the lines being replicated by the SFRR.

Here again, SECI notes that the SFRR's territory is considerably different than the territory replicated in the *Duke/CSXT* case. These differences are borne out in the earthwork quantities discussed below and the inspections conducted by SECI's witnesses. In particular, substantial portions of the SFRR's route are in states such as South Carolina, Georgia and Florida (where the highest point in the state is less than 400 feet above sea level); whereas a majority of the SARR's route in the *Duke/CSXT* case traversed the Appalachian mountains in central and southern West Virginia, western Virginia, eastern Kentucky and western North Carolina. Most of the SFRR's grading quantities are categorized as common excavation (over 60% of total earthwork and over 70% of excavation). The *Duke/CSXT* quantities contained more loose rock and solid rock excavation, as the *Duke/CSXT* SARR traversed significantly more mountainous territory.

Thus, comparison of the SFRR's terrain to the *Duke/CSXT* SARR's terrain is inappropriate. In fact, much of the SFRR's territory is more similar to the SARR territories in recent Western rate cases such as *WFA/Basin* and *AEP Texas* insofar as working conditions and roadbed preparation are concerned.

In recent SAC rate cases the defendant railroads have pushed aggressively to raise the SARR's roadbed preparation costs. In most cases, including *Duke/CSXT*, the railroads sought the inclusion of more and more grading cost items or an increase in the size or amount of grading equipment. The railroads' approach tended to skew the roadbed preparation costs higher than one would expect when using a competitive bid process. Indeed, the Means Handbook costs that the complainants have used in prior cases were generally very conservative vis-à-vis real world costs.

The *WFA/Basin* case marked a turning point in the presentation of roadbed preparation unit costs because the complainants presented evidence of real-world excavation costs. While the exact per cubic yard costs used in *WFA/Basin* are not available due to confidentiality restrictions, the Board's decision indicates that the complainants realized substantial savings on this critical cost item by utilizing a real-world unit cost. SECI's witnesses have followed the same approach. As shown below, the SFRR is utilizing real-world grading unit costs for common excavation.

For unit costs where no real-world costs were readily available or such costs did not reflect the SFRR's economies of scale, SECI's engineering experts are still using Means. However, the Means Handbook is very conservative because it bases its prices on an average of costs for projects of all sizes from around the country, without specific consideration for the economies of scale that benefit the SFRR due to the much larger project size involved.

In addition, the Means Handbook assumes a unionized labor force, which can be considerably more expensive than non-unionized forces. For example, the Means Handbook assumes that most heavy machinery is staffed by an operator and a helper (often called an oiler amongst contractors). Most non-unionized contractors do not use a second person.

Finally, the Means Handbook is an estimating tool. It cannot and does not attempt to recognize all the benefits that the SFRR could realize through the competitive bid process. SECI's engineers expect that a competitive bid process for a project of this magnitude would result in costs considerably lower than those developed using the Means Handbook – a point borne out by many of the real-world unit costs for construction projects that SECI's engineers have used in this case.

A summary of the SFRR's roadbed preparation costs is presented in Table III-F-3 below.

TABLE III-F-3 SFRR ROADBED PREPARATION COSTS[1/]			
	Item		**Cost**
1.	Clearing and Grubbing	$	38,545,779
2.	Earthwork		
	a. Common		172,207,747
	b. Loose Rock		133,298,595
	c. Solid Rock		333,935,060
	d. Borrow		265,609,605
	e. Land for Waste Excavation		802,336
3.	Drainage[2/]		
	a. Lateral Drainage		6,633,969
4.	Culverts[3/]		40,122,490
5.	Retaining Walls		63,787,212
6.	Rip Rap		11,674,118
7.	Relocation of Utilities		599,737
8.	Topsoil Placement / Seeding		804,283
9.	Surfacing for Detour Roads		3,215,280
10.	Environmental Compliance		722,905
11.	**Total**		**$1,071,959,116**

[1/] *See* e-workpaper "SFRR Grading.xls"
[2/] Yard drainage is included in building site development costs.
[3/] *See* e-workpaper "Culvert Quantities and Costs.xls."

a. Clearing and Grubbing

i. Quantities of Clearing and Grubbing

CSXT's rail system is comprised of many of the earliest railroads built in the United States, including the Baltimore & Ohio Railroad, which constructed the very first common carrier railroad line in the United States – construction started on July 4, 1828.[1] The SFRR is replicating some of these early

[1] *See* CSXT historical timeline available at http://www.csxt.com/?fuseaction= about.history.

railroad lines. Indeed, virtually all of the lines being replicated by the SFRR were built before the time that the ICC Bureau of Valuation prepared the ICC Engineering Reports, which are explained in more detail below. Exhibit III-F-2 identifies the acres per track mile that were cleared for those rail lines being replicated by the SFRR that were originally constructed in the 1800s and early 1900s, based on the quantities developed by the ICC's Bureau of Valuation and contained in B.V. Form 561 (a.k.a., the ICC Engineering Reports). The ICC Engineering Reports were obtained from the National Archives and Records Administration ("NARA"). *See* e-workpaper file "ICC Engineering Reports.pdf."[2]

The clearing quantities (acres per track mile) were then increased by the ratio of the current roadbed specifications to the original construction specifications and applied to the track miles (including yards and sidings) of the SFRR's line segments in the same manner as the grading quantities discussed below. Exhibit III-F-3 details the calculation of the SFRR acreage requiring clearing. Further details are provided in e- workpaper file "SFRR Grading.xls."

The acres per track mile of grubbing were also obtained from the ICC Engineering Reports. These figures are displayed in Exhibits III-F-2, and applied to the SFRR's line segments in Exhibit III-F-4 in the same manner as the acres for clearing.

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[2] ICC Engineering Reports were not available for all of the SFRR rail lines. In those cases, the quantities from the nearest valuation section were used. *See* e-workpapers "SFRR Grading.xls," tab "IIIF_4 Val sec" and "SFRR Lines w_o ICC Eng Reports.doc."

ii. Clearing & Grubbing Costs

Based on field trips in early 2009 by Harvey Crouch and others in his engineering firm, it was determined that some portions of the SFRR route run through wooded areas containing trees mostly less than 12" in diameter while other portions traverse areas where grasses and brush predominate, such as Indiana, south Georgia, coastal South Carolina, North Carolina, and Virginia. In recent stand-alone cost proceedings, complainants have reflected two different costs for clearing and one cost for grubbing and this has been accepted by the Board. *See AEP/Texas* at 78-79. For the acres that were grubbed (according to the ICC Engineering Reports), the complainants assumed that trees were also cleared and used both the cost per acre for clearing and the cost per acre for grubbing from the Means Handbook. For the remaining acres of clearing for the SFRR, i.e., those acres not requiring grubbing (total clearing acres less grubbing acres), the complainants applied the cost per acre from the Means Handbook for clearing with dozer and brush rake, medium brush to 4" diameter. Based on this accepted methodology, the acres of grubbing are a subset of the acres cleared as grubbing stumps is not necessary if trees are not cleared.

In this proceeding, SECI's engineers have taken a slightly different approach. Specifically, SECI's clearing and grubbing unit cost is based on a railroad realignment project in Tennessee that was constructed in 2006-2007 (herein referred to as the "Trestle Hollow Project.") The project involved building a new rail line re-route near Centerville, TN, which is not far from the SFRR's route of movement. The cost for clearing and grubbing was $2,000 per acre. *See* e-workpaper "Trestle Hollow Project Cost Sheet.pdf." This cost included "clearing and grubbing of all trees, stumps, undergrowth, brush, trash, grass, weeds, roots, debris, or other deleterious or objectionable materials…." *Id.* Stumps, roots and other debris were to be removed to a minimum depth of 18 inches below the surface and/or subgrade, whichever is lower and also included removal and stockpile of topsoil. *See* e-workpaper "Trestle Hollow Project Specs.doc." As the work was performed primarily in 2007, SECI's engineers indexed the cost per acre to January 2009 levels to coincide with the start-up date of the SFRR. The indexed cost per acre for clearing and grubbing is $2,154.66. Although this particular project included the removal of trees, and much of the SFRR ROW is grasses and brush, SECI's engineers have conservatively applied this unit cost to all acres requiring clearing. However, as this cost also included grubbing, and the acres grubbed are a subset of acres cleared as described above, a separate cost was not applied to the grubbing acres identified from the ICC Engineering Reports.

The SFRR requires 17,889.49 acres to be cleared and grubbed at a cost of $38.5 million at 1Q09 levels. *See* Exhibit III-F-3.

iii. Other

(a). Stripping

Consistent with the Board's decisions in *PSCo/Xcel* and *AEP Texas*, SECI's engineering experts have not included any costs for stripping. As the Board noted in *PSCo/Xcel*, the defendant had not shown that stripping is required because "the top 6 inches of soil would be removed during excavation and because topsoil removal is included in waste costs, there would appear to be no need for a separate charge for stripping. To the contrary, including such an additional cost would result in a double count." *Id.* at 90.

SECI's engineers also note that stripping was not raised in the prior Eastern rate cases, nor was it an issue in *WFA/Basin*. In addition, the SECI engineers' clearing and grubbing and common excavation unit costs are based on the Trestle Hollow Project described above where no additional stripping costs were included. These clearing and excavation unit costs also included any required stripping activities. In particular, the specifications state that the inclusive cost of clearing and grubbing includes the "stripping, clearing and grubbing" of "all stumps, roots and other debris protruding through the ground surface or in excavated areas [which] shall be completely removed to a minimum depth of 18 inches below surface and/or subgrade whichever is lower and disposed of off the site by the Contractor, at his expense." In addition, the contractor is responsible for:

> [T]he existing topsoil to a depth of 6 inches or to the depth encountered from all areas in which excavation will occur. The topsoil shall be stored in stockpiles, separate from the excavated material, if the topsoil is to be respread. Otherwise material shall be disposed of off-site at the Contractor's expense.

See e-workpaper "Trestle Hollow Project Specs.doc" at 148.

(b). <u>Undercutting</u>

SECI's engineers have not included a separate cost for undercutting, an item which the defendants in other SAC cases have repeatedly argued for and lost because the Board has consistently determined that undercutting is unnecessary and additional costs for it are not warranted. *See WFA/Basin* at 83; *AEP Texas* at 74; *Duke/NS* at 95; *CP&L* at 82; *Duke/CSXT* at 80. In addition, the excavation unit costs being utilized by SECI's experts include excavation of unsuitable materials when necessary at no additional cost. *See* e-workpaper "Trestle Hollow Project Specs.doc" at 156 ("No additional payment will be made for undercutting. Work related to undercut and replacement is considered a standard grading practice to achieve a suitable subgrade and shall be considered as incidental to excavation and fill placement. Direct payment for work related to undercut and replacement will not be made.")

b. <u>Earthwork</u>

The ICC Engineering Reports have long been utilized by rate case participants (both complainants and defendants) to determine a baseline for the development of earthwork quantities. The Board, likewise, has accepted the ICC

Engineering Reports as an accurate tool for developing earthwork quantities. Given the age of the lines being replicated by the SFRR, SECI's engineering experts relied on the information contained in the Engineering Reports to develop the initial grading quantities, which were then adjusted to reflect the SFRR's more modern roadbed specifications.

i. History of the ICC Engineering Reports

While the history and use of the Engineering Reports is well documented and approved in other rate cases,[3] SECI, nevertheless, provides below a description of the ICC Bureau of Valuation documents utilized for developing the SFRR's earthwork quantities for the Board's convenience.

The grading data for the lines being replicated was collected under the "Special Instructions for 'Road Accounts'":

> Account 3. Grading
>
> Cross-section measurements shall be made of the roadbed as it now exists in such manner as will permit an accurate ascertainment of the quantities therein. In general, cross sections shall be made at each 100-foot station and at such intermediate points as the conditions demand for calculating the grading quantities and their classification. Station and plus of all grade points shall be noted.
>
> Horizontal distances in cross sections shall be ascertained from the base line and at right angles thereto. Vertical distances shall be ascertained from base of rail or subgrade. Ditches and channel changes constructed by the carrier, which can not properly be classed as borrow pits, shall be estimated or measured at such intervals as are necessary to obtain

[3] *See, e.g., Duke/CSXT* at 75, 80-81.

> information as to yardage. Note shall be made of kind of ditches, and where used for other than railroad purposes give conditions governing construction.
>
> Unless otherwise instructed all material excavated shall be classified by the assistant field engineer as "solid rock," "loose rock," or "common excavation."
>
> Solid rock shall comprise rock in solid beds or masses in its original position which may be best removed by blasting, and bowlders (sic) or detached rock measuring 1 cubic yard or over.
>
> Loose rock shall comprise all detached masses of rock or stone of more than 1 cubic foot and less than 1 cubic yard, and all other rock which can be properly removed by pick and bar and without blasting, although steam shovel or blasting may be resorted to on favorable occasions in order to facilitate the work.
>
> Common excavation shall comprise all other materials of whatsoever nature that do not come under the classification of "solid rock"or "loose rock."

See I.C.C. Division of Valuation, *Instructions for Field Work of the Roadway Branch of the Engineering Section*, 1916, page 10.

ii. Identification of Applicable Valuation Sections

The ICC Engineering Reports and other ICC valuation documents correspond to railroad valuation sections. The railroad valuation sections cover specific rail lines and each section is usually confined within a single state. As part of the ICC's valuation process, valuation section index maps were created which identified the boundaries of each railroad valuation section. *See* e-workpaper file "ICC Engineering Reports.pdf."

Based on these maps, the SECI engineers identified the valuation sections corresponding to the SFRR's line segments. Exhibit III-F-4 contains a listing of the valuation sections applicable to the SFRR and the lines of the SFRR to which they apply.

iii. Extraction of Data from the ICC's Engineering Reports

Once the applicable valuation sections and relevant ICC Engineering Reports were identified, SECI's engineering experts extracted the data necessary to calculate the required earthwork quantities for the SFRR.[4]

First, the miles for each valuation section were drawn off in three categories: (1) main-line; (2) other main track; and (3) all other track. Next, the cubic yards ("CY") of excavation were extracted by type of material – common, loose rock and solid rock. Then, the cubic yards of embankment were extracted by type of material – common, loose rock and solid rock.

Exhibit III-F-2 summarizes the data extracted from the ICC Engineering Reports for each valuation section applicable to the SFRR. The grading quantities extracted from the ICC Engineering Reports were also used to develop a distribution of the earthwork quantities into four (4) types of material – the three types of excavation (common rock, loose rock, solid rock) and total

[4] As noted above, ICC Engineering Reports were not available for all of the SFRR rail lines. In those cases, the quantities from the nearest available valuation section were used. *See* "SFRR Grading.xls," tab "IIIF-4 Val sec" and "SFRR Lines w_o ICC Eng Reports.pdf."

embankment (borrow). The distribution for each valuation section is displayed in Exhibit III-F-5.

iv. **Adjustments to ICC Engineering Report <u>Quantities to Reflect Modern Design Standards</u>**

The earthwork quantities contained in the ICC Engineering Reports are based on design specifications that differ from those for modern day construction, and therefore need to be adjusted. To adjust for modern roadbed parameters, SECI's engineers modified the earthwork using the well-established and oft-accepted procedures described below.

Based on a review of the railroad construction literature prevailing at the time, the SECI engineers estimated that the ICC Engineering Report quantities for the rail lines comprising the portion of the SFRR to be constructed reflect average roadbed widths of 19 feet for fills and 22 feet for cuts. *See* William C. Willard, *Maintenance of Way and Structures*, McGraw-Hill Book Company, 1915, pp. 29-31, included in e-workpaper "Original Roadbed Widths.pdf." Based on more modern design standards required to accommodate today's heavier trains, the SFRR is using 24-foot roadbed widths. This roadbed width is similar to that used by CSXT; SECI's engineering experts personally observed a CSXT roadbed width of 24 feet on many of the lines being replicated. *See* e-workpapers "Roadbed Width.pdf," "TR05-Mainline Section.pdf" and "TR-06 Yard Section.pdf." Thus, the SFRR has single-track roadbed widths of 24 feet for fills and 40 feet for cuts and double-track (or passing siding) roadbed widths of 39 feet for fills and 55 feet for cuts based on 15-foot track center spacing, and a side slope of 1.5 to 1. SECI notes that the 24-foot and 39-foot roadbed widths (i.e., 15-foot track centers) and 1.5 to 1 side slope were proposed by the complainant and accepted by CSXT in *Duke/CSXT*. *Id.* at 76.

In order to calculate the SFRR's earthwork requirements, it was necessary to adjust the ICC Engineering Report quantities so that they would reflect the railroad's modern day design specifications. To do this, an Excel spreadsheet was utilized. *See* e-workpaper file "SFRR Grading.xls," tab "IIF Calc." As noted above, this procedure has been used repeatedly in other SAC rate cases including *Duke/CSXT*.

Exhibit III-F-6 contains the adjusted earthwork quantities per mile for single, double and passing track based on the roadbed width specifications described above.

v. **<u>SFRR Earthwork Quantities and Costs</u>**

Once the adjusted earthwork quantities per mile were developed, it was necessary to calculate the total earthwork requirements and costs for the SFRR. The details of the procedures are explained below.

(a). <u>SFRR Line Segments</u>

Exhibit III-F-7 details the calculation of the earthwork quantities for the SFRR's respective line segments. First, as discussed above, the SFRR line segments were matched with the applicable valuation sections. Next, the track miles for each segment were categorized as first main (route miles), second main (double track and passing sidings) and other track (such as interchange tracks and setout tracks) based on the SFRR's track configuration as developed by SECI witness Paul Reistrup and detailed in Exhibit III-B-3. Finally, the number of tracks was multiplied by the applicable cubic yards per mile for the appropriate valuation section.

(b). <u>SFRR Yards</u>

The SFRR has four major yards located at Newell, PA; Petersburg/Collier, VA, Folkston, GA, and Nashville, TN. The SFRR also has numerous small interchange "yards," characterized as interchange locations with two or more tracks. The SFRR yard and interchange locations are shown on Exhibit III-F-8. SECI's experts calculated the yard grading requirements for the four yards based on an assumed average fill height of one foot and track centers as depicted in the yard drawings developed by SECI's engineers with the track spacing specified by SECI's Witness Reistrup, applied to the appropriate miles of track in the SFRR's yards. The interchange locations were also assumed to be an average fill height of one foot with 15-foot track centers. The one-foot fill height for yards is a technique that has been applied repeatedly to SARR yard earthwork calculations, and it is described in detail below.

The one-foot fill height was used for the yards because an assumed fill height of one foot is used to allocate earthwork quantities to the yard tracks involved in the original construction and reflected in the ICC Engineering Reports. *See Wisconsin P&L* at 1022. As the Board noted in *PSCo/Xcel*, the earthwork quantities recorded in the ICC Engineering Reports reflect the requirements for all track in the particular valuation section – single main track, double main track, other sidings and yards. *Id.* at 94. There is no separation of these quantities by type of track, and no separate identification of earthwork quantities for yard track.

In order to differentiate the track types, the SECI engineers employed a spreadsheet program that makes the necessary adjustments to the quantities. In particular, the program determines the earthwork quantities per mile for the mainline track. The earthwork quantities for yard track then need to be removed. To do this, the spreadsheet formula calculates the number of yard track miles for each valuation section and develops the associated earthwork by assuming a one-foot fill. This amount of earthwork is then deducted from the total quantities for the particular valuation section and the remaining quantities are distributed to the main line miles. Therefore, when calculating the grading quantities for a yard that is placed in a particular valuation section, the one-foot fill has to be used in order to be consistent and avoid overstating the required earthwork quantities.

Stated differently, any earthwork quantities for yard track that may have exceeded those required for a one-foot fill were allocated to the main track. Following this logic, when calculating yard track earthwork requirements for the SFRR, a one-foot fill must be assumed. Otherwise, there will be a double-count in total earthwork quantities. This is a mathematical certainty, as the Board recognized in ***Wisconsin P&L***:

> [I]n using the Engrg Rpts (which contain only the combined grading for yards and lines), the parties agreed to assume that the original rail yards required a minimum amount (1 foot) of fill. This allotted the vast majority of grading work to the roadbed. Given the parties' agreement on yard fill, it would be inappropriate for UP to seek to maximize the amount of grading on the line (by assuming minimum fill in the yards) and then, after the grading requirements are established, to revise upward the amount of grading in the yards.

Id. at 1022. The Board has continued to follow this holding in more recent decisions. *See AEP Texas* at 81; *Otter Tail* at D-10; *PSCo/Xcel* at 94-95; *Duke/NS* at 91; *CP&L* at 79; and *Duke/CSXT* at 77.

SECI notes that by utilizing the one-foot criteria for yard track, the vast majority of earthwork in each valuation section is assigned to the mainline tracks. For short valuation segments with a large number of yard miles, such as valuation sections in cities, this results in an abnormally high quantity of cubic yards per main line mile. However, SECI applies these high quantities to the miles passing through cities in order to consistently apply the methodology to all of the SFRR's lines.

SECI notes that CSXT does not currently have a yard at Folkston or at the location selected by Mr. Reistrup for the SFRR's yard at Nashville, or at several of the interchange locations. However, an analysis of the relevant valuation sections shows that the ICC Engineering Reports contain considerably more yard track than posited by SECI's engineers in the same valuation section. *See* "SFRR Grading.xls," tab "ICC ER YD TRK." Consequently, SECI's engineers used the one-foot fill rule for all of the yards and multi-track interchange locations on the SFRR. *See* Exhibit III-F-8.

(c). **Total Earthwork Quantities**

In order to properly develop the quantities for grading the SFRR's roadbed, it was necessary to separate the earthwork requirements into four types of material – common, loose rock, solid rock and borrow. This was done by distributing the total quantities for the line segments developed in Exhibit III-F-10 based on the distribution percentages obtained from the ICC Engineering Reports.

SECI's engineers classified the yard and interchange location earthwork as borrow under the assumption that the yards would be constructed in flat areas and the earthwork necessary to support the yards would come from nearby borrow pits. The distribution of the earthwork quantities by type of material is shown in Exhibit III-F-9 and summarized in Table III-F-4 below.

Table III-F-4 SFRR EARTHWORK QUANTITIES BY TYPE OF MATERIAL MOVED		
	Type of Earth Moved	Cubic Yards (000s)
1.	Common Excavation	91,950,369
2.	Loose Rock Excavation	13,103,629
3.	Solid Rock Excavation	24,389,470
4.	Borrow (incl. yards)	16,907,040
5.	Total	146,350,510

Source: Exhibit III-F-9

(d). Earthwork Unit Costs

Following the approach used in *WFA/Basin*, SECI's engineers' common earthwork unit cost is based on the real-world Trestle Hollow rail construction project mentioned previously and described in more detail below. The loose rock excavation category described in the ICC Engineering Reports is largely a product of bygone days – today, most loose rocks are easily handled by standard excavation equipment and are often subsumed within the meaning of common excavation in project bids. Nevertheless, to be conservative, SECI's engineering experts have retained the standard loose rock excavation category, and costs based on the Means Handbook, that have been repeatedly utilized by shippers and accepted by the Board. They also included solid rock excavation costs based on the methodology and cost data accepted in prior proceedings by the Board.

The important consideration in the use of real-world project costs is that it largely eliminates the often senseless debates that occurred in prior cases over the selection of equipment suitable for a particular type of excavation. For other earthwork unit costs where SECI's engineers have continued to use Means, the unit costs are the product of equipment selections made by SECI's experts, who have extensive experience building and maintaining railroads. These selections generally reflect the lower cost equipment in a given equipment category because, as discussed above, use of Means is an extremely conservative cost approach. SECI's engineers also confirmed their selections based on an extensive field inspection of the CSXT lines being replicated.

In particular, Harvey Crouch and his associates inspected almost of all the CSXT lines being replicated by the SFRR (certain branch lines were not inspected and unreachable areas were reviewed with satellite and topographic imagery). Photos were taken during the site visits conducted in January and February 2009. Most access points were at public grade crossings, and the majority of the photographic record was taken from those points which occur frequently in the East.

At each location, a record was made which included the railroad subdivision, milepost, nearest station, rail section, crossing inventory number, crossing surface type, anchor pattern, spiking pattern, types of bridge, girders, piers, abutments, existence of handrails, latitude and longitude, as well as comments concerning terrain and track conditions. The detailed records are included in "Photos" folder included with the III-F electronic workpapers. In addition, SECI's engineers reviewed the photos provided by SECI's land valuation expert, Stuart Smith. Based on this review, and as one might expect of rail lines this old, SECI's engineers determined that the rail lines were generally laid out to follow the path of least resistance (*i.e.*, following the natural ground as much as possible, minimizing grade changes and avoiding difficult terrain when possible). Thus, SECI's engineers have adopted the same least-cost-but-feasible grading approach approved by the Board in other rate cases. *See Duke/CSXT* at 78-80; *PSCo/Xcel* at 95-98; and *FMC*, where the Board held:

> UP has not shown that it would be infeasible to use the equipment selected by FMC. Indeed, FMC's costs are based on a recognized source used by construction companies to estimate project costs. While the equipment UP would have the ORR use could also accomplish the required work, and may be more productive, it has higher unit cost for moving soil than the equipment FMC would have the ORR use. FMC is <u>entitled</u> to have the equipment that results in the overall lowest cost used. Therefore, we use FMC's unit costs for grading to determine earthwork costs.

Id. at 800.

(i). <u>Common Earthwork</u>

As noted above, SECI's common earthwork excavation unit cost is based on the Trestle Hollow Project. As previously discussed, the project involved building a new section of railroad line near Centerville, TN, which is not far from the SFRR's route of movement. *See* e-workpaper "Trestle Hollow Project Specs.doc." While the Trestle Hollow Project was not nearly as large as the SFRR project, which covers nearly 2,100 route miles, it had a significant amount of grading work (787,223 CY) and is far larger than any recent projects undertaken by CSXT in the territory being replicated and for which information was provided by CSXT in discovery. Furthermore, this project was for the construction of an entirely new roadbed and not simply the addition of a track next to existing track.

Crouch Engineering provided civil engineering services on the Trestle Hollow Project, and was responsible for preparing the Request for Proposal that went out to five railroad construction firms. The $1.65 per CY unit cost for common earthwork (unclassified) was contained in the bid that was ultimately accepted on the project. *See* e-workpaper "Trestle Hollow Project Cost Sheet.pdf." While the total quantity of common earthwork is substantially lower than the SFRR's quantities, the actual unit cost from the project is substantially lower than that based on the Means Handbook, and one would expect that if the SFRR construction project were bid out, the SFRR's cost would be even lower given the economies of scale. The unit cost utilized here includes all necessary work to prepare the roadbed for the placement of subballast. The unit cost also includes handling of waste and hauling it to off-site locations as needed. *See* the construction specifications contained in e-workpaper "Trestle Hollow Project Specs.doc" at 152-153.

As the Trestle Hollow Project work was done throughout 2007, the $1.65 cost per CY was indexed from mid-year (July) 2007 to January 2009 using the Means Handbook historical cost indexes. This resulted in a cost of $1.78 per CY at January 2009 levels.

As noted at the beginning of this Part, the portion of the SFRR west of Point of Rocks, MD is the only section similar to the "adverse" mountainous territory identified in *Duke/CSXT*. As such, SECI's engineers developed an adverse common excavation cost. For this section. The adverse designation recognizes that the territory is not only more difficult but that access is limited due to the terrain. Although common excavation costs based on the Means Handbook were not used to develop the common excavation costs for the SFRR, the ratio between Means Handbook costs under ideal conditions and costs under adverse conditions was used to adjust the Trestle Hollow Project unit cost to reflect these adverse conditions, resulting in a cost of $2.21 per CY applied to common excavation quantities in the designated adverse territory. *See* e-workpaper "SFR Grading.xls," tab "IIIF Unit Costs."

(ii). <u>Loose Rock Excavation</u>

As explained above, loose rock is a classification from a bygone era. Nevertheless, as in prior SAC cases, the SFRR would need to excavate loose rock as defined in the ICC Engineering Reports. The definition provides:

> <u>Loose rock</u> shall comprise all detached masses of rock or stone of more than 1 cubic foot and less than 1 cubic yard, and all other rock which can be properly removed by pick and bar and without blasting, although steam shovel or blasting may be resorted to on favorable occasions in order to facilitate the work.

I.C.C. Division of Valuation, *Instructions for Field Work of the Roadway Branch of the Engineering Section*, 110 (1916). The ICC's definition of "loose rock" assumes that the materials could have been moved by pick and bar. Picks and bars are hand-held tools designed to pry rocks loose. The modern, mechanized equipment discussed below is a vast improvement over such tools. Thus, SECI's engineers are being extremely conservative in applying a separate loose rock unit cost to such excavation rather than simply including it in the common excavation quantities.

With that background for loose rock excavation, the SECI engineers have chosen a combination of two 300 HP dozers for ripping the loose rock and pushing it into piles, a 3CY power shovel for placing the ripped and dozed rock into the truck (including the Means 15% additive), a 42 CY off highway truck to haul the material to the fill or disposal site, and a dozer to spread the material after it is dumped. Both of the 300 HP dozers are equipped with rock rippers at their rear and with large push blades in front. The 42 CY off highway truck was selected because it is capable of turning in a 27' 11" foot radius and thus suitable for work in a railroad right-of-way. *See* e-workpaper "42 CY Truck.pdf." SECI's development of the loose rock excavation unit cost is consistent with the unit costs developed and accepted in prior stand-alone proceedings.

Research by SECI's engineers shows that most of the rock formations that occur throughout the area of the SFRR's construction consist of sedimentary rock, which is weathered sandstones and shales, and therefore rippable. *See* e-workpaper "SFRR Rock Formations.pdf."

Material is compacted in fill areas using a combination of sheepsfoot and vibratory steel-wheeled rollers. The average cost for loose rock excavation is $10.10 per CY and $10.38 per CY in adverse conditions.[5] *See* e-workpapers "SFRR Grading.xls," tab "IIIF Unit Costs" and "Means Unit Costs.pdf."

(iii). <u>Solid Rock Excavation</u>

SECI's engineers developed solid rock excavation costs consistent with recent Board decisions, in particular *WFA/Basin* at 86-87, *AEP Texas* at 82 and *PSCo/Xcel* at 96-97. First, they developed a unit cost for solid rock blasting based on an average of the Means Handbook cost for blasting rock over 1,500 cubic yards and the cost for bulk drilling and blasting. The engineers then added the costs to excavate the blasted rock, load it into trucks, haul it away, and dump it. They also included the cost to spread the material, and the average compaction cost for embankment that was used for the other earthwork categories was also applied. *See* e-workpaper "SFRR Grading.xls," tab "IIIF Unit Costs." The unit

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[5] The unit costs from the 2009 Means Handbook do not need to be indexed as they are at January 2009 levels which coincide with the start date of the SFRR. However, all of the unit costs from the Means Handbook utilized by the SECI engineers are adjusted by the Means Handbook location factors. The cost figures in the Means Handbook represent national averages. The Means Handbook city cost indexes for site construction are used to develop weighted average factors based on SFRR route miles. *See* e-workpaper "SFRR Grading.xls," tab "IIIF Loc Factor." The pages from the Means Handbook showing the city cost indexes, as well as the Means Handbook unit costs used in roadbed preparation, are contained in e-workpaper "Means Unit Costs.pdf."

costs and equipment mix developed by SECI's engineers are consistent with those approved in recent Board decisions. *See WFA/Basin* at 86-87; *AEP Texas* at 82-83.

When applying the unit cost to the solid rock earthwork quantities, SECI's engineers used an average of the solid rock unit cost ($17.12 per cubic yard in all conditions) and the loose rock unit cost ($10.10 per CY and $10.38 per CY in adverse conditions). This reflects their expert opinion that at least half of the quantities classified by the ICC as solid rock would be rippable (and therefore classified as loose rock or common excavation) using modern equipment. This 50/50 combination has been repeatedly accepted by the Board. *See WFA/Basin* (parties agreed, not mentioned or altered in decision); *AEP Texas* (parties agreed, not mentioned or altered in decision); *Otter Tail* at D-12; *PSCo/Xcel* at 96 (where BNSF also agreed on this split); *Duke/NS* at 93-94; *CPL* at 80; *Duke/CSXT* at 78. This 50/50 combination results in a cost per CY of $13.61 for solid rock excavation and $13.75 per CY in adverse conditions.

(iv). <u>Embankment/Borrow</u>

Consistent with the borrow equipment packages used in prior SAC proceedings, SECI's Means Handbook-based unit costs for borrow are based on a five cubic yard wheel-mounted front end loader, 20 CY capacity dump trucks to haul material to the construction site, a dozer to spread the material, and the average compaction cost for embankment that was used for the other earthwork categories. Borrow unit costs equal $15.71 per CY at 1Q09 levels.

(v). <u>**Fine Grading**</u>

SECI has not included additional costs for fine grading. The construction specifications for the common earthwork unit costs for the previously-mentioned Trestle Hollow railroad construction project already encompass such finish work. In particular, the specifications note that:

> 3.5.15 Finishing and Trimming (Final Grading)
>
> All cuts, embankments, swales and ditches shall be left in a neatly trimmed condition to the specified width, elevations, and slopes. Waste and stockpile areas shall be left in a neat trimmed condition to the satisfaction of the ENGINEER.
>
> The finished roadway surface shall be compacted and finished to a true surface with no depressions that will hold water or prevent proper drainage. The finished top of subgrade shall conform to the grades shown on the Plans with a tolerance of plus or minus 0.10 feet from the profile grade, shall be uniform, and free from sharp breaks in the surface.

See e-workpaper "Trestle Hollow Specifications.doc" at 164. Moreover, such finishing work is not compensated for separately from the common excavation that must be performed. *Id.* Thus, SECI's engineering experts have not included separate costs for this item. SECI notes that the STB rejected additional costs for fine grading in *Duke/CSXT* at 80.

(e). <u>**Land for Waste Excavation**</u>

Not all of the excavated material is re-used as fill. Consistent with the procedures used in other SAC cases, SECI's earthwork calculations assume a 30 percent waste ratio. As this waste material needs to be placed somewhere, the

SFRR is acquiring additional land along the right-of-way to accommodate the dumping of the waste material. SECI's engineers have assumed an average 15-foot depth for wasted materials. SECI has included an additional 1,605 acres of rural land for this purpose at an estimated $500 per acre for a total cost of $0.8 million.

(f). **Total Earthwork Cost**

The total SFRR earthwork cost, including land for waste excavation, is $905.9 million.

c. **Drainage**

i. **Lateral Drainage**

The linear feet of pipe per route mile for lateral drainage was obtained from the ICC Engineering Reports and applied to the SFRR's line segments. The cost per linear foot for installed drainage pipe, including backfill and compaction, was taken from the 2009 Means Handbook. Based on the ICC Engineering Reports, the SFRR requires 266,144 linear feet of lateral drainage pipe. The SFRR's total investment in lateral drainage equals $6.6 million at the 1Q09 level. *See* Exhibit III-F-3 and e-workpaper "SFRR grading.xls."

ii. **Yard Drainage**

SECI's engineering experts have included yard drainage facilities for each of the SFRR's four yards. However, before installing any particular drainage facilities, the roadbed for yard track construction will be constructed to slope away from the main line. Storm water runoff will drain freely through the ballast and be collected by ditch lines along the perimeter of the yards. These ditches will then convey the storm water runoff offsite. Low areas can occur near facilities and between tracks separated by non-typical spacing. In those instances, catch basins are used to collect the water in the low areas. This water is then conveyed under the track to the perimeter ditch. The number of catch basins and the length of pipe installed in the SFRR's yard are based on the above design scheme, as well the layout of the facilities. This basic approach to yard drainage is typical of railroad yards, including CSXT's yards where Crouch Engineering personnel saw little or no yard drainage.

d. Culverts

Culverts are devices placed in the roadbed to facilitate the movement of water from one side of the track to the other where large drainage areas, typical of bridges, are not required. The culverts specified by SECI's engineers are corrugated aluminized metal pipe ("cmp"). All culverts used by the SFRR are adequate to withstand railroad loadings to a gross weight on rail of 286,000 pounds per car (Cooper E-80 standards).

Consistent with practice in other cases,[6] culverts replace any bridges less than 20 feet in length, assuming that the bridge crosses a waterway. However, unlike past cases, CSXT did not provide a complete culvert list for the lines being replicated by the SFRR. Rather, CSXT provided a partial culvert list that covered less than half of the lines being replicated.

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[6] *See, e.g., AEP Texas* at 93.

i. **Culvert Unit Costs**

Unit costs were developed for the installation of culverts assuming that the open trench placement method would be used. Unit costs for the cmp are driven by the linear feet (lf) of the culvert required in a particular location as well as the diameter of the pipe. *See* e-workpaper "Culvert Construction Costs.xls" for details of the unit prices and sizes of the cmp utilized on the SFRR. Additional unit costs were developed for excavation, furnishing and placing crushed stone for bedding material, and backfill. These unit costs are also detailed e-workpaper in "Culvert Construction Costs.xls."

ii. **Culvert Installation Plans**

All culverts are installed during the early stages of preparation of the subgrade for the railroad. The sites are easily accessible, in part through the ongoing preparation of the roadbed and in part because much of the SFRR's ROW is near public roads. Moreover, the culverts can be installed with a minimum of excavation using the open trench method of installation. In particular, culverts are installed after a sufficient depth of compacted roadbed fill has been placed. A trench is excavated to a depth of one foot below the flow line of the culvert, and one foot of bedding stone is placed in two compacted layers. This is a standard practice on many railroads, including NS. The culvert is laid, and then backfilled in compacted layers back to the top of the trench.

Work production of the crews is consistent with SECI's proposed construction schedule because there are no deep trenches to excavate or work in, and by installing the culverts at this stage of the project, no waterway diversions are required. Moreover, in the few instances where water is flowing immediately adjacent to the culvert, the culvert can be installed while the water is flowing.

More specifically, once the base layer of the roadbed is in place, the trench for the cmp or RCB is excavated one foot wider on each side than the culvert width. The bottom of the excavation is covered with an average depth of 12" of crushed stone bedding material to act as a foundation and cushion for the culvert, providing a means for transferring the load into the ground below the culvert as well as a level surface. The first culvert section is placed on the prepared bedding material. The next section is placed adjacent to the first and a connecting band is installed to connect the two sections. This continues until all sections have been set in place. The culvert is then backfilled. After the subbase has been prepared, most culverts can be installed in less than one day.

iii. Culvert Quantities

SECI's engineers used the limited culvert inventories provided by CSXT in discovery to form an initial culvert list. However, upon review, SECI's engineers determined that CSXT's culvert data had several significant problems. First, the culvert inventories were not comprehensive – CSXT provided culvert inventory data for only 729.21 miles of the 2,092.40 miles of CSXT lines being replicated.[7] To develop a cost for the remaining segments, SECI's engineers developed an average culvert cost per mile for the Western Division and applied it to those Western Division segments where no culvert inventory was provided. For the missing Eastern Division segments, SECI's engineers applied an average culvert per mile based on the culvert data for the portions of the Eastern Division east and south of Point of Rocks, MD. (The culvert list for portions of the Eastern Division west of Point of Rocks was complete.)

Second, in many instances, the culvert inventories provided by CSXT did not include any culvert length data. SECI's engineers have, therefore, assumed that the culvert length will be set in accordance with the standard roadbed widths for cut and fill sections. Further, in many cases, CSXT's culvert inventory list did not indicate the type of culvert being used, but many of the culverts observed during site visits were substandard in size (under 24" in diameter) or were made of unsuitable materials (such as vitrified clay). In order to ensure that the SFRR's culverts could meet the loading requirements of the SFRR, SECI's engineers elected to use aluminized cmp for all culvert installations.

iv. Total Culvert Costs

The total cost of the SFRR's culverts is $40.1 million. *See* e-workpaper "Culvert Construction Costs.xls."

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[7] Some larger culverts were listed in CSXT's bridge inventory spreadsheet. SECI's engineers included those culverts in the culvert inventory. *See* e-workpaper "culverts.xls."

e. **Other**

i. **Sideslopes**

The SFRR has average side slopes of 1.5:1. This side slope design has consistently been accepted by the Board. *See AEP Texas* at 80; *WFA/Basin* at 83; *Otter Tail* at D-8; *PSCo/Xcel* at 91; *Duke/NS* at 90; *CP&L* at 78; *Duke/CSXT* at 76; *TMPA* at 701, n.183; *Wisconsin P&L* at 1021-1022 and *FMC* at *795*. Moreover, use of 1.5:1 side slopes is supported by Hay's definitive *Railroad Engineering Manual* and AREMA, §§ 1.2.3.3.2b and 1.2.3.3.3a at 1-1-22. Crouch Engineering personnel observed 1.5:1 sideslopes on many of the CSXT lines being replicated during their recent field trips. *See* e-workpaper "sideslopes.pdf" for examples.

ii. **Ditches**

The SFRR has side ditches in cuts that are two feet wide and two feet deep and that are trapezoidal in section. In many cases, this size ditch is larger than the existing ditches (where there were any at all) on the antecedent CSXT lines, as observed during the recent field inspection by Mr. Crouch's team. *See* e-workpaper "ditches.pdf" for photographic examples. Two-foot ditches have repeatedly been accepted by the Board. *See Duke/NS* at 90, *CP&L* at 78, *Duke/CSXT* at 76, *TMPA* at 701, n.183; *Wisconsin P&L* at 1023.

iii. **Retaining Walls**

Retaining wall quantities for the SFRR are based on information in the ICC Engineering Reports under the category "Protection of Roadway" included in Account 3, Grading. This includes cubic yards of masonry, timber walls, and walls made from timber ties and pilings. Rather than construct masonry or timber retaining walls, the SFRR uses gabions (galvanized steel mesh boxes filled with rock). Gabions are suitable because they can be assembled on site and bent to fit the existing terrain.

Consistent with the *PSCo/Xcel* decision, SECI has used the cost for retaining wall gabions (including the rock) and the cost for timber pilings from the 2009 Means Handbook. Total retaining wall investment for the SFRR equals $63.8 million at 1Q09 levels. *See* Exhibit III-F-3 and e-workpaper "SFRR Grading.xls" for quantity and unit cost details.

iv. <u>Rip Rap</u>

SECI's engineers developed rip rap quantities for the protection of the roadway from the ICC Engineering Reports, and applied the unit cost from the Means Handbook to machine-place the rip rap. The engineers included the material portion of the unit cost because the necessary material (rock) is not readily available from the excavated rock that is wasted. This approach is conservative as the CSXT lines being replicated were observed to have very little rip-rap. SECI has included $11.7 million for rip rap investment at 1Q09 levels.[8] *See* Exhibit III-F-3 and e-workpaper "SFRR Grading.xls."

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[8] This rip rap investment does not include the rip rap used on culvert faces and for bridge pier and abutment protection. Those costs are included where needed in appropriate investment category.

v. Relocating and Protecting Utilities

The vast majority of the lines being replicated were constructed by CSXT's predecessors in the 19th and early 20th centuries. Few, if any, utility lines existed at that time and would have had to be relocated. These costs were not incurred by the incumbent and thus, under the *Coal Rate Guidelines*, would constitute a barrier to entry if imposed on the SFRR. *See AEP Texas* at 84; *PSCo/Xcel* at 100; *Duke/CSXT* at 83.

However, SECI's engineers identified four SFRR branch lines, totaling 44.61 route miles, which could not be found on the ICC valuation maps accompanying the ICC Engineering Reports. *See* e-workpaper "SFRR Post_ICC Eng Report lines.doc." Therefore, SECI's engineers assumed that these rail lines were constructed in the second half of the 20^{th} century. Consistent with prior STB decisions, SECI included \$0.6 million, based on the cost per mile in *WFA/Basin*, for costs to relocate and protect utilities on these lines. *See* Exhibit III-F-10 and e-workpaper "SFRR Grading.xls."

vi. Seeding/Topsoil Placement

Embankment protection quantities for all lines other than the recently-constructed branch lines were derived from the ICC Engineering Reports. Based on the ICC Engineering Report data, only 0.06 percent of the lines being replicated by the SFRR had embankment protection quantities. For the recently-constructed branch lines, SECI's engineers estimated the acres per mile for seeding/topsoil placement based on the average acres per mile for the 79-mile Orin Line, constructed by the BNSF Railway in Wyoming during the 1970s.

For seeding and topsoil placement costs, SFRR's engineers relied on the unit cost of $1,600 per acre from the Trestle Hollow Project indexed to $1,723.73 per acre at January 2009 levels. *See* e-workpapers "Trestle Hollow Project Cost Sheet.doc" and "SFRR Grading.xls." As shown in Exhibit III-F-10, total SFRR investment costs for seeding/placing topsoil equal $0.8 million.

vii. **Water for Compaction**

In the Eastern coal rate cases, the Board agreed with the complainants that water for compaction was not necessary in the areas traversed by the SARRs because there is sufficient water content in this region to allow for proper compaction. *See, e.g., Duke/CSXT* at 83-84. Consistent with the territory traversed by the stand-alone railroad in Duke/CSXT, the SFRR rail lines traverse humid and sub-humid areas and not arid and semi-arid areas. *See* e-workpaper "SFRR rainfall.pdf." Moreover, even if water for compaction were necessary in certain areas, the common earthwork unit costs relied on by SECI already include any incidental items such as water. *See* e-workpaper "Trestle Hollow Specs.doc."

viii. **Surfacing for Detour Roads**

SECI's engineers did not include costs for any road detours for the SFRR's lines that are covered by ICC Engineering Reports, as it is unlikely that CSXT incurred any costs for this item when the lines were originally built, and CSXT did not provide any information in discovery indicating that it incurred such costs. This is consistent with the approach approved by the Board in other SAC cases. *See PSCo/Xcel* at 101; *Duke/NS* at 100; *CP&L* at 86; *Duke/CSXT* at 84; *TMPA* at 707-708; *Wisconsin P&L* at 1024-1025; *FMC* at 802.

For the SFRR's recently-constructed branch lines, SECI's engineers included an estimate of $3.2 million for the cost to provide road detours during construction. *See* Exhibit III-F-10 and e-workpaper "SFRR Grading.xls."

ix. <u>Construction Site Access Roads</u>

In general, the SFRR's track subgrade is used for its site construction roads. In addition, most of the SFRR right-of-way is accessible from public roads and highways, thereby permitting construction access without building separate access roads. Further, the initial construction activity includes clearing the SFRR right-of-way and creating initial site access with the heavy construction equipment. As the site is leveled by either cutting or filling the right-of-way, access roads are created for moving earth, rock and other materials to and from the construction sites. In any event, no additional costs should be incurred for site construction access roads because this is normally not a compensated portion of the grading contractor's requirements. Indeed, the Trestle Hollow project, used for common excavation, required the contractor to provide its own, uncompensated, access to the site. *See* "Trestle Hollow Project Specs.doc." SECI's position on this issue consistent with several prior SAC decisions. *See Duke/CSXT* at 76; *Duke/NS* at 90-01; *CP&L* at 78; and *AEP Texas* at 80.

x. **Environmental Compliance**

Consistent with prior Board decisions, SECI's engineers did not include any costs for environmental compliance for the SFRR's lines that are covered by ICC Engineering Reports because these costs were not incurred when the replicated lines were originally constructed by CSXT or its predecessors, and to require such costs now would be a barrier to entry. *See Wisconsin P&L* at 1025 (the parties agreed that environmental mitigation was only required for the recently constructed segments); *PSCo/Xcel* at 101 (the parties agreed on the inapplicability of such costs); *AEP Texas* at 83. *See also* the public evidence in *WFA/Basin* where environmental compliance costs were applied only to recently-constructed lines.[9] For the SFRR's recently-constructed segments, SECI's engineers have included $0.7 million for environmental compliance. *See* Exhibit III-F-10 and e-workpaper "SFRR Grading.xls."

3. **Track Construction**

Track construction encompasses the work needed to lay track once the subgrade has been completed, including placing subballast, ballast, ties, rail, and other track components. The total cost for track construction as determined by SECI's engineers and discussed in detail below is $1950.5 million. *See* e-workpaper "Track Construction Costs.xls."

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[9] *See* the complainants' Rebuttal Evidence in Docket No. 42088 (Public Version) filed Sept. 30, 2005, Narrative Vol. II at III-F-81-82.

a. **Geotextile Fabric**

Consistent with the *WFA/Basin* decision, SECI's engineers have placed geotextile fabric only under turnouts and at-grade crossings. *Id.* at 94-95. The quantities of geotextile reflect the amount needed for turnouts only because the cost per foot for at-grade crossings already includes geotextile costs. The total SFRR geotextile quantity calculations are included in the costs of turnout and grade crossings shown in e-workpaper "Track Construction Costs.xls."

b. **Ballast**

SECI's engineers have used 18" of ballast and subballast, consisting of a 6-inch subballast layer and a12-inch layer of clean rock ballast for all main tracks. Diagrams of the standard SFRR main track cross sections (single and double) are included in e-workpaper "Roadbed Section.pdf." This roadbed section conforms to CSXT's standard roadbed section. *See* e-workpaper "CSXT Roadbed Specification.pdf."

Because of the lighter traffic and slower speeds, SECI's engineers used 4" of subballast and 6" of ballast under yard tracks, origin and destination spurs, and helper pocket, set-out tracks and interchange tracks, which is consistent with CSXT's standard roadbed section. Ballast for the SFRR would be locally obtained limestone or granite, crushed to meet AREMA No. 4 size requirements and meeting Los Angeles and Mill Abrasion requirements. Exact sources and suppliers are detailed in e-workpaper "Track Construction Costs.xls." Subballast consists of similar parent materials crushed to provide a well-graded, dense layer of crushed rock similar to road base material. *See* e-workpaper "Trestle Hollow Specs.pdf."

Ballast and subballast quantities were developed for all sections of track based on the lengths of single and multiple track sections, and the roadbed section referenced above. As noted, above the SECI engineers have included cross-sections of the SFRR track designs in e-workpaper "TR17-Subballast Sections.pdf." The workpapers include the volume per foot of track for all items, including the volume per foot for ballast and subballast. The quantities were calculated by multiplying the sectional area in square feet by one foot in length and then dividing by 27 to obtain cubic yards. The volume of rock displaced by the volume of the ties being used in particular locations was removed from the total volume calculation.

Ballast and subballast quantities for yards were calculated assuming each track in the yard is a single track and using the 4" subballast and 6" ballast depth. SECI's experts also used the standard conversion factor of 1.5 tons/CY in determining quantities, which is conservative versus the conversion factor of 1.325 tons/CY used by the "Track Data Handbook." *See* e-workpapers "Track Construction Costs.xls" and "TR17-Subballast Sections.pdf."

SECI's engineers used prices for ballast from direct quotes obtained from suppliers and historical pricing data obtained from CSXT in discovery. *See* e-workpapers "Track Construction Costs.xls" and "CSXT ballast.pdf." SECI's engineers used prices for subballast from unit costs obtained for the Trestle

Hollow Project, which included delivery costs as well as placement of the subballast on the roadbed. Delivered costs for ballast are based on shipping distances from the sources to the railheads throughout the SFRR system, which were then multiplied by 0.035 cents per mile based on a shipping charge used for inter-railroad transportation from *Wisconsin P&L* at 1029-1030. The supply and shipping costs were then totaled and averaged to develop an average cost per CY delivered for ballast.

c. **Ties**

SECI's engineers selected wood ties with a tie spacing of 20.5 inches for all main track, passing sidings, and branch lines consistent with railroad industry standards for mainline track. The Board has also repeatedly accepted wood tie spacing of 20.5". *See WFA/Basin* at 96; *West Texas Utilities* at 707. Because of the lighter traffic and slower speeds, SECI's engineers used wood ties with 24" spacing in yards, set-out tracks and interchange tracks. *See WFA/Basin* at 96 (accepting this spacing in yards).

SECI's engineers selected standard Grade 5 treated hardwood railroad ties, whose dimensions are 7" x 9" x 8'6", for all track. Unit costs for Grade 5 ties were based on CSXT's average wood tie cost as shown in its 2008 R-1, Sch. 721 ($36.03). Transportation costs were also included in CSXT's average tie price. *See* Sch. 721, Instruction No. 4, included in e-workpaper "CSXT 2008 R-1.pdf."

The SFRR is constructing its bridges with ballast decks, thereby obviating the need for transition ties. Similarly, the Board has rejected transition ties at turnouts. *See WFA/Basin* at 97.

d. <u>Track (Rail)</u>

i. <u>Main Line</u>

As discussed in Part III-B-2-a, the SFRR will use 136-pound CWR for most of the SFRR's main tracks and passing sidings, with premium rail used in curves 3 degrees and greater. For the lighter density portions of the SFRR, as well as its branch lines, new 115-pound rail will be used. As explained in Part III-B-1-e, the lighter density segments, include the territory from Roanoke Rapids, NC to Folkston, GA and Jacksonville, FL to Bostwick, FL, and all branch lines.

The delivered cost used for all of the SFRR's rail is $839.60 per ton. This cost per ton was derived from CSXT's 2008 R-1, Sch. 723 average price for new rail. As explained in Instruction No. 3 to Sch. 723, the average cost per ton also includes transportation. *See* e-workpapers "Track Construction Costs.xls" and "CSXT 2008 R-1.pdf."

The rail is welded together into approximately 1600-foot lengths and then placed on a rail train. The rail is distributed by the rail installation contractor, which costs are included in labor charges shown in e-workpaper "Track Construction Costs.xls."

ii. <u>Yard and Other Tracks</u>

As discussed in Part III-B-2-b and Part III-B-3-b, the SFRR is using new 115-pound CWR rail for yard, interchange, origin and destination spurs, helper pocket tracks, and set-out tracks. The delivered unit price per foot for the 115-pound rail is described in the preceding section. *See* e-workpaper "Track Construction Costs.xls." As with the 136-pound rail, the price includes delivery to various railheads and the materials will be distributed by the rail installation contractor.

iii. <u>Field Welds</u>

The cost of labor for field welds is derived from direct quotes and historical prices from projects overseen by Crouch Engineering. *See* e-workpaper "Track Construction Costs.xls." The cost of field weld materials is included in the costs for field welding labor. *Id.* Field welds are required to connect the 1600-foot strings of welded rail produced by the manufacturer as well as to insert insulated joints, make connections to turnouts and span grade crossings. The calculations for the number of field welds as well as the number of compromise weld (where 115-pound and 136-pound rail are joined together) are shown in e-workpaper "Track Construction Costs.xls."

iv. <u>Insulated Joints</u>

Insulated joint requirements are addressed in the signals and communications costs discussed in Part III-F-6 below.

v. **Switches (Turnouts)**

SECI's engineers included the number and size of turnouts specified in the SFRR's track diagrams (Exhibit III-B-3). Unit costs for turnouts were obtained from quotes from vendors. *See* e-workpaper "Track Construction Costs.xls." The turnout quotations include all materials necessary for construction of complete No. 20 power turnouts, No. 14 power turnouts, and No. 10 hand-thrown turnouts, including, but not limited to rail, switch ties, rail, frogs, guard rails, switch points, base plates and tie plates, switch plates, switch point heel blocks, adjustable wedge brace plates for the switch point section, insulated tie bar rods, connecting rods, the switch machine, and all other items incidental to turnout construction. The total cost to the SFRR for switches is shown in e-workpaper "Track Construction Costs.xls."

e. **Other**

i. **Rail Lubrication**

Rail lubricators are used by the SFRR to distribute grease to the wheel/flangeway interface. Spacing of lubricators is based on the coverage of the grease as defined by the supplier, and as warranted by track conditions. The unit cost for rail lubricators is based on quotes from vendors. *See* e-workpaper "Track Construction Costs.xls." The SFRR's cost for rail lubricators is also detailed in e-workpaper "Track Construction Costs.xls."

ii. <u>Plates, Spikes and Anchors</u>

The SFRR is using wood ties with cut spikes that will be used to hold the rail to the tie plate and the tie plate to the ties, and to provide lateral restraint to hold the rail to gauge (4'-8½" inside dimension between the railheads). Two spikes per tie plate (four spikes per tie) are used on all track with timber ties and less than 3-degree curves. This spiking pattern is standard practice for U.S. railroads, and is used by CSXT. NS also uses two spikes per plate on tangent and lower curvature track. *See* photos in e-workpaper "TR84-Spiking Patter.pdf." AREMA standards also support two spikes per plate. *See* e-workpaper "TR04-Spiking Pattern.pdf."

For curves between 3 and 6 degrees, 4 spikes per plate are used. This pattern is consistent with industry practice and AREMA. *See* e-workpaper "TR04-Spiking Pattern.pdf." For curves greater than 6 degrees, five spikes per plate are used. *See* e-workpaper "TR04 Spiking Pattern.pdf."

Rail anchors are drive-on or spring clip-on devices that clamp under the base of the rail and bear against the sides of the timber ties. Anchorage of the rail prevents the rail from running, or moving in a longitudinal direction down the track due to thermal expansion or train acceleration/braking loads. The anchors transmit the longitudinal stress forces in the rail to the ties, which then transmit the forces to the ballast thereby restraining movement of the track structure. Anchors are used on both sides of every other tie on main track, branch lines, yard tracks, set-out tracks and interchange tracks where the curvature does not exceed 3 degrees. Anchors are used on both sides of every tie for curves 3 degrees or greater and for 200' on each end of grade crossings (those costs are included in the grade crossing and turnout costs).

The anchoring pattern being used on the SFRR is consistent with AREMA and CSXT standards. *See* e-workpaper "TR03-Rail Anchor.pdf." The SFRR's anchoring specification exceeds that observed by SECI's engineers on the CSXT lines being replicated.

The costs for plates, spikes, and anchors are detailed in e-workpaper "Track Construction Costs.xls."

iii. <u>Derails and Wheel Stops</u>

Derails are used to keep cars from rolling from a spur track or side track through a turnout and onto the main track. Derails are included at all FED set-out track turnouts and at yard turnouts at the four yard locations where cars are set out from trains and stored. Wheel stops are used at the end of single ended tracks to keep the cars from rolling off the end of the track. The cost for derails and wheels stops were developed from vendor price catalogues. The total costs are described in e-workpaper "Track Construction Costs.xls."

iv. <u>Materials Transportation</u>

Specific transportation costs associated with a given item are addressed in the relevant portions of this Subpart, or in the applicable e-workpapers. Therefore, no additional transportation costs have been added for those items.

v. **Track Labor and Equipment**

The SFRR's track laying and related costs are derived from direct quotes and bids obtained from contractors on projects where Crouch Engineering bid and oversaw rail construction, and from recent quotes solicited from contractors for similar projects. Labor quotes for track construction were obtained from Queen City Railroad Construction and Railworks. Bid prices were also obtained from NS and CSXT track construction projects. The lowest quote/bid has been used for track construction and includes the following:

- Provide labor to unload and distribute all track material including 136 RE CWR or 115 RE CWR from rail train, timber crossties, tie plates, rail anchors, spikes, and ballast
- Construct track complete using CWR, crossties on 21" centers, box anchoring every other tie, box anchor every tie within 200' of grade crossings
- Distribute ballast from hoppers or ballast cars
- Surface and line track, regulate ballast, 12" of ballast under center of ties

The cost of labor shown in e-workpaper "Track Construction Costs.xls" is based on the cost of construction per track foot.

4. **Tunnels**

The tunnel inventory and tunnel lengths were derived from materials provided by CSXT in discovery. *See* e-workpaper "Tunnel Construction Costs.xls." Consistent with Board precedent, SFRR's engineers utilized the base unit cost of $2,561 per linear foot ("LF") developed in *Coal Trading Corp.*, at 422, and then indexed this cost from 1980 to 1Q09. This procedure yields a unit cost of $7,431 per LF. The unit cost was multiplied by the total feet of tunnels (35,170

LF) to yield a final tunnel cost of $261,348,270. *See* e-workpaper "Tunnel Construction Costs.xls" for details of the Means Handbook indexing and total cost development.

5. **Bridges**

SECI's engineers have inspected the lines being replicated by the SFRR and reviewed the specific information contained in CSXT's bridge inventory. From their inspection and review, SECI engineering witnesses Crouch and Kevin Lindsey have developed bridge quantities and costs consistent with the needs of the SFRR. Bridge design and unit costs are derived from various real world sources as described below. Thus, the SFRR's bridges are consistent with real-world costs and designs.

Messrs. Crouch and Lindsey are well-qualified to prepare and co-sponsor the SFRR's Bridge plan and associated costs. During his employment with NS, Mr. Crouch served as a Project Engineer where he was responsible for engineering design and plan review, the bid phase and construction engineering phase for bridge construction projects. As head of Crouch Engineering, Mr. Crouch has overseen the design and construction of numerous bridges for Class I and short-line railroads.

Mr. Lindsey has 10 years of engineering experience with Crouch Engineering, including experience in topographic surveying, bridge inspection, new bridge design, design load rating of existing bridges, evaluation of bridges to carry various loadings, design of bridge rehabilitation projects, estimating and bidding, writing specifications, and construction project management for bridge projects. Mr. Lindsey is a licensed civil engineer in a number of states, and has completed bridge projects in most of the states operated by the SFRR.

a. <u>Bridge Inventory</u>

Messrs. Crouch and Lindsey prepared the Bridge inventory for the SFR based on a review of the bridge information provided by CSXT in discovery. The bridge inventory developed by SECI's engineers include milepost, feature crossed, number of spans, structure type, and total length. The inventory is provided in e-workpaper "Bridge Construction Costs.xls". Bridges spanning 20 feet or less and crossing natural barriers have been built as culverts. See e-workpaper "Culvert Construction Costs.xls" tabs "Bridge List Culverts East" and "Bridge List Culverts West."

b. <u>Bridge Design and Cost Overview</u>

Consistent with past practice in SAC rate cases, SECI's engineers developed several standard bridge designs (*e.g.*, Type I, II, III bridges) based on the diverse bridge lengths and heights that are required. However, CSXT did not provide bridge height data in discovery, nor did it provide any detailed bridge construction costs but only lump-sum, non-descriptive costs. In order to determine the necessary heights of the bridge being replicated, the following methodology was used based on the feature the bridge is crossing:

Highway/Interstate	16.5'
Other roads	14.5'

Navigable waterways	USCG clearance requirements (*see* e-workpaper USCG_Clearance_Guide.doc)
Other waterways	11'

These standard heights were adopted by SECI's engineers in order to apply a cost to the bridge inventory provided by CSXT. Bridge height is an essential aspect of the cost of a bridge. The higher the bridge, the more bracing will be required for stability, the more materials will be used, and the higher the construction cost will be due to the difficulty in forming concrete, driving longer steel piles, and lap-splicing rebar.

Messrs. Crouch and Lindsey developed a standard cost formula for each of the four bridge types using a composite of costs from Crouch Engineering's historical data of successful bidders on similar scale railroad bridge construction. Once they developed a standard cost formula, they then applied it to every bridge within the relevant category in the inventory. Each bridge is costed separately.

From a design standpoint, using Crouch Engineering's historical costs for building bridges ensures that all items necessary for building the bridges are included, especially since these historical costs are actual costs from real world applications thereby demonstrating the feasibility of the methodology. Theses bridges are adequate in design, and have a minimum rating of 286,000 pounds and a life cycle of 100 years (meaning that no major repairs will be required for 100 years). More significantly, because the SFRR's bridges are based on bridges actually constructed from Crouch Engineering, P.C.'s designs, they are presumptively feasible.

i. Bridge Design

When the CSXT lines replicated by the SFRR were constructed, a variety of bridge types and lengths were used. This was due to the different technologies that were available at the time of original bridge construction, the proclivities of the particular railroad company that constructed the bridge, the desired load rating, and the available materials. As technology has become more sophisticated, so did bridge design and implementation. Due to the nature of a railroad, when replacing/building new bridges, the number of spans can be modified to create an efficient design. Indeed, the SFRR's bridges have the same lengths as those being replicated, but SECI's engineers have designed and costed those bridges using more efficient spans where possible. As no information was provided in discovery on the hydraulic area of the bridges; water flow increase/decrease was not taken into consideration in the engineer's methodology as this is negligible due to the fact that each bridge either kept the same number of spans, or had a decrease in span number, while keeping the length the same as the existing bridge.

(a). Type I Bridges

Type I bridges have varying spans of 20'-0" to 32'-0". These bridges are typically one span unless they are incorporated in the configuration of a much longer bridge requiring multiple bridge types and/or multiple span configurations. The same precast deck, column caps, abutment caps, and wing-walls are used for all of these bridges. The typical column uses four HP14x73 piles as its foundation and each abutment uses six HP14x73 piles as its foundation. Type I bridges less than 32' in length are single span structures; structures that are 32-55' are two spans. In addition, Type I spans were often used when approach spans were necessary due to the inconsistent span lengths on the bridge inventory list. Examples of the designs are included in e-workpapers "BR03-Type I.pdf," and "BR16-Pier (TYP).pdf."

(b). <u>Type II Bridges</u>

Type II bridges have spans of 60'-0". These bridges are typically one span unless they are incorporated in the configuration of a much longer bridge requiring multiple bridge types and/or multiple span configurations. These intermediate spans are achieved by placing four 60' prestressed concrete Bulb-T beams side-by-side. A cast-in-place deck is installed over the prestressed Bulb-T beams. The same columns, abutments, caps, and wing-walls are used for all of these bridges. The typical column uses four HP14x73 piles as its foundation and each abutment uses six HP14x73 piles as its foundation. Examples of the designs are included in e-workpapers "BR04-TypeII-1.pdf," "BR05-TypeII-2.pdf," "BR06-TypeII-3.pdf," "BR07-TypeII-4.pdf," "BR08-TypeII-5.pdf," and "BR16-Pier (TYP).pdf." The Type II bridge classification is largely reserved for single-span bridges between 55' and 60' in length. A Type II span is used occasionally on multi-span bridges requiring a shorter span.

(c). <u>Type III Bridges</u>

Type III bridges have spans of 90'-0". These bridges are typically one span unless they are incorporated in the configuration of a much longer bridge requiring multiple bridge types and/or multiple span configurations. These longer spans are achieved by placing five 90' prestressed concrete Bulb-T beams side-by-side. A cast-in-place deck is installed over the prestressed Bulb-T beams. The same columns, abutments, caps, and wing-walls are used for all of these bridges. The typical column uses four HP14x73 piles as its foundation and each abutment uses six HP14x73 piles as its foundation. Examples of the designs are included in e-workpapers "BR09-TypeIII-1.pdf," "BR10-TypeIII-2.pdf," "BR11-TypeIII-3.pdf," "BR12-TypeIII-4.pdf," "BR13-TypeIII-5.pdf," "BR16-Pier (TYP).pdf." Type III Bridges are the most economical span, and, therefore, this is the span that was chosen for single-span bridges between 85' and 90' in length, and for multi-span bridges longer than 110' (unless USCG restrictions are in-place).

(d). <u>Type IV Bridges</u>

Type IV bridges have spans of 145'-0", consist of a steel through plate girder, and can be comprised of multiple bridge types in order to achieve long multiple span structures. Type IV bridges were utilized when crossing large rivers, such as the Ohio River, where USCG clearance requirements had to be met. Along with the 145' spans, the vertical clearances of Type IV bridges were set to 60' through the length of the river only. Examples of the designs are included in e-workpapers "BR14-TypeIV-1.pdf," "BR15-TypeIV-2.pdf," "BR16-

Pier (TYP).pdf," "BR17-Pier (USCG).pdf." Type IV bridges consist of the minimum of either 18 – 145' (2610') spans or the length of the structure shown in discovery. If 18 – 145' spans were used, in some instances, it was necessary to have additional bridge types to extend the structure so as to keep it out of the floodplain – such cases were determined based on the span lengths provided by CSXT in discovery.

(e). Highway Overpasses

As noted in Part III-F-8-c below, grade separated crossings are included in the bridge calculations. The SFRR is constructing 364 such overpasses. As noted previously, the CSXT lines being replicated predate the roads in this territory. As such, SECI has included 10 percent of the costs for such bridges consistent with Board precedent. *See AEP Texas* at 102-103.

The unit costs were derived from a composite list of costs for highway overpass construction that is tracked by various state Departments of Transportation. *See* e-workpaper "Bridge (Over Head) Construction Costs.xls." Consequently, overpass costs were determined on a state-by-state basis. Each bridge is costed separately based on the number of tracks being crossed. The SFRR highway overpass bridges will be constructed with the required clearances as specified in AREMA Figure 28-1-6. A sketch and photo of the typical highway overpass is shown in e-workpapers "BR18-OH Bridge Dbl Track.pdf" and "BR19-OH Bridge.pdf."

ii. Bridge Costs

SECI's engineers used a composite of costs from Crouch Engineering's historical data for successful bidders on similar scale railroad bridge construction. The historical data includes the cost quotes from successful bidders for bridges built-in rural Tennessee and rural Alabama with terrain very similar to that of the lines being replicated by the SFRR.

The historical bridge project data and costs utilized by Crouch Engineering focused on bridges that were not being built under traffic conditions or limited work windows. As such, the working conditions were similar to those assumed to exist when building the SFRR.

iii. Cost Development

The standardized bridge cost formula for each bridge type is based on the component pieces described below. Since CSXT did not provide any bridge costs in discovery, SECI's engineers elected to cost bridge components using actual bids from real world projects with similar scope, terrain, and super/substructure types. *See* e-workpaper "Bridge Construction Costs.xls," which contains tabs for all of the major components required to construct the bridges complete. As bridges are costed, the formulas described below are applied to each bridge as required.

The primary formula applied for each bridge, but separately by Type as needed is: Bridge Cost =[(Abutment cost X number of Abutments) + (Pier Cost X number of Piers) + (Per Linear Foot Cost x Length of Bridge)]. Other components such as piling, handrail, elastomeric pads, base plates, and PVC deck drains are also reflected in the costs shown in e-workpaper "Bridge Construction Costs.xls."

The total investment cost for the SFRR's bridges is $819.1 million.

6. Signals and Communications

The SFRR's signals and communications costs are summarized in Table III-F-8 below. As described in Part III-B-4-b, the SFRR uses a CTC traffic control system to govern train movements on its mainlines. Communications needs are met through a combination of microwave towers and land mobile radio stations. The systems and associated costs are described below.

TABLE III-F-5
SIGNALS AND COMMUNICATIONS SYSTEM COSTS
($ millions)

Item	Cost
CTC, FEDs, Crossing Signals, AEI Scanners, and Related Equipment	$ 192.0
Communications	35.0
Total	**$227.0**

a. Centralized Traffic Control

The SFRR's signal and communications systems were designed and costed by SECI Witness Victor Grappone. Mr. Grappone has over 20 years of experience developing and cost-estimating complex railroad signal and communications systems. *See* Part IV. Mr. Grappone's specifications and costing are based on the requirements and design of the SFRR system. From there, Mr. Grappone developed an inventory of standard signaling and communications components, including material and labor requirements for each item.

Materials costs were based on quotes and public documents. Labor costs were determined by assigning the required number of person-days, by type of position, (*i.e.,* electrical foreman) needed to install, test and place a given piece of equipment into service. The rates for each laborer were determined from Mr. Grappone's experience hiring contractors for such work.

A list of wayside signal locations was developed and the required number of each component was then applied on a location-by-location basis. A straight line signal schematic of the SFRR system was also developed to support the costing process. The comprehensive install list is shown in e-workpaper "SFRR C&S Spreadsheet.xls," tab "Component Counts" and the straight line schematic is shown in e-workpaper "Straight Line.doc." All of the SFRR's main lines are CTC-equipped with power switches.

In the above referenced workpapers, the components that comprise the signal and communications systems are identified on the "Components and Tabulation" tab, which shows unit costs for each item included in the two categories of costs. The estimating model is based on typical basic units identified as "CP1" through "CP8" for interlockings of various sizes, "AS1" or "AS2" for single or double track automatic signal locations respectively, "EL" for a manual switch location, "X1", "X2" or "X3" for single, double or triple track highway crossings respectively, "FED" for a failed equipment detector, "MW" for a microwave tower, "AEI" for an automatic equipment identification location, "FED" for a failed equipment detector location and "SF" for a slide fence. An "FF" typical unit is included to capture the costs for handheld radios for field forces. A "CTC" typical unit is included to capture the costs of the central office CTC system.

Each of these basic units is counted relative to each Exhibit III-B-3 "stick" diagram page on the "Page Counts" tab, where the totals for each basic unit are totaled across the system. On the "Typical" tab, each typical basic unit is associated with a given number of the components referenced above. The system totals for each component are calculated on the "Component Counts" tab. Finally, this total is connected to the "Components and Tabulation" tab for the final cost calculations.

Each device includes all of the materials necessary for the operation of the signal, including vital control equipment, power distribution, cables, switch mechanisms, wayside signals, crossing gates, internal wiring, huts, batteries, power drops and insulated joints. Intelligent electronic track circuit technology is applied for the automatic signal locations between interlockings. This equipment does not require insulated track joints.

Automatic signals have been spaced to provide a maximum block length of two miles, which is within the capability of the equipment. Interlocking huts employ vital microprocessor technology. These huts provide far greater capability for complex logic than relay-based systems, thereby making it possible to employ advance functionality, including the independent control and indication of the switches comprising a crossover. Sufficient switch cabling has been provided to support this feature.

Mr. Grappone also provided for both manual and machine trench digging and cable installation as required to interconnect the equipment huts and wayside appliances. In addition, each interlocking and other CTC device also includes the data radios necessary to link them to the SFRR's communication system. The entire system is linked into the dispatching center, which is also costed in this section.[10]

The dispatching center was priced on information from Alstom. Alstom advised that a typical mainline railroad CTC office equipment and software, PC-based, runs from $700,000 to $1,000,000. *See* e-workpaper "S-C Workpapers.pdf." To be conservative, Mr. Grappone used the higher number.

In total, the CTC system includes some 400 interlocking huts for switches. In addition, more than 800 automatic signal huts are included. As noted below, the CTC system also includes single and double track highway crossing protection huts and the related gates and flashers where needed.

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[10] Mr. Grappone also developed the total number of AAR signal units for the SFRR system (167,361) and an appropriate number of AAR signal units per Signal Maintainer, and provided this number to Mr. Crouch for use in connection with development of maintenance costs for the SFRR's signals and communications system.

Consistent with the Board's decision in *Duke/CSXT*, SECI's engineers included 10 percent of the costs for signalized crossing protection where needed on the SFRR.

b. **Detectors**

Automatic roll-by failed equipment detectors ("FEDs") are included along the SFRR main lines as required by operations and consistent with the current industry standard: AREMA 2001 Standards, Chapter 16, Section 5.3.1, Items j & k. These FEDs are located approximately every 25 miles along the main line (one for each main track in areas with two main tracks). In addition, the detectors have been strategically located to minimize the traffic back-ups should a train be required to stop for inspection and/or to remove a bad order car. Bad order setout tracks have been sited within three miles of the failed equipment detectors in each direction to provide for train stopping distances and allow removal of bad order cars to the setout tracks. All setout tracks near the detectors are 600-foot clear length (860 feet between switches) double-ended tracks.

The SFRR has 36 AEI scanners. Details of the costs and components are shown in e-workpapers "SFRR C&S Spreadsheet.xls" and "AEI Scanner.pdf."

The SFRR also has slide detectors in accordance with CSXT's slide detector inventory, which was provided in discovery. *See* e-workpaper "Slide Fences.xls." While CSXT did provide a slide detector fence inventory, the spreadsheet did not include the linear feet of slide fence at each location. Based on his experience with such installations, Mr. Grappone assumed 100 feet per site at $250 per foot (the cost per foot in *FMC* was $200 per foot) for each of the five sites being replicated by the SFRR. *Id.* at 810. The total cost for slide fences is $125,000.

c. <u>Communications System</u>

The SFRR's railroad radio system enables locomotive communications, two-way radio communications, general voice communications, general data communications, and FED alerts. Microwave radio technology is used for the radio system backbone and land mobile radio technology is used to facilitate communications between end user applications and the radio system backbone. Land Mobile Radio ("LMR") technologies provide communication access (via fixed, mobile and portable radios) to the radio system backbone for operating crews, supervisory and track maintenance personnel that need to communicate with the railroad's operating headquarters and central dispatching facility at Guernsey. LMR technologies are co-located with microwave radio technologies at network (tower) sites if appropriate. LMR technologies operate in Very High Frequency ("VHF") mode to accommodate railroad operational frequencies assigned by the Association of American Railroads ("AAR").

The backbone of the SFRR's railroad radio system includes microwave towers along the SFRR route. *See* e-workpaper "S-C Workpapers.pdf." The use of microwave towers for railroad communications is widespread, although fiber optic communications are now also being used. CSXT appears to have abandoned microwave technology in favor of fiber optics, but the data produced by CSXT was insufficient to determine any associated costs that CSXT incurs for using fiber optic technology. Moreover, CSXT did not produce any data regarding the locations or heights for microwave towers that once served the lines being replicated by the SFRR. As a consequence, SECI's engineers have reviewed past public filings, decisions of the Board and the general terrain traversed by the SFRR, and determined that for most of the SFRR, it would be sufficient to place microwave towers at 25 mile intervals. However, in the mountainous territory west of Point of Rocks, MD, towers were placed every 18 miles in order to improve coverage. To be conservative, each tower is 200 feet tall. SECI's microwave tower count of 89 is also consistent with the microwave tower count the Board accepted in *Duke/NS* at 115.

Each tower includes a full set of microwave equipment, including two microwave base stations enabling sending and receiving along a straight path, and four microwave antennas. End towers have only one microwave station and two antennas. Where necessary, a tower may have three or four base stations and six or eight antennas. Each microwave tower also includes an LMR base station, with corresponding radio equipment. Finally, each tower includes the necessary communications shed.

The type of multiplexor deployed at each site network (tower) site is the Alcatel 1518 Integrated Access Device ("AD"). The 1518 AD is rack-mountable and will convert analog RF signals from/to digital signals. The 1518

AD also interconnects with the MTR2000 LMR base station by standard Plain Old Telephone System ("POTS") four wire. The 1518 AD will also interconnect with the Alcatel MDR-8606 microwave base station by standard DS1 cable and shall conform to Telcordia TR-TSY-000499 and ANSI T1.102 standards. The 1518 AD supports up to 24 PCM channels per digroup that are intermixed at random, providing voice frequency ("VF") trunking, special service interfaces, synchronous and asynchronous data channels, program/broadcast services and FCC registered channels in one assembly.

CTC infrastructure components that are radio-enabled (*e.g.*, AEIs and FEDs) are equipped with the Kenwood TK-762GK radio, KAP-1 switching unit and required cables. *See* e-workpaper "Radios.pdf," for technical descriptions of the Kenwood TK-762GK VHF radio. This mobile radio is VHF capable and operates in the 148-174 Mhz frequency range.

In addition, to the radios handling CTC infrastructure, SECI's engineering experts have included 165 LMR repeating stations positioned along the right-of-way. These LMR repeaters allow for uninterrupted RF communications along the right-of-way because the LMR stations on the microwave tower may or not be accessible at all points. Many of the LMR repeaters include a 30-foot antenna to extend the range.

Investment cost for the SFRR's communications/radio system is $35 million. *See* e-workpaper "SFRR C&S Spreadsheet.xls."

7. Buildings and Facilities

The SFRR's major system facilities are located at its Folkston Yard. These facilities include the SFRR's headquarters building, crew facilities, a locomotive repair shop, a track maintenance base and MOW equipment storage track, 1,000 and 1,500-mile inspection facilities, and car and locomotive storage. Additional, smaller yards are located at Newell, PA, Petersburg/Collier, VA, and Nashville, TN. The total building costs are summarized in Table III-F-6 below.

TABLE III-F-6
BUILDINGS AND FACILITIES
($ millions)

Facility	Cost
Locomotive Repair Shop	$ 10.4
Headquarters Building	3.1
Crew, MOW/Roadway Buildings	12.6
Yard Site Costs (Roads, Lighting, Drainage, etc.)	6.0
Total	**$ 32.1**

a. Headquarters Building

The SFRR headquarters is located at the SFRR's Folkston Yard. The building's design and costs were based on RS Means online square foot cost calculator for building structures of this kind. *See* e-workpaper "Headquarters Personnel.xls," tab "Admin Bldg." The square footage of 40,000 feet was determined based on the number of employees that the headquarters building will house, with additional space for work rooms, IT equipment, hallways, bathrooms and mechanical services. The building is two stories with 20,000 square feet on each floor. *See* "Headquarters Personnel.xls." From there, the engineers applied a standard square footage per employee based on the American Institute of Architects standards – executive employees were allotted additional space per those same standards. *See* "Square Footage Standards.pdf." The total cost of the headquarters building is $3,059,986.

b. **<u>Fueling Facilities</u>**

i. **<u>Fueling by Truck</u>**

Locomotive fueling is performed by trucks (a.k.a., direct-to-locomotive or DTL fueling) at all of the SFRR's four yards. As the SFRR is using distributed power on its trains and the sizes of the trains being handled vary significantly, the SFRR will not include any fixed fueling platforms. All fueling will be performed track-side. The yard relay and locomotive inspection tracks where most locomotive fueling will occur are built on 25-foot track centers, thereby providing sufficient space for the trucks to operate.

ii. **<u>Lube Oil & Sanding</u>**

Each yard includes a locomotive servicing facility designed primarily for 92-day inspections. However, SECI's engineers have also included sanding and lube facilities near each facility in order to provide such services as needed. The costs are included in each yard site cost sheet in e-workpaper "Facilities Costs.xls." The unit costs for the necessary facilities (including any needed storage tanks) were derived from bid tabulations of projects with similar scope and size. *See* e-workpapers "Facilities Costs.xls."

c. Locomotive Shop

As noted above, each yard includes a locomotive facility. In the Newell, Petersburg, and Nashville Yards the shop is designed to handle 92-inspection and other minor running repairs as required. Each of these shops is comprised of a 200x60 foot building and includes such necessities as a pit. Details of the shop fixtures and costs are included in e-workpapers "Facilities Costs.xls" and "Locomotive Shop Details.pdf." Unit costs and designs are based on actual locomotive shop facilities designed and constructed by Crouch Engineering.

At the Folkston Yard, SECI's engineers have included a larger locomotive shop designed to handle not only 92-day inspections and running repairs, but larger overhaul work as well. The shop includes the same two-track facilities described above, but it also includes three additional tracks capable of holding up to 10 locomotives. The heavier work-track design includes overhead and jib cranes,[11] drop tables and other necessary heavy equipment as required based on the function of each track. In addition, the shop is equipped with a wheel turning machine and other heavy equipment as listed in e-workpaper "Facilities Costs.xls," tab "Shop Tools." Unit costs and designs are based on actual

[11] Not all items included in the design of the Folkston locomotive shop are separately priced. SECI's price per square foot for this building included a $100 per square foot additive ($4.2 million) for additional facilities such as cranes and walkways.

locomotive shop facilities designed and constructed by Crouch Engineering. *See* e-workpapers "Facilities Costs.xls," "210x200 Shell Building Cost.pdf" and "210x200 Bldg Sketch.pdf."

d. Car Repair Shop

Under the relevant SFRR (CSXT) car maintenance agreements, the contractor is responsible for providing all necessary shops. *See* Part III-D-2. Consequently, SECI's experts have not included costs for any car repair facilities. However, they have provided the necessary space and tracks for such a facility at all four (4) of the SFRR's Yards. *See* Exhibit III-B-3, pp. 43-46. *See also* *PSCo/Xcel* at 113, *CP&L* at 113; *Duke/NS* at 118.

e. Crew Change Facilities and Yard Offices

There are 11 crew change locations on the SFRR. Each location includes a crew change building. There are four yard offices, one at each of the SFRR's yards. Each of these buildings is based on the same design and units costs. These buildings generally replicate the metal buildings used by CSXT for such purposes, and which were observed by SECI's engineers during their field inspections. Each building includes basic facilities such as locker rooms, a break area, a work room and other necessities. The unit costs and designs are based on actual buildings designed by Crouch Engineering. *See* e-workpapers "Facilities Costs.xls" and "Crew Change Buildings.pdf."

f. **<u>Maintenance of Way Buildings (Roadway Buildings)</u>**

The SFRR has 26 MOW buildings. Each building is similar in office space and design to the crew change facilities, but they are smaller as there are fewer employees using the space. However, additional area is provided for garaging certain vehicles as necessary and storing certain supplies. SECI's engineers developed the space requirements based on the typical MOW crew located in each location as well as the need to house signal maintainers. The unit costs and specifications were derived from actual MOW buildings designed by Crouch Engineering. *See* e-workpapers "Facilities Costs.xls" and "MOW Building.pdf."

g. **<u>Wastewater Treatment</u>**

Since the SFRR building facilities are located near existing towns and cities, SECI's engineers determined that it would be feasible to serve each facility by a local sewer connection or similar service. SECI's engineers, therefore, included costs for sewer tie-ins. In addition, in order to handle runoff from various work by-products (*e.g.*, oil) before reaching the public sewer system, SECI's engineers have included oil/water separators. The effluent is then sent to an oil/water vaporizer which produces a dry powder that can be easily disposed of. SECI's engineers have utilized such facilities in projects for other railroads.

h. Yard Air and Yard Lighting

Yard air and lighting is included at each of the SFRR's four yards. The costs and details of these items are included in the general yard development costs shown for each yard in e-workpaper "Facilities Costs.xls."

8. Public Improvements

While public improvements are discussed in detail below, the costs for such items were included in other investment categories, such as bridges and signals.

a. Fences

CSXT provided no data concerning the quantities or locations of fencing on any of the lines being replicated by the SFRR. Consequently, SECI has relied on its engineers' field observations combined with photos from its land valuation witness, Mr. Smith. The engineers found, almost universally, that the lines being replicated were not fenced. Moreover, the fencing that was observed was very limited and tended to be for farm, industrial, or residential use, and given the variations in materials, such fencing appears to have been erected by the adjacent land owner. Therefore, SECI has included fences only for its yards. The yard fencing costs are included in e-workpaper "Facilities Costs.xls."

b. Signs and Road Crossing Devices

SECI's operating and engineering experts have included a standard package of railroad signs, including milepost, whistle post, yard limit, and crossbuck signs and posts. A complete description of the included signs is shown in e-workpaper "Track Construction Costs.xls."

c. **Grade-Separated and At-Grade Crossings**

Consistent with *AEP Texas* at 102 and *PSCo/Xcel* at 115-116, the SFRR is building all at-grade crossings, and paying 100 percent of the cost for the crossing materials. *See* e-workpaper "Track Construction Costs.xls." Consistent with *Duke/CSXT* and *AEP Texas*, SECI has included 10% of the costs associated with crossing protection, such as gates, flashers, and related signal elements such as crossing predictor huts. *See Duke/CSXT* at 105. These costs are included with the signals costs described in Part III-F-6 above. *See also* "SFRR C&S Spreadsheet.xls." For grade-separated crossings, consistent with *WFA/Basin* at 130 and *Duke/CSXT* at 105, the SFRR is paying for 10 percent of the total investment costs in such structures, and those costs and designs are discussed in Part III-F-5 above.

9. **Mobilization**

Consistent with the *Duke/CSXT* decision, SECI's engineers have added a 2.7% mobilization factor for all items where mobilization is not already included in the contractor's bid. *Id.* at 106.

10. **Engineering**

In *PSCo/Xcel*, the Board advised that, in that case and future cases, a 10 percent estimate for all engineering cost components will be used. *Id.* at 118. Not surprisingly, the Board followed its precedent in *Otter Tail* (at D-41), *AEP*

Texas (at 104) and *WFA/Basin* (at 132). Thus, SECI's engineers have used a 10 percent additive here to cover all engineering, construction management, and resident inspection costs, as well as other items such as soil testing.

11. Contingencies

Consistent with prior Board decisions in other SAC rate cases,[12] SECI's engineering experts have used a 10 percent contingency factor and applied it to the construction subtotal excluding land. *See* e-workpaper "III-F-Total.xls."

12. Other

a. Construction Time Period

The construction time period for the SFRR is controlled by the time it takes to construct the longest bridge, which is the Ohio River Bridge at Henderson, KY. The "Henderson Bridge" bridge crosses the Ohio River on the Henderson Subdivision and is approximately 19,514 feet in length.

The work will begin with the start of surveying and aerial mapping operations. A two month period will be allocated to obtain sufficient information to allow preliminary planning and engineering design to begin. Design of the railroad and appurtenances will require a fourteen month period including the two-month start up/surveying period.

Land acquisition will take approximately seven months to complete. It will commence five months after project initiation. Test borings will be timed

[12] *See WFA/Basin* at 132-133; *AEP Texas* at 104-105; *Xcel* at 118 (parties agreed to 10 percent contingency); *TMPA* at 746-747; *West Texas Utilities* at 710; *APS* at 402.

to coincide with land acquisition so sufficient test borings can be made during the design process.

By the ninth month at about the 70% design phase, the longest bridge, the Henderson Bridge, will be bid with construction to start by the nineteenth month. The remaining site work bid packages will be ready to bid in the eleventh month and work on all site work, bridges and tunnels will be started by the fourteenth month. In the twelfth month, the CTC, signal, communications and track packages will be bid.

Construction of all bridges and structures other than the Henderson Bridge is anticipated to take a maximum period of twelve months. It is expected that the Henderson Bridge can be constructed in fourteen months.

In general, the construction work has been planned by subdivision. The work has been structured so that all site work and bridges and tunnels can be completed prior to installation of track and signals. Total construction time for the Henderson Subdivision, which will take the longest to construct, will be 14 months. Total design and construction time for this project is 28 months with six months (of which four months overlap construction) available at the end of construction for final operational testing. Thus a 30-month overall construction period has been provided.

The SFRR construction project would be divided into 22 track packages, 93 grading packages, 85 bridge packages, 17 tunnel packages and 16 building packages. *See* e-workpaper "Complete Construction Schedule.xls." The bridge packages have been set-up to include no more than eight bridges in each package, and each bridge in a package is in the same subdivision and in relative proximity to each other.

Track gangs will lay track at an average of one-half mile per day, ballasted and anchored. With crews working six days per week, the rate of one half mile per day would enable the project to be completed within the established schedule.

Finally, material prices have been obtained for most track materials delivered to railheads, including, but not limited to, Nashville, TN, Atlanta and Savannah, GA, Fayetteville, NC and Washington, D.C. Because of the numerous road access points along the lines (the longest distance between two road access points is less than five miles), the uniform topography for most of the railroad, and interstate roads paralleling many line segments, materials that cannot be shipped by rail have been priced with shipping by truck to one or more of the road access points along the SFRR's lines. The track construction costs include moving those materials from the various rail heads to where they are required along the right-of-way.

III-G Discounted Cash Flow Analysis

III. G. DISCOUNTED CASH FLOW ANALYSIS

The CMP methodology is designed to ensure that a captive shipper does not pay more than would be necessary to receive service from a least-cost, presumptively efficient replacement for the incumbent railroad, and that the shipper does not bear the cost of any facilities or services from which it derives no benefit. *WFA/Basin* at 7; *Coal Rate Guidelines*, 1 I.C.C. 2d at 523-524. The framework for the SAC constraint under CMP is the theory of contestable markets.

In the contestable market structure, the defendant railroad's rates are deemed constrained by the threat of entry by the hypothetical stand-alone entity. If it is shown that the prospective cost of substitute service is less than the rate charged by the defendant, there is an incentive for the new entity to enter. The presence of that incentive, in turn, is evidence that under the defendant's rates the shipper is subsidizing the cost of services that it does not use, and/or is contributing monopoly profits to the defendant. SAC thus provides a regulatory ceiling on rates under conditions of rail market dominance; if the defendant's rates are higher than those that would be charged by the stand-alone entity (the SFRR in this case), then the defendant's rates are unreasonable. As the Board summarized in *CP&L*:

> A SAC analysis seeks to determine the lowest cost at which a hypothetical, optimally efficient carrier could provide the service at issue free from any costs associated with inefficiencies or cross-subsidization of other traffic. A stand-alone railroad is hypothesized

> that could serve the traffic if the rail industry were free of barriers to entry or exit. (It is such barriers that can make it possible for railroads to engage in monopoly pricing absent regulatory constraint.) Under the SAC constraint, the rate at issue cannot be higher than what the SARR would need to charge to serve the complaining shipper while fully covering all of its costs, including a reasonable return on investment.

Id. at 11.

Since an objective of CMP is to identify the cost associated with the provision of efficient, least cost service to the captive shipper, it follows that application of the SAC standard should be premised on rational economic behavior by the stand-alone entrant. Thus, while the SFRR is considered to be a substitute for CSXT to the extent of the scope of the SFRR's planned services, the CMP model properly does not require that the SFRR replicate the CSXT system in all respects. As the Board's predecessor confirmed in *Coal Rate Guidelines*, the design of the stand-alone system and the traffic it carries are chosen to achieve the goals of maximizing revenues and minimizing service costs to the shipper, regardless of the actual circumstances of the incumbent railroad. *Coal Rate Guidelines* at 543-544. *Inter alia*, this means that the SFRR must be considered a replacement for the relevant portions of the CSXT system, not a rival, and must be afforded the flexibility to configure its system and service scope in a manner that maximizes efficiency and cost effectiveness. *See, e.g., Bituminous Coal - Hiawatha, Utah to Moapa, Nevada,* 10 I.C.C. 2d 259 at 280-281 (Chairman McDonald, commenting) ("*Nevada Power II*").

The traffic group, design, configuration, and planned operation of the SFRR as detailed in the previous Parts of this Narrative all were guided by and are consistent with these core principles of CMP. Within the allowed bounds of Board precedent, they inform the proper treatment of inflation, taxes and capital cost recovery as well.

1. <u>Cost of Capital</u>

Calculation of the capital recovery charge for the SFRR necessarily depends on the SFRR's assumed cost of capital. While the Board has expressed a willingness to consider alternative approaches to estimate this assumed cost, in past cases it consistently has held that capital costs for a SARR should be determined by reference to the general railroad industry's average costs of debt capital, common equity capital and preferred equity capital, and their percentage mix within the industry's capital structure, in forming a capital structure for the SARR over the relevant construction period (2006-2008 in this case). *See WFA/Basin* at 135; *Duke/NS* at 37; *CP&L* at 28.

The SFRR's cost of debt and preferred equity during the 10-year DCF period is assumed to equal the weighted average railroad industry cost of debt or preferred equity over the SFRR's construction period, weighted upon the SFRR's investment by construction year. The cost of common equity capital is assumed to equal the then current year railroad industry cost of equity as determined by the Board. If the Board has not calculated the cost of equity capital for such year, the simple average of all prior years' costs of equity capital beginning in the first year of the SARR's construction is used. To project capital costs forward and estimate the value of the SFRR at the end of the DCF period (2018 here), the Board relies on an average of available past years' industry capital costs, reaching back to the first construction year. *See AEP Texas* at 108-109.

SECI has followed the Board's approved and preferred approach in developing capital costs for the SFRR. For 2006 and 2007, SECI employs the industry average costs determined by the Board in its annual cost of capital proceedings.[1] Since the Board has not yet made a determination as to the 2008 industry cost of capital, SECI bases its calculations on the proposed costs presented by the AAR on April 20, 2009.[2] However, as discussed in detail in a reply to the AAR's submission by WCTL,[3] the AAR's presentation included a number of technical and methodological errors which collectively result in an overstatement of 0.14% in the actual 2008 cost of capital, based on the Board's current methodology.[4] SECI endorses WCTL's criticisms of the AAR's 2008 cost

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[1] *See Railroad Cost of Capital -- 2007*, Ex Parte No. 558 (Sub-No. 11) (STB served September 26, 2008); *Railroad Cost of Capital -- 2006*, Ex Parte No. 558 (Sub-No. 10) (STB served April 15, 2008). The railroad industry had no preferred equity capital outstanding in either 2006 or 2007, so the SFRR incurs no cost of preferred equity for these years.

[2] *Railroad Cost of Capital -- 2008*, Ex Parte No. 558 (Sub-No. 12), Comments of the Association of American Railroads and Its Member Railroads. The AAR indicated that the railroad industry had no outstanding preferred equity capital in 2008.

[3] *See Ex Parte No. 558 (Sub-No. 12)*, Reply Comments of the Western Coal Traffic League, May 20, 2009.

[4] *Id.* at 2-9.

of capital calculations, and will incorporate the corrected figures in later phases of this proceeding if they are upheld by the Board. For purposes of this Opening Evidence, SECI is taking a conservative approach. *See* Exhibit III-H-1.

SECI uses the railroad industry cost of capital to calculate the capital recovery charges for all road property investment. However, as discussed in Part III-D-1, the SFRR will acquire its line-haul locomotives in the same manner that CSXT has done. When railroads acquire assets, they mainly choose between one of four ways to implicitly or explicitly fund the acquisition. They can acquire an asset through a lease option (either a capital or operating lease); they can purchase the asset using internally generated cashflow from operations; or they can issue debt to obtain the funds to purchase the assets. There are numerous financial and operational variables to consider when deciding how to acquire the asset, including the intended length of use of the asset, the responsibility for operating and maintenance costs, and tax consequences.

CSXT directly purchases the majority of its locomotives. For example, in 2007 CSX issued 6.25% Secured Equipment Notes due in 2023 using its locomotive fleet as the debt security. Based on the timing and the size of its fleet acquisition for the year as reported in its financial statements, it appears clear that the proceeds from the note were used to acquire additional locomotives. As a replacement for the CSXT in this case, the SFRR should have the same opportunity to acquire its locomotives in the same manner and using the same type of financing as CSXT.

In *PSCo/Xcel*, the Board indicated that in the absence of a specific connection between the assets being purchased and the cost of financing, a default to the assumption that the assets would be purchased through the use of general funds raised at a cost equal to the railroad industry cost of debt and equity would be appropriate. *PSCo/Xcel* at 72-73. Here, however, SECI presents direct evidence of the debt cost specifically incurred by CSXT for line-haul locomotive acquisition,[5] based on publicly available financing records and purchase timing data.[6] Under established SAC principles, the SFRR can avail itself of the same terms, and acquire its line-haul locomotives in the same manner.

The CSX 6.25% Secured Equipment Notes due in 2023 ("Notes") carry an interest rate of 6.25 percent, payable semi-annually on January 15 and July 15 of each year. In addition, principal payments on the Notes are made in scheduled amounts on selected payment dates, and continue until the Notes' final maturity.[7] Because the DCF model requires the calculation of capital carrying charges on a quarterly basis using a defined interest rate, inclusive of registration

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[5] As discussed in Part III-D-1, the SFRR will lease locomotives for switching and yard operations.

[6] In 2007, CSXT issued $381 million in debt secured by liens on locomotives while simultaneously acquiring $340 million in new locomotive equipment. *See* CSX 2007 Prospectus on CSX 6.25% Secured Equipment Notes Due 2023, and CSXT 2007 Annual Report Form R-1, Schedule 710S. CSX issued another $351 million in debt secured by locomotives in 2008, while simultaneously purchasing $351 million in additional locomotives. *See* CSX 2008 Prospectus on CSX 8.375% Secured Equipment Notes Due 2014, and CSXT 2008 Annual Report Form R-1, Schedule 710S.

[7] *See* e-workpaper "Equipment Notes Worksheet.xls" for the schedule of principal repayments.

and underwriting fees, SECI calculated the effective interest rate on the Notes over the 15 year life taking into consideration the actual fees and discounts applied to the Notes' issuance. The effective interest rate, which equaled 8.09 percent, was used to calculate the annual capital carrying charges on the line-haul locomotives, using the Board's standard DCF methodology.[8]

2. **Inflation Indices**

The prices of goods and services used by the SFRR undoubtedly will change (and most likely rise) over the 10-year DCF period. It therefore is necessary to forecast rates of inflation for application to the capital assets and operating expenses over the timeline covered by the SAC analysis; *i.e.* 2009 through 2018. The time path of capital recovery charges for the SFRR likewise must maintain the real purchasing power of those charges.

The annual inflation forecast that is used to calculate the value of the SFRR's road property assets is based on actual railroad chargeout prices and wage rate indexes calculated by the AAR for materials and supplies, wage rates and supplements, and materials prices, wage rates, and supplements combined (excluding fuel) ("MWSExFuel") for eastern railroads, and the current Global Insight June 2009 forecast for rail labor and rail materials and supplies.[9] Board

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[8] *See Id.*

[9] Global Insight does not develop a forecast of the AAR's MWSExFuel index. SECI therefore uses a proxy that weights Global Insight's materials and supplies and labor rate index forecasts, which the Board has relied upon for purposes of execution of the DCF model.

precedent endorses this approach. *See AEP Texas* at 109; *Duke/NS* at 37; *CP&L* at 28. For land assets, the annual forecast inflation rate is based on a weighted combination of indices that reflect rural and urban land prices in proportion to the mix of these types on the SFRR system routes. Rural land indexes were developed from rural land values reported by the U.S. Department of Agriculture. Urban land values, which are assumed to consist of a mix of residential and commercial properties, were indexed using a commercial land index prepared by the Massachusetts Institute of Technology Center for Real Estate, and a residential land index prepared jointly by the Lincoln Institute of Land Policy and the James A. Graaskamp Center for Real Estate at the Wisconsin School of Business.[10] This is consistent with prior cases as well. *See, e.g., Duke/NS*; *CP&L*. This collection of forecasts and their application is shown on Exhibit III-H-1.

In *Major Issues*, the Board adopted a convention for the indexing of operating expenses for a SARR under which expenses for the first year would adjust based on 100% of the change in the RCAFU; expenses for the second year would adjust based on 95% of the change in the RCAFU and 5% of the change in the RCAFA; and each succeeding year of the DCF period would use a mix reflecting increasing shares of the RCAFA in 5% increments.[11] *Id.* at 40. SECI

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[10] *See* e-workpaper "Land Appreciation.xls."

[11] Under the Board's hybrid approach, operating expenses for the tenth and final year of the DCF period would be determined using an index comprised of 55% of the change in the RCAFU, and 45% of the change in the RCAFA.

applies the Board's method to the indexing of operating expenses for the SFRR. SECI's model uses actual RCAFU and RCAFA indexes through 3Q09, the latest quarter available, and applies Global Insight's June 2009 RCAFU and RCAFA forecasted indexes thereafter.

3. <u>Tax Liability</u>

Federal taxes for the SFRR are calculated on the assumption that it pays taxes at the 35% corporate rate, with all payments for debt interest, state income taxes and depreciation expenses treated as reductions in taxable income. *See FMC,* 4 S.T.B. at 847-848. Interest expense is amortized on a 20-year period, pursuant to Board precedent, except for interest on the Notes used to finance line-haul locomotive purchases, which is amortized over the 15-year life of the Notes. Depreciation expenses for tax purposes use accounting lives from the Modified Accelerated Cost Recovery System ("MACRS") with investments placed in service in the first quarter using a mid-quarter convention. In addition, as described in Part III-H-1-f, the SFRR calculated bonus depreciation available under current tax laws.

The SFRR also must account for any income tax liability accruing to the District of Columbia, and the twelve (12) states in which it operates. Following Board-approved procedures, the taxes applicable to railroads in each of these jurisdictions were weighted together based on the SFRR miles of constructions located within each jurisdiction. As detailed in Exhibit III-H-1, the weighted average rates for Pennsylvania (9.99%), Maryland (9.5%), the District of

Columbia (9.98%), West Virginia (8.5%), Virginia (6%), Indiana (8.5%), Kentucky (6%), Tennessee (6.5%), North Carolina (6.9%), South Carolina (5%), Alabama (6.5%), Georgia (6%) and Florida (5.5%) produce an effective state tax rate of 6.68% for the SFRR. *See* Exhibit III-H-1.

4. <u>Capital Cost Recovery</u>

Under the Board's DCF methodology, economic depreciation is used to calculate the capital recovery cost of the SFRR's property. Economic depreciation effectively represents an asset's loss of earning power as it approaches the end of its life and/or its replacement date. Under CMP as modified by the changes adopted in *Major Issues*, a 10-year analysis period is used to benchmark the SFRR's asset value. However, the SFRR's investments would not be retired at the end of the 10-year DCF period; rather, it is assumed that continuing investments will be made in the SFRR, and that it would operate, hypothetically, in perpetuity. SECI's calculation of SAC therefore accounts for the costs associated with the renewed investments in and continued operation of the SFRR after 2018, using the approach approved by the Board in previous cases.[12] *See* Exhibit III-H-1.

Beginning with *FMC* and continuing through subsequent decisions, the Board has followed an approach whereunder the real capital carrying charge is equal in each year of the DCF period, regardless of changes in volume. Under this assumption, the relationship between stand-alone revenues and SAC (and, thus,

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[12] *See e.g., AEP Texas* at 105-106.

the measure of potential rate relief and the maximum reasonable rate) fluctuates with annual changes in volume and associated revenue. *See WFA/Basin* at 134-135. SECI's computations of the pattern of capital recovery apply this approach. *See* Exhibit III-H-1.

III-H Results of SAC Analysis

III. H. RESULTS OF SAC ANALYSIS

1. Results of SAC DCF Analysis

The results of the SAC DCF analysis conducted by SECI are shown in Exhibit III-H-1. The calculations shown in each table of that Exhibit are summarized below.[1]

a. Cost of Capital

The cost of capital for the SFRR reflects the Board's annual cost of capital determinations for 2006 and 2007, and the AAR-proposed industry average cost of capital for 2008. The weighted average of the available years' capital costs is used through the remaining years of the DCF model. The cost of debt for line-haul locomotive acquisitions reflects the cost of debt incurred by CSXT to acquire locomotives.

b. Road Property Investment Values

The calculation of road property investment costs is summarized in Table C. The investment cost also incorporates one-time fees paid for land easements.

c. Interest During Construction

Interest During Construction ("IDC") accrues on the road property assets of the SFRR. Table D shows the total IDC amount, and the portion that is

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[1] The cost of capital (Table A) and inflation indices (Table B) are addressed in Part III-G.

debt-related. IDC is calculated based on the investment values in Table C, the composite cost of capital by year from Table A, and the assumed length of the finance period for each account. The construction schedule described in Part III-F-12 is used as the basis for the length of the finance period. The portion of IDC that is debt-related is calculated by multiplying the investment by the length of the finance period, the SFRR's debt percentage, and the annual cost of debt for the year of investment. Debt-related IDC is shown as an interest deduction for tax purposes during the construction period.

d. Amortization Schedule of Assets <u>Purchased With Debt Capital</u>

The amortization schedule calculates the quarterly principal and interest payments required for the debt-related portion of the SFRR's investment, and is included in Table E. The debt-related portion of the investment base (referred to as "principal") is developed by multiplying the appropriate Table A cost of debt by the sum of total investment and IDC for the year. The quarterly annuity payment is then calculated based on the principal and the debt rate from Table A. Consistent with *Major Issues* and previous Board decisions, the debt for road property investment is assumed to be amortized over 20 years. Debt for line-haul locomotive purchases is amortized over 15 years, to correspond to the Notes used to acquire these assets. The amount of interest included in the quarterly payment is calculated by multiplying the remaining balance by the interest rate, and is deducted from taxable income for federal and state income tax purposes.

e. Present Value of Replacement Cost

Table F shows the additional investment (on a present value basis) that the SFRR would have to make if each of its assets (excluding land) was replaced indefinitely at the end of its useful life. The 2006-2008 average cost of capital values are used to calculate replacement value for road property assets, and the interest rate on the Notes is used for line-haul locomotives. This calculated investment is added to the initial investment in Table I prior to determining the quarterly cash flows.

f. Tax Depreciation Schedules

Table G displays the tax depreciation required under the Federal Tax Code as currently in effect.[2] Depreciation was calculated assuming a mid-quarter convention, with assets placed in service in the first quarter. Investments in communications (Account 26), signals and interlockers (Account 27), and the track accounts (Accounts 8-12) were depreciated over seven (7) years employing a 200 percent declining balance methodology, then switching to straight-line depreciation when the straight line percentage exceeds the declining balance percentage. Investments in bridges and culverts (Account 6), public improvements (Account 39), fences and roadway signs (Account 13), station and office buildings (Account 16), roadway buildings (Account 17), and shops and

[2] The mandatory method for depreciating most tangible property placed in service after December 31, 1986 is MACRS. In addition, Engineering Costs have been amortized over a 60 month period, starting with the month in which the business begins.

engine houses (Account 20) were depreciated over 15 years using a 150 percent declining balance method, then switching to straight-line depreciation at the same point. Investments in grading (Account 3) and tunnels (Account 5) were amortized over 50 years using straight-line amortization. Investments in engineering (Account 1) were amortized over five (5) years using straight-line amortization.

The SFRR will take advantage of additional or "bonus" depreciation provisions enacted in 2008 and 2009 as part of federal economic stimulus legislation. The Economic Stimulus Act of 2008 ("Stimulus Act") provided bonus depreciation on capital investments with MACRS recovery periods of 20 years or less.[3] The American Reinvestment and Recovery Act ("ARRA") extended this bonus depreciation into 2009. Under both the Stimulus Act and the ARRA, qualifying investments are allowed a 50 percent depreciation bonus in the year that they are placed into service. Tax depreciation for the remaining 50 percent of the cost, or the remaining cost basis, is calculated using the standard MACRS schedules.[4] Because the DCF model assumes that all assets are placed into service

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[3] CSX took advantage of the Stimulus Act's bonus depreciation provision in 2008 to defer significant taxes to later years. *See* CSX 2009 SEC Form 10-K at 119 ("The increase in deferred tax liability during 2008 is primarily due to the bonus depreciation provision of the Economic Stimulus Act of 2008".) CSX will most assuredly take further advantage of the bonus depreciation provision of the ARRA in its 2009 tax calculations.

[4] For example, a $1 million asset with a five (5) year MACRS life would accrue $500,000 in bonus depreciation in year 1 ($1 million x 50 percent bonus factor), plus $100,000 in standard MACRS depreciation ($500,000 remaining cost basis x 20% Year 1 MACRS factor for a 5 year asset) for a total of $600,000 in

in the first year of the 10-year DCF period, which is in this case is 2009, the majority of the SFRR's investment qualifies for the bonus depreciation.[5] Table G of Exhibit III-H-1 displays the amount of bonus depreciation available to the SFRR in 2009.

g. Average Annual Inflation in Asset Prices

Table H computes the average annual inflation rate by which the capital recovery charge in Table I is indexed. The weighted average inflation rate was used because Table H calculates the required capital recovery necessary to return the investment. All road property and equipment accounts are indexed at the quarterly rates shown in Table B. The weighted average inflation rates are based on the inflation indexes discussed in Part III-G.

h. Discounted Cash Flow

Table I shows the calculation of the capital carrying charge and associated flow of funds required to recover the total road property investment and equipment investment. Inputs to this spreadsheet were taken from the Tables described *supra.* Table I calculates the quarterly capital carrying charge required over the 40 quarters of the DCF period, after consideration of the applicable tax liability.

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first year depreciation. See http://www.depreciationbonus.org/ for a description and example of bonus depreciation under the Stimulus Act and ARRA.

[5] The SFRR begins calculating depreciation on all assets in the first year of railroad operations. This is consistent with the fact that no depreciation charges are incurred during the 30-month construction and testing period.

The total start-up investment is comprised of the road property and equipment investment shown in Table C, the road property IDC calculated in Table D, and the present value of replacement investment calculated in Table F. The result equals the total investment to be recovered over the life of the SFRR from the quarterly capital recovery stream. The quarterly capital recovery stream reflects the tax benefits associated with interest on the investment financed with debt from Table E and the asset tax depreciation from Table G.

The cash flow shown in Column (8) of Table I is the amount remaining each quarter after the payment of federal and state tax liabilities. This cash flow is used for payment of return on total investment in the SFRR. For road property investment, this quarterly figure is then discounted by the fourth root of the composite annual cost of capital from Table A, adjusted to reflect the assets being placed in service on January 1, 2009. For locomotives, this quarterly figure is discounted by the effective interest rate on the Notes. The present value cash flow is then summed for each quarter along with the future cash flow; the total equals the total cost that must be recovered. The future cash flow is the residual value of the SFRR's unconsumed assets, unamortized debt and remaining tax liabilities (remaining interest and depreciation), and serves to reflect the cash flow required to account for the value of the assets not consumed during the 10-year life of the DCF model.

The development of the quarterly levelized capital carrying charge requirement is a relatively simple calculation, *i.e.,* starting capital carrying charge requirement times the quarterly index factor from Table H, which will recover total investment during the 10-year DCF model period. The starting capital carrying charge requirement which recovers the total investment is developed through an iterative process. The DCF model begins with a specified amount and then runs through the calculation described above to develop the cumulative present value of the cash flow. If this cumulative number does not equal the total costs to be recovered from the quarterly revenue flow (start-up investment plus the present value of the replacement investment), the starting cost is adjusted upward or downward as necessary and the DCF model runs through the calculations again. The process is repeated until the starting quarterly charge yields a cumulative present value cash flow which equals the required investment to be recovered from the quarterly capital recovery flow.

i. Computation of Tax Liability -- Taxable Income

Table J, Part 1 displays the calculation of the SFRR's federal tax liability on both road property and locomotives. The procedures followed to develop the federal tax liability are discussed in Part III-G. Table J, Part 2 shows the calculation of the SFRR's state income tax liability for both asset groups, which also is discussed in Part III-G.

j. Operating Expenses

Table K displays the operating expenses incurred in each year of the DCF period based on the traffic levels described in Part III-A. In previous cases involving application of the SAC test, annual operating expenses that change with the level of traffic volumes tended to be adjusted annually by the change in the net tons transported by the SARR. However, this approach implicitly assumes a static mix of origin-destination pairs over the DCF model period, which in many cases would not reflect the actual changes in the SARR's traffic. A better approach is to adjust this group of costs by the annual change in ton-miles, which takes into consideration the shifting nature of a SARR's traffic.[6] In this case, SECI has adjusted train and engine personnel expenses, locomotive related expenses (except line-haul locomotive acquisition costs), loss and damage expenses, trackage rights fees, intermodal lift costs, manifest line-haul credits, switching costs and maintenance of way expenses annually by the change in SFRR net ton-miles.[7] Table K states the annual operating costs on a quarterly basis, and indexes them to

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[6] For example, assume that in Year 1 of the 10-year period Movement A transports 1,000 tons of product over 1,000 miles of the SARR, producing 1 million net ton-miles of traffic. In Year 2, Movement A is forecasted to be discontinued, but is replaced in the SARR traffic group by Movement B. Movement B also transports 1,000 tons of product, but only moves over 100 miles of the SARR, producing 100,000 net ton-miles. Movement B will be less expensive to move than Movement A, given the lower aggregate costs associated with a shorter movement and the 90 percent reduction in net ton-miles. However, under the methodology used in prior SAC cases wherein certain operating costs were adjusted solely based on changes in total tons, the annual operating costs would remain unchanged (before accounting for the change in the wage and price levels) when Movement B replaces Movement A. Adjusting costs by the change in ton-miles instead of the change in tons reflects the shifting nature of the SARR's traffic mix and its actual impact on the SARR's operating costs.

[7] Like other investments, the SFRR is assumed to acquire its peak year locomotive assets in the base year. This means that the SFRR will have surplus locomotives in its early years of operation.

reflect inflation over the 10-year analysis period based on the inflation rates shown in Table B.

k. Summary of SAC

Total SAC for the SFRR based on investment and operating costs is summarized in Table L of Exhibit III-H-1. The capital requirement from Table I and the annual operating expenses from Table K are presented and summed in Table L for each year of the SFRR's operation.

2. Maximum Rate Calculations

The SAC analysis summarized in Parts III-A through III-G and the accompanying Exhibits, and displayed in Exhibit III-H-1 demonstrates that over the 10-year DCF period the revenues generated by the SFRR exceed its total capital and operating costs. Table III-H-1 below shows the measure of excess revenue over SAC in each year of the DCF period for this case.

Table III-H-1
Summary of DCF Results -- 2009 to 2018
($ in millions)

Year (1)	Annual Stand-Alone Requirement (2)	Stand-Alone Revenues (3)	Overpayments or Shortfalls (4)	PV Difference (5)	Cumulative PV Difference (6)
2009	$840.5	$1,116.1	$275.6	$261.5	$261.5
2010	863.4	1,250.8	387.4	330.9	592.4
2011	897.9	1,272.0	374.1	287.7	880.1
2012	939.8	1,360.7	420.9	291.4	1,171.5
2013	980.6	1,488.0	507.4	316.1	1,487.6
2014	1,019.3	1,571.0	551.7	309.5	1,797.1
2015	1,059.6	1,652.5	592.9	299.4	2,096.5
2016	1,100.7	1,737.6	636.9	289.5	2,386.0
2017	1,145.2	1,832.6	687.4	281.4	2,667.4
2018	1,191.2	1,936.6	745.4	274.6	2,942.0

Where, as in this case, stand-alone revenues are shown to exceed costs, rates for the members of the SFRR traffic group -- including SECI in particular -- must be adjusted to bring revenues and SAC into equilibrium. In *Major Issues*, the Board adopted MMM as its rate prescription approach for use in proceedings under the *Coal Rate Guidelines*. *See Major Issues* at 14-23.

Under MMM, maximum reasonable rates for each year of the DCF period are expressed as a ratio of each movement's stand-alone revenues to the variable cost of providing the subject service over the SFRR route. Revenues are expressed as each movement's annual stand-alone revenue calculated using the ATC methodology detailed in Part III-A-3. Revenues are categorized based on traffic type (*i.e.,* coal, intermodal or general freight), CSXT origin and destination, and SFRR origin and destination. For coal traffic, movements were separated further based on the pricing instrument (*e.g.*, contract or tariff), railcar type and railcar ownership. Variable costs for each movement are calculated using CSXT's 2008 URCS costs as developed by SECI for the portion of the movement replicated by the SFRR, based on the nine (9) cost inputs identified in *Major Issues*.

A threshold issue related to the execution of MMM in this case concerns the projection of CSXT's URCS Phase III variable costs for each of the movements in the SFRR traffic group. In *WFA/Basin II*, the Board directed use of the RCAFA for this purpose, on the grounds that it would "properly forecast the defendant carrier's variable costs" to calculate the degree of differential pricing needed to cover total SAC. *Id.* at 30. More recently, however, the Board determined that in calculating variable costs to implement an r/vc ratio rate standard, the Board's standard URCS indexing approach would produce the most accurate results. *OG&E* at 11. As it obviously would be inappropriate to use two (2) different indices to accomplish the same, singular purpose, SECI is relying on the Board's more recent precedent, and using the Board's URCS indexing procedure to forecast variable costs for the MMM calculation.

The STB's URCS index uses five (5) indexes: the AAR's Wage, Wage Supplements, Materials and Supplies and Fuel Indices, and the Producer Price Index – All Commodities ("PPI"), which are weighted by actual railroad costs reported in Annual Report Form R-1. Global Insight publishes forecasts for each of the first four (4) indices, and the Board already accepts Global Insight's forecasts of the first three (3) for use in the DCF model. The fuel forecast is included in the same documentation. Likewise, EIA -- whose coal production, transportation cost and GDP-IPD forecasts already are accepted by the Board -- publishes a PPI forecast. To forecast CSXT URCS Phase III variable costs for MMM purposes, therefore, SECI uses the STB's URCS index, with the June 2009 Global Insight and most recent EIA forecasts of its components. Weighting factors are taken from CSXT's Annual Report Form R-1 data.

Following the calculation of the specific annual variable costs for each movement, SECI calculated each movement's maximum contribution toward SAC each year, expressed as a mark-up over the movement's variable costs. Under MMM, a movement cannot contribute more to SAC than the contribution reflected in the mark-up of its current, actual or forecasted rate over variable cost. For each year in the DCF period, the MMM model sets each movement's r/vc ratio at the lesser of the average r/vc ratio required to cover total SAC, or the movement's actual r/vc ratio. The average r/vc ratio required to cover SAC then is iteratively increased until no movement in the traffic group is assigned a share of SAC greater than its actual contribution over variable costs as measured by its r/vc ratio, and the aggregate adjusted stand-alone revenues equal total SAC.[8] *Major Issues* at 14.

[8] According to the Board, this step reflects the assumption that the rates charged by CSXT on all non-issue traffic are profit-maximizing rates, such that

Application of MMM yields the following maximum r/vc ratios for each year of the DCF model:

Table III-H-2
MMM Results

Year	Maximum R/VC
2009	153.6%
2010	142.8%
2011	146.3%
2012	142.5%
2013	139.3%
2014	137.8%
2015	136.1%
2016	134.4%
2017	132.7%
2018	130.7%

Source: Exhibit III-H-2.

As indicated in Table III-H-2, the maximum r/vc ranges from 130.7% to 153.6% over the 10-year DCF period. As applied to the unadjusted Phase III URCS variable costs for the issue movements, the following maximum reasonable rates apply to shipments in SECI-supplied railcars and CSXT-supplied railcars, respectively, at 1Q09 and 2Q09 wage and price levels.

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the reapportionment represents "an appropriate application of demand-based differential pricing." *Major Issues* at 14.

Table III-H-3 SECI MMM Rates Per Ton -- 1Q09 and 2Q09				
	1Q09		2Q09	
Origin	SECI Cars	CSXT Cars	SECI Cars	CSXT Cars
Dotiki, KY	$17.45	$18.25	$17.45	$18.25
Pattiki, IL	$18.66	$19.51	$18.66	$19.51
Warrior, KY	$17.17	$17.96	$17.17	$17.96
Elk Creek, KY	$17.14	$17.94	$17.16	$17.94
Gibcoal, IN	$18.58	$19.41	$18.58	$19.41
Consol 95, WV	$22.72	$23.70	$22.72	$23.70
Bailey Mine, PA	$24.18	$25.22	$24.19	$25.22
Charleston, SC (coal)	$7.00	$7.43	$7.00	$7.43
Charleston, SC (petcoke)	$7.03	$7.45	$7.03	$7.45

The maximum lawful rates for the transportation of coal from the origins covered by Tariff CSXT-32531 to SGS equal the greater of the jurisdictional threshold or the MMM maximum rates. Tables III-H-4 and III-H-5 compare CSXT's rates at 2Q09 (in SECI-supplied and CSXT-supplied railcars) to the jurisdictional threshold and the MMM maximum. The issue rates are greater than both the jurisdictional threshold and the MMM rates for all origins.

Table III-H-4
Maximum Rate Summary -- 2Q09
SECI-Supplied Railcars

Origin	Jurisdictional Threshold Per Ton	MMM Rate Per Ton	Maximum Rate Per Ton
Dotiki, KY	$20.45	$17.45	$20.45
Pattiki, IL (Epworth)	$21.87	$18.66	$21.87
Warrior, KY (Cardinal 9)	$20.12	$17.17	$20.12
Elk Creek, KY (Cimarron)	$20.11	$17.16	$20.11
Gibcoal, IN	$21.78	$18.58	$21.78
Consol 95, WV	$26.62	$22.72	$26.62
Bailey Mine, PA	$28.35	$24.19	$28.35
Charleston, SC (coal)	$8.21	$7.00	$8.21
Charleston, SC (Pet Coke)	$8.24	$7.03	$8.24

Table III-H-5 Maximum Rate Summary -- 2Q09 CSXT-Supplied Railcars			
Origin	Jurisdictional Threshold Per Ton	MMM Rate Per Ton	Maximum Rate Per Ton
Dotiki, KY	$21.38	$18.25	$21.38
Pattiki, IL (Epworth)	$22.86	$19.51	$22.86
Warrior, KY (Cardinal 9)	$21.04	$17.96	$21.04
Elk Creek, KY (Cimarron)	$21.02	$17.94	$21.02
Gibcoal, IN	$22.75	$19.41	$22.75
Consol 95, WV	$27.77	$23.70	$27.77
Bailey Mine, PA	$29.56	$25.22	$29.56
Charleston, SC (coal)	$8.71	$7.43	$8.71
Charleston, SC (Pet Coke)	$8.73	$7.45	$8.73

3. Reparations

As described in Part I, since January 1, 2009 SECI has been paying the rates established by CSXT in Tariff CSXT-32531 on all shipments from the covered origins to SGS. As summarized in Tables I-1 and I-2, the rates paid by SECI have exceeded lawful maximum levels throughout the relevant time period. CSXT owes SECI the difference between the rates paid and the lawful maximum levels in principal reparations payments. Such principal will increase until CSXT's compliance with a final order of the Board in this proceeding. SECI also is entitled to interest on all principal reparations amounts, calculated from the date that the first unlawful charge was paid at the rate described in Part I-D-2, and otherwise in accordance with 49 C.F.R. Part 1141.1, *et seq.*

IV Witness Qualifications

PART IV

WITNESS QUALIFICATIONS AND VERIFICATIONS

This Part contains the Statements of Qualifications of the witnesses who are responsible for the Narrative portions of SECI's Opening Evidence (and the exhibits and workpapers referred to therein) identified with respect to each witness.

1. <u>WILLIAM J. REID</u>

Mr. Reid is SECI's Director of Fuel Supply, with offices in Tampa, Florida. He has occupied this position since February 1, 2002, when he joined SECI. Mr. Reid is sponsoring the portions of the Opening Evidence that relate to background information concerning SECI and its efforts to seek to obtain reasonable coal transportation rates and to the absence of effective competition for CSXT coal transportation service to the Seminole Generating Station ("SGS"): Specifically, he is sponsoring Parts I-A-1 and II-B.

As Director of Fuel Supply for SECI, Mr. Reid's responsibilities include the acquisition and transportation of coal and petcoke for use at SGS. He is responsible for the administration of SECI's current rail transportation arrangements with CSXT for the delivery of coal to SGS, and he also has knowledge of SECI's prior coal transportation particulars, including the contract between SECI and CSXT (Contract CSXT – 68681) that governed coal transportation to SGS from 1998 through 2008. Although Mr. Reid was not with SECI when this contract was negotiated, he is familiar with its terms and is aware

VERIFICATION

I, William J. Reid, verify under penalty of perjury that I have read the Opening Evidence of Seminole Electric Cooperative, 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.

William J. Reid

Executed on August 21st, 2009

responsible for negotiating settlements with these entities on behalf of CSXT during the Conrail Control proceeding, and for the successful integration of CSXT's freight and passenger operations on the Northeast Corridor (which was new passenger territory for CSXT) following consummation of the acquisition of Conrail by CSXT and Norfolk Southern.

Mr. Reistrup retired from CSXT at the end of February, 2003, and returned to his consulting work. At that time he embarked on a six-month consulting arrangement with CSXT, under which he was on call to furnish consulting services relating to passenger/commuter and freight integration issues and to provide advice as requested by CSXT's CEO and other senior officers. That consulting agreement terminated on August 31, 2003.

Mr. Reistrup was an active member of the Transportation Research Board ("TRB"), a unit of the National Research Council of the National Academy of Sciences, from 1980 to 1998. In 1981, Mr. Reistrup was appointed a member of the Transportation Research Board ("TRB")'s Committee A2M02, which dealt with electrification and Train Control systems (signals, grade crossing protection, etc.). From 1997 to 1992, Mr. Reistrup served as Chairman of the TRB's A2M02 Committee, focusing on Train Control systems including Positive Train Control ("PTC") evolving from ATS/Cab Signals/ATC/speed control, *etc.* Mr. Reistrup was appointed Chairman of the TRB's AR030 Railroad Operating Technologies Committee, effective April 15, 2005. This committee is charged with exploration of innovative strategies and application of new technologies to enhance rail

Mr. Reistrup is personally familiar with most of the CSXT lines being replicated by the SARR in this case. In addition to serving as President of the MGA, he has subsequently visited the MGA region (including the CSXT lines south and west of Rivesville (Catawba Jct.), WV) on several occasions, and he has observed the train loading operations at all of the mines in the region. He has ridden in the locomotives on passenger and freight trains on the CSXT lines extending from Pittsburgh/McKeesport, PA to Washington, D.C. via Cumberland, and on most of CSXT's "I-95 Corridor" extending south from Washington to Florida.

Most recently, beginning in December, 2008 and carrying over to the spring of 2009, Mr. Reistrup conducted field trips in which he observed: (1) the former MGA lines and the NS and CSXT operations thereover, as well as the CSXT operations on other lines in the same general area; (2) the track configurations at the mines in West Virginia and Pennsylvania from which the SFRR will originate coal traffic; (3) CSXT's lines and operations between Terre Haute, IN and Nashville, TN, including the lines serving various mines that the SFR will serve as well as the track layouts at several of these mines and yards in the region; (4) CSXT's lines and operations (including yards) in the Jacksonville, FL area and extending south to Bostwick, FL; and (5) the track layout and coal unloading facilities at SGS near Bostwick. Mr. Reistrup's notes of his observations during these field trips are included in his electronic workpapers.

3. WALTER H. SCHUCHMANN

Mr. Schuchmann is Vice President of R. L. Banks & Associates, Inc. ("RLBA"), with offices at 2107 Wilson Boulevard, Suite 750, Arlington, Virginia 22201. Mr. Schuchmann is co-sponsoring, with Mr. Reistrup, the portion of SECI's Opening Evidence relating to the configuration and capacity of the SARR system (Parts III-B and III-C) and the development of certain peak-year service units/operating statistics used in developing the SARR's annual operating expenses shown in Part III-D. Specifically, Mr. Schuchmann assisted Mr. Reistrup with the development of the inputs used in the RTC Model, and ran the Model for purposes of developing the SARR's track and yard configuration and confirming the SARR's capacity to handle its peak-period traffic efficiently.

Mr. Schuchmann is responsible for rail operations and service planning at RLBA. During his twenty-year tenure at RLBA, Mr. Schuchmann has directed or participated in numerous rail service planning and implementation studies involving both freight and passenger service. He has performed a freight rail capacity study on behalf of the Port Authority of New York and New Jersey and conducted operations and cost analyses involving coal, intermodal and solid waste operations. He has also participated in rail passenger service implementation projects on behalf of Metrolink, Virginia Railway Express, Baltimore's Central Light Rail Line and New Jersey Transit's Southern New Jersey Light Rail Transit System. He has advised public bodies evaluating the initiation or expansion of intercity passenger or commuter rail services in Kansas

VERIFICATION

I, Walter H. Schuchmann, verify under penalty of perjury that I have read the Opening Evidence of Seminole Electric Cooperative, 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

Walter H. Schuchmann

Executed on August 26, 2009

American Economic Association, the Transportation Research Forum, and the American Railway Engineering Association.

As an economic consultant, Mr. Crowley has organized and directed economic studies and prepared reports for railroads, freight forwarders and other carriers, shippers, associations, and state governments and other public bodies dealing with transportation and related economic and financial matters. Examples of studies in which he has participated include organizing and directing traffic, operational and cost analyses in connection with multiple car movements, unit train operations for coal and other commodities, freight forwarder facilities, TOFC/COFC rail facilities, divisions of through rail rates, operating commuter passenger service, and other studies dealing with markets and the transportation by different modes of various commodities from both eastern and western origins to various destinations in the United States. The nature of these studies has enabled Mr. Crowley to become familiar with the operating and accounting procedures utilized by railroads in the normal course of business.

Additionally, Mr. Crowley has inspected both railroad terminal and line-haul facilities used in handling general freight, intermodal and unit train movements of coal and other commodities in all portions of the United States. The determination of the traffic and operating characteristics for specific movements was based, in part, on these field trips.

In addition to utilizing the methodology for developing a maximum rail rate based on stand-alone costs, Mr. Crowley also presented testimony before

VERIFICATION

I, Robert D. Mulholland, verify under penalty of perjury that I have read the Opening Evidence of Seminole Electric Cooperative, 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.

Robert D. Mulholland

Executed on August 28, 2009

outsourcing information technology and business processes, and works with clients to make the initial contacts in developing global market opportunities.

Mr. Kruzich graduated from Northeast Missouri State University (Truman University) in 1962 with a Bachelor of Science degree in Business. In 1984, he received a Masters of Business Administration in Finance from the Keller Graduate School of Management in Chicago, Illinois.

9. **HARVEY A. CROUCH**

Mr. Crouch is President and CEO of Crouch Engineering, P.C. His business address is 428 Wilson Pike Circle, Brentwood, TN 37027. Crouch Engineering is a consulting firm providing high quality railway engineering and planning services to railroads, governmental agencies and private industry.

The specific portions of SECI's Opening Evidence that Mr. Crouch is sponsoring are (1) Part III-D-4 relating to the SARR maintenance-of-way-plan and annual expenses, and (2) the portion of Part III-F relating to the SARR's construction costs, other than the costs for the SARR's signal and communications system which are being sponsored by SECI Witness Victor Grappone.

Mr. Crouch has served as a Track Supervisor and Project Engineer in the Maintenance of Way & Structures (MW&S) Department of Norfolk Southern Railway (NS). He founded Crouch Engineering in 1991 and since that time has provided railway engineering services to numerous railroads and government agencies. He has been responsible for numerous track and bridge construction and rehabilitation projects in the Central and Southern Appalachian regions and elsewhere. His clients have included NS (for which he has designed over 30 capital projects), and over 120 short line and regional railroads, including many of the RailAmerica and Genesee and Wyoming railroads, East Tennessee Railway, Eastern Alabama Railway, South Central Tennessee Railroad, Knoxville & Holston River Railroad, KTW Railway, Nashville & Eastern Railroad, New England Central Railroad, Tennessee Southern Railroad, TennKenn Railroad, From 1986 to 1987 Mr. Crouch was a Track Supervisor and was responsible for the inspection and maintenance of the NS main line trackage from Danville to a point near Richmond, VA, including track inspection, day-to-day supervision of work gangs, safety program, ordering material, budgeting, planning, and construction management for rehabilitation and maintenance of track and bridges. Mr. Crouch was qualified by NS as an FRA-qualified track inspector, and continues to perform inspections based on FRA track safety standards.

From 1988 to 1991 Mr. Crouch worked as a Graduate Research Assistant for Tennessee Tech, as an Environmental Engineer for the Tennessee Valley Authority, and as Project Manager for McCoy Associates, Inc., an engineering firm involved in bridge inspection, design, planning and project management and new railroad facility design. He left McCoy Associates in 1991 to found Crouch Engineering. In addition to his U.S. consulting work, Mr. Crouch and has worked on bridge evaluations in Canada, and on contractor requirements, bidding and negotiations for Freight Victoria's entire rail infrastructure (over 2,500 miles) in Australia. Mr. Crouch has also worked on a preliminary concept design of a 260-mile rail line in West Africa, including design for 286K for track and bridges, sidings, yards, and locomotive and car repair facilities.

Mr. Crouch received a Bachelor of Science in Civil Engineering from Tennessee Technological University in 1982 and a Master of Science in Civil Engineering from Tennessee Tech in 1989. Mr. Crouch is a registered the Peace Corps, the Internal Revenue Service, the Small Business Administration, the National Science Foundation, and the General Services Administration.

Mr. Smith was Executive Director of the GSA/Public Building Service from 1984 to 1986. In this position, he was responsible for nation-wide activities regarding financial reporting, the GSA-rent program, capital budgeting, performance management, and administration. Prior to that, from 1983 to 1984, Mr. Smith was Director for the Office of Budget and Finance of the U.S. Customs Service. In his capacity as Director, Mr. Smith was responsible for Service-wide financial activities.

From 1977 to 1983, Mr. Smith served as Senior Examiner, Office of Management and Budget, Executive Office of the President of the United States. As Senior Examiner, Mr. Smith was responsible for government-wide civilian real estate issues and for reviewing and making recommendations on the nationwide operations of the General Services Administration. Prior to working at the Office of Management and Budget, Mr. Smith held various positions with the U.S. Treasury Department.

In addition to his valuation experience, Mr. Smith received a Bachelor of Science in Business and Economics from the University of Maryland. He also did some graduate work in Economics at Georgetown University and received his Masters in Business Administration, Corporate Finance, from American University.

11. CHARLES A. STEDMAN

Mr. Stedman is a Vice President of L. E. Peabody & Associates, Inc., headquartered in Alexandria, VA. The specific evidence Mr. Stedman is co-sponsoring relates to 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). Mr. Stedman is also sponsoring the development of SARR route miles (Part III-B-1-d).

Mr. Stedman has been employed by L. E. Peabody & Associates, Inc. since October 1981. Since that time, he has performed and directed numerous extensive projects and analyses undertaken on behalf of utility companies, short line railroads, state and local governments and entrepreneurs. These projects include: (a) participation in the development of variable cost evidence presented to the ICC and the Board in numerous cases; (b) the development of variable costs contained in numerous reports and other analyses presented to clients; (c) the development of stand-alone cost evidence presented to the ICC and the Board in numerous cases; (d) the development of evidence in abandonment cases before the ICC; (e) the development of net liquidation values and rehabilitation costs for interested parties in abandonments and acquisitions; and (f) the preliminary design (including route layout), construction and maintenance costs associated with the construction of a new rail line.

Prior to joining L. E. Peabody & Associates, Inc., Mr. Stedman was employed by the United States Railway Association ("USRA") where he both ICC and railroad valuation maps, land acquisition records (including title status and market value) and the ICC's Bureau of Valuation B.V. Form No. 561, commonly referred to as the ICC Engineering Reports.

12. KEVIN N. LINDSEY

Mr. Lindsey is a Project Engineer at Crouch Engineering, P.C. His business address is 428 Wilson Pike Circle, Brentwood, TN 37027. Crouch Engineering is a consulting firm providing high quality railway engineering and planning services to railroads, governmental agencies and private industry. The specific portion of SECI's Opening Evidence that Mr. Lindsey is sponsoring is Part III-F-5 relating to bridge designs and costs.

Mr. Lindsey is a professional engineer licensed in Alabama, Illinois, Louisiana, Mississippi, Montana, New Mexico, Ohio, South Carolina, and Tennessee. He earned his Bachelor of Science degree in Civil Engineering from Tennessee Technological University in 2000 and is currently a member of the Tennessee Structural Engineering Association, the Alabama Short Line Association, the American Short Line Rail Road Association, and the American Railway Engineering and Maintenance-of-Way Association.

Mr. Lindsey has extensive experience in railway bridge inspection, load rating, design, and construction project management, having designed, inspected and load rated hundreds of railroad bridges. He is also experienced in topographic surveys, site design, drafting and design using Auto CAD, writing project specifications, database management, and track chart updates. Additionally, Mr. Lindsey has written programs for handheld personal computers that are used for load rating calculations in the field.

VERIFICATION

I, Kevin N. Lindsey, verify under penalty of perjury that I have read the Opening Evidence of Seminole Electric Cooperative, 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.

Kevin N. Lindsey

Executed on August 30, 2009

Signal Circuit Designer for the LIRR, a position he held until late 1995. As Signal Circuit Designer, Mr. Grappone managed the technical aspects of the LIRR's recently-completed computer-based system that controlled the signal system at Penn Station (New York) and in the adjacent territory. This position also involved the direct supervision of a design team consisting of Signal Circuit Designers, Assistant Signal Circuit Designers and Draftsmen. In this position Mr. Grappone was also responsible for the application of new technology to signal systems. Specific tasks included:

- Development of specifications for vital microprocessor-based systems for signal applications;
- Implementation of formalized procedures for performing FRA-mandated tests for signal systems;
- Development of a PC-based graphical control system; and
- Implementation of the first use of programmable logic controllers (PLC's) for the supervisory control functions.

From late 1995 to early 2001, Mr. Grappone held other positions involving signal and communications controls systems at the LIRR, including Acting Engineer – Signal Design, Project Manager responsible for developing and implementing a corporate signal strategy to direct all LIRR signaling efforts over a 20-year period, Principal Engineer – Signal Maintenance and Construction, and Principal Engineer – CBTC. In the latter position Mr. Grappone was responsible for the management and technical direction of the LIRR's Communications Based Train Control (CBTC) program. In all of these positions, Mr. Grappone was member of the Institute of Electrical and Electronics Engineers, Rapid Transit Vehicle Interface Committee Working Group 2: CBTC; the Communications-Based Train Control User Group; and the FRA's Rail Safety Advisory Committee, Positive Train Control Working Group.

Mr. Grappone obtained a B.S. degree in Electrical Engineering from Rensselaer Polytechnic Institute in 1978.

14. <u>DANIEL L. FAPP</u>

Mr. Fapp is a Vice President of L.E. Peabody & Associates, Inc., an economic consulting firm that specializes in solving economic, transportation, marketing, and fuel supply problems. The Firm's offices are located at 1501 Duke Street, Suite 200, Alexandria, VA, 22314, 10445 N. Oracle Road, Suite 151, Tucson, AZ 85737 and 21 Founders Way, Queensbury, NY 12804. Together with Mr. Crowley, Mr. Fapp is co-sponsoring Part III-G, discounted ash flow analysis and Part III-H, the results of the SAC analysis.

Mr. Fapp received a Bachelor of Science degree in Business Administration with an option in Marketing (cum laude) from the California State University, Northridge in 1987. In 1993, he received a Master of Business Administration degree specializing in finance and operations management from the University of Arizona's Eller College of Management. He is also a member of Beta Gamma Sigma, the national honor society for collegiate schools of business.

Mr. Fapp has been employed by L. E. Peabody & Associates, Inc. since December 1997. Prior to joining L. E. Peabody & Associates, Inc., he was employed by BHP Copper Inc. in the role of Transportation Manager - Finance and Administration, where he also served as an officer of the three BHP Copper Inc. subsidiary railroads: The San Manual Arizona Railroad, the Magma Arizona Railroad (also known as the BHP Arizona Railroad) and the BHP Nevada Railroad. Mr. Fapp has also held operations management positions with Arizona Lithographers in Tucson, AZ and MCA-Universal Studios in Universal City, CA.

Since 1997, Mr. Fapp has participated in the development of cost of service analyses for the movement of coal over the major eastern and western coal-hauling railroads. He has conducted on-site studies of switching, detention and line-haul activities relating to the handling of coal. He has also participated in and managed several projects assisting short-line railroads. In these engagements, he assisted short-line railroads in their negotiations with connecting Class I carriers, performed railroad property and business evaluations, and worked on rail line abandonment projects.

Mr. Fapp has been frequently called upon to perform financial analyses and assessments of Class I, Class II and Class III railroad companies. In addition, he has developed various financial models exploring alternative methods of transportation contracting and cost assessment, developed corporate profitability and cost studies, and evaluated capital expenditure requirements. He has also determined the Going Concern Value of privately held freight and passenger railroads, including developing company specific costs of debt and equity for use in discounting future company cash flows.

His consulting assignments regularly involve working with and determining various facets of railroad financial issues, including cost of capital determinations. In these assignments, Mr. Fapp has calculated railroad capital structures, market values, cost of railroad debt, cost of preferred railroad equity and common railroad equity. He is also well acquainted with and has used the commonly accepted models for determining a firm's cost of equity, including

VERIFICATION

I, Daniel L. Fapp, verify under penalty of perjury that I have read the Opening Evidence of Seminole Electric Cooperative, 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.

Daniel L. Fapp

Executed on August 28, 2009