43849 SERVICE DATE – JUNE 20, 2014
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SURFACE TRANSPORTATION BOARD

DECISION

Docket No. NOR 42130

SUNBELT CHLOR ALKALI PARTNERSHIP
v.
NORFOLK SOUTHERN RAILWAY COMPANY

Digest:[1] The Board finds that the complaining shipper does not have a feasible shipping alternative to defendant railroad for the transportation at issue, but the challenged rates have not been demonstrated to be unreasonably high until the year 2021. After considering the circumstances of the case, the Board declines to prescribe a rate for these future movements.

Decided: June 18, 2014

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[1] The digest constitutes no part of the decision of the Board but has been prepared for the convenience of the reader. It may not be cited to or relied upon as precedent. Policy Statement on Plain Language Digests in Decisions, EP 696 (STB served Sept. 2, 2010).

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ACRONYMS

ATC	Average Total Cost
CMP	Constrained Market Pricing
CTC	Centralized Traffic Control
DCF	Discounted Cash Flow
G&A	General and Administrative
MOW	Maintenance-of-Way
MMM	Maximum Markup Methodology
NS	Norfolk Southern Railway Company
PTC	Positive Train Control
R-1	Annual Report Form R-1
RCAF	Rail Cost Adjustment Factor
ROW	Right-of-Way
RPI	Road Property Investment
RTC	Rail Traffic Controller
R/VC	Revenue-to-Variable Cost
SAC	Stand-Alone Cost
SARR	Stand-Alone Railroad
SBRR	The hypothetical “Sunbelt Stand-Alone Railroad”
STB	Surface Transportation Board
Sunbelt	Sunbelt Chlor Alkali Partnership
TDIS	Thoroughbred Direct Intermodal Services
TIH	Toxic Inhalation Hazard
T&E	Train and Engine
URCS	Uniform Railroad Costing System
WP	Workpaper

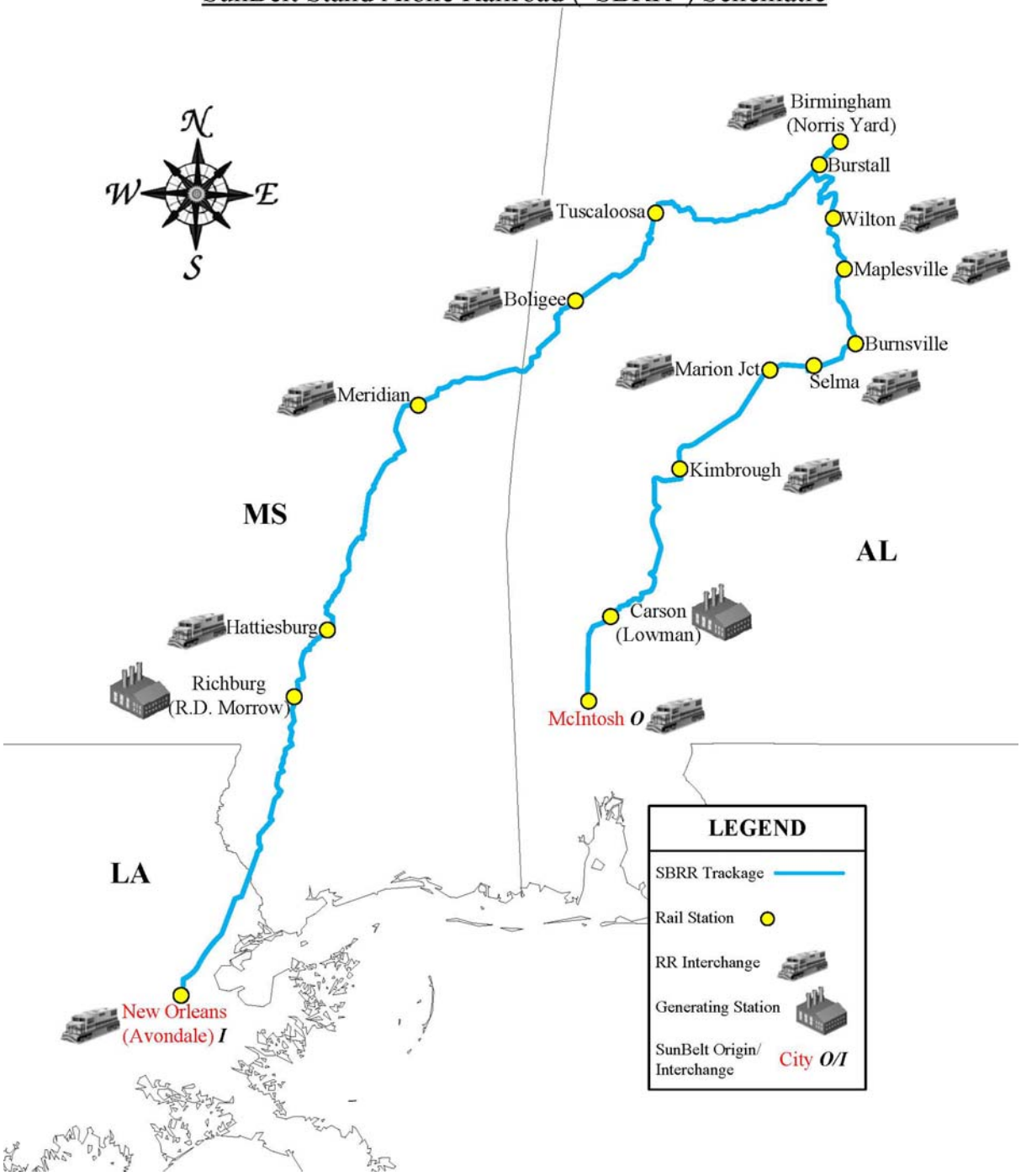
OVERVIEW

On July 26, 2011, Sunbelt Chlor Alkali Partnership (Sunbelt), filed a complaint challenging the reasonableness of the rates charged by defendants Norfolk Southern Railway Company (NS) and Union Pacific Railroad Company (UP) for the transportation of chlorine from McIntosh, Ala., to LaPorte, Tex. On May 4, 2012, Sunbelt filed an amended complaint, having entered into a voluntary settlement leading to dismissal of UP as a defendant. Sunbelt challenges the reasonableness of NS's rates for the transportation of chlorine from McIntosh to New Orleans, La. Sunbelt requests that the Board prescribe reasonable rates and order reparations for past overcharges.

Sunbelt pursued relief under the agency's stand-alone cost (SAC) test. Under this test, the parties must hypothesize a stand-alone railroad (SARR) that could serve the traffic at issue if the rail industry were free of entry barriers. Under the SAC test, the challenged rates cannot be higher than what the SARR would need to charge to serve the complaining shipper while fully covering all of its costs and earning a reasonable return on investment. This SAC analysis produces a simulated competitive rate against which the challenged rates are judged.

For this case, Sunbelt created the hypothetical Sunbelt Stand-Alone Railroad (SBRR), a 578-mile system. As a railroad that would carry a significant amount of carload traffic, the SBRR must have an operating plan that accounts for the movement of each carload from its specific origin to its specific destination. This includes moving cars to and from yards, classifying cars into blocks and trains, and picking up and delivering cars to shipper facilities. The SBRR must also move unit trains and time sensitive intermodal traffic on its system.

SunBelt Stand Alone Railroad ("SBRR") Schematic



In this case, Sunbelt has not demonstrated that the challenged rates will be unreasonable under the SAC test until 2021, and then to only a small degree. After considering the circumstances of this case, the Board declines to prescribe rates for Sunbelt's future traffic.[2]

MARKET DOMINANCE

The Board may consider the reasonableness of a challenged rail rate only if the carrier has market dominance over the traffic involved. 49 U.S.C. § 10701(d)(1). There are two components to the Board's threshold market dominance inquiry—a quantitative and qualitative analysis. The quantitative analysis requires a conclusive presumption that a railroad does not have market dominance if the rate it charges produces revenues that are less than 180% of its variable costs[3] of providing the service. 49 U.S.C. § 10707(d)(1)(A). Thus, the 180% R/VC ratio is the floor for regulatory scrutiny of rail rates. That statutory 180% R/VC level is also the floor for any rate relief. See Burlington N. R.R. v. STB, 114 F.3d 206, 210 (D.C. Cir. 1997).

Here, the parties agree that the R/VC ratios exceed the 180% threshold for all issue movements, thus satisfying the quantitative test. The parties also agree that the Board's qualitative market dominance test has been satisfied.

RATE REASONABLENESS STANDARDS

A. CONSTRAINED MARKET PRICING

The Board's general standards for judging the reasonableness of rail freight rates are set forth in Coal Rate Guidelines, Nationwide, 1 I.C.C. 2d 520 (1985), aff'd sub nom. Consol. Rail Corp. v. United States, 812 F.2d 1444 (3d Cir. 1987), as modified in Major Issues in Rail Rate Cases (Major Issues), EP 657 (Sub-No. 1) (STB served Oct. 30, 2006), aff'd sub nom. BNSF Ry. v. STB, 526 F.3d 770 (D.C. Cir. 2008), and Rate Regulation Reforms (Adopted Rate Regulation Reforms), EP 715 (STB served July 18, 2013), appeal docketed sub nom. CSX Transp., Inc. v. STB, No. 13-1230 (D.C. Cir. July 29, 2013). These guidelines adopt a set of pricing principles known as "constrained market pricing" (CMP). The 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. Coal Rate Guidelines, Nationwide, 1 I.C.C. 2d at 523-24.

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[2] The parties designated certain information in this decision as confidential or highly confidential. While we attempt to avoid references to confidential or highly confidential information in Board decisions, the Board reserves the right to rely upon and disclose such information in decisions when necessary. In this case, we determined that we could not present our findings with respect to issues in this case without disclosing certain information.

[3] Variable costs are those railroad costs that vary with the level of output. The comparison of revenues to variable costs, reflected as a percentage figure, is known as an R/VC ratio.

CMP contains three main constraints on the extent to which a railroad may charge differentially higher rates on captive traffic. The revenue adequacy constraint is intended to ensure that a captive shipper will "not be required to continue to pay differentially higher rates than other shippers when some or all of that differential is no longer necessary to ensure a financially sound carrier capable of meeting its current and future service needs." Coal Rate Guidelines, Nationwide, 1 I.C.C. 2d at 535-36. The management efficiency constraint is intended to protect captive shippers from paying for avoidable inefficiencies (whether short-run or long-run) that are shown to increase a railroad's revenue need to a point where the shipper's rate is affected. Coal Rate Guidelines, Nationwide, 1 I.C.C. 2d at 537-42. The SAC constraint is intended to protect a captive shipper from bearing costs of inefficiencies or from cross-subsidizing other traffic by paying more than the revenue needed to replicate rail service to a select subset of the carrier's traffic base. Coal Rate Guidelines, Nationwide, 1 I.C.C. 2d at 542-46. As stated, Sunbelt seeks relief under the SAC constraint.

B. SAC TEST

A SAC analysis seeks to determine whether a complainant is bearing the cost of any inefficiencies or the cost of any facilities or services from which it derives no benefit; it does this by simulating the competitive rate that would exist in a "contestable market," i.e., a market that is free from barriers to entry. The economic theory of contestable markets does not depend on a large number of competing firms in the marketplace to ensure a competitive outcome. Coal Rate Guidelines, Nationwide, 1 I.C.C. 2d at 528. In a contestable market, even a monopolist must offer competitive rates or lose its customers to a new entrant. Coal Rate Guidelines, Nationwide, 1 I.C.C. 2d at 528. In other words, contestable markets have competitive characteristics that preclude monopoly pricing.

To simulate the competitive price that would result if the market for rail service were contestable, the costs and other limitations associated with entry barriers must be omitted from the SAC analysis. Coal Rate Guidelines, Nationwide, 1 I.C.C. 2d at 529. This removes any advantages the existing railroad would have over a new entrant that create the existing railroad's monopoly power. A SARR that could serve the traffic at issue if the rail industry were free of entry barriers is therefore hypothesized. 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 and earning a reasonable return on investment. This analysis produces a simulated competitive rate against which the challenged rate is judged. Coal Rate Guidelines, Nationwide, 1 I.C.C. 2d at 542.

To make a SAC presentation, a shipper designs a SARR specifically tailored to serve an identified traffic group. Using information on the types and amounts of traffic moving over the defendant's rail system, the complainant selects a subset of that traffic (including its own traffic to which the challenged rate applies) that the SARR would serve.

Based on the traffic group to be served, the level of services to be provided, and the terrain to be traversed, a detailed operating plan must be developed for the SARR. Once an operating plan is developed that would accommodate the traffic group selected by the complainant, the system-wide investment requirements and operating expense requirements

(including such expenses as locomotive and car leasing, personnel, material and supplies, and administrative and overhead costs) must be estimated. The parties must provide appropriate documentation to support their estimates.

It is assumed that investments normally would be made prior to the start of service, that the SARR would continue to operate into the indefinite future, and that recovery of the investment costs would occur over the economic life of the assets. The Board's SAC analyses, however, are limited to a finite period of time and examine the revenue requirements for the SARR based on the operating expenses that would be incurred over that period and the portion of capital costs that would need to be recovered during that period. A computerized discounted cash flow (DCF) model simulates how the SARR would likely recover its capital investments, taking into account inflation, Federal and state tax liabilities, and a reasonable rate of return. The annual revenues required to recover the SARR's capital costs (and taxes) are combined with the annual operating costs to calculate the SARR's total annual revenue requirements.

The revenue requirements of the SARR are then compared to the revenues that the defendant railroad is expected to earn from the traffic group, presuming that the revenue contributions from non-issue traffic are based on the revenues produced by the current rates. Traffic and rate level trends for that traffic group are forecast into the future to determine the future revenue contributions from that traffic.

The Board then compares the revenue requirements of the SARR against the total revenues to be generated by the traffic group over the SAC analysis period. A present value analysis is used that takes into account the time value of money, netting annual over-recovery and under-recovery as of a common point in time. If the present value of the revenues that would be generated by the traffic group is less than the present value of the SARR's revenue requirements, then the complainant has failed to demonstrate that the challenged rate levels violate the SAC constraint. If the present value of the revenues from the traffic group exceeds the present value of the revenue requirements of the SARR, then the Board must decide what relief to provide to the complainant by allocating the revenue requirements of the SARR among the traffic group.

NS'S MOTION TO STRIKE

On July 26, 2013, NS filed a motion to strike certain portions of Sunbelt's rebuttal evidence. Sunbelt filed a reply to NS's motion on August 15, 2013. NS moves that the Board strike certain evidence and arguments from Sunbelt's rebuttal evidence relating to: (1) Sunbelt's train service plan for its SARR; (2) car classification; (3) crew deadheading; (4) general and administrative (G&A) costs; (5) roadmaster territories; (6) fringe benefits; and (7) yard cleaning costs.

Motion to Strike Train Service Plan Evidence. In its reply, NS argued that Sunbelt's opening operating plan omitted 1,622 trains that are necessary to provide complete on-SARR

service, including the local trains required to originate most of the issue traffic.[4] According to Sunbelt, it added 1,031 of those trains on rebuttal because NS's reply offered a plausible explanation for a previously unexplained anomaly in NS's traffic data, which had led to Sunbelt's exclusion of these trains.[5]

Citing Intermountain Power Agency v. Union Pacific Railroad (IPA), NOR 42127, slip op. at 3 (STB served Apr. 4, 2012), NS argues in its motion to strike that a complainant may not file additional evidence to correct its own mistake or methodological choice.[6] NS claims that Sunbelt intentionally omitted these trains from its opening operating plan, and it should not be permitted to alter that decision on rebuttal when NS no longer has an opportunity to respond.[7] NS further asserts that, under the Board's rules, Sunbelt could not add these trains unless it showed that NS's reply operating plan was "unrealistic, unsupported, or infeasible," and Sunbelt did not make this showing.[8] Finally, NS contends that, even if Sunbelt had shown that NS's reply was unsupported or infeasible, Sunbelt's only option would have been to correct the operating plan that NS submitted on reply, not Sunbelt's own operating plan submitted on opening.[9]

In its reply to NS's motion, Sunbelt argues that the evidence in question does not modify "a core part" of its opening or "significantly modify the foundation of its case," and thus is not precluded by IPA.[10] Sunbelt further argues that it is permitted to partially accept criticisms presented in NS's reply, rather than accepting all or nothing.[11]

The Board will deny the motion to strike Sunbelt's train service plan evidence presented on rebuttal. Sunbelt's rebuttal did not change its methodology or raise a new issue when it added 1,031 of the allegedly missing trains. Rather, Sunbelt's opening relied on NS's traffic data produced in discovery, and NS provided a new explanation regarding this data for the first time on reply.[12] In such situations, where previously undisclosed information is provided in the reply, a complainant need not show that the reply is infeasible, unrealistic, or unsupported before it can file additional evidence in response to the new information. See W. Fuels Ass'n v. BNSF Ry., NOR 42088, slip op. at 3-4 (STB served Feb. 17, 2009) (in its reply, defendant corrected

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[4] NS Motion to Strike 8; NS Reply III-C-12-19.

[5] Sunbelt Reply to Motion to Strike 8; Sunbelt Rebuttal I-40 to I-41, III-C-28 to III-C-29.

[6] NS Motion to Strike 8.

[7] NS Motion to Strike 8-9.

[8] NS Motion to Strike 9, quoting Duke Energy Corp. v. Norfolk S. Ry. (Duke/NS), 7 S.T.B. 89, 101 (2003).

[9] NS Motion to Strike 9-10.

[10] Sunbelt Reply to Motion to Strike 9, citing IPA, slip op. at 3.

[11] Sunbelt Reply to Motion to Strike 15.

[12] See Sunbelt Reply to Motion to Strike 8; Sunbelt Rebuttal I-40 to I-41, III-C-28 to III-C-29.

information on which complainant's opening had relied; on rebuttal, complainant was permitted to include additional evidence in direct response to the correction defendant submitted on reply). It follows that Sunbelt is permitted to file additional evidence in response to the new explanation offered by NS on reply. Moreover, IPA does not preclude Sunbelt's addition of these trains, because this change did not "significantly modify the foundation of its case." See IPA, slip op. at 3. Sunbelt's methodology remained the same, and the addition of 1,031 trains was relatively small in comparison to the 14,431 trains in its rebuttal train service plan.[13]

Motion to Strike Car Classification Evidence. NS argued on reply that Sunbelt had omitted car classification, switching, and blocking, which are necessary given Sunbelt's decision to have the SBRR operate mostly carload traffic.[14] Sunbelt, on rebuttal, stated that it "unintentionally omitted classification switching services" for cars being switched between trains, and it added blocking and car classification analyses.[15] In its motion to strike, NS asserts that Sunbelt may not present such a fundamental component of its operating plan for the first time on rebuttal, when NS has no opportunity to respond.[16]

Sunbelt argues that it is permitted to accept NS's methodology presented on reply, but to apply that methodology to Sunbelt's opening operating plan, rather than NS's reply operating plan, which Sunbelt rejects.[17]

The Board will deny the motion to strike Sunbelt's car classification evidence presented on rebuttal. Sunbelt may adopt positions on rebuttal put forth by NS on reply. However, due to the differences in how the parties presented their evidence — NS using the MultiRail program and Sunbelt not — Sunbelt could not replicate NS's car classification analysis. Therefore, Sunbelt performed its own analysis to accompany its operating plan.

The parties developed their plans in different manners, discussed more below in the Operating Expenses section, and accordingly some latitude in answering one another's arguments is required. Because of this difference and Sunbelt's inability to replicate NS's MultiRail car classification analysis, it would be unfair to limit Sunbelt from replying to NS's evidence. Therefore, it is appropriate that Sunbelt gave effect to NS's reply argument in its own operating plan.

Motion to Strike Crew Deadheading Evidence.[18] NS asserts that Sunbelt improperly

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[13] See Sunbelt Rebuttal III-C-27 to III-C-29.

[14] NS Reply III-C-45 to III-C-50.

[15] Sunbelt Rebuttal III-C-96, III-C-101 to III-C-103.

[16] NS Motion to Strike 11-13.

[17] See Sunbelt Reply to Motion to Strike 16-17.

[18] Deadheading is the physical relocation of a train employee from one location to another.

waited to address this issue until its rebuttal,[19] even though crew imbalance costs have been addressed and included in prior SAC cases.[20] See, e.g., Ariz. Elec. Power Coop. v. BNSF Ry. (AEPCO), NOR 42113, slip op. at 46 (STB served Nov. 22, 2011), aff'd sub nom. BNSF Ry. v. STB, 748 F.3d 1295 (D.C. Cir. 2014); FMC Wyo. Corp. v. Union Pac. R.R., 4 S.T.B. 699, 770 (2000). In its reply to the motion to strike, Sunbelt argues that its rebuttal evidence on this issue was a permissible response to NS's arguments on reply.[21] According to Sunbelt, it demonstrated that NS's reply analysis was infeasible, unrealistic and unsupported, which allows Sunbelt to submit corrective evidence.[22] See Duke/NS, 7 S.T.B. at 101.

The Board will grant the motion to strike Sunbelt's crew deadheading evidence presented on rebuttal. Corrective evidence is appropriate on rebuttal if the complainant shows that the reply evidence is unsupported, infeasible, or unrealistic. See Duke/NS, 7 S.T.B. at 101. However, Duke/NS also holds that a complainant must present its best, least-cost, fully supported case on opening and may not hold back until it has seen the defendant's reply. See Duke/NS, 7 S.T.B. at 101; Total Petrochemicals & Refining USA, Inc. v. CSX Transp., Inc. (TPI), NOR 42121, slip op. at 12 (STB served May 31, 2013), reconsideration denied (STB served Dec. 19, 2013) (with Vice Chairman Begeman dissenting in both), appeal docketed sub nom. CSX Transp., Inc. v. STB, No. 13-1313 (D.C. Cir. Dec. 26, 2013). Here, if Sunbelt had addressed crew deadheading—an issue that has been included in prior cases—in its opening evidence, presenting its fully supported case, then corrective evidence would have been appropriate on rebuttal had NS's reply evidence been unsupported, infeasible, or unrealistic. However, for Sunbelt to present its evidence on this issue for the first time on rebuttal is not consistent with the Duke/NS standard for opening evidence.

Motion to Strike G&A Cost Evidence. In its motion to strike, NS argues that Sunbelt barely sketched the outlines of its positions with respect to G&A costs on opening, and did not present its supporting material until rebuttal.[23] Sunbelt, in its reply to the motion to strike, asserts that its rebuttal arguments responded directly to arguments NS made on reply and partially accepted NS criticisms.[24]

The Board will deny the motion to strike Sunbelt's G&A cost evidence presented on rebuttal as it relates to marketing and claims staff, but we will grant the motion to strike as it relates to revenue accounting staff. Sunbelt's opening provided reasoning for the levels of marketing and claims staff it included,[25] and on rebuttal, it responded to arguments that NS made

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[19] See Sunbelt Rebuttal III-D-20.

[20] NS Motion to Strike 13-14.

[21] Sunbelt Reply to Motion to Strike 17-18.

[22] Sunbelt Reply to Motion to Strike 17-18.

[23] NS Motion to Strike 14-15.

[24] Sunbelt Reply to Motion to Strike 14-15.

[25] Sunbelt Opening Ex. III-D-2 at 4, 7.

on reply.[26] See TPI, slip op. at 14. However, Sunbelt's opening omitted revenue accounting staff with no explanation for this choice,[27] and Sunbelt provided an explanation for the first time on rebuttal, where it added a Manager of Revenue Accounting.[28] Revenue accounting staff has been included in prior cases. See, e.g., AEP Tex. N. Co. v. BNSF Ry. (AEP Texas), NOR 41191 (Sub-No. 1), slip op. at 55 (STB served Sept. 10, 2007), reconsideration denied (STB served May 15, 2009), vacated on other grounds and remanded sub nom. AEP Tex. N. Co. v. STB, 609 F.3d 432 (D.C. Cir. 2010). Therefore, we will grant NS's request to strike Sunbelt's rebuttal evidence as to revenue accounting staff. See Duke/NS, 7 S.T.B. at 101; TPI, slip op. at 12.

Motion to Strike Roadmaster Territories Evidence.[29] According to NS, Sunbelt's opening included no empirical support for the size of its roadmaster districts, but on rebuttal, Sunbelt's expert alleged that the proposed district sizes were consistent with an NS track crew district with which he was familiar.[30] Sunbelt argues that it offered the challenged testimony to demonstrate that NS's roadmaster territory size, offered on reply, is unrealistic based on NS's own practices.[31]

The Board will grant the motion to strike the new justification that Sunbelt introduced on rebuttal for the size of its roadmaster territories.[32] On opening, Sunbelt provided a number for the size of its roadmaster districts, but included no explanation for this number.[33] After NS disagreed and offered a different roadmaster district size on reply, Sunbelt's rebuttal presented the opinion of its expert that Sunbelt's proposed roadmaster districts were consistent with his experience of districts in NS's real-world system.[34] It is not permissible for Sunbelt to wait for its rebuttal to provide supporting evidence for the first time, having provided no explanation on opening. See Duke/NS, 7 S.T.B. at 101.

Motion to Strike Fringe Benefits Evidence. NS states that its reply accepted Sunbelt's methodology for calculating fringe benefits but pointed out an error in applying that methodology.[35] On rebuttal, according to NS, Sunbelt changed methodologies, substituting new

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[26] Sunbelt Rebuttal Ex. III-D-1 at 18-20, 36.

[27] See Sunbelt Opening Ex. III-D-2 at 12-13 (addressing revenue system but not revenue accounting staff).

[28] Sunbelt Rebuttal Ex. III-D-1 at 24-25.

[29] A roadmaster oversees the maintenance of the rail in a defined geographic area, known as a roadmaster territory.

[30] NS Motion to Strike 15.

[31] Sunbelt Reply to Motion to Strike 20.

[32] We will not strike Sunbelt's proposed roadmaster district size itself, but only the new expert opinion offered on Rebuttal.

[33] See Sunbelt Opening Ex. III-D-3 at 5.

[34] Sunbelt Rebuttal Ex. III-D-2 at 24.

[35] NS Motion to Strike 16.

calculations for the ones it had presented on opening.[36] In its reply to the motion to strike, Sunbelt argues that its rebuttal reiterated its opening position and offered the additional evidence (which Sunbelt states it drew from NS's reply) as further support for that position, not as a replacement for it.[37]

The Board will grant the motion to strike the new methodology that Sunbelt introduced on rebuttal for its proposed fringe benefits ratio. Sunbelt's opening contained contradictory evidence in that Sunbelt stated it was relying on 2011 data while actually relying on 2009 data.[38] It was reasonable for NS to assume that Sunbelt intended to rely on 2011 data, as Sunbelt said as much; the 2011 data is more current than 2009 data; and 2011 is the base year for the SARR. If Sunbelt truly intended to rely on 2009 data, then it should have presented an argument on rebuttal as to why the 2011 data used by NS was inappropriate. Instead, Sunbelt impermissibly proposed a contradictory methodology as support for its initial position, averaging the fringe benefits of only two carriers over a three-year period.[39] This methodology is inconsistent with Sunbelt's opening evidence wherein it stated that its fringe benefit ratio was based on a one-year average of all the Class I carriers' fringe benefits. Sunbelt has not shown that NS's reply evidence is unsupported, infeasible, or unrealistic; in fact, NS's evidence is based on the methodology proposed by Sunbelt on opening. Therefore, Sunbelt may not propose an inconsistent methodology on rebuttal as support for its original numbers.[40]

Motion to Strike Yard Cleaning Cost Evidence. NS states that, on opening, Sunbelt claimed that "[t]he SBRR's yards should be cleaned once a year," and on reply, NS accepted that position but argued that Sunbelt had underestimated the costs of yard cleaning.[41] NS argues that Sunbelt changed its position on rebuttal to claim that "a railroad does not clean all yards annually."[42] In response, Sunbelt argues that the quoted rebuttal statement was from a verified statement by one of its experts, but Sunbelt itself never changed its opening position that the SBRR would clean all its yards annually.[43]

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[36] NS Motion to Strike 16-17.

[37] Sunbelt Reply to Motion to Strike 21.

[38] See Sunbelt Opening Ex. III-D-1 at 9; NS Reply III-D-38; Sunbelt Opening WP "III-D-4 Salaries.pdf" at 25.

[39] Sunbelt Rebuttal III-D-25.

[40] See, e.g., Otter Tail Power Co. v. BNSF Ry. (Otter Tail), NOR 42071, slip op. at 3-4 (STB served Jan. 27, 2006) (striking rebuttal evidence modifying the shipper's original cost-of-capital calculations because the railroad's reply evidence relied upon the shipper's original calculations and explaining that "a complainant may not . . . alter its position on rebuttal" in such circumstances), aff'd sub nom. Otter Tail Power Co. v. STB, 484 F.3d 959 (8th Cir. 2007); TPI, slip op. at 10 (same).

[41] NS Motion to Strike 17, quoting Sunbelt Opening Ex. III-D-3 at 20.

[42] NS Motion to Strike 17, quoting Sunbelt Rebuttal Ex. III-D-2 at 49.

[43] Sunbelt Reply to Motion to Strike 21-22.

The Board will grant the motion to strike the new position that Sunbelt adopted on rebuttal as to the frequency of yard cleaning. As with the fringe benefits argument, Sunbelt's rebuttal support for its opening evidence departs from the rationale provided on opening by abandoning the position that the SBRR's yards should be cleaned once per year.[44] On reply, NS adopted Sunbelt's position that the SBRR yards require annual cleaning, and therefore it would be inconsistent for Sunbelt to attempt to show that NS's position on this point is unsupported, infeasible, or unrealistic. Therefore, Sunbelt may not provide corrective evidence on this issue. Duke/NS, 7 S.T.B. at 101. The Board has rejected attempts by complainants to assert rebuttal arguments that are in direct conflict with those put forward on opening, TPI, slip op. at 10, and we will do so here.

STAND-ALONE COST ANALYSIS

Set forth below is the Board's analysis of the SAC evidence presented in this case. The evidence does not demonstrate that the challenged rates exceed the level permitted by the SAC test. The more significant issues are discussed in this decision, with more technical issues described in the attached appendices.

A. OPERATING EXPENSES

1. OPERATING PLAN

How a SARR would operate influences both its configuration and annual operating expenses. AEP Texas, slip op. at 16. Although the operating plan must be able to meet the transportation needs of the traffic to be served, it need not match the existing 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. The assumptions used in the SAC analysis, including the operating plan, nonetheless must be realistic, i.e., consistent with the underlying realities of real-world transportation. AEPCO, slip op. at 16.

Here, Sunbelt and NS submitted competing operating plans that detail how the SARR would handle the traffic group. Both use the commercially available Rail Traffic Controller (RTC) model to determine the feasibility of the SBRR's operating plan and develop key operating characteristics of the SARR.

The parties' submissions of evidence concerning the SARR's operating plan differed greatly with regard to methodologies. On reply, rather than submitting evidence challenging specific aspects of Sunbelt's operating plan, NS developed aspects of its own, new operating plan (here the car classification and blocking at intermediate yards) resulting in a different train list than that provided by Sunbelt. Sunbelt contends that it is inappropriate for NS to propose an entirely new operating plan on reply.[45]

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[44] See Sunbelt Rebuttal Ex. III-D-2 at 49.

[45] Sunbelt Rebuttal III-C-96.

In most circumstances, the Board would indeed require the defendant in a SAC case to make any necessary corrections to the complainant's opening evidence rather than submitting something entirely new on reply, to avoid having operating plans so different as to impede comparison. See, e.g., Gen. Procedures for Presenting Evidence in Stand-Alone Cost Rate Cases, 5 S.T.B. 441, 446 (2001) (explaining that "a railroad's SAC evidence should be limited to addressing deficiencies in the complaining shipper's evidence"). Here, however, Sunbelt's operating plan on opening included a major design flaw: no blocking and classification analysis at intermediate yards.[46] Thus, on this issue, there was nothing for NS to correct on reply. To provide this essential part of the operating plan for a predominantly carload system, NS needed to supply its own analysis. Accordingly, the Board finds that NS's submission of its operating plan will be accepted into the record.

That being the case, the Board must then choose between competing operating plans. We note at the outset that both parties' operating plans were flawed, as discussed below. However, for the reasons set forth below, the Board concludes that, unlike NS's operating plan, Sunbelt's operating plan includes one problem that is so significant that it prevents the SBRR from serving the selected traffic group: the omission of a yard at Birmingham, Ala., capable of meeting the needs of the SBRR.

Therefore, the Board will accept NS's operating plan. We note that NS's operating plan also appears to be flawed and if the Board had been presented with two flawed, but feasible operating plans, we would accept the complainant's plan, even if the defendant's operating plan were, on balance, more realistic or more persuasively presented. See, e.g., Duke/NS, 7 S.T.B. at 100 ("As to disputed issues, where the shipper's opening evidence is feasible and supported, it is used in the Board's SAC analysis."). But that is not the situation here.

We now explain why Sunbelt's design of its Birmingham Yard makes its operating plan infeasible.

a. Birmingham Hump Yard

In this case, each party has demonstrated problems with the opposing party's operating plan. For example, as Sunbelt points out, NS's RTC model gives improperly high priority to foreign trains, which would cause many categories of SBRR traffic to yield to foreign traffic of any type.[47] NS demonstrates, for example, that Sunbelt's operating plan does not satisfy the SBRR's reciprocal obligations.[48] However, one of the flaws in Sunbelt's operating plan renders the plan incapable of serving the traffic group selected by Sunbelt. Sunbelt did not include a key facility necessary for the blocking and classification of carload freight traffic: a yard at Birmingham capable of serving the traffic group.

[46] See Sunbelt Rebuttal III-C-96.

[47] Sunbelt Rebuttal III-C-43. Foreign trains are trains that are not in the SBRR traffic group but that cross-over the SBRR system.

[48] See NS Reply III-C-60 to III-C-77.

A car classification or blocking plan is used to facilitate an individual carload's movements as it enters and exits the system. This includes the individual carload's movement to and from various yards, where the relevant trains are broken apart and/or built (perhaps multiple times if necessary) as the individual carload moves across the system. Car classification counts may be used to determine the necessary amount of facilities and car classification services (e.g., yard crews, departure tracks, and switch locomotives). Car classification is crucial to the operation of a rail network that handles mostly carload business (as opposed to trainload business), like the SBRR.

On rebuttal, Sunbelt acknowledges that its opening "unintentionally omitted classification switching services," except for cars and trains originating and terminating in yards, and it now supplies car classification counts.[49] To perform its classification analysis on rebuttal, Sunbelt takes the numbers of cars classified by the real-world NS on the lines that comprise the SBRR, adds cars that originate and terminate at each yard based on data shown in the ATC carload database, and increases the resulting car counts to reflect peak year traffic volumes using Sunbelt's traffic forecast.[50]

We agree with NS that, under Sunbelt's approach, the SBRR cannot actually perform the classification and blocking that Sunbelt claims the SBRR will perform. In particular, Sunbelt chooses not to build a hump yard at Birmingham,[51] a facility the Board concludes is necessary to serve the selected traffic group. As explained by NS, a hump yard is a large classification yard that contains a "hump track" that is elevated and connected to multiple classification tracks. A yard locomotive pushes cars up the front side of the hump. At the top, the car is released and gravity enables the car to roll down the backside of the hump. The car is "classified" by using a system of power switches to direct it onto the appropriate classification track with other cars headed to the same destination (or intermediate yard) further along the network.[52] By contrast, a flat switching yard consists of tracks on flat ground, and is not equipped with a hump track or power switches. Cars are classified manually by moving them between parallel tracks that are connected by "ladder" tracks at one or both ends.[53] At larger flat switching yards, specific tracks are designated for receiving, classifying, or forwarding cuts of cars, while at smaller flat switching yards, tracks are often used interchangeably for any of those tasks.[54]

As a general principle, a complainant can seek efficiencies to reduce the costs of its SARR. In this way, the complainant can avoid paying for facilities and services that are unnecessary to adequately handle the traffic group. Here, however, Sunbelt has failed to show

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[49] Sunbelt Rebuttal III-C-96, III-C-100 to III-C-101.

[50] Sunbelt Rebuttal III-C-101.

[51] Sunbelt Rebuttal III-C-102 to III-C-103.

[52] NS Reply III-B-7 n.3.

[53] NS Reply III-C-136.

[54] NS Reply III-C-136 to III-C-137.

that the hump yard is an unnecessary facility. Although they are more expensive to construct, railroads install hump yards because they are more efficient than flat yards at a certain scale. That is, as traffic volumes and the classifications services required increase and pass a certain car classification threshold, increasing congestion would make it infeasible for a railroad to classify the necessary number of cars without either a hump yard or a larger flat yard.[55]

NS argues that this threshold is 900 cars per day.[56] Sunbelt asserts that the threshold of 900 cars per day is not a requirement but rather an approximate car classification count where efficiencies begin that permit a significant reduction in yard crew assignments when the capital funds are expended to construct a hump yard.[57] Thus, although Sunbelt agrees that car classification counts exceed 900 cars per day in the SBRR's base year at the Birmingham yard,[58] it contends that a railroad can elect to add yard crew assignments when car classification counts exceed this threshold, rather than expending the capital resources to construct a hump yard.[59]

We reject Sunbelt's argument as applied to the size and nature of the Birmingham yard proposed by Sunbelt. As NS points out, adding more locomotives and crews into a busy flat switching yard as volumes increase would create more congestion, not less.[60] That is, while Sunbelt could increase the number of switch crews as a substitute for inclusion of a hump yard in Birmingham, it has not fully accounted for the ramifications of adding these crews. Adding crews affects the fluidity of trains entering and departing the yard, and Sunbelt has failed to take these activities into account in its RTC modeling. Additional crews would increase road train dwell times in the yard, forcing trains to be held outside of the yard and creating a cascading effect of delays for all following trains.

Moreover, although Sunbelt scales up its yard crew personnel over the DCF period to account for the growth in traffic volumes,[61] which are expected to increase by approximately 50%,[62] it does not scale up the acreage of its Birmingham flat yard, or the classification track in that yard, to account for the traffic growth. As traffic grows over the DCF period, the SBRR would eventually have to classify more cars in its Birmingham yard than NS currently classifies

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[55] See NS Reply III-C-135 to III-C-143; NS Brief 10.

[56] NS Reply III-C-137.

[57] Sunbelt Rebuttal III-C-102.

[58] Sunbelt Rebuttal III-C-101 to III-C-102. This is in the base year alone; car classification counts are projected to increase approximately 50% in the peak traffic year. See NS Brief 3.

[59] Sunbelt Rebuttal III-C-102.

[60] NS Brief 10.

[61] Sunbelt Rebuttal III-C-102.

[62] See NS Brief 3.

in the real-world Birmingham yard—but unlike the real-world Birmingham yard, the SBRR's yard would not have a hump, and it would be smaller than the existing Birmingham yard.[63]

Furthermore, Sunbelt states that its operating plan is feasible because it operates the "same trains as NS operates in its real world operations in the same basic fashion."[64] But this statement is not true; a flat yard does not operate in the same basic fashion as a hump yard. Sunbelt also argues that it has designed its yard classification tracks based upon real-world NS data, and tested the sufficiency of those tracks using the RTC model.[65] This argument is without merit, as the RTC model does not model yard operations, and therefore cannot confirm that classification track is properly sized.

We note that adopting the classification and blocking plan of the incumbent railroad, sufficiently adjusted for volume differences, is one way to show that the proper classification and blocking is occurring at yards on a SARR.[66] But if a complainant adopts the incumbent railroad's car classification and blocking plan, and the complainant modifies or removes a facility, or reduces staffing from the incumbent's classification and blocking plan, it would need to establish that the SARR could still adequately serve the traffic group. Sunbelt has not done this. It states that it is providing the same blocking and classification as the real-world NS, but then omits the hump yard without adequate justification.

Thus, without a hump yard, the SBRR cannot accomplish the blocking and classification that Sunbelt claims the SBRR can perform. Indeed, Sunbelt has not cited any example of a yard in the United States that classifies the number of cars that Sunbelt proposes and that is not a hump yard.

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[63] Compare Sunbelt Rebuttal WP "SBRR Rebuttal Sticks.pdf," at 9 (26 tracks), with NS Reply III-C-36, Fig. III-C-7 (52 tracks). The Board's discussion of this issue does not mean that a SARR must replicate the defendant railroad's existing facilities. On the contrary, as long as the SARR is operationally functional and provides adequate service that is equal to or better than the existing service for that traffic group, a complainant is free to choose facilities and practices that improve the SARR's efficiency relative to the defendant railroad. But in this instance, as discussed below, Sunbelt argues that its classification analysis is superior because it matches the real-world NS's classification approach—which leads to a comparison of the facilities used by Sunbelt's SARR to perform this classification and the facilities the real-world NS uses.

[64] Sunbelt Rebuttal III-C-3.

[65] Sunbelt Rebuttal III-C-10.

[66] What is critical is that the complainant shows in some manner that it includes the costs of all necessary facilities and services, and provides evidentiary support for these costs. This inclusion of costs, with evidentiary support, could satisfy the SARR's need for blocking in a carload system without adopting the blocking and classification of the incumbent railroad and without using a program such as MultiRail to model the blocking and movement of each car.

Given the SBRR's high proportion of carload traffic,[67] the lack of adequate facilities for blocking and classifying this traffic means that Sunbelt's operating plan is not feasible. The evidence here persuades us that a hump yard is needed and therefore we must adopt NS's operating plan because, though not without its flaws, it alone would provide the blocking and classification services that this traffic group requires.

b. MultiRail

Much of Sunbelt's complaint about NS's operating plan relates to NS's use of MultiRail. MultiRail computer software is a modeling tool that generates car classification and blocking service plans for a selected traffic group, based upon the characteristics of the traffic, the railroad's network configuration, and customer service requirements.[68] Operating experts are capable of developing the costs for such blocking train service plans without the assistance of software, but the use of software like MultiRail can be used to facilitate this process. MultiRail is used to help develop a comprehensive blocking and train service plan, which then establishes the requirements for the network of yards and other facilities necessary to serve the selected traffic. But it does not replace the RTC simulation that the Board has traditionally relied on in SAC cases, which must still be run to confirm the feasibility of the operating plan.

Sunbelt argues that its classification analysis is superior to NS's because Sunbelt's approach "correspond[s] to [NS's] actual trains that move on the lines that comprise the SBRR rather than the 'made for litigation' trains in [NS's] MultiRail analysis."[69] Sunbelt also argues that the use of MultiRail is unsupported, infeasible, unrealistic, unnecessary, and violates fundamental SAC principles.[70] However, the Board has allowed the use of MultiRail to create blocking plans in other types of proceedings,[71] and its use here is permissible.

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[67] See Sunbelt Opening III-A-8, Table III-A-4; NS Reply III-C-3.

[68] NS Reply WP "MultiRail Freight Edition.pdf." On January 25, 2013, NS filed a petition asking the Board to clarify that NS is not obligated to bear the cost of providing Sunbelt with certain licenses or training for the MultiRail software that NS used in developing its reply evidence. NS stated that it used MultiRail to develop carload blocking and train service plans for the SBRR. According to NS, it had arranged for Sunbelt to have cost-free access to a read-only version of MultiRail, but NS is unwilling to underwrite the cost of a full read-write version of MultiRail for Sunbelt's use. The Board denied the petition as moot when Sunbelt no longer sought a license for the MultiRail program. E.I. DuPont de Nemours & Co. v. Norfolk S. Ry. (MultiRail Decision), NOR 42125 et al., slip op. at 2 (STB served Mar. 27, 2013) (noting that the Board need not reach the question of whether NS was "required to bear the cost of providing Complainants with licensing and training for a full read-write version of MultiRail").

[69] Sunbelt Rebuttal III-C-101.

[70] Sunbelt Brief 16-29.

[71] See NS Reply III-C-122 n.192.

Sunbelt specifically claims that MultiRail is disconnected from reality and violates SAC principles because it utilizes train consists that are different from those provided by NS in the real world.[72] However, the mix of traffic would not remain the same as in NS's real world consists because the diverse commodity groups carried by the SARR are projected to have different volume growth rates as the number of shipments increases throughout the analysis period. In prior cases involving predominantly trainload traffic and fewer commodity types, developing trains for higher traffic volumes was a far simpler task. Here, with a sizeable volume of carload service, trains must be built, conducted to interim locations (sometimes in multiple instances) to be broken apart and reconfigured, and individual cars must be picked up at their origins and delivered to their final destination. Compared with unit-train coal service and the prior use of merchandise traffic delivered on a through basis (which does not require as extensive car classification facilities and services), the SBRR's intended service is much more involved. Thus, the complexity associated with the volume of carload traffic on the SBRR suggests that use of a blocking and train services model such as MultiRail can be appropriate. This is not to suggest that a program such as MultiRail must be used to develop a SAC presentation involving carload traffic, only that it can be utilized in SAC proceedings.

Sunbelt also argues that the evidence developed using MultiRail is unsupported and unverifiable because NS has not submitted the MultiRail software as part of its evidence.[73] However, as explained in the MultiRail Decision, slip op. at 3:

> [T]he Board relies on each party to make its own case and critique the other party's case. Should the Board decide to rely on a certain type of evidence . . . . the fact that the Board does not have a particular software program does not mean we would be unable to evaluate that evidence.

While the Board does not have the MultiRail software, we are able to analyze its inputs and outputs just as we would if the blocking and train service plans were developed by operating experts without the use of software. NS, like litigants in prior cases, must run its operating plan through the RTC software to develop its operating statistics. The output from MultiRail is used as the input for the RTC, a program that the Board can and does review.

Sunbelt further argues that NS itself no longer uses MultiRail to develop its real-world operating plan, having shifted to an internal, next-generation system.[74] But NS presented evidence showing that MultiRail is a tool commonly used by railroads to plan their day-to-day operations.[75] Thus, MultiRail is one acceptable system to use for blocking and classification.

Sunbelt also raises a number of arguments against the evidence resulting from NS's use of MultiRail. For example, it contends that there are deficiencies in the documentation and

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[72] Sunbelt Rebuttal III-C-52 to III-C-59, III-C-79 to III-C-86.

[73] Sunbelt Brief 17-20.

[74] Sunbelt Rebuttal III-C-67 to III-C-68.

[75] See NS Brief 13 n.14.

supporting evidence for NS's block assignments and dwell times[76]; that NS's MultiRail model fails to assign all traffic flows to blocks and excludes a train[77]; and that NS does not apply efficiency recommendations generated by MultiRail.[78] However, for the reasons discussed above, the Board concludes that NS's plan, while flawed, is feasible; Sunbelt's is not. The Board cannot accept the complainant's operating plan because of Sunbelt's failure to prove that the SBRR can block and classify the necessary number of cars (based on Sunbelt's selected traffic group) at the Birmingham yard using its flat yard configuration and size. The vast majority of the traffic group's cars move through the Birmingham yard. Without an adequate facility to perform the needed operations at this yard, the entire system would become inoperable. Therefore, the Board must accept NS's operating plan.

2. CONFIGURATION

Having accepted NS's operating plan, logically we also accept NS's configuration because the system configuration forms the basis for an operating plan.

The parties agree on the total of 580.64 route miles for the SBRR, but disagree on the number of constructed track miles. **Table 1** summarizes our conclusions on the constructed track.

[76] Sunbelt Rebuttal III-C-60 to III-C-62.

[77] Sunbelt Rebuttal III-C-72 to III-C-74.

[78] Sunbelt Rebuttal III-C-82 to III-C-85.

TABLE 1

Constructed Track Mileage			
Type of Track	**Sunbelt**	**NS**	**STB**
1. Main line track -- 100% Owned			
a. Single first main track	578.24	578.24	578.24
b. Other main track	130.31	135.63	135.63
c. Total main line track	708.55	713.87	713.87
2. Helper pocket and setout tracks			
a. Setouts and Helper Pockets	4.48	15.82	4.48
b. Customer Access Sidings	-	10.61	10.61
c. Total Helper pocket and setout tracks	4.48	26.43	15.09
3. Yard and Interchange Tracks			
a. Yard Tracks (Incl. IM/Auto/Utility)	76.14	117.75	117.75
b. Interchange Tracks	17.28	23.48	23.48
c. Total Yard and Interchange Tracks	93.42	141.23	141.23
4. Total constructed track miles	**806.45**	**881.53**	**870.19**

3. OPERATING EXPENSES

As discussed above, we use NS's operating plan in this proceeding. The parties disagree regarding NS's proposal to include an operating expense approximating the cost of the "excess risk" that the SBRR would incur from the possibility of an accident involving a chlorine release, as well as the levels of insurance premiums included in operating expenses. These issues are discussed below, and the remaining disputes are discussed and resolved in Appendix A.

a. Insurance

The parties agree to use the Providence & Worcester Railroad Company's insurance costs as a benchmark for the SBRR's baseline insurance costs.[79] They disagree, however, on the

[79] Sunbelt Opening III-D-21; NS Reply III-D-206.

appropriateness of including a premium for catastrophic coverage. NS contends that the SBRR has a higher risk of a catastrophic TIH release than other railroads, pointing out that 2.5% of the SBRR's carloads are TIH, compared to the NS's 0.4% of carloads.[80] As such, NS argues that the SBRR must purchase additional insurance to account for the SBRR's higher risk of TIH liability, and calculates this additional insurance based on NS's own spending on premiums for insurance tiers above a certain amount (referred to here as "the Tier Amount" for confidentiality purposes). NS calculates that the SBRR would spend $8.2 million on ordinary insurance costs and $5.14 million on premiums for catastrophic coverage.[81]

Sunbelt rejects NS's inclusion of such coverage, arguing that NS's contention that the SBRR has a higher risk of a catastrophic TIH release than other railroads is false. Sunbelt points out that the SBRR handles far less TIH traffic in total than NS, and over far shorter distances. Sunbelt contends that the total amount of TIH traffic and total car-miles transported are more relevant metrics than the ratio of those values to total system traffic.[82] Moreover, Sunbelt argues that NS wrongly attributes all of its insurance costs for coverage in excess of the Tier Amount solely to TIH traffic. Sunbelt points out that NS's own evidence cites an example of liability exceeding the Tier Amount that resulted from a butadiene leak, which is not a TIH product.[83]

We agree with Sunbelt that the SBRR's ratio of TIH traffic to total traffic does not necessarily indicate that the SBRR has a higher risk of a catastrophic TIH release than other railroads. Other factors may contribute to a particular carrier's risk of a catastrophic TIH release, including the landscape over which the carrier operates, the population density on the route traveled, the volume of other traffic on the line, the complexity of overall operations, and the amount of traffic and congestion in yards, among others.[84] Moreover, Sunbelt has persuasively rebutted NS's methodology for calculating the premium for catastrophic coverage. There is nothing to indicate that NS's coverage over the Tier Amount is solely attributable to the release of TIH, as compared to other catastrophic events such as accidents involving petroleum products or passenger trains. And yet NS has argued that the SBRR requires such coverage over the Tier Amount merely based on its ratio of TIH to other traffic. Because NS has not supported its contention that the SBRR has a higher risk of a catastrophic TIH release, and because NS's method of calculating the premium is not tied to the SBRR's alleged higher risk, we will reject NS's inclusion of the $5.14 million premium for catastrophic coverage.

b. Excess Risk

NS on reply argues that an inherent cost of transporting the SBRR's TIH traffic is the excess risk that the SBRR would incur from the possibility of an accident involving a chlorine

[80] NS Reply III-D-206.

[81] NS Reply III-D-210.

[82] Sunbelt Rebuttal I-67, III-D-49.

[83] Sunbelt Rebuttal I-67 to I-68, III-D-49 to III-D-50.

[84] Sunbelt Rebuttal III-D-56 to III-D-57.

release. NS contends that the SBRR could not possibly purchase sufficient insurance coverage to protect against the catastrophic losses that could result from a large-scale TIH release. As such, NS includes a quantified assessment of the excess risk of a catastrophic TIH release as an operating expense of the SBRR.[85] In sum, NS proposes that the SBRR would incur an annual excess risk cost of $11,745,700.[86]

The parties disagree as to whether the inclusion of this category of operating costs is reasonable or unreasonable for several reasons. First, Sunbelt argues that such a cost is an impermissible barrier to exit that violates the theory of contestable markets insofar as a rail carrier may exit the market by declaring bankruptcy if it is unable to pay its liability above insurance coverage limits. Furthermore, Sunbelt points out that NS does not itself set aside any portion of its TIH revenue to cover uninsured costs from TIH release.[87] NS counters that the SBRR cannot use the prospect of declaring bankruptcy as an excuse to ignore the costs of quantifiable risks, just as the SBRR could not use the prospect of bankruptcy as an excuse to ignore all insurance costs.[88]

Second, Sunbelt argues that the excess risk that NS attempts to include as an operating cost is already reflected in the railroad industry's cost of capital, which is factored into the SARR's costs in the DCF analysis, and NS is therefore double-counting this cost.[89] NS responds that the SBRR's relative risk is much greater than those of the Class I carriers used in the Board's cost of capital determination, so simply claiming that this excess risk is captured in the DCF analysis is insufficient.[90] NS points out that 2.5% of the SBRR's carloads are TIH, compared to the NS's 0.4% of carloads.[91]

Finally, Sunbelt argues that NS's excess risk quantification methodology is deeply flawed. For example, Sunbelt points out that NS's quantification is based upon historical data that does not reflect substantial safety enhancements such as PTC. Sunbelt also argues that the risk of a release is not based solely on the proportion of TIH to all other traffic, but also includes many other factors.[92]

We will reject NS's inclusion of an excess risk cost for several reasons. First, as stated above with respect to insurance, we agree that the SBRR's ratio of TIH traffic to total traffic does not necessarily indicate that the SBRR has a higher risk of a catastrophic TIH release than

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[85] NS Reply I-55, III-D-224.

[86] NS Reply III-D-242.

[87] Sunbelt Rebuttal I-69.

[88] NS Brief 19.

[89] Sunbelt Rebuttal I-69.

[90] NS Brief 20.

[91] NS Reply III-D-206; NS Brief 17.

[92] Sunbelt Rebuttal III-D-55 to III-D-56.

other railroads. Second, no business is able to fully insure itself against all possible catastrophic events.

Third, NS has not shown that it, or other carriers, set aside capital to cover the risk of a catastrophic release, such that the SBRR should be expected to do so as well. Additionally, we agree that the risk associated with a catastrophic TIH release is already reflected in the railroad industry's cost of capital, as that calculation accounts for the railroads' cost of equity capital, which in turn accounts for risk. NS has not shown why the risk associated with a catastrophic TIH release is not already reflected in the cost of capital. It is generally understood that efficient capital markets recognize and reflect all of the risks faced by railroads. To the extent that NS argues that the SBRR has a higher risk than the NS because it carries a higher percentage of TIH carloads than the NS, we find that, in this instance, NS has failed to make that case. There may be instances where a particular railroad has such a high risk of a catastrophic release that its risk would not be fully encompassed in the industry's cost of capital. However, as discussed in the foregoing section, NS has not shown that the SBRR is such a carrier.

Finally, we agree with Sunbelt that NS's quantification of the excess risk cost is flawed in this instance because NS has not accounted for the variety of other factors that contribute to a particular railroad's risk of a catastrophic TIH release, such as the fact that the SBRR will operate with PTC from its inception.

For these reasons, we reject NS's inclusion of excess risk costs as an operating expense.

B. ROAD PROPERTY INVESTMENT

In the Road Property Investment (RPI) section of the SAC analysis, the Board determines the investment that would be required to build the SARR's physical facilities. The numerous issues involved in determining what it would cost to build the SBRR are addressed in Appendix B.

C. TRAFFIC GROUP AND REVENUES

A complainant creates a traffic group by using information on the types and amounts of traffic moving over the defendant's rail system, and selecting a subset of that traffic (including its own traffic to which the challenged rate applies) that the SARR would serve. AEPCO, slip op. at 16. The selected traffic group is representative of that which would move on the SARR in the future. AEPCO, slip op. at 16. The composition of the traffic group, as with all assumptions used in the SAC analysis, must be realistic, i.e., consistent with the underlying realities of real-world railroading. AEPCO, slip op. at 16.

The parties generally agree on the SBRR's traffic group for purposes of determining traffic volumes and revenues. The parties disagree on the appropriate ATC methodology to determine cross-over traffic revenues; the appropriate procedure for projecting traffic volumes; the proper methodology to be used to calculate fuel surcharge revenues and fuel costs; and whether income from certain companies within NS's corporate family should be included in the SBRR's forecasted revenues. We examine the appropriate ATC methodology and income from

corporate subsidiaries below, and the remaining traffic and revenue disputes are discussed and resolved in Appendix C.

1. ATC METHODOLOGY

A recent issue in SAC cases has been how to allocate the total revenues the railroad earns from cross-over traffic between the facilities replicated by the SARR and the residual network of the railroad needed to serve that traffic.[93] That is, parties dispute what percentage of the revenues from the cross-over traffic can the SARR claim as its own.

In Major Issues, slip op. at 31, the Board adopted an ATC approach to allocate revenues from cross-over traffic between the facilities replicated by the SARR and those of the incumbent carrier (Original ATC). Under Original ATC, parties would first use the variable and fixed costs for the carrier developed under the Uniform Railroad Costing System (URCS), and the density and miles of each segment, to calculate the railroad's average total cost for each segment of a move. The revenues from each portion of the movement would then be allocated in proportion to the average total cost of the movement on- and off-SARR. See Major Issues in Rail Rate Cases (Major Issues NPRM), EP 657 (Sub-No. 1) et al., slip op. at 19-20 (STB served Feb. 27, 2006).

Since then, to deal with low-rated cross-over traffic, the Board has applied what it has called "modified ATC." See W. Fuels Ass'n v. BNSF Ry., NOR 42088 (STB served Sept. 10, 2007), remanded sub nom. BNSF Ry. v. STB, 604 F.3d 602, 613 (D.C. Cir. 2010), on remand W. Fuels Ass'n v. BNSF Ry. (W. Fuels Remand), NOR 42088 (STB served June 15, 2012) (with Vice Chairman Begeman dissenting), remanded sub nom. BNSF Ry. v. STB, 741 F.3d 163 (D.C. Cir. 2014). More recently, after considering comments from interested parties in a rulemaking proceeding, the Board adopted what it called "Alternative ATC" to deal in a more targeted way with low-rated cross-over traffic. See Adopted Rate Regulation Reforms, slip op. at 30-34.

In this proceeding, Sunbelt argues that the Board should continue to utilize modified ATC, while NS argues that the Board should use Original ATC.[94] NS further states that, if the Board does not agree that Original ATC is the proper methodology, Alternative ATC is far superior to modified ATC.[95] NS argues that Original ATC is more consistent with SAC principles and rules, is more fair and logical than the modified ATC rule, and was adopted through a proper notice and comment rulemaking in which all interested parties had an opportunity to participate.[96] NS states that, as a legal matter, because modified ATC sought to

[93] Cross-over traffic refers to those movements included in the traffic group that would be routed over the SARR for only a part of their trip from origin to destination. In such circumstances, the SARR would not replicate all of the defendant railroad's service, but would instead interchange the traffic with the residual portion of that railroad's system.

[94] Sunbelt Brief 31-33; NS Brief 39-46.

[95] NS Brief 45-46 & n.62.

[96] NS Brief 39-46.

amend, in an individual adjudication, a legislative rule adopted in a notice and comment rulemaking, this amended rule violates the Administrative Procedure Act (APA) and is invalid and unenforceable.[97] Sunbelt argues that it would be arbitrary and capricious for the Board to apply the discredited Original ATC Methodology, that modified ATC is superior to Original and Alternative ATC, and that both Original and Alternative ATC have flaws.[98]

We will use Alternative ATC, which was developed through notice and comment rulemaking, because we believe it to be a superior methodology to both Original ATC and modified ATC. Furthermore, the arguments both parties make here about the superiority of their chosen method—Original ATC for NS and modified ATC for Sunbelt—were addressed by the Board in Adopted Rate Regulation Reforms and Western Fuels Ass'n v. BNSF Railway (WFA Remand), NOR 42088 (STB served June 15, 2012) (with Vice Chairman Begeman dissenting), remanded sub nom. BNSF Ry. v. STB, 741 F.3d 163 (D.C. Cir. 2014).

Although Alternative ATC had not been adopted prior to the start of this case, the parties were on notice that the Board's ATC methodology was potentially subject to modification. Sunbelt filed its opening evidence in August 2012, after WFA Remand was served in June 2012, and after the Board proposed Alternative ATC in July 2012 in Rate Regulation Reforms, EP 715 (STB served July 25, 2012). While NS sought to hold this case in abeyance while the Board considered changes to its revenue allocation methodology, Sunbelt argued that the case should continue to move forward. The Board denied the motion for abeyance. E.I. DuPont de Nemours & Co. v. Norfolk S. Ry., NOR 42125 et al. (STB served Nov. 29, 2012) (with Vice Chairman Begeman dissenting). However, to the extent that Sunbelt wishes to argue that it would have presented a different SAC case had it known that Alternative ATC would be adopted, it may seek to do so in a motion to reconsider or reopen.

2. THOROUGHBRED DIRECT INTERMODAL SERVICES REVENUE ADJUSTMENTS

The parties dispute how to account for revenues the SBRR receives from Thoroughbred Direct Intermodal Services (TDIS) movements.[99] According to NS, because TDIS is technically a subsidiary of NS, it functions as a customer of NS that purchases rail transportation services.[100] Thus, NS asserts that the revenue the SBRR would obtain by "stepping into NS's shoes" would be the rail line haul revenue NS collects for the rail segment of those intermodal movements.[101] But rather than treating TDIS as a customer of NS, and accepting the revenues that TDIS pays to NS, NS argues that Sunbelt collects the total revenue collected by TDIS for the various services it provides to third parties (e.g., trucking services from origin to the intermodal facility, revenues

[97] NS Brief 40.

[98] Sunbelt Brief 31-33; Sunbelt Rebuttal III-A-10 to III-A-23.

[99] TDIS is a provider of intermodal and logistics services.

[100] NS Reply III-A-10.

[101] NS Reply III-A-10.

for rail line haul services provided by NS and other carriers, intermodal lifts, and trucking services from intermodal facilities to the final destination).[102] With the exception of drayage costs,[103] NS states that Sunbelt's SAC evidence has not taken into account the costs of facilities, equipment, personnel, materials, or other expenses necessary to provide the services required to earn the revenues accrued by TDIS.[104] Further, NS states that Sunbelt has failed to include large operating costs that TDIS incurs each year to provide non-rail line haul services.[105] According to NS, ignoring these costs, while incorporating TDIS's total revenues, violates fundamental SAC principles, Board precedent, and basic economic principles.[106] Thus, NS states that Sunbelt's failure to account for costs associated with TDIS services compels the exclusion of revenues for those services.[107]

On rebuttal, Sunbelt argues that the NS revenue waybill data did not include all rail-related revenues associated with the movement of intermodal traffic for its TDIS subsidiary.[108] Thus, Sunbelt asserts that it was left to develop accurate movement revenues for these shipments from other materials and data provided by NS in response to Sunbelt's discovery requests.[109] According to Sunbelt, based upon the information provided by NS during discovery, it calculated what it reasonably assumed to be net rail revenue for TDIS shipments, excluding revenue associated with activities it reasonably assumed were trucking services from origin to intermodal facilities, lifts, and trucking services from intermodal facilities to final destination.[110] Sunbelt states that it then replaced, rather than supplemented, the line haul revenues included in the NS waybill data records with the restated rail-revenues NS actually earns on its TDIS traffic.[111] According to Sunbelt, NS on reply rejects Sunbelt's revenue adjustment for TDIS movements and includes only the line haul revenue TDIS transfers directly to NS to cover the NS operating costs associated with moving the individual shipments.[112] Sunbelt asserts that this methodology completely disregards the lion's share of the TDIS-generated revenues that NS reports on its books each year.[113] Further, Sunbelt argues that it did not simply replace the NS line haul revenues collected on movements with the total revenue collected by TDIS for the various

[102] NS Reply III-A-10.

[103] Drayage costs account for local movements of freight as part of the larger overall movement.

[104] NS Reply III-A-10.

[105] NS Reply III-A-10.

[106] NS Reply III-A-11.

[107] NS Reply III-A-11.

[108] Sunbelt Rebuttal III-A-23.

[109] Sunbelt Rebuttal III-A-23.

[110] Sunbelt Rebuttal III-A-23.

[111] Sunbelt Rebuttal III-A-23.

[112] Sunbelt Rebuttal III-A-24.

[113] Sunbelt Rebuttal III-A-24.

services it provides to third parties.[114] Instead, Sunbelt states that it clearly explained the procedures it used to reduce the TDIS total revenues to net out all costs associated with 10 separately identified drayage activities indicated in NS's work papers.

Sunbelt therefore states that it reduced TDIS revenues by 36% before applying them to the NS movements. Further, Sunbelt argues that it did not simply replace the revenue NS collected from these customers with the total revenue collected by TDIS, but removed categories of revenue to account for the activities that NS claimed should be excluded.[115] Sunbelt argues that, given the lack of clarity from NS on what activities were included in the drayage activities, its revenue adjustment is appropriate.[116]

According to Sunbelt, NS contends that Sunbelt should only be allowed access to revenue reported in the line haul revenue field of its traffic database, and not to the entire revenue stream associated with the traffic.[117] Sunbelt argues that NS is attempting to use an accounting device to restrict Sunbelt's access to NS revenues. According to Sunbelt, NS's financial reports to the U.S. Securities and Exchange Commission, the Board, and to NS shareholders clearly include revenues generated by its TDIS subsidiary as "NS Railway Operating Revenues."[118] Sunbelt, however, states that when it is time for the SBRR to "step into the shoes" of NS, for purposes of developing SAC evidence, NS argues that the SBRR should not be allowed access to the same TDIS revenues.[119] Nonetheless, Sunbelt asserts that, in light of the additional information provided by NS on reply, Sunbelt has adjusted its TDIS net revenues. Specifically, Sunbelt states that, in addition to the $14.29 million in drayage costs Sunbelt initially netted out of the TDIS total revenues in its opening, it further adjusts the TDIS revenues down by another $3.96 million to account for other cost items identified by NS.[120] Thus, Sunbelt states that its opening evidence inadvertently overstated TDIS intermodal revenues by 18% due to NS's failure to provide adequate support for its data.[121] By contrast, Sunbelt states that NS's reply evidence intentionally understated TDIS intermodal revenue by 22% as a way to limit the SBRR's access to revenues identified as "NS Intermodal Railway Operating Revenues," as reported in NS accounting documents.[122]

We accept NS's argument that the SARR should only be allowed to claim rail line haul revenues, and therefore adopt its evidence. While TDIS is a subsidiary of NS, it participates in

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[114] Sunbelt Rebuttal III-A-24.

[115] Sunbelt Rebuttal III-A-24 to III-A-26.

[116] Sunbelt Rebuttal III-A-24 to III-A-26.

[117] Sunbelt Rebuttal III-A-26.

[118] Sunbelt Rebuttal III-A-27.

[119] Sunbelt Rebuttal III-A-28.

[120] Sunbelt Rebuttal III-A-29.

[121] Sunbelt Rebuttal III-A-29.

[122] Sunbelt Rebuttal III-A-29.

non-rail activities, such as trucking. Revenues generated by non-rail activity cannot be included in a SARR's traffic revenue base. Further, as NS asserts, Sunbelt overstated SARR revenues in its opening by including revenues earned by TDIS without providing adequate evidence that the necessary infrastructure, operations, or corresponding expenses have been accounted for to provide such services. On rebuttal, Sunbelt still fails to include the necessary facilities, operations, capital investments, and expenses necessary to generate the TDIS revenue it seeks to include, and merely subtracts some TDIS operational costs from the intermodal revenues. Sunbelt has failed to show that the SBRR is entitled to more than the rail line haul revenues. Therefore, we will accept NS's evidence on the rail line-haul revenues from TDIS, as those are the only revenues to which the SBRR is entitled.

D. DCF ANALYSIS AND MMM

A DCF analysis is used to distribute the total capital costs (in current year dollars) of the SBRR over the SAC analysis period (10 years). Operating expenses are calculated for a base year and forecasted into other years by indexing for inflation and forecasted changes in tonnage. The SBRR's total revenue requirements (capital and operating expenses) are then compared against the stream of revenues NS is expected to earn from the revised traffic group, discounted to the starting year (2008). Operating expenses are discussed in Appendix A.

To adjust the base-year operating expenses for inflation over the analysis period, the parties use projections of the Rail Cost Adjustment Factor (RCAF), which is an index of railroad costs that we publish quarterly. There are two versions of the RCAF that are relevant to SAC proceedings: one that does not take into account changes in the rail industry's productivity (the unadjusted RCAF, or RCAF-U) and one that does (the adjusted RCAF, or RCAF-A). See 49 U.S.C. § 10708 (requiring quarterly publication by the Board of both versions). In Major Issues, slip op. at 40-42, the Board decided to phase in the productivity gains projected in RCAF-A incrementally over the analysis period. That approach is applied here.

However, this is not the end of the analysis, as the Maximum Markup Methodology (MMM) must be applied to the excess revenues to determine the relief, if any, that the complainant receives. The Board employs the MMM analysis to determine how much differential pricing the railroad must be permitted in order to recover its total SAC costs and thereby earn a reasonable return on its capital investments. Major Issues, slip op. at 14-15. The MMM begins with the actual distribution of R/VC ratios in the traffic group, which reflects the ability (or inability) of the railroad to recover its costs from this traffic due to the presence of competitive alternatives and real market forces. Major Issues, slip op. at 14-15. The MMM rank-orders these R/VC ratios and then, starting with the highest R/VC ratio, reduces the maximum R/VC ratio to the R/VC ratio of the next highest shipper, and repeats this process until it reaches that point where the stand alone railroad covers its costs and earns an adequate return on the capital investments required to serve the traffic group.

The parties dispute aspects of the DCF analysis and MMM. Our resolution of these disputes is set forth in Appendix D, which demonstrates that Sunbelt has not shown the challenged rates to be unreasonable.

The DCF analysis projects a modest over-recovery, but that recovery does not materialize until the last year of the DCF period (2021).[123] Consequently, the MMM results do not lower the allowable level of rates until 2021, and then only by a total of $2.0 million.

Under 49 U.S.C. 11704(b), a rail carrier is liable for damages that are sustained by a person as a result of the carrier's violation of the Interstate Commerce Act. Thus, when we find that a carrier has violated 49 U.S.C. 10701(d)(1) by charging a rate that is unreasonably high, we must award reparations. Here, however, no reparations are warranted because Sunbelt has not to date been charged a rate on any movement that exceeded the maximum R/VC level.

The Board also has the authority to prescribe maximum lawful rates for future movements under 49 U.S.C. 10704(a)(1). That section states that when the Board concludes that "a rate charged or collected by a rail carrier . . . will violate this part, the Board may prescribe the maximum rate." Thus, in contrast to reparations – to which a complainant that has paid an unreasonably high rate for past movements has a statutory right – the complainant has no similar right to a rate prescription for future movements. Rather, the Board has discretion whether or not to prescribe rates for future movements. AEP Tex. N. Co. v. BNSF Ry., NOR 41191 (Sub-No. 1), slip op. at 18 (STB served May 15, 2009).

Where the SAC analysis shows that the defendant's rates have not been shown to be unreasonable now, but may become unreasonable at some future point, we look at the broader context to determine whether or not a rate prescription appears to be warranted and appropriate at this time. Here, the forecasted rates on the movements in the final year of the DCF analysis are projected to generate R/VC ratios marginally in excess of the maximum R/VC ratio established by MMM. In other words, NS's rates are not predicted to become unreasonable until the final year—and then only by a small percentage. The movements eligible for reduction represent only roughly 6.9% of all of Sunbelt's issue traffic over the 10 years of the DCF period. This combination of circumstances does not provide a compelling basis for a rate prescription, and therefore, we will not prescribe a rate here. The Board's rate reasonableness analysis is predicated on the tariff rate challenged by Sunbelt in this case. Should NS raise the rate beyond that set forth in the challenged tariff, Sunbelt could challenge the reasonableness of the new rate.

This decision will not significantly affect the quality of the human environment or the conservation of energy resources.

It is ordered:

1. NS's July 26, 2013 motion to strike is granted in part and denied in part as discussed above.

2. The rates NS charges for the issue traffic have been shown to be unreasonable in the year 2021 only. We decline to prescribe a rate for those future movements.

[123] The total over-recovery projected by the 10-year DCF analysis is less than 0.5% of the SBRR's annual revenue.

3. This decision is effective on the date of service.

By the Board, Chairman Elliott, Vice Chairman Miller, and Commissioner Begeman. Chairman Elliott concurred with a separate expression and Vice Chairman Miller concurred with a separate expression. Vice Chairman Begeman dissented with a separate expression.

CHAIRMAN ELLIOTT, concurring:

The ICC, the Board's predecessor, adopted the SAC procedure for adjudicating rate cases in 1985, following a multi-year proceeding and subsequent court litigation. Today, there is no question that SAC cases are among the most complex cases that the Board adjudicates. Even in its most straightforward form – where the Board must consider a hypothetical railroad that primarily moves a single commodity between a single origin and a single destination – the Board will be called upon to decide hundreds if not thousands of individual issues. In cases where the hypothetical railroad is itself more complicated, or where the parties find less common ground on the thousands of inputs to a SAC analysis, that complexity only increases. Presenting the outcome of the Board's review process requires a lengthy decision reporting on myriad economic and engineering processes, appendices, spread sheets and legal conclusions. This process is difficult for carriers, for the agency, and most importantly, for the complainant shippers.

As Chairman – and the person responsible for moving the docket forward – I more than anyone would like to reduce the complexity and burdens associated with the Board's rate review process. In the last decade, the Board has taken a number of steps toward that effort, including the elimination of movement-specific adjustments to URCS and the development of simplified rate procedures. Under my leadership, the Board has expanded the availability of the expedited Simplified SAC and Three-Benchmark approaches (by eliminating and reducing award caps), and begun reviews of revenue adequacy (with the objective of making better, and hopefully more manageable, rate decisions) and grain rates (with the objective of ensuring that grain shippers have better access to the Board's rate procedures). But the agency cannot stop there, as the development of improved and more efficient rate case procedures must be continuous, and we should never be satisfied with a process that is so expensive and time-consuming for all parties. At my direction, the agency has begun to explore different ways of looking at rate cases, including alternatives to SAC. Addressing issues of such scope and complexity is a substantial, but important, undertaking.

Any new approach to rate adjudication must be economically sound, it must advance the goals of our statute, and it must address the many legal arguments made by parties. The SAC process, while imperfect due to its cost and complexity, does those things. Moreover, it is the Board's primary mechanism for judging rate reasonableness in large disputes, and it was the mechanism under which the complaint in this case was filed. Under these circumstances, the Board has a responsibility to apply the SAC test here and to make all the difficult calls necessary to reach a conclusion. That is what the majority decision does.

It is not clear whether the dissent challenges the outcome of this case. On the one hand, it suggests that the decision ignores real-world issues that even a hypothetical railroad should face. On the other hand, it suggests that the Board unjustifiably imposed costs on the SARR that were "unrelated" to the hump yard that the Board determined to be necessary. It is difficult to discern the meaning of such general arguments. Using its precedent, its evidentiary standards, and its expertise, the Board made hundreds of well-founded individual decisions in this case and provided a justification for each.

Today I reaffirm my commitment to improving and simplifying the Board's rate case methodologies, while recognizing that the SAC test has been upheld by courts and this agency as an effective means of determining rate reasonableness.

VICE CHAIRMAN MILLER, concurring:

I concur in the outcome reached by the Board, but with some reservation. My concern is not that the Stand-Alone Cost (SAC) test has been misapplied. In fact, it seems clear that the complainant, Sunbelt Chlor Alkali Partnership (Sunbelt), did not design a Stand-Alone Railroad (SARR) that could adequately handle all of the traffic that Sunbelt chose to include in the traffic group, primarily because Sunbelt did not include a sufficient plan for yard classification. Based on the evidence presented by both parties and the SAC test rules, as they have developed over time, the determinations made in this decision appear to be reasonable, and I consider the ultimate conclusion reached to be valid.

I would note, however, that this is my first experience involving a rate case decided under the SAC test, and in the course of reviewing this decision, I was struck by the level of detail that must be considered to design a SARR and the high burden this places on both parties – but especially for the shipper, which lacks familiarity with constructing and running a railroad. In particular, I am concerned that in some instances the task of designing a "winning" SARR can be so burdensome, and a single error by the shipper in the design of the SARR can be fatal. There is, of course, a significant burden on the railroad too in having to defend against a SAC-test rate challenge by having to assess the feasibility of every aspect of the shipper's design of the SARR.

I commend my fellow Board members for the recent reforms that they adopted in Rate Regulation Reforms, Docket No. EP 715, which were intended to improve the SAC test while also encouraging shippers to use the less burdensome rate reasonableness tests. During my tenure at the Board, I am eager to explore measures that can be taken to further improve the rate complaint processes. It is for this reason that I am encouraged by the Chairman's statement that the Board will begin exploring alternatives to SAC. It may be that SAC is in fact the most practical methodology available – but we will never know unless we first look at alternative approaches. Even if it turns out that there is no alternative that is as workable as SAC, knowing that fact may at least give our stakeholders more confidence in the process.

I am also pleased that, prior to my confirmation, the Board had already initiated Railroad Revenue Adequacy, Docket No. EP 722, to review revenue adequacy, and Rail Transportation of Grain, Rate Regulation Review, Docket No. EP 665 (Sub-No. 1), to consider whether the Board's rate regulations are adequately protecting grain shippers' interests. As I noted during

my confirmation process, I believe it is time for the Board to take a fresh look at revenue adequacy, and the Railroad Revenue Adequacy proceeding will serve as a good first step. The need for the Board to examine how the revenue adequacy constraint should be applied in determining the reasonableness of rates is particularly noteworthy in this case given that NS has been "revenue adequate" in seven of the last nine years.

COMMISSIONER BEGEMAN, dissenting:

While I had been skeptical about the Stand Alone Cost (SAC) test prior to my service at the Board, my concerns have only grown as I have seen the SAC process in action.

Under the SAC test, the shipper is supposed to have the opportunity to design and defend the most efficient Stand Alone Railroad (SARR) imaginable to demonstrate that it can serve its own and other selected traffic at lower rates, while covering all of its costs. The carrier is expected to critique the SARR and propose adjustments the carrier argues are necessary for the hypothetical railroad to serve its traffic. Then, hundreds, if not thousands, of calls are made at the Board that lead up to its determination of whether a rate is unreasonable.

I would expect the Board to objectively consider the shipper's evidence and accept all of the SARR's plausible efficiencies, while rejecting proposals that ignore reality. Unfortunately, that expectation has not been met in this case.

The majority has instead employed a much more subjective approach. For example, upon concluding that a particular facility had to be added for the SARR to serve its carload-heavy traffic group, the majority then used that call as the basis for imposing millions of dollars in *unrelated* costs on the SARR. I believe that was a mistake. This decision is also scattered with many conclusions that ignore the real world—realities that even a hypothetical railroad should face—resulting in what I view as a number of significant inconsistencies. The Board's ability to provide an objective assessment of the rate at issue was greatly hindered as a result.

The shipper, the carrier, and presumably the public expect the Board to settle the parties' dispute. That did not occur here. Instead, the majority invites Sunbelt to expend even more resources on its rate challenge. Sunbelt may seek reconsideration if it disagrees with the Board's application of the ATC methodology or bring a new case should the carrier raise its rate beyond that set forth in the challenged tariff. I find the second suggestion most baffling, given that the record here does not actually include the challenged tariff and the Board's analysis already indicates the point at which an escalating R/VC would become unreasonable.

The Board has a duty to ensure that shippers have a viable means to challenge a rate. I already know that is not the case for grain shippers, which is why I urged the Board to open a proceeding on that matter. Now, the Board should ask whether the SAC process can provide a meaningful gauge of rate reasonableness for carload traffic shippers. I stand ready to work with my colleagues and Board stakeholders to improve our rate processes.

I must dissent from the Board's decision.

APPENDIX A—OPERATING EXPENSES

This appendix addresses the annual operating expenses that would be incurred by the SBRR, the SARR in this proceeding. The manner in which a railroad operates and the amount of traffic it handles are major determinants of the expenses a railroad incurs in its day-to-day operations. As discussed earlier, we primarily use the defendant's proposed operating plan for the SBRR. NS utilized MultiRail to produce its train information, which was then input into the RTC Model. Both MultiRail and the RTC Model provide service units and outputs for calculating operating expenses and road property investments. Because we have adopted NS's operating plan, the outputs developed by those two models are used to determine the level of resources the SBRR would need for a given level of traffic, except as specifically discussed and indicated below. Additionally, items affecting operating expenses that are not an output from either of these two programs, such as unit costs for resources and staffing requirements, are also discussed below.

TABLE A-1

SBRR 2011 Operating Costs* ($ millions)			
	Sunbelt**	NS	STB
Locomotive Leases	5.2	7.2	6.1
Locomotive Maintenance	11.4	11.6	11.6
Locomotive Operations and Servicing	48.9	56.1	52.0
Railcar Leases and Maintenance	14.0	14.4	13.6
Operating Personnel	28.4	46.9	44.2
Materials, Supplies, and Equipment	0.9	1.2	1.3
General and Administrative	9.1	18.5	18.9
Ad Valorem Taxes	5.1	4.5	4.5
Loss and Damage	0.6	0.6	0.6
Insurance	5.8	8.2	7.7
Excess Risk	0	16.8	0
Intermodal Lift and Ramp	0.4	0.4	0.4
Automotive Handling	1.0	1.8	1.0
Costs Associated with New SBRR-NS Interchanges (Distributed Power)	0.6	0.6	0.6
Maintenance of Way	15.9	36.3	32.0
TOTAL	147.3	225.1	194.5

*Columns do not add up due to rounding.

**Sunbelt's position has been adjusted, where appropriate, to exclude rebuttal evidence that the Board has concluded is improper.

A. LOCOMOTIVES

1. LOCOMOTIVE REQUIREMENTS

The parties agree on the use of ES44AC locomotives for road service, and GP38 locomotives for local train service and work trains.[124] The parties disagree on the type of locomotive to be used for yard switching, however, with Sunbelt proposing the use of SW1500 locomotives and NS proposing the use of SD40-2 locomotives.[125] We find that, although both locomotive types are capable of performing switching duties, the SW1500 does not have the horsepower or tractive effort to move train-length cuts of cars, and the SBRR would need to double or triple the number of SW1500s used in larger yards. Because Sunbelt's evidence is deficient in this respect, and because we accept NS's yard configurations, we will also accept NS's use of the SD40-2 locomotives for switch service.

Locomotive requirements are impacted both by a "peaking factor" and "spare margin." To ensure that the SBRR will have sufficient locomotives to handle the peak demands of the traffic group, we require parties to estimate a peaking factor. In this case, the parties agree to a peaking factor of 15.1%.[126] Additionally, because individual locomotives cannot be guaranteed to be available at all times, spare locomotives will be necessary. We apply the parties' agreed-upon spare margins for ES44AC locomotives, GP38 locomotives, and the switch locomotives.[127]

The disagreement over locomotive requirements between the parties is primarily due to disagreement over the operating plan and RTC simulation. Because we are accepting NS's operating plan and RTC simulation, we also accept NS's projected locomotive requirements, as detailed below.

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[124] Sunbelt Opening III-D-3; NS Reply III-C-164.

[125] Sunbelt Opening III-D-3; NS Reply III-D-18.

[126] Sunbelt Opening III-C-11; NS workpaper "SBRR Operating Statistics NS Reply" (cell D34); Sunbelt workpaper "SBRR Yard Assignments_Open" (tab "Locomotives") (cell A14); NS workpaper "SBRR Reply Yard Assignments" (tab "Totals") (cell E10).

[127] NS Reply III-D-15; Sunbelt Rebuttal III-C-110.

TABLE A-2

Total SBRR Locomotive Requirements			
Locomotive Type	Sunbelt	NS	STB
Road—ES44AC	33	38	38
Local and Work—GP38	19	21	21
Yard Switching–SW1500	13	0	0
Yard Switching—SD40-2	0	18	18
TOTAL	65	77	77

2. LOCOMOTIVE LEASE EXPENSES

Sunbelt proposes to obtain all of its locomotives through leases, which NS accepts. The parties disagree, however, on the unit cost of leasing each type of locomotive. With respect to the ES44AC locomotives, Sunbelt developed its lease unit costs based on information publically available in Arizona Electric Power Cooperative, Inc. v. BNSF Railway Company (AEPCO), Docket No. NOR 42113, as NS did not provide any current locomotive leases during discovery. Specifically, Sunbelt took the annual lease expense from AEPCO, indexed to 3Q11, for a cost of $96,742 per unit.[128] NS argues that this unit cost is understated because, when purchasing new ES44 locomotives, it has consistently incurred a higher acquisition cost than the defendant railroad in AEPCO. As such, it proposes to adjust the lease cost proposed by Sunbelt on opening upward by 13%.[129] We find unpersuasive NS's argument that because it paid more when purchasing these locomotives than another carrier, the SBRR must therefore also pay more when leasing its locomotives, as NS has not demonstrated why its higher acquisition costs would translate into higher lease costs for the SBRR. The SBRR has the right to choose between leasing and purchasing its locomotive fleet. Because Sunbelt chose to acquire its locomotives through leases and because NS was unable to provide any current leases on discovery, it was reasonable for Sunbelt to rely on a recent Board decision that included lease costs for that particular locomotive type.

With respect to the GP38 locomotives, Sunbelt developed an annual lease price of $82,216 per unit based on an article published in a trade publication in 2008, indexed to 3Q11.[130] On reply, NS calculates an annual lease rate based on four of its own leases for GP38 units that it

[128] Sunbelt Opening III-D-3.

[129] NS Reply III-D-17.

[130] Sunbelt Opening III-D-4.

provided on discovery.[131] As Sunbelt points out,[132] however, the leases relied on by NS predate the 2008 data used by Sunbelt, and NS overstates the annual lease rate by attempting to index the rate for one lease even though that lease has a fixed rate for the life of the lease. We will accept Sunbelt's lease rate for the GP38 locomotives.

Finally, with respect to the SD40-2 switch locomotives, NS calculated an annual lease rate based on 11 of its own leases it produced on discovery.[133] Although Sunbelt on rebuttal continued to support the use of the SW1500 locomotive and its associated lease rate, it also argued that some of NS's 11 leases are out-dated, and thus NS overstates the lease rate for the SD40-2.[134] Although the Board accepts NS's evidence on the switch locomotive type (SD40-2), because we agree that NS's evidence on lease rates does not account for recent market changes, we will not accept NS's proposed annual lease rate because it does not reflect the 2011 market. As such, we will accept the adjusted annual lease rate for the SD40-2 calculated by Sunbelt on rebuttal and will adjust this cost item accordingly.

3. LOCOMOTIVE MAINTENANCE

The parties agree on the maintenance cost of $1.7718 per locomotive unit mile.[135] The difference in the parties' estimated maintenance costs, as reflected in Table A-1, results from differences in the parties' locomotive unit miles. Because the Board has accepted NS's operating plan and RTC simulation, the Board has also accepted NS's locomotive unit miles. As such, we will accept NS's locomotive maintenance cost estimate of $11.6 million.

4. LOCOMOTIVE OPERATIONS AND SERVICING

a. Fuel Costs

The parties agree to a fuel cost of $3.097 per gallon.[136]

b. Fuel Consumption

The parties agree to a fuel consumption rate of 2.48 gallons per locomotive unit mile for GP38 locomotives, based on NS's historical average rate found in its 2011 R-1 Annual Report.[137] Additionally, although NS does not explicitly accept Sunbelt's proposed fuel consumption rate

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[131] NS Reply III-D-18.

[132] Sunbelt Rebuttal III-D-7 to III-D-8.

[133] NS Reply III-D-18 to III-D-19.

[134] Sunbelt Rebuttal III-D-8 to III-D-9.

[135] Sunbelt Rebuttal III-D-10 to III-D-11.

[136] Sunbelt Rebuttal III-D-11.

[137] NS Reply III-D-22 n.48; Sunbelt Rebuttal III-D-12.

of 2.40 gallons per locomotive unit mile for switching service in its narrative, NS uses this fuel consumption rate in its workpapers.[138] As such, the parties agree to that fuel consumption rate for switching locomotives.

However, the parties dispute the fuel consumption for ES44AC locomotives. On opening, Sunbelt calculated a fuel consumption rate of 2.48 gallons per locomotive unit mile for the ES44AC locomotive based on NS's historical average rate found in NS's 2011 R-1 Annual Report, as it did for the GP38 locomotive.[139] NS counters that Sunbelt's proposed rate understates the total amount of fuel that the ES44AC locomotives operating on the SBRR would consume for two reasons. First, NS argues that the SBRR would consume more fuel than NS's system-average rate because the SBRR's entire fleet consists of high horsepower ES44AC locomotives, whereas the majority of NS's fleet consists of lower horsepower units.[140] Second, NS argues that the SBRR would consume more fuel because the SBRR's locomotives operate at higher speeds than NS's locomotives.[141] To correct for these errors, NS proposes to increase its system-average consumption rate used by the SBRR by 10%, as the horsepower of the ES44AC locomotive (4,400) exceeds NS's average horsepower for road units (3,997) by 10%.[142] On rebuttal, Sunbelt argues that NS's 10% adjustment is arbitrary and unsupported.[143]

Although it is true that speed and horsepower can affect fuel consumption rates, other factors can as well, including grade, curvature, trailing tons, the number of locomotives per train, and the type of service in which the locomotive is employed. NS cites two broad justifications (speed and horsepower) for deviating from its own system-average rate, though it makes no effort to differentiate the use of the ES44AC in the different types of SBRR service. Nor does NS explain how its proposed methodology (based on an evaluation of average horsepower) addresses the concern that the historic rate is inappropriate because the SBRR operates at higher speeds. Additionally, NS chose to disregard the system-average rate for one locomotive type, while accepting the system-average rate for the remaining types. Finally, and more importantly, NS's proposed fuel consumption rates for the ES44AC have not been shown to be based on real-world evidence of fuel consumption. As such, the Board finds that Sunbelt's fuel consumption rate is the best evidence of record.

c. Servicing (Sand and Lubrication)

The parties agree to other locomotive servicing costs (primarily sand and lubrication), calculated using NS's 2011 R-1 report. Specifically, the parties agree to a cost of $0.3431 per

[138] NS workpaper "SBRR Operating Expense NS Reply" ("Summary" tab) (cell G102).

[139] Sunbelt Opening III-D-6.

[140] NS Reply III-D-20 to III-D-21; NS Brief 48.

[141] NS Reply III-D-22; NS Brief 48.

[142] NS Reply III-D-22; NS Brief 49.

[143] Sunbelt Rebuttal III-D-12.

diesel unit-mile for ES44AC and GP38 locomotives, and to a cost of $0.0580 per diesel unit-mile for switch locomotives.[144]

On reply, however, NS argues that Sunbelt's investments fail to cover the SBRR's servicing needs because Sunbelt failed to include locomotive servicing trucks to perform maintenance on locomotives at locations where construction of fixed locomotive servicing facilities is not cost effective.[145] NS provides four servicing trucks and eight personnel to perform this function.[146] Sunbelt argues that this is excessive because all of the ES44AC and many of the GP38 locomotives can be serviced in the Birmingham yard, and instead includes two servicing trucks and four personnel.[147] Sunbelt thus concedes that such trucks and personnel are necessary, but does not show that NS's proposal is insufficient to meet the needs of the SBRR. Moreover, we disagree with Sunbelt's assumption that all or most of the road locomotives can be serviced in Birmingham. Sunbelt cannot assume that every road locomotive will run out of fuel in Birmingham, or even that every road locomotive will pass through Birmingham. We will therefore accept NS's servicing trucks and personnel.

B. RAILCARS

1. RAILCAR REQUIREMENTS AND LEASE EXPENSES

The parties generally agree on the methodological approach to estimating car costs, as is evidenced by the relatively small difference in estimated costs between the parties. As stated above with regard to locomotive requirements, the parties agree to a peaking factor of 15.1% for equipment. On opening, Sunbelt uses a spare margin for railcars of 4.5%. Although NS does not explicitly accept this spare margin in its narrative, NS uses this spare margin in its workpapers.[148] As such, the parties agree to a spare margin of 4.5% for railcars. The parties' workpapers also show that they agree on the full service lease rates for the various types of railcars.[149]

The parties are in disagreement over two aspects of the SBRR's railcar cost calculations, however. First, NS contends that Sunbelt's RTC simulation failed to properly simulate transit times.[150] On rebuttal, Sunbelt continues to rely on its RTC model.[151] Because the Board has

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[144] Sunbelt Rebuttal III-D-14.

[145] NS Reply III-D-23.

[146] NS Reply III-D-23; NS workpaper "SBRR Reply Yard Operations" (Tab "Yard Loco and Car Shop").

[147] Sunbelt Rebuttal III-D-14.

[148] NS workpaper "SBRR Car Costs NS Reply."

[149] Sunbelt workpaper "SBRR Car Costs;" NS workpaper "SBRR Car Costs NS Reply."

[150] NS Reply III-D-24.

[151] Sunbelt Rebuttal III-D-15.

accepted NS's operating plan, which includes NS's RTC model, the Board also accepts the RTC transit times that are outputs from NS's RTC model.

Second, NS contends that Sunbelt failed to include dwell times.[152] On rebuttal, Sunbelt agrees that dwell time should be included, but argues that NS overstates the cost associated with dwell time on system cars by adding dwell time incurred by all freight cars (foreign, private, and system).[153] To remedy this error, Sunbelt increases its general freight system car cost to account for dwell time by only that portion of car dwell hours that are associated with system cars. We agree that Sunbelt's methodology is more appropriate, and will use Sunbelt's rebuttal evidence.

2. RAILCAR MAINTENANCE

On opening, Sunbelt argues that because the SBRR has full service car leases, which include maintenance costs, no other maintenance costs are necessary.[154] On reply, NS criticizes Sunbelt for failing to include maintenance functions and facilities for car repair activities. NS argues that, even though it has full service leases, the SBRR cannot assume away all responsibility for performing running repairs and that it is necessary for the SBRR to comply with its obligations under the AAR Interchange Rules and intercarrier agreements.[155] As such, NS includes the facilities and equipment for railcar maintenance that it believes are necessary for the SBRR to handle its inspection and repair activities—specifically, a car shop at Birmingham, rip tracks at four locations, and four wheel-change trucks.[156] Sunbelt rejects NS's inclusion of the car shop and rip tracks because, under the AAR Interchange Rules, running repairs to foreign and private cars are compensated, yet NS failed to include such compensation in the SBRR's revenues.[157] As such, Sunbelt continues to omit the additional costs of car repair facilities, but also does not include the offsetting revenue that the SBRR would receive for performing the repairs.

Neither party provides flawless evidence. Sunbelt's evidence is understated, in part, due to its decision not to include the costs for car repair facilities. NS's evidence is flawed due to its failure to include the revenue that the SBRR would receive for running repairs to foreign and private cars. The Board would have preferred to include both the costs of maintenance facilities and the corresponding revenue resulting from running repairs, yet neither party provided workpapers adequate to permit the Board to make the necessary adjustments. Because NS promotes a plan for foreign car maintenance that ignores the associated revenues collected from the foreign carrier, we will accept Sunbelt's evidence on this issue.

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[152] NS Reply III-D-24.

[153] Sunbelt Rebuttal III-D-15.

[154] Sunbelt Opening III-D-8.

[155] NS Reply III-D-28 to III-D-29.

[156] NS Reply III-D-28 to III-D-29.

[157] Sunbelt Rebuttal III-D-18.

C. OPERATING PERSONNEL: TRAIN CREW

1. PERSONNEL REQUIREMENTS

There is a considerable difference between the parties' estimates of the number of necessary train crew personnel, stemming primarily from their disagreement over trains counts, crew imbalances, the re-crew rate, and yard crew requirements. NS argues that Sunbelt understates the amount of train crew necessary because: (1) Sunbelt failed to account for more than 1,600 trains that the SBRR would need to operate to handle the traffic group; (2) Sunbelt failed to account for directional imbalances in train flows; (3) Sunbelt failed to incorporate an appropriate level of re-crews; and (4) Sunbelt failed to present a yard operating plan.[158]

On rebuttal, Sunbelt makes several changes in response to NS's arguments. Sunbelt states that it added approximately 1,000 trains to address NS's missing trains concern.[159] With respect to the directional imbalances argument, Sunbelt contends that the 10 crew members added by NS on reply are overstated because NS relied on MultiRail, which Sunbelt contends is a flawed modeling tool, and because NS utilized a flawed methodology. Instead, Sunbelt adds four crew members to offset directional imbalances.[160] With respect to yard crew requirements, Sunbelt acknowledges that it inadvertently omitted classification of some cars in yards, but argues that NS's car classification counts are flawed because they were derived from MultiRail. As such, Sunbelt develops its own classification count from car event data provided in discovery and increases its number of yard crew personnel accordingly.[161] Finally, Sunbelt rejects NS's proposed method of determining a re-crew rate, and instead continues to rely on the rate (adjusted on rebuttal) based on its RTC simulation.[162]

As discussed in the body of this decision, the Board is adopting NS's operating plan and RTC model. The Board is also accepting NS's use of the MultiRail program, and the resulting evidence. Consequently, we accept NS's evidence on the number of trains necessary to handle the SBRR's traffic, the number of crew members necessary to offset directional imbalances, and NS's yard crew requirements.

With respect to the re-crew rate, on opening and rebuttal, Sunbelt applies a re-crew rate (0.3% and 1.1%, respectively) based on the results from its RTC simulation.[163] Arguing that Sunbelt's opening re-crew rate is too low, NS instead derives a re-crew rate of 3% for the

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[158] NS Reply III-D-29 to III-D-30.

[159] Sunbelt Rebuttal III-D-19 to III-D-20.

[160] Sunbelt Rebuttal III-D-20.

[161] Sunbelt Rebuttal III-D-22 to III-D-23. As discussed in the main decision, we denied NS's motion to strike Sunbelt's rebuttal car classification evidence.

[162] Sunbelt Rebuttal III-D-21.

[163] Sunbelt Opening III-D-10; Sunbelt Rebuttal III-D-21.

SBRR's road trains based on an analysis of its actual re-crew experience for trains on its Alabama Division.[164] In AEPCO, the Board accepted the defendants' re-crew rates, which were based on the actual re-crew rates of the lines replicated by the SARR, over re-crew rates based on the complainant's RTC simulation. NOR 42113, slip op. at 47 (STB served Nov. 22, 2011). Unlike the defendants in AEPCO, however, NS derives its re-crew rate from its entire Alabama Division, which includes not only the lines replicated by the SBRR, but also many additional routes. In fact, the majority of NS's Alabama Division is not replicated by the SBRR.[165] In these circumstances, we conclude that NS's re-crew rate is inappropriate and unsupported, and although we are accepting NS's RTC simulation generally, we will accept Sunbelt's proposed re-crew rate based on its RTC simulation here as the best evidence of record.

2. TRAIN CREW COMPENSATION

a. Wages

The parties disagree on average compensation for train crew personnel. Sunbelt estimates train crew personnel compensation by using the average wage paid to train crew employees by NS as shown in NS's 2010 Wage Forms A&B.[166] NS argues that Sunbelt's methodology is flawed because Sunbelt assumed that every crew would work 270 days per year, whereas NS's records indicate that its own crews worked, on average, fewer days per year. NS therefore contends that it is impermissible for Sunbelt to apply NS's historical compensation average while assuming that the SBRR's crews would work more days than NS's historical average. To derive its figure for compensation, NS calculated the average compensation for its own crew personnel who worked between 255 and 285 shifts, stating that the compensation for these personnel would more accurately reflect the compensation for SBRR personnel who work 270 days per year.[167] On rebuttal, Sunbelt contends that NS's proposed compensation is high because the data relied upon by NS indicates that tenure, rather than number of shifts, drives the average wage of NS's train crew personnel, whereas the SBRR will be hiring new employees.[168]

We find Sunbelt's argument regarding employee tenure unconvincing. The Board has previously recognized that crew members "working more hours would command more compensation." See, e.g., W. Fuels Ass'n v. BNSF Ry. (WFA/Basin), NOR 42088, slip op. at 47 (STB served Sept. 10, 2007). To some extent, an employee's experience may also have an effect on wages, but we do not accept Sunbelt's assertion that the SBRR would only be hiring new employees, whose wages would be comparable only to NS's employees with a lower average length of employment. The SBRR would hire its employees from the available pool of candidates in the area who would likely command comparable wages to a range of NS's

[164] NS Reply III-D-33 to III-D-34.

[165] NS workpaper "Timetables (NS-DP-C-1151 to 3222)."

[166] Sunbelt Opening Ex. III-D-1 at 8; Sunbelt Rebuttal III-D-23.

[167] NS Reply III-D-37.

[168] Sunbelt Rebuttal III-D-24.

employees. We conclude that the driving factor behind train crew personnel compensation in this case is the number of annual shifts worked. We therefore adopt NS's average wage rates for train crew personnel.

b. Fringe Benefits

The parties disagree on both the data source for and method of calculating applicable to the fringe benefits ratio. On opening, Sunbelt applied a fringe benefits ratio of 37.5% for all SBRR employees. Sunbelt stated that it calculated this number "based on the average ratio of fringe benefits to total wages paid in 2011 to all railroad operating employees as reported by the Association of American Railroads."[169]

On reply, NS agrees that the use of an average of other railroad fringe benefit ratios is an acceptable approach for determining SBRR fringe benefit costs. However, NS points out that Sunbelt actually relied on data from 2009, rather than the stated 2011, and that there is a calculation error in the average relied upon by Sunbelt. Additionally, NS argues that Sunbelt's 37.5% figure is immediately suspect because it is significantly lower than reported fringe benefits for most Class I carriers. After correcting Sunbelt's approach, NS applies a fringe benefit ratio of 45.6% to the SBRR's employees, though it does not apply its fringe benefit ratio to four SBRR executives.[170]

On rebuttal, Sunbelt acknowledges that its opening ratio of 37.5% was based on data for all Class I railroads in 2009.[171] It also acknowledges that the fringe benefit ratio for all Class I railroads in 2011 is equal to 45.6%—the number proffered by NS.[172] But despite these admissions, Sunbelt continues to rely on a fringe benefit ratio of 37.5%, arguing that the "SBRR would strive to minimize expenses where ever possible" and that the 37.5% figure "is equal to the three (3) year average fringe benefit ratio paid by BNSF and KCS for the period 2009 through 2011 based on the data shown in NS's Reply."[173]

As discussed in the main decision, we agree with NS that Sunbelt, by switching methodologies, presented impermissible rebuttal evidence in this matter and have therefore stricken the new methodology that Sunbelt introduced in support of its fringe benefits ratio on rebuttal. Because NS provides evidence from a year during which the SBRR would be operating, we will accept NS's fringe benefit ratio of 45.6% for all employees, except for the four SBRR executives for which NS does not apply the fringe benefit ratio.

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[169] Sunbelt Opening Ex. III-D-1 at 9.

[170] NS Reply III-D-38 to III-D-40.

[171] Sunbelt Rebuttal III-D-24.

[172] Sunbelt Rebuttal III-D-25.

[173] Sunbelt Rebuttal III-D-25.

However, to calculate the fringe benefit costs for train crew employees, we will apply that ratio to the average wage of the SBRR's train operating personnel as calculated by Sunbelt, even though we have accepted NS's train crew wages as the best evidence of record. Fringe benefits are calculated as a percentage of salary, and for most SBRR workers, this is an acceptable method of calculating fringe benefits. However, as discussed above, the compensation of train crew personnel is largely driven by the number of shifts worked. Because many of the components of fringe benefits are static and do not vary based on annual compensation, we have concerns about applying fringe benefits as a percentage of a train crew employee's salary simply because that employee is working more shifts. This is especially true here, where the SBRR's train crews are working more days on average than the real-world NS.[174] Because of this unusually high utilization rate, we accepted NS's higher proposed compensation rates for train operating personnel. But NS has not provided any justification for why fringe benefits should be based on this above-average compensation rate. We believe that NS's fringe benefit rate, when applied to NS's above-average compensation rate, inappropriately inflates the total cost of fringe benefits for train crew employees. Consequently, for the SBRR's train operating personnel only, we will apply NS's 45.6% fringe benefit ratio to Sunbelt's proposed average wage to calculate the total cost of fringe benefits for these employees.

c. Taxi & Overnight Expenses

On opening, Sunbelt provided for "taxi and overnight expenses for train crews," basing the unit cost for taxi trips on current rates for taxi service at each location and basing the unit cost for overnight stays on hotel room rates throughout the SBRR region.[175] NS accepts the methodology and unit costs for those items, but notes that Sunbelt omitted meal expenses. To determine the cost of meal expenses, NS calculated its own ratio of meal expenses to hotel expenses in 2009, and applied that ratio to the SBRR's hotel expenses.[176] On rebuttal, Sunbelt rejects the inclusion of meal expenses, arguing that its opening estimates of hotel and taxi expenses were based on higher retail rates as opposed to the lower contract rates that NS is able to negotiate, and thus assumes that its higher rates would include meals.[177] Although it may be true that Sunbelt's proposed hotel and taxi rates are higher than what NS is able to negotiate, those are the rates proposed by Sunbelt on opening and accepted by NS on reply. Sunbelt raised the argument that meal expenses were included as part of the hotel rates for the first time on rebuttal. Because of this inconsistency between its opening and rebuttal evidence, and because Sunbelt implicitly concedes that meal expenses should be included, we will accept NS's evidence for taxi and overnight expenses, i.e., Sunbelt's opening hotel and taxi expenses plus NS's meals additive.

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[174] See NS Reply III-D-31, 37.

[175] Sunbelt Opening Ex. III-D-1 at 10.

[176] NS Reply III-D-41.

[177] Sunbelt Rebuttal III-D-26.

D. OPERATING PERSONNEL: NON-TRAIN CREW

The parties agree to organize the SBRR's non-train crew operating personnel into four departments, but dispute the number of necessary personnel within each department. The departments are discussed separately below.

TABLE A-3

SBRR Non-Train Operating Personnel			
Department	Sunbelt	NS	STB
Transportation	34	46	41
Mechanical	41	42	40
Engineering	1	1	1
Operations Support	7	27	19
Total SBRR Non-Train Operating Personnel	83	116	101

1. TRANSPORTATION DEPARTMENT

The parties agree that this department includes one Assistant Vice President, one Administrative Assistant, eight Assistant Managers of Field Operations, five Crew Callers, and five Assistant Chief Dispatchers.[178] The parties disagree, however, as to several other positions within the Transportation Department.

First, with respect to field operations, the parties disagree on the number of Managers of Field Operations. Sunbelt argues that the four Managers of Field Operations it proposes on opening are sufficient, while NS adds an additional Manager on reply.[179] NS does not provide an adequate justification for adding another Manager of Field Operations, and therefore we will accept Sunbelt's count for the Manager of Field Operations position.

Second, with respect to dispatching, the parties disagree on the number of Chief Dispatchers and the number of dispatch desks required. Sunbelt provides for one Chief Dispatcher, five Assistant Chief Dispatchers (such that the position is manned around the clock),

[178] Sunbelt Rebuttal III-D-28, 30-31; NS Reply Ex. III-D-1 at 3, 6-7; Sunbelt workpaper "SBRR Operating Expense_Rebuttal" ("Summary" tab).

[179] Sunbelt Rebuttal III-D-31; NS Reply Ex. III-D-1 at 6-7.

and two dispatching desks manned around the clock by nine Dispatchers.[180] NS argues that the Chief Dispatcher position should be covered around the clock, thus necessitating five total Chief Dispatchers. NS also argues that the SBRR would need three dispatching desks, thus requiring a total of 13 Dispatchers.[181] Sunbelt contends that having both an around-the-clock Chief Dispatcher and an around-the-clock Assistant Chief Dispatcher is unnecessary, and continues to staff only one Chief Dispatcher on rebuttal.[182] Based on the evidence, we conclude that NS's decision to have the Chief Dispatcher position be around-the-clock, thus necessitating five employees, is excessive. We will therefore accept Sunbelt's evidence as to the Chief Dispatcher position.

Regarding the number of Dispatchers, NS has demonstrated that operating the SBRR with nine Dispatchers would be infeasible. As NS points out, by proposing a lower number of Dispatchers, Sunbelt increases the territory that each Dispatcher must cover.[183] NS indicates that Sunbelt is proposing to employ fewer Dispatchers per mile of track than the incumbent NS employs for the lines replicated by the SBRR.[184]

The incumbent railroad's own practices are not dispositive, and a complainant can seek efficiencies to reduce the costs of its SARR, including efficiencies that depart from the incumbent's practices. In this instance, however, NS has demonstrated that the SBRR would not be able to cover the same territory with fewer Dispatchers. The SBRR will operate as many trains as the incumbent NS operates over the replicated lines,[185] and the fact that Dispatchers are subject to FRA hours of service regulations would limit Sunbelt from increasing the hours the Dispatchers can work.[186] Sunbelt does not otherwise provide any explanation for how the SBRR's Dispatchers could handle a larger number of trains per Dispatcher in their time-limited shifts. We will therefore accept NS's proposal to have three dispatching desks staffed by 13 Dispatchers.[187]

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[180] Sunbelt Opening Ex. III-D-1 at 5; Sunbelt Rebuttal III-D-30.

[181] NS Reply Ex. III.D-1 at 4-6.

[182] Sunbelt Rebuttal III-D-30.

[183] Sunbelt disputes NS's interpretation of how the Dispatcher territories would be divided under Sunbelt's approach. See Sunbelt Rebuttal III-D-29 to III-D-30. However, the general proposition—that having fewer Dispatchers means a larger amount of territory per Dispatcher—is true regardless of how the territories are divided.

[184] See NS Reply Ex. III-D-1 at 4-5.

[185] See NS Reply Ex. III-D-1 at 4.

[186] See NS Reply Ex. III-D-1 at 5; Sunbelt Rebuttal III-D-30.

[187] Sunbelt argues that the SBRR would need fewer Dispatchers because it does not have separate branch lines. Sunbelt Rebuttal III-D-29. But the incumbent NS has only two branch lines in the territory replicated by the SBRR, and these lines are both located off of the Burstall to McIntosh line, which needs its own dispatching desk regardless of branch lines. Sunbelt also argues that employing nine Dispatchers is consistent with other similarly sized railroads whose

(continued . . .)

Finally, with respect to locomotive operations, Sunbelt on opening provided for two Managers of Locomotive Operations (MLO), one to be located at Birmingham and one at Meridian.[188] NS argues that two MLO are insufficient to perform the necessary duties, and adds "an additional MLO, located at Meridian to cover other portions of the SBRR network."[189] On rebuttal, Sunbelt argues that NS provided no factual reason for why an additional MLO is needed, particularly when Sunbelt had already established a MLO position at Meridian.[190] We agree. NS's only justification for adding a MLO is that such an employee is necessary at Meridian, but because Sunbelt had already provided for a MLO to be staffed at Meridian, the addition of this extra employee has not been justified. We will therefore accept Sunbelt's evidence.

2. MECHANICAL DEPARTMENT

The parties agree that this department includes one Assistant Vice President, one Manager of Locomotive Maintenance, one Manager of Testing and Environment, one Manager of Equipment Maintenance, and 28 Car Inspectors. The parties disagree on three other positions, however.

First, NS on reply adds two Managers of Car Inspection to oversee the Car Inspectors.[191] Sunbelt objects to the addition of these positions, arguing that they are unnecessary because each of the inspection teams that it provided on opening includes a foreman who would handle these duties as well as perform inspections as a member of the team.[192] Sunbelt also notes that these lead foremen will report directly to the Manager of Equipment Maintenance.[193] We are guided by AEPCO in this instance, and as such, agree with Sunbelt that NS has not justified the addition of these positions given the size of the SBRR. See AEPCO, slip op. at 51-52 (accepting plaintiff's argument that additional supervisors for car inspectors are unnecessary where four-person crew includes a foreman).

Second, NS on reply added an administrative assistant to the Transportation Department, the Mechanical Department, and the Operations Department.[194] As stated above, Sunbelt on

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(. . . continued)
operation mirrors that of the SBRR, but it provides no examples or other evidence to support this claim. Sunbelt Rebuttal III-D-29.

[188] Sunbelt Opening Ex. III-D-1 at 5.

[189] NS Reply Ex. III-D-1 at 6-7.

[190] Sunbelt Rebuttal III-D-31.

[191] NS Reply Ex. III-D-1 at 9.

[192] Sunbelt Rebuttal III-D-32.

[193] Sunbelt Rebuttal III-D-32.

[194] NS Reply Ex. III-D-1 at 3, 7, 10, 17.

rebuttal accepted one of the proposed administrative assistant positions—the one assigned to the Transportation Department—but it rejected the other two positions as duplicative.[195] Given that we hold that, generally, Sunbelt's staffing for non-operating personnel is inadequate and therefore accept NS's evidence that larger departments are needed, we will accept NS's proposed administrative assistants to support these larger departments, including the Administrative Assistant assigned to the Assistant Vice President of the Mechanical Department.

Finally, NS argues that the SBRR would require line-of-road inspectors to inspect and repair equipment that fails en route between terminals. Specifically, NS contends that the SBRR requires four crews, consisting of two members each, which would operate out of Birmingham, McIntosh, Meridian, and New Orleans.[196] Although Sunbelt agrees to the inclusion of line-of-road inspectors, it argues, without support, that NS's proposal of eight inspectors is excessive. Nevertheless, on rebuttal, Sunbelt provides four line-of-road inspectors, with two stationed at Meridian and two stationed at Selma.[197] Sunbelt has thus conceded the necessity of line-of-road inspectors, but has not shown that NS's proposal is infeasible, unrealistic, or unsupported. We will therefore accept NS's proposed eight line-of-road inspectors.

3. ENGINEERING DEPARTMENT

The parties agree that this department consists of one person, an Assistant Vice President of Engineering.

4. OPERATIONS SUPPORT DEPARTMENT

The parties agree that this department includes one Vice President of Operations, one Manager of Planning and Joint Facilities, and one Manager of Safety and Training. The parties disagree on several other positions, however.

First, as mentioned above, we accept NS's inclusion of three administrative assistants, one of which is assigned to the Operations Support Department.

Second, NS adds on reply an Operation Service and Support (OSS) group, with 10 total employees, which is responsible for car and train reporting and all service functions on the first and last mile of a car's movement.[198] The OSS personnel would operate around the clock, and would be responsible for communication with train crew, terminal personnel, and customers, as well as car distribution. At the same time, NS proposes to reduce the Customer Service group by two employees, and reduce its operating hours from around the clock to regular business

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[195] Sunbelt Rebuttal III-D-28; Sunbelt workpaper "SBRR Operating Expense_Rebuttal" ("Summary" tab).

[196] NS Reply Ex. III-D-1 at 9.

[197] Sunbelt Rebuttal III-D-33.

[198] NS Reply Ex. III-D-1 at 11-13.

hours.[199] NS posits that Customer Service could be assisted by OSS staff during periods of extreme disruption. Sunbelt rejects both of these changes to the non-train crew personnel, arguing that the OSS group is duplicative, and that Sunbelt's Customer Service group is responsible for all of the functions for which NS claims that OSS is needed. At the same time, Sunbelt also rejects NS's reduction in staff and operating hours to the Customer Service group, and instead maintains that group as posited on opening.[200] We agree that NS's inclusion of the OSS department is duplicative and unnecessary. We reject the inclusion of this department, and will accept Sunbelt's proposed Customer Service group.

Third, NS adds on reply a group responsible for damage prevention and freight claims, consisting of four total employees.[201] NS contends that this group would be responsible for investigating and negotiating freight claims, responding to derailments and other incidents, interacting with customers, and responding to customer questions. Sunbelt argues that this staffing is unnecessary, as it already has a Customer Service group and it has outsourced claims investigation.[202] NS, however, identified a specific customer service function of this group—responding to inquiries regarding the proper loading of rail cars to prevent damage and conducting field efforts to mitigate loss—that Sunbelt's Customer Service group would not handle.[203] Although Sunbelt argues that its Customer Service group can handle this function, its opening description of the functions of the Customer Service group did not specify this function.[204] NS not only fully explains the need for this group, but also provides evidence of how the real world NS staffs this group.[205] We conclude that NS has the best evidence of record, and will accept NS's staffing with respect to damage prevention and claims.

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[199] NS Reply Ex. III-D-1 at 13.

[200] Sunbelt Rebuttal III-D-34 to III-D-35.

[201] NS Reply Ex. III-D-1 at 14-16. In its narrative, NS states that this group comprises one manager, one assistant manager, one claims representative, and one analyst. In its workpaper titled "SBRR Operating Expense NS Reply," however, NS states that there is one manager and three staff members. Although NS may have intended to apply a higher salary to the assistant manager position, we accept the evidence as submitted by NS—in other words, both the position titles as described in the narrative, and the pay grades as described in the workpaper.

[202] Sunbelt Rebuttal III-D-36.

[203] See NS Reply Ex. III-D-1 at 14-15.

[204] Sunbelt Opening Ex. III-D-1 at 4 (stating that customer service agents would be responsible for "monitoring train locations, maintaining contact with connecting carriers and destination facilities, answering customers' questions concerning the location of specific trains and cars, . . . responding to customers' requests for diversion of trains/cars to different origins or destinations[, and] interacting with customers and field personnel to ensure equipment needs are met on a real time basis").

[205] NS Reply Ex. III-D-1 at 14-16.

Next, the parties disagree with respect to the Planning and Joint Facilities group. Sunbelt on opening included one manager, but provided no justification for the adequacy of that staffing, stating only that the manager "is responsible for preparing and monitoring joint facilities and other contracts, and the design of current and projected movement of traffic on the SBRR."[206] NS argues that a manager and three analysts are necessary, explaining that these employees would be responsible for "budgets and joint facilities," "train plan design, long-term planning, seasonal planning, contingency planning, and disaster recovery planning," "new routes for pricing new business," "medium- and long-term equipment issues," and "technology advancements requiring SBRR to change equipment to meet current needs," among other functions.[207] Sunbelt objects to these positions, arguing that the one manager it posited on opening is sufficient.[208] Although Sunbelt claims on rebuttal that the functions described by NS are covered by "the Operations Planning staff," it does not appear that Sunbelt's description on opening included all of these responsibilities, or that it has an Operations Planning staff other than the one Manager of "Operations, Planning & Joint Facilities" at issue here.[209] We will therefore accept NS's evidence as the best evidence of record.

The parties also disagree on the number of Assistant Managers of Safety and Training. NS contends that the SBRR would require an additional Assistant Manager given the myriad duties that this function is responsible for, including monitoring safety, conducting rules and training classes, developing and maintaining operating timetable, rules, and related instructions, attending industry meetings, analyzing rules application and compliance, and establishing standards for training and testing.[210] Sunbelt states that an additional Assistant Manager is unnecessary and the one it offered on opening is sufficient.[211] However, Sunbelt does not address NS's justifications for including an additional Assistant Manager. We conclude that NS has the best evidence of record.

Finally, the parties disagree on who should be responsible for overseeing the Operations Support Department. Sunbelt proposes an Assistant Vice President at a higher salary, while NS proposes a Director of Operations and Customer Support at a lower salary.[212] We agree that the relatively smaller staff of this department can be managed by a director-level employee, and as such we accept NS's proposed Director of Operations and Customer Support.

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[206] Sunbelt Opening Ex. III-D-1 at 4.

[207] NS Reply Ex. III-D-1 at 13-14.

[208] Sunbelt Rebuttal III-D-35 to III-D-36.

[209] Sunbelt Opening Ex. III-D-1 at 4; Sunbelt Rebuttal III-D-35.

[210] NS Reply Ex. III-D-1 at 16.

[211] Sunbelt Rebuttal III-D-37.

[212] Sunbelt Opening Ex. III-D-1 at 3-4; NS Reply Ex. III-D-1 at 10; Sunbelt worksheet "SBRR Operating Expense_Rebuttal" (tab "Summary"); NS worksheet "SBRR Operating Expense NS Reply" (tab "Summary").

5. NON-TRAIN CREW COMPENSATION

As with train crew personnel compensation, Sunbelt estimates most of its non-train crew compensation by using the average wage paid by NS as shown in NS's 2010 Wage Forms A&B.[213] NS accepts the use of its average historical compensation for non-train operating personnel.[214]

The parties disagree, however, with respect to the salary of the Vice President of Operations (and other executives). The parties generally agree to use an average of executive compensation from RailAmerica and Genesee & Wyoming.[215] However, as we describe in more detail below, we accept NS's inclusion of stock awards and other non-salary compensation for the Vice President of Operations and other executives.

Finally, as discussed above, we apply NS's fringe benefits ratio of 45.6% for all employees (excluding four executives).

6. MATERIALS, SUPPLIES, AND EQUIPMENT

The parties agree on the unit costs for materials, supplies, and equipment for the Non-Train Crew staff.[216] To the extent that the parties disagree on total costs for materials, supplies, and equipment, that is a function of their disagreement over total non-train crew employee counts. We have adjusted the amounts of materials, supplies, and equipment to account for the staffing levels accepted above.

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[213] Sunbelt Opening Ex. III-D-1 at 8.

[214] NS Reply III-D-37.

[215] NS Reply III-D-116 to III-D-117; Sunbelt Rebuttal Ex. III-D-1 at 48.

[216] NS Reply III-D-118; NS worksheet "SBRR Operating Expense NS Reply" (tab "Summary").

E. GENERAL AND ADMINISTRATIVE (G&A)

1. STAFFING

TABLE A-4

G&A Personnel			
Department	Sunbelt	NS	STB
Executive	3	3	3
Independent Directors	3	4	4
Marketing and Sales	3	9	9
Finance and Accounting	9	36	36
Law and Administration	16	52	48
TOTAL	34	104	100

a. Executive Department

On opening, Sunbelt proposed an Executive Department consisting of a President and an Administrative Assistant.[217] On reply, NS argues that this department would need an employee to assist the President with corporate relations, and as such proposes a Director of Corporate Relations.[218] Sunbelt concedes the appropriateness of such a position, but without explanation instead adds a Manager of Corporate Relations at a lower pay grade.[219] Because Sunbelt failed to support this change and failed to show that NS's proposal was unsupported, infeasible, or unrealistic, we will accept NS's inclusion of the Director of Corporate Relations.

[217] Sunbelt Opening Ex. III-D-2 at 3.

[218] NS Reply III-D-64 to III-D-66.

[219] Sunbelt Rebuttal Ex. III-D-1 at 16.

b. Independent Directors

The parties disagree on the number of independent directors serving on the Board of Directors. On opening, Sunbelt provides for two independent directors.[220] NS contends that four independent directors are necessary to serve on the Board.[221] On rebuttal, Sunbelt adds an independent director for a total of three.[222] By adding an independent director on rebuttal, Sunbelt concedes that the concerns raised by NS on reply are valid. Sunbelt provides no explanation for why NS's proposal of four independent directors is excessive, however. Because Sunbelt failed to rebut NS's evidence, we will accept NS's four independent directors.

c. Marketing and Sales Department

The parties disagree on several personnel areas within the Marketing and Sales Department. On opening, Sunbelt proposed to include a Director of Marketing and Sales and to outsource remaining marketing functions, arguing that "[t]he great majority of SBRR's traffic does not originate or terminate on the SBRR," and as such "the SBRR has minimal direct customer contacts."[223] NS argues that a larger department is necessary despite the SBRR's large portion of overhead traffic, as much of that traffic is Rule 11 traffic, for which the SBRR would have an obligation to negotiate and publish rates.[224] NS proposes a nine-person department, headed by a Vice President of Marketing & Sales, and assisted by an Administrative Assistant, one Director of Accounts, and six Managers.[225] NS's proposal does not include outsourcing, as it points out that Sunbelt failed to include funds for outsourcing on opening.[226]

Sunbelt acknowledges that it omitted outsourcing funds, and on rebuttal agrees that none of the functions of the Marketing and Sales Department will be outsourced.[227] However, Sunbelt argues that the department can function adequately with a Director of Marketing and Sales assisted by two Managers.[228] Sunbelt contends that its smaller department is adequate because of the SBRR's unique traffic group. Sunbelt points out that the SBRR has a large amount of overhead traffic, intermodal traffic, and large portions of traffic from large customers, which all

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[220] Sunbelt Opening Ex. III-D-2 at 2.

[221] NS Reply III-D-67.

[222] Sunbelt Rebuttal Ex. III-D-1 at 17.

[223] Sunbelt Opening Ex. III-D-2 at 7.

[224] NS Reply III-D-68.

[225] NS Reply III-D-70 to III-D-71.

[226] NS Reply III-D-69 to III-D-70.

[227] Sunbelt Rebuttal III-D-41.

[228] Sunbelt Rebuttal Ex. III-D-1 at 18, 22.

mean that the SBRR would have a smaller customer base requiring less involvement.[229]

Sunbelt's argument that the SBRR's marketing needs are minimal is unconvincing. As the Board stated in AEPCO,

> [w]e reject the proposition that the [SARR] will have fewer customer service needs due to its large amount of overhead traffic. Overhead traffic still requires customer service support. Also, the [SARR] will still be required to charge rates on these movements—a complex task done by the marketing staff. The fact that the [SARR] would carry a large amount of cross-over traffic does not mean that the complainant should be permitted to shield the SARR from expenses such as billing, rate setting, and customer service.

AEPCO, slip op. at 57. Although Sunbelt claims that the comparison railroads used by NS as benchmarks are intrinsically different from the SBRR, it only distinguishes the SBRR by summarily claiming that the SBRR has more overhead traffic. Sunbelt does not explain why this fact alone is sufficient to justify such minimal staffing, especially in light of the fact that (as NS points out) these comparison railroads handle fewer annual carloads than the SBRR. Further, with respect to Sunbelt's claim that the SBRR has a large amount of intermodal traffic and traffic from large customers, Sunbelt has not shown that the SBRR is unique in this respect. Sunbelt has failed to show that NS's staffing estimates were unsupported, infeasible, or unrealistic, and as such, we will accept NS's staffing for the Marketing and Sales Department.

d. Finance and Accounting Department

Sunbelt proposes a Financing and Accounting Department consisting of eight employees,[230] whereas NS proposes 36 employees. NS contends that Sunbelt underestimated the number of employees and necessary responsibilities and workload of this department. Sunbelt points to AEPCO, WFA/Basin, and Public Service Company of Colorado v. Burlington Northern and Santa Fe Railway Company (Xcel 2004), 7 S.T.B. 589 (2004), which had Finance and Accounting Departments of 32, 15, and 16, respectively, to show that its staffing levels are not unreasonable. Sunbelt, however, provides no argument as to why the SBRR is similar to the SARRs in those cases. In fact, the SARRs in WFA/Basin and Xcel 2004 had less revenue than the SBRR here. More importantly, those cases primarily dealt with unit train coal transportation, and as NS points out, "a carload railroad has much more complex revenue accounting needs than a unit-train coal railroad."[231]

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[229] Sunbelt Rebuttal Ex. III-D-1 at 18-20. As discussed in the main decision, we denied NS's motion to strike Sunbelt's rebuttal as it relates to marketing personnel.

[230] We do not include Sunbelt's Manager of Revenue Accounting in this count, as that position was stricken on NS's motion to strike, as described more below.

[231] NS Reply III-D-74. In E.I. DuPont de Nemours & Company v. Norfolk Southern Railway Company (DuPont), which also involved a carload railroad, the Board concluded that the defendant's proposal of 289 employees was more appropriate, and noted the difference

(continued . . .)

Moreover, NS provides compelling evidence of both its own operations and the operations of other smaller carriers to show that Sunbelt's staffing is inadequate.[232] Sunbelt summarily argues that such comparisons are unavailing because the SBRR is "a brand-new, start-up operation that does not have collective bargaining agreements, [and] is not a product of mergers," and because of its "state-of-the-art technology."[233] However, Sunbelt has not explained why being a start-up operation would so drastically reduce the finance and accounting needs of the SBRR. Nor has Sunbelt rebutted NS's explanations for why the SBRR's use of various technologies does not eliminate the need for in-house employees.

Finally, with respect to revenue accounting functions, which accounts for the biggest differences between the parties, we find NS's evidence to be the best evidence of record. As discussed in the main decision, we grant NS's motion to strike Sunbelt's rebuttal evidence on revenue accounting staff as improper. As such, we rely on Sunbelt's opening evidence in this regard, which does not provide for any revenue accounting staff within the G&A department (though Sunbelt does provide an RMI Technician on its IT staff). NS contends that the SBRR would need to devote significant resources to revenue accounting, and includes 17 employees for these functions.[234] NS provides compelling evidence and justification for why the SBRR would need revenue accounting personnel,[235] and revenue accounting employees have been included in prior cases. See, e.g., WFA/Basin, slip op. at 43; AEP Tex. N. Co. v. BNSF Ry. (AEP Texas), NOR 41191 (Sub-No. 1), slip op. at 55 (STB served Sept. 10, 2007). Sunbelt, by contrast, did not provide any personnel or a justification for such omission on opening.[236]

For all of these reasons, we find that Sunbelt's proposed staffing for its Finance and Accounting Department is inadequate and will accept NS's evidence.

e. Law and Administration Department

NS argues that the SBRR's Law and Administration Department requires a Vice President of Administration, supported by an administrative assistant, to manage the various functions of this department.[237] Sunbelt does not respond to NS's proposed inclusion of these

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(. . . continued)
between past unit train coal cases and carload cases. See NOR 42125, slip op. at 86-90 (STB served Mar. 24, 2014).

[232] See, e.g., NS Reply III-D-85 (comparison to the Wheeling & Lake Erie Railway with respect to disbursements).

[233] Sunbelt Rebuttal Ex. III-D-1 at 6.

[234] NS Reply III-D-89, 79-82.

[235] NS Reply III-D-79 to III-D-82.

[236] See Sunbelt Opening Ex. III-D-2 at 12-13 (addressing revenue system but not revenue accounting staff).

[237] NS Reply III-D-62 to III-D-63, III-D-90.

two employees. We agree that the SBRR requires vice-president-level executive officers to oversee the G&A functions, and that a Vice President of Administration, supported by an administrative assistant, are necessary positions, particularly in light of the larger Law and Administration Department that we accept, as described further below.

i. Legal

The parties agree that, although the majority of legal spending will be outsourced to outside law firms, one in-house legal employee is necessary.[238] Although the parties style this position differently in their narrative—Sunbelt referring to the position as a "Director of Law/General Counsel"[239] while NS refers to it as a "General Attorney"[240]—the workpapers make clear that both positions are at the same salary.[241] As such, the parties agree to the staffing of the legal department.

ii. Claims

Sunbelt proposes to outsource much of its claims functions but also proposes a Manager of Claims and Internal Auditing, who is responsible for a variety of functions, including, as relevant here, "the administration of claims on a system-wide basis (including supervision of the out-sourced risk and claims management contractor)."[242] Sunbelt's workpapers indicate that it has provided for $125,000 in outsourcing of claims handling, which it asserts is the equivalent of six claims investigators.[243] By contrast, NS explains why it is not feasible to outsource the claims function, asserting that claims investigation is a fact-intensive endeavor that requires detailed knowledge of a railroad's operations as well as knowledge of the rail industry as a whole.[244] NS proposes three in-house employees based on a comparison to the real-world NS, scaled to the SBRR.[245]

Although, as explained with respect to the motion to strike, we have not stricken Sunbelt's rebuttal evidence on this matter, we conclude that Sunbelt has not successfully rebutted NS's evidence. For example, Sunbelt argues that "a good deal of what moves by rail is the customers' responsibility" and that "claims against the railroads have been decreasing due to unit

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[238] NS Reply III-D-91; Sunbelt's Rebuttal Ex. III-D-1 at 33.

[239] Sunbelt Rebuttal Ex. III-D-1 at 33.

[240] NS Reply III-D-91.

[241] NS workpaper "SBRR Operating Expense NS Reply" ("Summary" tab); Sunbelt workpaper "SBRR Operating Expense_Rebuttal" ("Summary" tab).

[242] Sunbelt Opening Ex. III-D-2 at 4; Sunbelt Rebuttal Ex. III-D-1 at 35-36.

[243] Sunbelt workpaper "SBRR GA Outsourcing" (cells A11 & B11).

[244] NS Reply III-D-92 to III-D-93.

[245] NS Reply III-D-92 to III-D-93.

train shipments (like coal) and shipper responsibilities through loading,"[246] but it does not explain how these circumstances distinguish the SBRR from other railroads that are unable to outsource the claims function for the reasons NS describes. We will accept NS's evidence with respect to claims handling.

iii. Human Resources

The parties agree that this department is headed by a Director of Human Resources, but disagree on the number of necessary Managers.[247] NS contends that the Director should be supported by two Human Resource Managers, while Sunbelt argues that one Manager would be sufficient.[248] NS provides compelling evidence on the responsibilities and requirements of the SBRR's human resources function. NS also provides evidence indicating that Sunbelt's proposal is infeasible and supporting its own proposal by comparison to the staffing of other small railroads and to the Bloomberg-BNA.[249] Sunbelt both fails to support its own proposal and to support its criticisms of NS.[250] Additionally, as described below, we find Sunbelt's attrition rate to be unreasonably low and instead adopt NS's proposed attrition rates. Higher attrition means a greater need for new hires, and therefore, an increased burden on and demand for human resources staff. Because we accept NS's attrition rate, and because NS provides the best evidence of record supporting its human resources department, we will accept NS's evidence.

iv. Information Technology (IT)

On opening, Sunbelt proposes an IT staff of seven employees—specifically, one IT Manager and six IT Specialists. Sunbelt argues that this staffing is sufficient because the SBRR will not have a main-frame environment, which is not as labor intensive as typical Class I

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[246] Sunbelt Rebuttal Ex. III-D-1 at 36.

[247] NS Reply III-D-97; Sunbelt Rebuttal Ex. III-D-1 at 42-43.

[248] NS Reply III-D-97; Sunbelt Rebuttal Ex. III-D-1 at 42-43.

[249] NS Reply III-D-93, 97.

[250] Sunbelt argues that the "HR needs for a non-union labor force will be substantially lower than a union-governed entity." Sunbelt Rebuttal Ex. III-D-1 at 42. Regardless of the SBRR's non-union status, Sunbelt has not supported its position that the SBRR could operate with only one Human Resource Manager. As NS states, the Human Resource Managers are responsible for processing employee benefits selections, providing orientation, and performing Equal Employment Opportunity and other reporting for new hires. See NS Reply III-D-94. With approximately 52 new employees joining the SBRR each year—not to mention churn within the SBRR organization—these tasks are more than a single Human Resource Manager could accomplish, even at a non-union railroad. See NS Reply III-D-94. Moreover, although Sunbelt argues that a non-union workforce obviates the need for certain HR functions, it is also true that there are certain functions for which HR will be responsible that a union would otherwise perform.

railroads, and because much of its IT requirements will be outsourced to RMI.[251] On rebuttal, Sunbelt also adds one additional RMI Specialist, one additional Help Desk Technician, and one Field Technician, for a total of 10 IT employees.[252]

NS contends that Sunbelt's staffing is inadequate because of the SBRR's lack of an integrating platform and because Sunbelt does not provide sufficient redundancy for a railroad that will be operating around the clock.[253] As such, NS proposes to increase the SBRR's IT department. NS's evidence, however, contains conflicting accounts of the number of IT employees. In its narrative, NS states that it "proposes two alterations to the SBRR's IT staffing: additional IT specialists; and additional help desk technicians."[254] NS then explains that it is adding on reply four additional IT specialists, four Help Desk Technicians, and two Field Technicians.[255] A logical reading of this narrative would indicate that NS is adding 10 employees to Sunbelt's seven, for a total of 17. Later in its narrative, in Table III-D-26, NS indicates that the difference in number of IT employees between it and Sunbelt is 10, which would seem to confirm that NS intended a total of 17 IT employees.[256] However, in that same table, NS also states that its total IT department consists of only 13 employees. Similarly, in one of its workpapers, NS states that it will have one Director of IT[257] and 12 IT Specialists, for a total of 13.[258]

We will assume that NS proposed 13 IT employees on reply. It is apparent that Sunbelt relied on NS's statements that the SBRR would have 13 total IT employees—a reasonable reliance—and drafted its rebuttal accordingly.[259] The contradictory nature of NS's evidence calls into question its purported rationale for whichever number of IT employees that it intended. The ultimate difference between the parties only being three employees, and Sunbelt's staffing not being unreasonable, we accept Sunbelt's evidence as the best evidence of record.

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[251] Sunbelt Opening Ex. III-D-2 at 5-6.

[252] Sunbelt Rebuttal Ex. III-D-1 at 45-46.

[253] NS Reply III-D-98 to III-D-99.

[254] NS Reply III-D-99.

[255] NS Reply III-D-99 to III-D-100.

[256] NS Reply III-D-114.

[257] Adding to the confusion, despite the fact that its workpaper indicates that NS proposes a Director of IT, NS never explicitly stated in its narrative that it was changing Sunbelt's proposed Manager of IT to a Director. One could conclude, based on NS's narrative, that NS intended to accept Sunbelt's Manager position. (See NS Reply III-D-98 to III-D-99; NS workpaper "SBRR Operating Expense NS Reply" ("Summary" tab) (cell B281).)

[258] NS workpaper "SBRR Operating Expense NS Reply" ("Summary" tab) (cells E281 & E282).

[259] Sunbelt Rebuttal Ex. III-D-1 at 43.

v. Environmental

Sunbelt does not provide any environmental personnel within its G&A expenses, but instead points out that it provides for one Manager of Testing and Environment within the SBRR's Mechanical Department and one Manager of Environment/Safety/Training within its Maintenance of Way Department.[260] Sunbelt argues in its Maintenance of Way section that derailments are less likely to occur on the SBRR because of its brand new track structure that includes continuous welded rail.[261] NS, however, argues that such staffing is insufficient because the SBRR will need personnel to ensure compliance with environmental regulations and to be responsible for hazmat and TIH compliance.[262] As such, NS provides for one Director of Environmental Protection and five additional environmental employees within the Law and Administration Department.[263]

In its reply, NS thoroughly describes the many functions and responsibilities of its environmental section. Sunbelt, however, provides little evidence to support its assertions, and the support it does provide appears problematic in many respects. For example, although Sunbelt states that "[o]utside assistance would be more economical for infrequent special circumstances, such as a derailment involving spillage of toxic substances,"[264] it does not account for funding the retention of such outside assistance. With respect to hazmat and TIH compliance, Sunbelt argues that the SBRR's Operations Control Office is the single point designated to make the required contact in the case of an accident or mishandling, and reporting from multiple sources, as proposed by NS, would result in confusion.[265] Although there is value in a simplified reporting structure, as Sunbelt claims, Sunbelt has not clearly indicated which employees the SBRR would designate as the TSA-required Rail Security Coordinator and alternate. See 49 C.F.R. § 1580.101(b). Designating specific employees within the Operations Control Office could satisfy this requirement, but referring to the office generally is not enough to overcome NS's concern that Sunbelt is trying to assign an unrealistic collection of duties to the Manager of Testing and Environment and Manager of Environment/Safety/Training. Additionally, Sunbelt's evidence regarding the percentage of derailments that are track related fails to respond to NS's well-founded point that not all derailments are track related and not all incidents involving the release of hazardous materials result from derailments. We will accept NS's evidence on environmental staffing as the best evidence of record.

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[260] Sunbelt Rebuttal Ex. III-D-1 at 40; Sunbelt Rebuttal III-D-31; Sunbelt Opening Ex. III-D-3 at 15.

[261] Sunbelt Opening Ex. III-D-3 at 26-27.

[262] NS Reply III-D-100 to III-D-108; see also NS Reply III-C-83 to III-C-85.

[263] NS Reply III-D-107 to III-D-108, III-D-114.

[264] Sunbelt Rebuttal Ex. III-D-1 at 41.

[265] Sunbelt Rebuttal III-C-37.

vi. Real Estate

The parties agree to having a Director of Real Estate and Security, who is responsible for real estate sales, acquisitions, and easements, and liaising with the police force.[266] NS contends that a Manager of Real Estate and Development is also necessary to handle "short- and long-term real estate issues including negotiating sales, acquisition, or lease terms; interacting with government authorities; design and engineering support; and any other activity related to the proper and efficient use of SBRR property."[267] Sunbelt maintains that there is no need for additional real estate employees because "the SBRR real estate department is mainly just the right of way to operate the rail line, and there are few excess pieces of real estate," and because environmental concerns that affect real estate are only of periodic necessity.[268]

NS has not shown that Sunbelt's proposal to have one real estate employee is infeasible or will not support the operations of the SBRR. NS made no showing that that the SBRR's real estate sales and acquisition needs will be so great as to require an additional employee. Moreover, to the extent that certain real estate functions overlap with environmental issues, we accepted NS's expanded environmental group, which further minimizes any supposed need for an additional real estate employee here.

vii. Police Force

On opening, Sunbelt provides for two Security Agents, who report to a Director of Real Estate and Security.[269] Sunbelt argues that, should it be necessary, the Security Agents may also call in local public police forces to assist in handling a particular incident. NS contends that Sunbelt's staffing is inadequate, particularly because of the substantial volume of TIH traffic handled by the SBRR, and that Sunbelt's proposal fails to cover the minimum police force duties required by standard railroad practice and government regulation. NS also argues that railroads must pay for services provided by local public police forces that are called in to augment railroad police, and that because Sunbelt did not include such costs, Sunbelt cannot assume that it would receive assistance from local police. As such, NS proposes a police force of 22 employees, consisting of a Chief of Police, an Administrative Assistant, eight Police Communications Staff, three Investigators, and nine Field Police Officers, in addition to the Director of Real Estate and Security.[270] On rebuttal, Sunbelt rejects NS's augmented police staff and maintains that the staffing provided on opening is sufficient.[271]

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[266] NS Reply III-D-113; Sunbelt Rebuttal Ex. III-D-1 at 36.

[267] NS Reply III-D-113 to III-D-114.

[268] Sunbelt Rebuttal Ex. III-D-1 at 36-37.

[269] Sunbelt Opening Ex. III-D-2 at 4.

[270] NS Reply III-D-109 to III-D-113. Although NS states in its workpaper titled "SBRR Network NS Response Police Headcount" that it also includes a Manager of the eight Police Communications Staff, that position was not included in the narrative or in other workpapers. Moreover, NS on multiple occasions in the narrative indicated that its total police force,

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Sunbelt's position assumes, without support, that local jurisdictions will provide policing support without remuneration. Additionally, although Sunbelt criticizes NS's proposed police force, it does so without appropriate supporting evidence.[272] NS's evidence of its own staffing in the region where the SBRR operates in comparison to its own proposal is compelling with respect to the appropriate size of the SBRR's security function.[273] We therefore accept NS's evidence as the best evidence of record.

2. COMPENSATION

The parties agree to use data from NS's Wage Forms A&B to calculate salaries for non-executive personnel.[274] As mentioned above however, the parties disagree on the compensation for executives. Although they generally agree to use an average of executive compensation from RailAmerica and Genesee & Wyoming,[275] they differ on other aspects of such compensation. NS scales the average of executive compensation to the SBRR based on revenue and includes non-salary compensation such as bonuses, stock awards, and miscellaneous compensation.[276] Sunbelt, however, rejects NS's inclusion of non-salary compensation, arguing that the SBRR's proposed initial salaries meet the needs of a startup railroad and that "there may be room for salary increases, stock awards, and other incentives."[277] Because it excludes stock awards and non-salary items from the executive compensation, Sunbelt states that there is no need to scale the average compensation to the SBRR.[278] As NS states, however, Sunbelt may not assume that the SBRR would pay below-market compensation during the SAC period and then increase executive compensation at some point in the future.[279] Therefore, we accept NS's inclusion of stock awards and other non-salary compensation for the SBRR's executives.[280]

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excluding the Director of Real Estate and Security, consisted of 22 employees. (See, e.g., NS Reply III-D-113, 114.) As such, we disregard that position.

[271] Sunbelt Rebuttal Ex. III-D-1 at 37.

[272] Although Sunbelt may be correct that the regulatory compliance concerns cited by NS are obviated because those duties are already performed by the SBRR's dispatchers, customer service agents, and field operations department, (see Sunbelt Rebuttal Ex. III-D-1 at 38), as we state above, in light of Sunbelt's lack of support for its opening position, NS provides the best evidence of record.

[273] See "SBRR Network NS Response Police Headcount."

[274] NS Reply III-D-114; Sunbelt Rebuttal Ex. III-D-1 at 46.

[275] NS Reply III-D-116 to III-D-117; Sunbelt Rebuttal Ex. III-D-1 at 48.

[276] NS Reply III-D-116 to III-D-117.

[277] Sunbelt Rebuttal Ex. III-D-1 at 47-48.

[278] Sunbelt Rebuttal Ex. III-D-1 at 47-48.

[279] NS Brief 52. NS also points out that the parties essentially agree that stock awards are now properly included as expenses by railroads. Although previous SAC cases did not
(continued . . .)

Additionally, as discussed above, we apply NS's fringe benefits ratio of 45.6% for all employees (excluding four executives).

Finally, the parties disagree as to the compensation of the independent directors serving on the Board of Directors. As discussed earlier, we accepted NS's four independent directors. On both opening and rebuttal, Sunbelt states that these directors will be uncompensated, and it specifies that one of the directors will be independent with no connection to the SBRR and the remaining two outside directors will be shippers or investors in the SBRR with a direct interest in the SBRR's success.[281] NS contends that this is unrealistic, and instead adopts the same compensation benchmark used for executive compensation for the independent directors.[282] In past cases we have accepted the complainant's argument that outside directors who are shipper or investor representatives would be willing to serve with only compensation for travel expenses. See Xcel 2004, 7 S.T.B. at 653; Duke Energy Corp. v. CSX Transp., Inc., 7 S.T.B. 402, 462 (2004); Duke Energy Corp. v. Norfolk S. Ry. (Duke/NS), 7 S.T.B. 89, 159 (2003). Here, however, Sunbelt specifically proposes that one of its directors is independent with no connection to the SBRR. Although it may be reasonable under our precedent for a shipper or investor representative to be willing to work without pay, Sunbelt has offered no explanation for why all of its directors would be willing to do so. We are accepting NS's four directors, but we will accept Sunbelt's supposition that two of those directors are shipper or investor representatives willing to work without compensation. We will accept NS's proposed compensation as for the other two directors.

3. MATERIALS, SUPPLIES, AND EQUIPMENT

The parties agree on the unit costs for materials, supplies, and equipment for the G&A staff.[283] To the extent that the parties disagree on total costs for materials, supplies, and equipment, that is a function of their disagreement over total G&A employee counts. We have

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typically include this type of compensation, stock options and other non-salary compensation would be expensed during the time of the SBRR's operations following the Financial Accounting Standards Board's revisions in 2004 to its financial accounting standards. (NS Reply III-D-116; see also Financial Accounting Standards Board Statement No. 123 (Revised 2004).) As the Board has indicated in past cases, compensation that is expensed by the railroad is properly included as a cost. See AEPCO, slip op. at 53; WFA/Basin, slip op. at 48-49. RailAmerica and Genesee & Wyoming treat the cost of stock awards as an expense, as they are now obligated to do.

[280] We reject Sunbelt's request, in the event we include non-salary compensation, to replace revenue as the scaling metric with carloads, as Sunbelt has not shown that carloads is a more appropriate metric than revenue. See Sunbelt Rebuttal Ex. III-D-1 at 48-49.

[281] Sunbelt Opening Ex. III-D-2 at 2; Sunbelt Rebuttal Ex. III-D-1 at 49.

[282] NS Reply III-D-118.

adjusted the amounts of materials, supplies, and equipment to account for the staffing levels accepted above.

4. IT SYSTEMS

The parties generally agree on the IT systems requirements. They disagree, however, as to the RMI implementation costs and the inclusion of network security systems in SBRR's field offices.[284] As discussed in the Road Property Investment appendix, we accept Sunbelt's estimate of the implementation costs for the RMI system. With respect to network security systems, NS presents argument that such systems are necessary, and Sunbelt has failed to adequately rebut these arguments. We will accept NS's added security and redundancy systems at the 11 field offices.

5. OTHER OUTSOURCED FUNCTIONS

The parties disagree on three functions that are outsourced by the SBRR. First, for payroll processing, NS argues that these costs should include an outsourced cost for an Employee Assistance Program (EAP). NS adopts the cost of $4.03 per month per employee, which is the cost that it pays for such a program.[285] Sunbelt, however, argues that the inclusion of this cost amounts to double-counting because EAPs are included in the calculation of fringe benefits.[286] Neither party provided an exhaustive list of benefits included within its fringe benefit costs, and therefore we are unable to determine whether either party explicitly included an EAP within its fringe benefits cost. However, under the Uniform Statement of Accounts, EAPs would be considered a fringe benefit. The fringe benefits ratios used by the parties were both based on the ratio as reported by the Association of American Railroads, which likely would have based its calculations on the Uniform Statement of Accounts. For these reasons, the Board agrees with Sunbelt that the outsourced cost for an EAP should not be included, as it is already included in the calculation of fringe benefits.

Next, the parties agree to use 0.03% of revenue as a benchmark for the cost of outsourcing internal auditing. However, they disagree as to the cost of outsourcing financial auditing. NS argues that 0.06% of revenue is an appropriate benchmark, as that figure is the average audit fee for private companies with between $100 million and $499 million in revenue as determined by the Financial Executive Research Foundation.[287] Sunbelt contends that this figure results in overstated costs, and instead uses 0.0257% of revenue, which it derived by

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[283] NS Reply III-D-118; NS worksheet "SBRR Operating Expense NS Reply" (tab "Summary").

[284] NS Reply III-D-119, 121; Sunbelt Rebuttal Ex. III-D-1 at 51, 54.

[285] NS Reply III-D-122.

[286] Sunbelt Rebuttal Ex. III-D-1 at 55.

[287] NS Reply III-D-122 to III-D-123.

calculating the percent of revenue that NS spent on audit fees for the years 2009 through 2011.[288] Sunbelt's use of NS's real-world costs over a three-year period is preferable to the average cost of private companies generally over a one-year period. We will accept Sunbelt's evidence as the best evidence of record.

Finally, the parties disagree on the costs for outsourcing legal work. To calculate the SBRR's outside legal costs, NS uses 0.4% of revenue as a benchmark for total legal costs, and then subtracts the cost of its in-house General Attorney.[289] The 0.4% of revenue figure is the amount spent by the median company with revenue between $100 million and $999 million, according to a business news and information provider relied upon by NS.[290] Sunbelt accepts this methodology generally, but makes one adjustment. It argues that, because both in-house and outside counsel for the SBRR would likely reside in Birmingham, where legal salaries are 86% of the mean wage for attorneys in Washington, D.C., the 0.4% figure should be multiplied by 86% for a more appropriate 0.35% of revenue.[291] Nothing in the study relied upon by NS, however, is specific to the Washington, D.C. legal market, and as such, Sunbelt's proposal to multiply NS's figure by 86% is unsupported. We will therefore accept NS's proposed costs for legal outsourcing.

6. START-UP AND TRAINING COSTS

The parties generally agree on the calculation of start-up and training costs. However, they disagree on the total training costs due to differences both in their projected number of total employees and in the fringe benefit ratio. As discussed above, we accept NS's fringe benefit ratio and have made determinations on the appropriate number of employees. The parties also disagree on the annual attrition rate and recruitment costs per employee.[292]

a. Attrition Rate

The parties disagree on the annual attrition rate for subsequent annual training, an important factor for calculating total training costs because, as attrition rates increase, more employees must be hired and trained. On opening, Sunbelt proposes an average annual attrition rate of 1.8% for annual recruitment and training expenses, based on expert testimony on "quit rates" submitted in 2011 in an unrelated mediation proceeding.[293] Sunbelt fails to explain why this quit rate percentage is relevant to the SARR, however. The quit rate cited in Sunbelt's report is from the Job Openings and Labor Turnover Survey, which defines a "quit" as a

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[288] Sunbelt Rebuttal Ex. III-D-1 at 56.

[289] NS Reply III-D-91, 123-24.

[290] NS Reply III-D-91.

[291] Sunbelt Rebuttal Ex. III-D-1 at 34-35.

[292] NS Reply III-D-94, 125-27; Sunbelt Rebuttal III-D-44; Sunbelt Rebuttal Ex. III-D-1 at 57-59.

[293] Sunbelt Opening Ex. III-D-2 at 20; Sunbelt workpaper "Attrition Rate."

voluntary separation that is initiated by the employee, not including retirements.[294] Sunbelt does not explain why it would be appropriate for an attrition rate for subsequent annual training to exclude layoffs, discharges, retirements, and other forms of separation. The omission of these other forms of separation renders Sunbelt's proposed attrition rate unreasonably low, and in fact Sunbelt's 1.8% rate is low when compared to past SAC cases. See, e.g., AEPCO, slip op. at 63-64 (attrition rates varying by employee type not less than 6%); WFA/Basin, slip op. at 54 (attrition rate of 5.5%); Otter Tail Power Co. v. BNSF Ry., NOR 42071, slip op. at C-18 (STB served Jan. 27, 2006) (attrition rate of 5.5%).

NS proposes attrition rates by job type, varying from 5.5% to 12% annually, based on its own real-world experience.[295] We will adopt NS's proposed attrition rates as the best evidence of record.

b. Recruitment Costs

The parties also disagree with respect to recruitment costs per employee. NS argues that Sunbelt underestimated recruitment costs by only including the out-of-pocket expenses and not including the in-house costs of Human Resources employees who carry out that work.[296] To remedy this omission, NS calculates a higher average recruiting cost per employee.[297] Sunbelt rejects NS's calculation, arguing that its added in-house expenses are either unnecessary or duplicative.[298] We disagree with Sunbelt's position that these costs are unnecessary or duplicative, as the SBRR's Human Resources staff does not include specific recruiting personnel nor does it include responsibilities related to recruiting. NS proposes a valid methodology for approximating these costs when it calculates an internal recruiting cost per recruit. We will accept NS's evidence on recruitment costs.

7. TRAVEL EXPENSES

The parties agree on the annual travel expense per employee, but disagree on the number of positions that require travel expenses.[299] NS argues on reply that the number of positions to which travel expenses are applied should be increased. On rebuttal, Sunbelt accepts some of the positions added by NS for travel expense, but does not explain why some but not all of NS's additional employees should incur travel expenses. Because Sunbelt fails to rebut NS's evidence on travel expenses, we will accept NS's proposal on the number of employees who will incur travel expenses.

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[294] Sunbelt workpaper "Attrition Rate" at 19; http:// www.bls.gov/jlt/jltdef.htm.

[295] NS Reply III-D-94 & n.168.

[296] NS Reply III-D-125 to III-D-127.

[297] NS Reply III-D-127.

[298] Sunbelt Rebuttal III-D-44.

[299] NS Reply III-D-127; Sunbelt Rebuttal Ex. III-D-1 at 60.

8. BAD DEBT

Although Sunbelt failed to account for bad debt on opening, it concedes on rebuttal that bad debt should be included as an expense. However, because it failed to provide such evidence on opening, it is foreclosed from presenting new evidence on rebuttal unless it shows that NS's evidence is unsupported, infeasible, or unrealistic. NS calculated the SBRR's bad debt expense by averaging the amount of uncollectible accounts as a percentage of revenue for all Class I rail carriers from 2007 through 2011, yielding an average of 0.05% of revenue.[300] Sunbelt disagrees with NS's methodology, and instead calculates an uncollectible rate of 0.01% of revenue based on the year 2011 (the SBRR's base year) and on NS's actual bad debt expense (as opposed to the average of all the Class I carriers).[301] Without passing on the appropriateness of one methodology over the other, we accept NS's evidence because Sunbelt has not shown that NS's methodology is unsupported, infeasible, or unrealistic.

a. Ad Valorem Taxes

On opening, Sunbelt calculates the SBRR's ad valorem taxes by determining the amount of tax that NS paid per route mile in each of the states in which the SBRR operates (Alabama, Louisiana, and Mississippi). Sunbelt then multiplied this figure by the SBRR's route miles in each state to determine the ad valorem tax burden for each state.[302] Sunbelt states that this methodology is consistent with AEPCO and AEP Texas.[303]

NS argues, however, that Sunbelt's methodology is flawed because ad valorem taxation is not primarily a function of route miles, but instead is a function of profitability. NS points out that the three states in which the SBRR operates tax railroad property as a function of the railroad's overall profitability as an enterprise—its "unit value"—and that a SARR that is more profitable than the incumbent railroad will pay more taxes as a result. Because the SBRR as posited on opening has higher net railway operating income on a route-mile basis than NS, NS contends that the SBRR would have a higher income valuation and thus higher ad valorem taxes. To account for these higher taxes, NS calculated a "unit value modifier" that measures the relative profitability of the SBRR vis-à-vis the NS to adjust the SBRR's total ad valorem tax burden.[304]

On rebuttal, Sunbelt continues to apply its methodology from opening, arguing that it has been accepted in previous SAC cases.[305] Sunbelt also argues that its methodology is the best evidence of record because NS's methodology contains two flaws. Sunbelt contends that, first,

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[300] NS Reply III-D-130.

[301] Sunbelt Rebuttal Ex. III-D-1 at 61.

[302] Sunbelt Opening III-D-21.

[303] Sunbelt Opening I-58.

[304] NS Reply III-D-210 to III-D-219.

[305] Sunbelt Rebuttal III-D-53.

NS overstates the "unit value modifier," and second, NS erred in relying on the Board's cost of capital to determine the "value" of the SBRR and NS systems when Alabama, Louisiana, and Mississippi do not necessarily rely on the Board's cost of capital figure.[306]

Although Sunbelt is correct that the Board in AEPCO accepted a methodology based on route miles similar to that presented by Sunbelt, NS has made a strong case for departing from that precedent here. In AEPCO, slip op. at 79-80, the Board stated that "Defendants . . . failed to provide evidence beyond their own unsubstantiated testimony showing that taxable values are driven by capitalized [net railway operating income]," whereas plaintiff "provide[d] evidence, such as copies of tax determinants from each state." In this case, NS has provided a detailed narrative and evidence indicating that all three states in which the SBRR operates use a unit valuation approach, and that as such a route mile approach is inappropriate. Because Sunbelt has provided no evidentiary support for its methodology, and because Sunbelt has not shown that NS's unit value approach as a general matter is inappropriate, we will accept NS's estimate of ad valorem taxes as the best evidence of record.[307]

b. Loss and Damage

The parties agree to the methodology for calculating the SBRR's annual loss and damage costs.[308]

c. Insurance

The parties agree to the use of the Providence & Worcester Railroad Company as a benchmark for baseline insurance costs.[309] They disagree, however, on the appropriateness of including a premium for catastrophic coverage. As discussed in the earlier in the main decision, we reject NS's inclusion of a $5.14 million premium for catastrophic coverage.

d. Excess Risk

NS on reply argues that an inherent cost of transporting the SBRR's TIH traffic is the excess risk that the SBRR would incur from the possibility of an accident involving a chlorine release. As such, NS adds an annual excess risk cost to the operating expenses of the SBRR.[310] As discussed earlier in the main decision, we reject NS's inclusion of annual excess risk cost.

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[306] Sunbelt Rebuttal III-D-52.

[307] Although Sunbelt has presented criticisms of NS's methodology, neither criticism, if true, renders NS's proposal infeasible. By contrast, NS details fundamental flaws in Sunbelt's position that are incurable.

[308] Sunbelt Opening III-D-20; NS Reply III-D-204.

[309] Sunbelt Opening III-D-21; NS Reply III-D-206.

[310] NS Reply III-D-224, 242.

F. OTHER MISCELLANEOUS COSTS

1. INTERMODAL LIFT AND RAMP COSTS

Sunbelt on opening calculated the lift and ramp costs for handling intermodal shipments at Birmingham and New Orleans based on information provided in discovery.[311] On reply, NS contends that Sunbelt omitted certain costs, including clerical support and utilities, and thus adjusts the unit cost per lift to include these costs.[312] Sunbelt accepts NS's modification to the unit cost, but notes that on rebuttal it modifies the forecast of traffic to correct for a count of duplicate waybills as it relates to intermodal units handled.[313] Sunbelt correctly modifies the intermodal lift and ramp costs to correct for the duplicate waybills, and as such we will accept its costs presented on rebuttal.

2. AUTOMOTIVE HANDLING COSTS

The parties agree on the handling cost per unit associated with loading and unloading at automotive facilities.[314] They disagree, however, on how to calculate the total automotive handling costs. Although their arguments describing this disagreement are not well developed, it is clear that the disagreement centers on how each party calculated NS's system-wide ratio of automobiles loaded/unloaded to rail cars originated/terminated (i.e., the number of automobiles per rail car on NS system-wide). The parties multiply this ratio by the number of rail cars originated/terminated on the SBRR to determine the total number of automobiles on the SBRR, and then multiply this figure by the agreed-upon unit cost to determine total automotive handling costs.

With respect to the ratio of automobiles per car on the NS system, the parties agree that the denominator should be the number of carloads originated/terminated as reported in NS's 2010 QCS Report, but disagree on the appropriate number for the numerator. Sunbelt contends that that figure should be 1.8 million automobiles, as reported in NS's 2010 Schedule 755, which represents the number of automobiles loaded and unloaded "at the railroad's expense."[315] NS argues that the numerator should instead be 3.3 million, a figure provided in discovery which apparently represents the total number of automobiles loaded/unloaded on the NS system in

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[311] Sunbelt Opening III-D-22.

[312] NS Reply III-D-219 to III-D-220.

[313] Sunbelt Rebuttal III-D-57.

[314] NS workpaper "SBRR AUTO DISTRIBUTION Reply" (tab "Auto Distro Summary") (cell S28); Sunbelt workpaper "SBRR Operating Expense_Rebuttal") (tab "Summary") (cell D358).

[315] Sunbelt Rebuttal III-D-59; Sunbelt workpaper "SUNBELT_ATC_Open" (tab "Vehicles Originate or Terminate"); NS 2010 R-1 Report (Instruction Q to Schedule 755).

2010, regardless of who paid for such loading or unloading.[316] Using their respective figures, NS's ratio indicates that there are on average 13 automobiles per rail car on the NS system, and Sunbelt's ratio indicates that, of those 13, seven automobiles are loaded/unloaded at NS's expense.

NS failed to show that Sunbelt's evidence is unsupported, infeasible, or unrealistic. By using the 1.8 million figure, Sunbelt was making an adjustment to account for the fact that not all automobiles loaded/unloaded on the SBRR will be "at the railroad's expense." NS failed to address this point or to explain why such an adjustment is inappropriate. Nor did NS explain why its own assumption that every automobile traveling on the SBRR system will be loaded/unloaded at the SBRR's expense is appropriate. Because NS failed to rebut Sunbelt's evidence, we will therefore accept Sunbelt's evidence on automotive handling costs.

3. COSTS ASSOCIATED WITH NEW SBRR-NS INTERCHANGES

On reply, NS includes costs for two additional items that it claims would be incurred by the residual NS because of new SBRR-NS interchanges, and that, as such, are the responsibility of the SBRR. NS is correct that in certain instances the Board will require the SARR to include costs that its operations would otherwise impose on the residual incumbent. See, e.g., Duke/NS, 7 S.T.B. at 865. Moreover, Sunbelt agrees that the SBRR would be required to equip with distributed power a number of the locomotives in the residual NS's fleet, and agrees to the retrofitting cost proposed by NS.[317]

However, the parties disagree with respect to NS's other proposed expense. NS argues that Sunbelt's selected traffic and network configuration create new interchanges with the residual NS, including at least two at locations that are not existing NS crew change points. As a result, NS crews will have to be taxied to and from the nearest NS crew locations. NS therefore applies the taxi cost per mile used for SBRR crews to NS crews that are taxied to the closest NS crew change location. NS calculates new NS taxi expenses of $30,000.[318] Sunbelt rejects the inclusion of these costs, arguing that it is reasonable to assume that the incumbent would establish a crew change at the hypothetical interchange due to the volume of traffic moving through the interchange location, thus avoiding the additional taxi expense.[319] Sunbelt's assumption, however, is unsupported. Sunbelt has provided nothing to indicate that NS (or any railroad) would establish a crew change at the hypothetical interchanges, especially where those interchanges have relatively low levels of traffic.[320] Because Sunbelt has not rebutted NS's

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[316] NS Reply III-D-220; NS workpaper "SUNBELT_ATC_Open NS Reply" (tab "Vehicles Originate or Terminate").

[317] NS Reply III-D-221 to III-D-222; Sunbelt Rebuttal III-D-60.

[318] NS Reply III-D-221.

[319] Sunbelt Rebuttal III-D-59 to III-D-60.

[320] This case is distinguishable from Western Fuels Ass'n v. BNSF Railway (WFA/Basin 2009), NOR 42088, slip op. at 18 (STB served Feb. 18, 2009) for this reason. In that case, the Board stated that it was reasonable to assume that a crew change location would have been

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evidence on the additional taxi expenses associated with new interchanges, we will accept NS's proposed costs.

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established at a particular interchange with both defendant carriers and the SARR because of the "the [Union Pacific Railroad Company] interchange, and the volume of residual [BNSF Railway] traffic." Here, there is no indication that there is sufficient traffic to warrant a crew change.

G. MAINTENANCE OF WAY (MOW)

TABLE A-5

MOW Costs in Dollars			
	Sunbelt	NS	STB
Staffing	$10,639,581	$22,732,905	$21,159,832
Equipment	$2,351,018	$5,626,122	$5,440,877
Track Geometry Testing	$110,696	$332,732	$110,696
Ultrasonic Rail Testing	$149,084	$141,599	$141,599
Rail Grinding	$0 (capitalized)	$564,326	$564,326
Yard Cleaning	$41,705	$159,004	$159,004
Vegetation Control	$472,124	$870,721	$870,721
Crossing Repaving	$0 (capitalized)	$134,285	$134,285
Shoulder Ballast Cleaning	$0	$145,032	$0
Communications System Maintenance	$490,957	$467,931	$466,843
Bridge Inspection	$82,277	$82,277	$82,277
Bridge Maintenance	$32,000	$32,000	$32,000
Building Maintenance	$751,617	$3,515,842	$2,079,180
Storm Debris Removal	$10,000	$25,000	$10,000
Washouts	$10,000	$50,000	$50,000
Derailments and Clearing Wrecks	$729,104	$1,697,839*	$729,104
Environmental Cleanup	$10,000	$10,000	$10,000
TOTAL	$15,880,163	$36,587,615	$32,040,744

*****As explained below, we are unable to discern NS's reply position because of the contradictory evidence it submitted. We assume here for the purposes of this table that NS supported the number stated in its reply narrative.

1. Staffing

a. Track Department

The parties agree to the following positions: one Supervisor of Welding/Grinding, one Supervisor of Work Equipment, and two Rail Lubricator Repairmen.[321] Additionally, the parties agree that the MOW staff should include three Administrative Assistants, but disagree as to whether these positions are exclusive to the Track Department or not.[322] We will accept Sunbelt's organization of these positions, as NS has not shown that Sunbelt's proposal is insufficient to meet the needs of the SBRR. Finally, the parties agree to have one Engineer MOW, but disagree on whether this position should be equipped with a hi-rail Suburban. NS fails to show that the equipment provided by Sunbelt on opening for this position is insufficient for the needs of the SBRR, and as such we reject NS's inclusion of the hi-rail Suburban vehicle.[323]

We address further disagreements regarding Track Department staffing below.

i. Assistant Engineer (Field Production)

Sunbelt proposes an Assistant Engineer (Field Production) to oversee routine contract work, maintenance programs, and track maintenance, and to assist in defining annual programs and overseeing contractor performance.[324] NS eliminates this position, though it offers no rationale for doing so.[325] As such, we accept Sunbelt's inclusion of this position.

ii. Roadmasters and Assistant Roadmasters

The number of Roadmasters and Assistant Roadmasters is determined primarily by the number of roadmaster territories. Sunbelt proposes three roadmaster territories, each averaging just under 200 route miles, with one Roadmaster and two Assistant Roadmasters assigned per territory.[326] NS argues that Sunbelt's territories, which average an equivalent of 234 main track

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[321] Sunbelt Opening Ex. III-D-3 at 4; NS Reply III-D-147.

[322] Sunbelt Opening Ex. III-D-3 at 4; NS Reply III-D-148 n.296.

[323] See NS Reply III-D-199. NS's narrative also indicates that it would supply a hi-rail Suburban for its proposed Superintendent of Signals and Communications, though its workpapers only provide one vehicle for the Engineer MOW. We similarly reject the inclusion of the hi-rail Suburban for this position because of NS's failure to show that Sunbelt's opening proposal was infeasible. (See NS Reply III-D-199; NS workpaper "III-D-3 NS SBRR MOW Plan" (tab "Equipment-Reply").)

[324] Sunbelt Opening Ex. III-D-3 at 5; Sunbelt Rebuttal Ex. III-D-2 at 18.

[325] NS Reply III-D-147.

[326] Sunbelt Opening Ex. III-D-3 at 5.

miles, are unrealistically large and roughly twice the length accepted by the Board in past SAC cases.[327] NS instead proposes five roadmaster territories, five Roadmasters, and five Assistant Roadmasters. NS assigns one of its Roadmasters to the Norris hump yard in recognition of that yard's operational importance, and the remaining four Roadmasters to cover territories that range from 119 main track miles to 172 main track miles.[328]

We will accept NS's proposal of five roadmaster territories and its accompanying staffing. NS's proposal, unlike Sunbelt's, accounts for the Norris hump yard, a track intensive area which we have agreed is a necessary part of the SBRR's configuration. Additionally, as pointed out by NS, its average territory size is more in line with what has been accepted in past Board decisions. See, e.g., AEPCO, slip op. at 67 (accepting territories averaging 166 track miles). Sunbelt has not provided evidentiary support for creating larger territories. Sunbelt argues on rebuttal that NS ignores the efficiencies of the SBRR and that larger territories are acceptable because the SBRR is new construction, but this is true of SARRs in all SAC cases. For these reasons, we accept NS's five roadmaster territories, five Roadmasters, and five Assistant Roadmasters.

iii. Track Crews

On opening, Sunbelt proposes seven track crews, each consisting of a foreman and three crew members. Each crew would be responsible for the day-to-day maintenance of the track in a defined territory averaging about 80 route miles.[329] On reply, NS agrees that each crew would consist of a foreman and three crew members, but contends that 13 track crews are necessary. Under NS's proposed staffing, each crew would be responsible for a territory averaging about 54 main track miles. NS contends that even this ratio is conservative because the crews would also be maintaining the hump yard tracks, switches, and yards, as well as dealing with certain environmental and geographic challenges in the region where the SBRR operates.[330]

Sunbelt provides little supporting evidence about how it arrived at its total number of track crews and the average track miles each crew would cover. On rebuttal, Sunbelt asserts for the first time that its witness is familiar with an NS track crew based at Savannah, Ga., and that this crew covers approximately 125 mainline track miles, thus proving that Sunbelt's proposal is consistent with the practice of this crew.[331] However, as stated in the body of the decision, the Board is striking this evidence as improper rebuttal, and as such Sunbelt's proposal remains largely unsupported. Additionally, because we accept NS's inclusion of the Norris hump yard, Sunbelt's evidence fails to account for the additional miles of hump yard track. For these reasons, we find that NS's track crew proposal is better suited for the SBRR, and will accept its 13 track crews.

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[327] NS Reply III-D-148.

[328] NS Reply III-D-149.

[329] Sunbelt Opening Ex. III-D-3 at 6.

[330] NS Reply III-D-151 to III-D-154.

[331] Sunbelt Rebuttal Ex. III-D-2 at 24.

iv. Roadway Machine Operators

Sunbelt provides for four Roadway Machine Operators, with three operators assigned to three backhoes to operate in each of its three roadmaster territories, and one additional operator available system-wide.[332] NS agrees that each roadmaster territory requires an operator and a backhoe, but increases the total operators and backhoes to account for NS's five roadmaster territories.[333] NS also argues that, in addition to the backhoe, the SBRR will also need more specialized equipment for system-wide use. Specifically, NS adds one operator each for the following pieces of equipment added on reply: one speedswing, one crawler dozer, one crawler excavator, one semi-truck, and one material truck.[334]

As the Board stated in AEPCO, slip op. at 68, "[t]he number of roadway machine operators must complement the number of roadmaster districts." Because we have accepted NS's five roadmaster territories, we also accept NS's five backhoes and backhoe operators.

With respect to the speedswing, NS argues that it is necessary equipment for the Norris hump yard to perform lifting. Sunbelt rejects the inclusion of this piece of equipment, arguing that a hump yard is not necessary and that, even if it were, a crew truck or backhoe could perform necessary operations in its place.[335] As we have previously stated, we accept the inclusion of the hump yard on the SBRR's system. A speedswing is important for the efficient operations in the SBRR's hump yard, and it cannot be replaced by a crew truck or backhoe. As such, we accept NS's inclusion of a speedswing and operator.

With respect to the crawler dozer and crawler excavator, NS has provided convincing evidence that these pieces of equipment are necessary for the SBRR. Sunbelt has not rebutted NS's evidence, and as such we will accept NS's inclusion of this equipment and their operators.

Finally, with respect to the semi-truck and material truck, NS argues that the semi-truck is necessary to move large pieces of machinery, such as dozers, excavators, and tampers, between roadmaster territories, and that a material truck is necessary to move routine maintenance material such as switch machines, crossties, switch ties, and other miscellaneous material.[336] Sunbelt argues that a material truck is unnecessary because most materials can be transported to the worksite by a track or other crew's assigned trucks, by vendors who supply the materials, or by contractors.[337] With respect to the semi-truck, Sunbelt merely argues that an

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[332] Sunbelt Opening Ex. III-D-3 at 7; Sunbelt Rebuttal Ex. III-D-2 at 26.

[333] NS Reply III-D-154.

[334] NS Reply III-D-154 to III-D-155; NS workpaper "III-D-3 NS SBRR Mow Plan" (tab "MOW Staff-Reply").

[335] Sunbelt Rebuttal Ex. III-D-2 at 62.

[336] NS Reply III-D-155 to III-D-156.

[337] Sunbelt Rebuttal Ex. III-D-2 at 26, 61.

operator is unnecessary because a machine operator can be cross-trained to operate semi-trucks.[338] We will accept NS's inclusion of the semi-truck and material truck as it has provided the best evidence of record as to this issue.

v. Welder/Helper Crews

The parties agree that each welder/helper crew consists of two employees, and that each roadmaster territory will have one welder/helper crew. Because the parties disagree on the number of roadmaster territories, they therefore also disagree on the number of welder/helper crews necessary. On opening, Sunbelt proposes three roadmaster territories and thus three crews for a total of six Welder/Helpers.[339] NS argues that this staffing is inadequate, and instead proposes five crews to be consistent with its five roadmaster territories for a total of 10 Welder/Helpers.[340] Because we accept NS's evidence on roadmaster territories, we also accept NS's proposed staffing for welder/helper crews. However, because NS's evidence on the equipment for each welder/helper crew is incomplete, we will accept Sunbelt's proposed equipment in quantities sufficient to outfit NS's five crews.

vi. Ditching Crews

Although the parties agree that each ditching crew should consist of one Foreman and one Crew Member, they disagree on the number of ditching crews required. Sunbelt provides for two ditching crews for a total of four employees.[341] NS argues that three ditching crews, for a total of six employees, are required on the SBRR.[342] The parties also disagree on the necessary equipment for each crew.

NS presents a well-developed argument that three ditching crews are necessary primarily due to environmental factors. NS supports these arguments with evidence indicating that the SBRR has greater workforce requirements relative to past SARRs due to precipitation, soil types, and population density in the geographic area in which the SBRR operates.[343] By comparison, Sunbelt's primary argument in support of two ditching crews is that the SBRR is a newly constructed railroad that would require less ditching than existing railroads, and that NS's evidence ignores the benefits of a newly constructed railroad.[344] Sunbelt, however, fails to provide specific evidence or arguments to support its claims. For example, Sunbelt's mere assertion that "the soils in the SBRR territory do not make yearly ditching necessary" is not

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[338] Sunbelt Rebuttal Ex. III-D-2 at 26.

[339] Sunbelt Opening Ex. III-D-3 at 7.

[340] NS Reply III-D-156.

[341] Sunbelt Opening Ex. III-D-3 at 8.

[342] NS Reply III-D-158.

[343] NS workpaper "SBRR Environmental Factors."

[344] Sunbelt Rebuttal Ex. III-D-2 at 28-29.

sufficient to rebut the evidence submitted by NS.[345] We will therefore accept NS's three ditching crews and the equipment recommended by NS for these crews.

vii. Smoothing Crews

The parties agree that each smoothing crew should consist of one Foreman and two Crew Members, and that each crew's equipment should consist of one Tamper and one Ballast Regulator. They disagree on the number of smoothing crews required, however. Sunbelt proposes two smoothing crews for a total of six employees, while NS proposes three smoothing crews for a total of nine employees.[346]

NS contends that an extra smoothing crew is necessary because of the weak soil characteristics for much of the SBRR, the traffic density between Birmingham and New Orleans, the surfacing required at the Norris hump yard, and the characteristics on the McIntosh line. In total, NS's proposal would have each smoothing crew responsible for on average 234 main track miles and 142 main track switches, as well as on yard and other track.[347] Sunbelt defends its initial staffing, arguing that the SBRR will have newly constructed track. It also claims that "[r]ailroads typically assign one smoothing crew per 400 route miles," though it provides no explanation for how it derived this figure or which railroads it used as benchmarks.[348] NS provides the best evidence of record. NS provides specific justifications for why an additional crew is necessary, which remain unrebutted by Sunbelt. Further, we accept NS's inclusion of the Norris hump yard, which will require additional surfacing not accounted for by Sunbelt. For these reasons, we will accept NS's three smoothing crews and associated equipment.

viii. Roadway Equipment Mechanics

Sunbelt assigns two Roadway Equipment Mechanics to the SBRR.[349] NS argues that, because the SBRR actually requires more pieces of equipment than the number allocated by Sunbelt, the SBRR requires three Roadway Equipment Mechanics.[350] Because we have accepted NS's evidence on ditching crews, smoothing crews, and welder/helper crews, which require an increase in the amount of equipment needed by the SBRR, we will accept NS's proposal of three Roadway Equipment Mechanics. We will also accept NS's proposal to provide its Roadway Equipment Mechanics with standard mechanic trucks equipped with a service body, welder light duty boom crane, and other equipment to improve the mechanic's efficiency, as it has provided the best evidence of record.[351]

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[345] See Sunbelt Rebuttal Ex. III-D-2 at 29.

[346] Sunbelt Opening Ex. III-D-3 at 9; NS Reply III-D-161.

[347] NS Reply III-D-161 to III-D-162.

[348] See Sunbelt Rebuttal Ex. III-D-2 at 30, 31.

[349] Sunbelt Opening Ex. III-D-3 at 8.

[350] NS Reply III-D-158.

[351] NS Reply III-D-199.

TABLE A-6

Track Department Employees			
	Sunbelt	NS	STB
Engineer MOW (Track Engineer)	1	1	1
Supervisor (Manager) of Welding/Grinding	1	1	1
Supervisor (Manager) of Work Equipment	1	1	1
Administrative Assistant	3	0*	3
Assistant Track Engineer (Field Production)	1	0	1
Rail Lubricator Repairman	2	2	2
Roadmaster	3	5	5
Assistant Roadmaster	6	5	5
Track Crew Foreman	7	13	13
Track Crew Member	21	39	39
Roadway Machine Operator	4	10	10
Welder/Helper	6	10	10
Ditching Crew Foreman	2	3	3
Ditching Crew Member (Swivel Dump Truck Driver)	2	3	3
Smoothing Crew Foreman	2	3	3
Smoothing Crew Member	4	6	6
Roadway Equipment Mechanic	2	3	3
TOTAL	68	105*	109

*NS accepts three Administrative Assistants, but assigns them to a different department.

b. Signals and Communication Department

i. General Office Staff

The parties agree to have one employee responsible for overall management of the Signals and Communication Department, but they style this position differently and provide different salaries. Sunbelt on opening proposes an Engineer at a lower salary, while NS proposes a Superintendent at a higher salary.[352] NS has not explained why a higher salary is necessary, and as such, we will accept Sunbelt's proposed Engineer.

NS includes on reply a Manager of Signal Systems and a Manager of Communications Systems.[353] We agree with Sunbelt that these positions are unnecessary,[354] and that NS has not justified the inclusion of these extra layers of management. We therefore reject NS's inclusion of these positions.

Additionally, NS includes on reply an Engineer Grade Crossings. NS's only justification for this position is a statement in another section describing the Engineer Grade Crossings as being "responsible for technical standards and procurement design of grade crossing signal circuits and interlocking of rail-highway grade crossing signals with highway traffic control signals."[355] Although Sunbelt does not specifically state in its narrative whether it accepts or rejects this position, its workpapers indicate that Sunbelt did not include this position.[356] However, because Sunbelt assigns this employee duties by stating that "the Engineer Grade Crossings is responsible for ensuring that outside PTC engineer contractors provide signal design and support that meets the requirements of the SBRR" and "the Engineer Grade Crossings co-ordinates with the PTC engineer contractors concerning the installation schedules of signal equipment," we take this as a concession on Sunbelt's part that such a position is necessary.[357] Therefore, we accept NS's proposed Engineer Grade Crossings.

On opening, Sunbelt proposes two Assistant Engineers, one for signals and one for communications.[358] On reply, NS eliminates these positions and instead proposes one Engineer of PTC Communications and one Engineer of PTC Signal Systems.[359] As discussed in the Road Property Investment appendix, we accept Sunbelt's argument that the SBRR will be equipped

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[352] Sunbelt Opening Ex. III-D-3 at 10; NS Reply III-D-164 to III-D-165.

[353] NS Reply III-D-164, 166.

[354] See Sunbelt Rebuttal Ex. III-D-2 at 32-33.

[355] NS Reply III-D-179 n.330.

[356] Sunbelt Rebuttal Ex. III-D-2 at 31-36; Sunbelt workpaper "Exhibit III-D-2 SBRR MOW Rebuttal 5-23-2013" (tab "MOW Staff").

[357] Sunbelt Rebuttal Ex. III-D-2 at 32.

[358] Sunbelt Opening Ex. III-D-3 at 10.

[359] NS Reply III-D-166.

with PTC from its inception. As such, we accept NS's inclusion of two PTC Engineers. Moreover, because we are adopting these positions and because we generally adopt NS's configuration for the Signals and Communications Department, we also accept NS's conclusion that Sunbelt's proposed Assistant Engineers are unnecessary.

Finally, NS includes a Coordinator of Communications Systems, which we address below under "Dispatch and Communications."

ii. Signals System Maintenance

The parties contest several issues regarding signals system maintenance. First, although the parties agree on the total number of signal units,[360] they disagree on the ratio of signal units per Signal Maintainer. As such, they disagree on the total number of necessary Signal Maintainers. NS developed a ratio by examining several "typical NS signal maintainer territories," and found that the actual number of units per maintainer ranged from 896 to 1,045. Based on its analysis, it applies a ratio of 1,100 signal units per signal maintainer.[361] Sunbelt contends that NS's system has older and aging signal equipment, which is not uniform by equipment type, and that as such, NS's methodology fails to account for the NS's inefficiencies relative to the SBRR. Sunbelt supports a ratio of 2,000 signal units per maintainer, relying on an industry consultant for that figure.[362] NS's detailed analytical approach, which takes into account trains per day, route miles, AREMA units per territory, and AREMA units per route mile, provides the more compelling evidence. Additionally, NS's ratio is more consistent with recent SARR decisions. See AEPCO, slip op. at 73 (accepting ratio of one maintainer per 1,250 units); WFA/Basin, slip op. at 63 (accepting ratio of one maintainer per 1,239 units). Because we conclude that NS provides the best evidence of record as to the ratio of maintainers to signal units, we therefore accept NS's number of Signal Maintainers, which includes Relief Signal Maintainers.

Second, the parties disagree on the number of Signal (C&S) Supervisors.[363] On opening, Sunbelt provides one Supervisor to supervise its Signal Maintainers and Communications Technicians.[364] NS provides two Supervisors to supervise its 25 Signal Maintainers.[365] We are unable to discern Sunbelt's rebuttal argument because of the contradictory evidence it submits on rebuttal. On the one hand, it argues in its narrative that NS has not provided any justification for including the additional Supervisor; on the other hand, Sunbelt's workpapers indicate two

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[360] Sunbelt Rebuttal Ex. III-D-2 at 34.

[361] NS Reply III-D-168.

[362] Sunbelt Rebuttal Ex. III-D-2 at 34.

[363] The parties refer to this position differently, with Sunbelt calling this position a C&S Supervisor and NS calling it a Signal Supervisor. Because we accept NS's staffing, we refer to it as a Signal Supervisor here.

[364] Sunbelt Opening Ex. III-D-3 at 11.

[365] NS Reply III-D-169.

Supervisors, with the specific notation that Sunbelt is "using 2 Supervisors in Rebuttal, supervising 7 maintainers each."[366] Because of Sunbelt's contradictory rebuttal evidence, we will accept NS's two Signal Supervisors, which is reasonable in light of the increased number of Signal Maintainers we accept above.

Third, the parties disagree on the need for both Signal Inspectors and Signal Technicians. NS includes two Signal Inspectors and two Signal Technicians, arguing that the inspection tests performed by Inspectors and maintenance on electronic signal equipment performed by Technicians are beyond the skills of a Signal Maintainer, thus suggesting that Sunbelt's staffing is infeasible.[367] Sunbelt argues that such positions are unnecessary because its Signal Maintainers can perform those functions, though it provides no evidence to support this conclusion.[368] These positions have been accepted by the Board in prior cases, see, e.g., AEPCO, slip op. at 73 (rejecting argument that Signal Technicians were unnecessary because that job could be performed by Signal Maintainers), and Sunbelt has not provided any evidence to justify the omission of such positions here. As such, we will accept NS's two Signal Inspectors and two Signal Technicians.

Finally, because the parties disagree on whether to include a hump yard, they also disagree on the need for a dedicated signal workforce at that hump yard.[369] Because we have concluded that the Norris hump yard is a necessary part of the SBRR's configuration, we accept NS's inclusion of a dedicated signal workforce at the hump yard.

iii. Dispatch and Communications

Although the parties agree to a CTC Center Technician at the Dispatch Center,[370] the Board will exclude this position from its employee count as we adopt Sunbelt's PTC plan in the Road Property Investment appendix, which includes PTC from inception, as opposed to CTC with subsequent PTC overlay. As stated previously, as a result of this call, we also accept NS's inclusion of two PTC Engineers.

The parties agree to two Communications Technicians, though they disagree on how those positions are described. Sunbelt argues that these two positions are "roving" positions.[371] NS claims that this configuration is vague and infeasible, arguing that when there are problems with communications equipment in the Dispatch Center, immediate attention is required and its

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[366] Sunbelt Rebuttal Ex. III-D-2 at 35; Sunbelt workpaper "Exhibit III-D-2 SBRR MOW Rebuttal 5-23-2013" (tab "MOW Staff").

[367] NS Reply III-D-170.

[368] Sunbelt Rebuttal Ex. III-D-2 at 35.

[369] NS Reply III-D-171; Sunbelt Rebuttal Ex. III-D-2 at 36.

[370] NS Reply III-D-172; Sunbelt Rebuttal Ex. III-D-2 at 36.

[371] Sunbelt Opening Ex. III-D-3 at 11.

roving Communications Technicians may not be available.[372] To address this problem, NS locates its two Communications Technicians at the Norris hump yard and then provides a Coordinator of Communications Systems on its General Office staff to handle maintenance of communications equipment at the Dispatch Center.[373] We agree with NS that this configuration appropriately ensures that problems in the Dispatch Center will be addressed. On rebuttal, Sunbelt argues that the cost of the maintenance of the communications system has been accounted for and accepted by NS on reply; that NS does not explain how the functions of the Coordinator of Communications Systems are not already covered by Sunbelt's staffing proposal; and that the roving Communications Technicians in Sunbelt's staffing plan are entirely capable of handling the communications equipment maintenance responsibilities of the Coordinator of Communications Systems.[374] However, none of these arguments respond to NS's reasonable position that, if the Communications Technicians are roving, at times there may be no Communications Technician on site when communications equipment in the Dispatch Center requires immediate repairs. As such, we accept NS's assignment of the Communications Technicians to the hump yard and the inclusion of the Coordinator of Communications Systems to the SBRR's General Office staff.

[372] NS Reply III-D-173.

[373] NS Reply III-D-173, 166-67.

[374] Sunbelt Rebuttal Ex. III-D-2 at 33.

TABLE A-7

Signals and Communications Department Employees			
	Sunbelt	NS	STB
Communications and Signals Engineer	1	0	1
Superintendent of Signals and Communications	0	1	0
Assistant Engineer (Signals)	1	0	0
Assistant Engineer (Communications)	1	0	0
Engineer of PTC Signal Systems	0	1	1
Engineer of PTC Communications	0	1	1
Manager of Signal Systems	0	1	0
Manager of Communications Systems	0	1	0
Engineer Grade Crossings	0	1	1
Signal (C&S) Supervisors	1*	2	2
Signal Maintainers	15	25	25
Relief Signal Maintainers	0	2	2
Signal Inspectors	0	2	2
Signal Technicians	0	2	2
Signal Maintenance Workforce—Hump Yard	0	8	8
CTC Dispatch Center Technicians	1	1	0
Coordinator of Communications Systems	0	1	1
Communications Technicians	2	2	2
TOTAL	22*	51	48

*As explained above, we are unable to discern Sunbelt's rebuttal position as between one or two Supervisors because of the contradictory evidence it submitted. We assume here for the purposes of this table that Sunbelt supported the number stated in its rebuttal narrative.

c. Bridge and Building Department

The parties agree that the Bridge and Building (B&B) Department should be staffed by one B&B Supervisor, one Bridge Inspector, and two B&B Foremen.[375] The parties disagree on the remaining positions within this department.

On opening, Sunbelt staffs the SBRR with a Bridge Engineer who is responsible for "inspections and maintenance of the SBRR's bridges, and for minor building inspections and repairs," as well as "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."[376] On reply, NS instead proposes a Structural Engineer at a higher annual salary. NS states that its Structural Engineer would perform both the function of the bridge engineer and other functions, including "checking structural plans that may be submitted to the railroad for approval by customers," "serv[ing] as the clearance engineer to approve the movement of high, wide, and heavy loads," and being "the technical resource for movable bridges."[377] We agree with Sunbelt that NS has not adequately justified why the expanded role that it proposes is necessary, and that NS has not shown that the Structural Engineer needs to perform these expanded duties on the SBRR.[378] Therefore, we will accept Sunbelt's Bridge Engineer at the lower annual salary.

Next, the parties disagree on the number of B&B Workers necessary. On opening, Sunbelt provides for one B&B Crew consisting of one Foreman and four Workers (a welder, a helper, a plumber, and a carpenter).[379] NS proposes two B&B Crews each consisting of one Foreman and three Workers (a welder and two helpers), for a total of six Workers.[380] NS contends that the extra B&B Crew is necessary because, "[w]hile little routine maintenance will be required, routine repairs and operating tasks must be performed."[381] NS then states that derailments, washouts, and wooden ballast retainers are examples of the types of repairs that will require an extra B&B Crew. As Sunbelt points out, NS concedes that little routine maintenance will be required. Although NS lists examples of maintenance that will be required, it has not adequately justified the inclusion of an extra crew. Indeed, on rebuttal, Sunbelt points out that derailment damage and washouts have both been accounted for in annual contract maintenance costs, and we accept below NS's increased annual costs for washouts. Additionally, Sunbelt argues that there are no wooden ballast retainers on the SBRR because the bridges are

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[375] NS Reply III-D-174 to III-D-175; Sunbelt Rebuttal Ex. III-D-2 at 38.

[376] Sunbelt Opening Ex. III-D-3 at 12.

[377] NS Reply III-D-175.

[378] See Sunbelt Rebuttal Ex. III-D-2 at 37-38.

[379] Sunbelt Opening Ex. III-D-3 at 13; Sunbelt Rebuttal Ex. III-D-2 at 38.

[380] NS Reply III-D-176.

[381] NS Reply III-D-176.

constructed using concrete and steel, not timber.[382] We will accept Sunbelt's proposal of one B&B Crew, and thus Sunbelt's proposal of four B&B Workers.

With respect to the equipment necessary for these crews, the parties agree to one B&B maintenance truck per B&B Crew.[383] Because we are accepting Sunbelt's one B&B Crew, we will also accept one B&B crew truck. However, the parties disagree as to the specifications of this truck. NS argued that Sunbelt neglected to provide specialized maintenance trucks for the B&B Crews, and proposed 33,000 gross vehicle weight or more with a crane, hydraulic pump, utility body, and hi-rail equipment, at a higher unit cost.[384] Sunbelt merely states on rebuttal that it provides "the type of vehicle necessary to perform bridge related maintenance tasks," which has a lower unit cost.[385] In this instance, NS has the best evidence of record, and we will accept NS's specification and unit cost for the B&B maintenance truck.

The parties also disagree on the number of Machine Operators. Sunbelt provides for one Machine Operator, who will work alongside one of the SBRR's two Foremen.[386] NS adds a second Machine Operator, and although its justification is not entirely clear, it appears NS's argument is that it would be unsafe and unproductive to have a single person operating bridge machinery.[387] Presumably, NS makes this argument because, by proposing two B&B Crews, NS requires both of the SBRR's Foremen to oversee those crews, thus leaving the Machine Operator to operate alone. However, as discussed above, we have rejected the inclusion of NS's second B&B Crew, thus permitting one of the SBRR's Foremen to continue to operate with the Machine Operator. Thus, NS's safety concern is no longer applicable. As such, we will accept Sunbelt's one Machine Operator and Sunbelt's proposed equipment to outfit this position.

Finally, the parties disagree on whether the SBRR requires Bridge Tenders. NS adds 13 Bridge Tenders to the B&B Department, justifying these positions by stating that they would "operate three of the four movable bridges around the clock."[388] Sunbelt maintains that these positions are unnecessary, arguing that the SBRR would provide for remote control of movable bridges by the railroad's dispatcher for the territory involved.[389] However, as NS points out,

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[382] Sunbelt Rebuttal Ex. III-D-2 at 39.

[383] NS Reply III-D-199; Sunbelt Rebuttal Ex. III-D-2 at 61.

[384] NS Reply III-D-199; NS workpaper "III-D-3 NS SBRR MOW Plan" (tab "Equipment-Reply").

[385] Sunbelt Rebuttal Ex. III-D-2 at 61; Sunbelt workpaper "Exhibit III-D-2 SBRR MOW Rebuttal 5-23-2013" (tab "Equipment").

[386] Sunbelt Opening Ex. III-D-3 at 13.

[387] NS Reply III-D-176.

[388] NS Reply III-D-174.

[389] Sunbelt Rebuttal Ex. III-D-2 at 40.

Sunbelt failed to include the costs associated with remote control for moveable bridges.[390] As such, we will accept NS's inclusion of Bridge Tenders in this case.

TABLE A-8

Bridge and Building Department Employees			
	Sunbelt	NS	STB
Bridge Engineer	1	0	1
Structural Engineer	0	1	0
B&B Supervisor	1	1	1
Bridge Inspector	1	1	1
B&B Foreman	2	2	2
B&B Machine Operator	1	2	1
Multi-skilled B&B Workers	4	6	4
Bridge Tenders	0	13	13
TOTAL	10	26	23

d. Administrative/Support Employees

The parties agree to a Public Project Engineer, but disagree with respect to all other administrative/support positions.[391]

On opening, Sunbelt proposes an Engineer of Programs and Contracts who is responsible for implementation and monitoring of the SBRR's contracts for program and other maintenance.[392] On reply, NS accepts this position, "but on a full time basis and with additional duties,"[393] and styles it as a Manager of Programs and Contractors at a lower annual salary than that proposed by Sunbelt. NS has not provided sufficient justification for the additional duties it

[390] NS Brief 55.

[391] Sunbelt Opening Ex. III-D-3 at 15; NS Reply III-D-179.

[392] Sunbelt Opening Ex. III-D-3 at 14.

[393] NS Reply III-D-179. We note that there is no indication from Sunbelt's narrative or workpapers that Sunbelt considers its position less than full time.

proposes, nor has it shown that Sunbelt's position is unrealistic. Therefore, the Board will accept Sunbelt's Engineer of Programs and Contracts.

On opening, Sunbelt proposes a Manager of Administration and Budgets.[394] NS accepts this position, but expands its responsibilities, increases its salary, and adjusts its title to Manager of Engineering Costs and Business Systems.[395] NS has not provided justification for the expanded responsibilities or increased salary that it proposes, nor has it shown that Sunbelt's position is unrealistic. Therefore, the Board will accept Sunbelt's Manager of Administration and Budgets.

Sunbelt includes on opening a Manager of Mechanical Operations, and states in its workpapers that this position interfaces with the Mechanical Department and is responsible for the deployment of MOW equipment.[396] NS removes this position on reply, arguing that Sunbelt does not mention it in its narrative.[397] Although Sunbelt did not describe the duties of this position in its narrative, its evidence does include a justification for this position. NS has not supported the removal of this position, and as such we accept Sunbelt's Manager of Mechanical Operations.

Sunbelt also includes on opening a Water Plant and Fuel Technician who is responsible for maintaining and repairing water and fuel equipment systems, and a Manager of Environmental/Safety/Training who "interfaces with federal and state environmental authorities on compliance" and is responsible for "MOW employee training and compliance with Hazmat practices and procedures."[398] NS removes the Water Plant and Fuel Technician on reply, arguing that its functions are subsumed within NS's proposed Environmental Group.[399] NS also argues that it is illogical to have the Manager of Environmental/Safety/Training be responsible for environmental matters, and instead focuses this position on safety and training and restyles it as a Manager of MOW Safety and Training.[400] Because we accepted NS's environmental staffing in G&A above, we remove Sunbelt's proposed Water Plant and Fuel Technician here as unnecessary and accept NS's Manager of MOW Safety and Training.

On reply, NS adds the following positions: a Staff Engineer of Records and Maps; a System Engineer of Real Estate, Tax, and Joint Accounts; and three Management Trainees.[401]

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[394] Sunbelt Opening Ex. III-D-3 at 15.

[395] NS Reply III-D-178, 180.

[396] Sunbelt Opening Ex. III-D-3 at 14; Sunbelt workpaper "Exhibit III-D-3 SBRR MOW" (tab "MOW Staff").

[397] NS Reply III-D-181.

[398] Sunbelt Opening Ex. III-D-3 at 15.

[399] NS Reply III-D-181.

[400] NS Reply III-D-180.

[401] NS Reply III-D-178.

NS provides no description of their duties or justification for adding these positions. Because NS has not shown that these positions are necessary, we reject their inclusion.

Finally, as mentioned above, the parties agree that the MOW staff should include three Administrative Assistants, but disagree as to where these positions should be assigned.[402] We accept Sunbelt's organization of these positions within the Track Department as opposed to NS's assignment within the Administrative/Support Department. For this reason, we reject NS's inclusion of a Manager of Support Services. NS added this position on rebuttal, stating that this position would head the Administrative/Support Department and distribute work among the Administrative Assistants and oversee the Management Trainees.[403] We have rejected NS's inclusion of the Administrative Assistants within this department, and NS has not otherwise provided sufficient justification for the inclusion of this position.

[402] Sunbelt Opening Ex. III-D-3 at 4; NS Reply III-D-148 n.296.

[403] NS Reply III-D-177.

TABLE A-9

Administrative/Support Employees			
	Sunbelt	NS	STB
Public Project Engineer	1	1	1
Engineer of Programs and Contracts	1	0	1
Manager of Programs and Contracts	0	1	0
Manager of Administration and Budgets	1	0	1
Manager of Engineering Costs and Business Systems	0	1	0
Manager of Mechanical Operations	1	0	1
Water Plant and Fuel Technician	1	0	0
Manager of Environmental/Safety/Training	1	0	0
Manager of MOW Safety and Training	0	1	1
Staff Engineer of Records and Maps	0	1	0
System Engineer of Real Estate, Tax, and Joint Accounts	0	1	0
Management Trainees	0	3	0
Administrative Assistant	0*	3	0
Manager of Support Services	0	1	0
TOTAL	6*	13	5

*Sunbelt accepts three Administrative Assistants, but assigns them to a different department.

e. Allocation of MOW Personnel to Operations and Maintenance Expense

Sunbelt allots two-thirds of the salaries of the Assistant Vice President of Engineering and the general office staff to operating expense, with the remaining one-third to be capitalized. Sunbelt allots 100% of the salaries of the field staff to operating expense.[404] Sunbelt states that this allocation is appropriate because the general office staff will be required to plan, contract, and oversee contractors who are performing the programmed maintenance, which will consume one-third of the staff's time.[405] On reply, NS argues that Sunbelt allocates unrealistic amounts of time to non-operating activities, and adjusts the allocation of MOW time between operating and non-operating activity.[406] Neither party presents flawless evidence; there are inconsistencies in both parties' evidence between narrative and workpaper. Sunbelt, however, presents a feasible allocation of MOW staff time between operating and non-operating activities. NS has not sufficiently justified the rejection of Sunbelt's evidence, and as such we will apply Sunbelt's allocation to all MOW personnel.

2. NON-PROGRAM MOW WORK PERFORMED BY CONTRACTORS

The parties agree on the cost and frequency of ultrasonic rail testing, the cost of annual maintenance of the SBRR's equipment, the method of calculating the cost of communications system maintenance, the costs of bridge inspections and maintenance, the method of calculating the cost of building maintenance, and the cost of environmental cleanup.[407] Maintenance work contested by the parties is discussed further below.

a. Track Geometry Testing

The parties agree on the frequency of track geometry testing, but disagree on the cost per track mile. On opening, Sunbelt provides a cost per track mile based on data provided by NS in discovery.[408] NS states, however, that Sunbelt "inaccurately asserts [this cost] is based on data provided by NS in discovery," and instead proposes a cost per track mile based on a company's contract rate.[409] On rebuttal, Sunbelt reiterates that it "uses the geometry testing cost . . . per mile that NS provided in discovery," citing a NS discovery spreadsheet, and further points out that the contract rate relied upon by NS was not provided in discovery.[410] Sunbelt proposed a

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[404] Sunbelt Opening Ex. III-D-3 at 27; Sunbelt Rebuttal Ex. III-D-2 at 43.

[405] Sunbelt Rebuttal Ex. III-D-2 at 43.

[406] NS Reply III-D-182.

[407] Sunbelt Opening Ex. III-D-3 at 22-23; NS Reply III-D-184 to III-D-185, III-D-193, 197; Sunbelt Rebuttal Ex. III-D-2 at 45.

[408] Sunbelt Opening Ex. III-D-3 at 17.

[409] NS Reply III-D-184 to III-D-185.

[410] Sunbelt Rebuttal Ex. III-D-2 at 45. In this respect, this case is distinguishable from DuPont insofar as the contract rate put forward by NS and accepted by the Board in that case was

(continued . . .)

unit cost that it asserts was based on discovery data, and it was incumbent on NS to demonstrate that Sunbelt was inaccurate in this assertion. As it failed to do this, we will accept Sunbelt's proposed unit cost for track geometry testing.

b. Rail Grinding

The parties generally agree to the frequency of rail grinding and the unit cost per track mile. They disagree as to the approach for grinding premium rail in sharp curves, and as to whether rail grinding should be capitalized.

With respect to the first issue, Sunbelt proposed on opening that the SBRR will rail grind every 100 MGT in the curve areas with premium rail.[411] NS argues that this does not comport with "published research on good rail maintenance practice," citing a 2003 report titled "Rail Grinding Best Practices" by the National Research Council of Canada, and instead proposes grinding consistent with that report.[412] A review of that report supports NS's premium rail grinding schedule, and as such we will accept NS's proposal.

With respect to the second issue, Sunbelt states that "annual rail grinding is considered a capital cost based on information provided by NS in discovery and therefore is not included in the annual MOW expense."[413] NS contends that this proposal conflicts with its own practice, and provides evidence to support the fact that NS includes rail grinding in MOW operating expenses, and that it also conflicts with Board precedent.[414] NS is correct that Board precedent dictates that rail grinding should be included as an annual operating expense. See WFA/Basin, slip op. at 71 ("it is more appropriate to consider [rail grinding] as an annual expense"); see also

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(. . . continued)
part of DuPont's opening evidence and there was no allegation that NS failed to provide contract rates in discovery. (See DuPont, slip op. at 123; DuPont's Rebuttal Ex. III-D-2 at 37.)

[411] Sunbelt Opening Ex. III-D-3 at 19.

[412] NS Reply III-D-186 to III-D-187.

[413] Sunbelt Opening Ex. III-D-3 at 19; see also Sunbelt Rebuttal III-H-18 to III-H-20 (addressing the accounting treatment of rail grinding expenditures with respect to the DCF analysis).

[414] NS Reply III-D-187 & n.341; see also NS Reply III-H-12 (addressing the accounting treatment of rail grinding expenditures with respect to the DCF analysis). NS cites correspondence suggesting that both NS and the U.S. Securities and Exchange Commission (SEC) assume that rail grinding "allow[s] the underlying assets to reach their currently estimated useful lives (rather than extend lives beyond current estimates)." (NS Reply WP "Rail Grinding SEC Letter.") These statements appear to contradict a statement by an NS executive quoted by Sunbelt, (Sunbelt Rebuttal III-H-19 & n.39), but we place greater weight on NS's correspondence with the SEC. In any event, the statement quoted by Sunbelt suggests only that NS might consider rail grinding to enhance the life of the rail, and it does not demonstrate that NS capitalizes rail grinding.

AEPCO, slip op. at 77 (accepting capitalization contrary to precedent "only because defendants have not offered any objection"). Because NS has presented evidence indicating that it treats grinding as an annual expense, and because our precedent dictates that we treat it as such, we reject Sunbelt's proposal to capitalize annual rail grinding.

c. Yard Cleaning

On opening, Sunbelt states that "[t]he SBRR's yards should be cleaned once a year in order to ensure that debris does not affect rail operations," and proposes that each yard be allotted three days at a daily yard cleaning cost of $2,600, indexed to a 2011 rate.[415] Sunbelt's total annual cost for yard cleaning on opening is $41,705. NS agrees on reply that yard tracks must be cleaned at least annually, and also accepts Sunbelt's opening daily rate for yard cleaning.[416] NS rejects, however, Sunbelt's allowance of three work days per yard to accomplish yard cleaning. NS states that, based on information provided by a company that performs yard cleaning, the SBRR could expect a cleaning rate of 10,000 track feet per day.[417] Because of this increased cleaning schedule, NS proposes a total annual cost of yard cleaning of $159,004.

As we explained earlier in this decision, Sunbelt's rebuttal evidence on this matter is in direct conflict with its opening evidence, and as such, we have granted NS's motion to strike this evidence. Sunbelt has not rebutted the compelling evidence presented by NS that yard cleaning could not be accomplished under Sunbelt's opening proposal. Moreover, yard cleaning is closely tied to the amount of rail tracks, and unlike Sunbelt's methodology, which merely assigns three days per yard without regard to the specifics of each yard, NS has proposed a supported methodology based on the amount of SBRR track. We accept NS's evidence as the best evidence of record.

d. Vegetation Control

The parties generally agree on the approach to determining vegetation control needs. NS, however, contends that Sunbelt understates total costs by omitting the cost for spraying ballast sections and toe-path areas, which is an essential part of NS's vegetation control costs.[418] Because NS has presented evidence on the importance of this type of vegetation control, to which Sunbelt does not respond on rebuttal,[419] we will accept NS's inclusion of costs for spraying ballast sections.

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[415] Sunbelt Opening Ex. III-D-3 at 20; Sunbelt workpaper "Exhibit III-D-3 SBRR MOW" (tabs "Totals" and "Yard Cleaning").

[416] NS Reply III-D-188.

[417] NS Reply III-D-189.

[418] NS Reply III-D-189 to III-D-190.

[419] See Sunbelt Rebuttal Ex. III-D-2 at 49-50.

Additionally, NS argues that Sunbelt underestimated the necessity of brush cutting.[420] On opening, Sunbelt argued that very little brush cutting would be required because the SBRR's right-of-way would be cleared during construction and weed spraying would inhibit the growth of brush.[421] NS, however, argues that there are some areas where herbicide brush control cannot be used, such as urban areas or locations where crops grow.[422] Sunbelt provides little in response to this claim, arguing only that spraying is adequate to maintain vegetation control for the first 10 years of operation because the right-of-way will have been completely cleared at purchase.[423] Sunbelt has not adequately responded to NS's critique. Some brush cutting will be required on the SBRR, and as NS points out, this program can be limited when paired with a good brush spray program. We will accept NS's inclusion of brush cutting costs.

e. Crossing Repaving

The parties agree to an annual cost of $134,285 for crossing repaving.[424] They appear to disagree, however, on whether this cost should be included as an operating expense or a capital expenditure. Sunbelt contends that, like rail grinding, repaving costs extend the life of road property assets and should therefore be included as a capital expenditure.[425] As we stated above with respect to rail grinding, Board precedent normally includes this type of maintenance as an operating expense. See AEPCO, slip op. at 77 (accepting capitalization contrary to precedent "only because defendants have not offered any objection"). Sunbelt has not provided a sufficient justification for deviating from this precedent. As such, we will include crossing repaving as an annual operating expense.

f. Shoulder Ballast Cleaning

The parties disagree on whether shoulder ballast cleaning would be necessary on the SBRR within the first 10 years of operations. Sunbelt argues that it would not be necessary because the SBRR is newly constructed and uses sub-ballast to cap the roadbed, it is free from blown in soils, and it would have no fouling of ballast from roadbed pumping and no previously fouled ballast with which to contend.[426] Sunbelt also points out that it takes time for dust from the atmosphere to settle, and that there is nothing to indicate that cleaning would be necessary in the first

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[420] NS Reply III-D-190.

[421] Sunbelt Opening Ex. III-D-3 at 21.

[422] NS Reply III-D-190.

[423] Sunbelt Rebuttal Ex. III-D-2 at 49.

[424] Sunbelt Opening Ex. III-D-3 at 21; NS Reply III-D-190.

[425] Sunbelt Rebuttal Ex. III-D-2 at 50. We note, however, that in its workpaper "Exhibit III-D-2 SBRR MOW 5-23-2013 Rebuttal" (tab "Totals"), Sunbelt does not deduct the expense of crossing repaving from its total annual maintenance costs.

[426] Sunbelt Rebuttal Ex. III-D-2 at 50-51.

three years, but contends that it would be necessary thereafter on four- to five-year cycles, arguing that such cleaning is needed to protect the subgrade from saturation.[427] Sunbelt, however, has convincingly argued that such cleaning is not necessary for the newly constructed SBRR. As such, we reject NS's inclusion of shoulder ballast cleaning costs in this case.[428]

g. Storm Debris Removal

Sunbelt proposes $10,000 annually to cover the costs of storm debris removal, based on its expert's experience in the geographic regions where the SBRR is situated.[429] NS contends that $25,000 annually is a more appropriate figure, based on its expert's experience maintaining the lines replicated by the SBRR.[430] Both parties have provided the minimal amount of evidence necessary to support their proposals. However, NS has failed to explain why Sunbelt's proposal is inadequate and instead merely includes a competing conclusion by its own witness. Sunbelt has supported its figure with a statement by its witness, and that figure is not unreasonable, particularly in light of our decision to accept NS's increased vegetation control costs, which will reduce the amount of debris that must be removed from the SBRR right-of-way. We will accept Sunbelt's proposal of $10,000 annually.

h. Washouts

The parties disagree on washout costs. On opening, Sunbelt proposes an annual cost of $10,000 for washout repairs based on its expert's experience with railroad washouts in the geographic regions served by the SBRR.[431] Sunbelt provides no further evidence in support of this number. NS on reply argues that this figure is low because many of the lines being replicated are in areas known to have experienced annually significant flooding and washouts resulting from hurricanes and heavy rain. Citing both its report on environmental factors and its expert's experience, NS proposes an annual cost of $50,000.[432] Like Sunbelt, NS provides no further evidence in support of its number. NS, however, provides evidence to indicate that Sunbelt's proposal is unrealistic. Because there is evidence indicating that the SBRR will operate in areas that experience significant rainfall that contributes to washouts, we accept NS's allotment of $50,000 for washouts as the best evidence of record.

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[427] NS Reply III-D-190 to III-D-191.

[428] The Board has accepted shoulder ballast cleaning in prior cases where coal dust has been an issue. See AEPCO, slip op. at 65; DuPont, slip op. at 128; see also AEPCO's Opening III-D-83, in AEPCO. However, coal dust has not been raised as an issue here.

[429] Sunbelt Opening Ex. III-D-3 at 24.

[430] NS Reply III-D-194.

[431] Sunbelt Opening Ex. III-D-3 at 26.

[432] NS Reply III-D-196 to III-D-197.

i. Derailments and Clearing Wrecks

Sunbelt proposes a total annual cost for derailments and clearing wrecks of $729,104, with its derailment costs based on 2011 Federal Railroad Administration (FRA) Accident Reports for NS and its wreck clearing costs based on NS's 2011 R-1 report.[433] NS rejects Sunbelt's methodology and calculation of cost. NS argues that the FRA Accident Reports provide incomplete cost data because they do not include the cost of fringe benefits, overheads, and the use of owned equipment. NS instead proposes to use its system-wide costs for derailment damage found in its R-1 report. Sunbelt replies arguing that the FRA Accident Reports produce more accurate data because they are geographically coded and account for geographic factors. Moreover, Sunbelt argues that the R-1 report figure overestimates costs because the instructions for the R-1 report state that the railroad should report on damage "caused by derailments, collision, fire, explosion, sabotage, other casualties."[434] Finally, Sunbelt points out that, in prior proceedings, parties have relied on and the Board has accepted FRA data for determining the cost of repairing damage from derailments. We agree that that the FRA Accident Reports are an acceptable source of data for calculating derailments and clearing wrecks, and that NS has not shown that the R-1 report's use would be more accurate.

Moreover, NS's arguments against Sunbelt's methodology are flawed in that NS provides conflicting evidence. NS proposes to apportion NS's system-wide costs for derailment damage to the SBRR based on total traffic handled measured in gross ton miles, as opposed to Sunbelt's methodology which bases costs on the ratio of SBRR to NS route miles. In its narrative, NS proposes an annual cost of $1,697,839, based on 5.3% of NS's actual costs.[435] In its workpapers, however, NS proposes $1,437,379, based on 4.5% of NS's actual costs.[436] Sunbelt defends its methodology while also pointing out NS's inconsistent cost evidence.[437] Sunbelt's methodology is not unreasonable, and NS has presented inconsistent evidence supporting its proposed methodology. For these reasons, we accept Sunbelt's proposed derailment and wreck clearing costs as the best evidence of record.

3. EQUIPMENT

As discussed earlier throughout the MOW section of this appendix, we have generally accepted NS's proposed equipment, except with respect to the hi-rail Suburban vehicles, equipment for the welder/helper crews, equipment for the B&B Machine Operator, and the number of B&B maintenance trucks. To the extent that the parties disagree on equipment or vehicles not specifically mentioned above, we accept NS's equipment and vehicle estimates to ensure that the equipment quantities match the appropriate personnel levels, as our estimates for

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[433] Sunbelt Opening Ex. III-D-3 at 25-26.

[434] Sunbelt Rebuttal Ex. III-D-2 at 56.

[435] NS Reply III-D-196.

[436] NS workpaper "Reply SBRR Derailment and Clearing Wrecks."

[437] Sunbelt Rebuttal Ex. III-D-2 at 55-57.

the Track Department and Signals and Communications Department more closely align with NS's evidence.

APPENDIX B—SBRR ROAD PROPERTY INVESTMENT

This appendix addresses the evidence and arguments of the parties concerning what it would cost to build the SBRR. The below table summarizes the parties' cost estimates associated with that construction, as well as the numbers used in our analysis.

TABLE B-1
Sunbelt RR Construction Costs

	Sunbelt	NS	STB
Land	$215,563,000	$218,110,000	$220,362,502
Roadbed Preparation	$260,950,029	$676,718,415	$392,800,178
Track	$583,858,491	$874,400,085	$788,806,358
Tunnels	$0	$0	$0
Bridges	$283,912,390	$487,236,203	$375,964,364
Signals & Communications	$146,227,416	$198,480,923	$185,476,838
Building & Facilities	$59,859,159	$175,666,272	$103,959,004
Public Improvements	$11,515,408	$16,739,799	$11,515,408
Mobilization	$36,350,718	$65,589,526	$50,180,098
Engineering	$134,632,289	$242,924,170	$185,852,215
Contingencies	$151,730,590	$273,775,539	$209,455,446
TOTAL	$1,884,599,490	$3,229,640,931	$2,524,372,410

A. REAL ESTATE

TABLE B-2
Real Estate Acreage

	Sunbelt	NS	STB
ROW	6,510	6,579	6,507
Yards	338	378	378
Microwave Tower Sites	50	50	50
Sub TOTAL	6,898	7,007	6,936
Easements	273	273	273
TOTAL	7,171	7,280	7,208

TABLE B-3
Real Estate Costs

	Sunbelt	NS	STB
ROW	$175,073,329	$180,394,000	$174,999,741
Yards	$38,426,671	$35,348,000	$43,031,762
Microwave Tower Sites	$1,900,000	$1,937,000	$1,900,000
Sub TOTAL	$215,400,000	$217,679,000	$219,931,502
Easements	$163,000	$431,000	$431,000
TOTAL	$215,563,000	$218,110,000	$220,362,502

1. ACREAGE

On opening, Sunbelt values acres for a ROW, for yards, and for microwave towers.[438] NS accepts the acreage valued by Sunbelt for microwave towers, but as to the ROW, NS instead values a different acreage.[439] NS claims that the difference in mileage and acreage appraised by the two parties reflects NS's inclusion of acreage for waterways and exclusion of Sunbelt's system mileage variation adjustment.[440] NS also asserts that, because Sunbelt did not properly configure or size its yards based on the level of operations, the number of acres Sunbelt valued was insufficient.[441] On rebuttal, Sunbelt stands by its figures concerning the ROW,[442] but it makes modifications to increase the land required for yards and supporting facilities.[443]

We will accept NS's acreage quantities and yards. Given that we are accepting NS's operating plan and related system configuration, it follows logically that we should accept the footprint required by that system. However, we will make an adjustment and exclude NS's waterway acreage. Including acreage on waterways would be illogical because the SBRR would not need to acquire land to cross these areas. We therefore exclude 71.64 acres from NS's total acreage that NS claims is necessary for the Lake Pontchartrain bridge. Additionally, we will accept the parties' agreement on acreage for microwave towers.

2. APPRAISAL

On opening, Sunbelt estimates that the total property for the SBRR, including easements, would cost $199.1 million to acquire.[444] According to Sunbelt, its appraisers valued all segments of the railroad, particularly the major urban centers. In addition, the real estate team toured significant portions of the route, and reviewed other data such as aerial maps. Sunbelt further explains that its appraisers also consulted with various local appraisers along the SBRR route.[445]

NS argues that the Sunbelt appraisal is methodologically flawed. NS's appraiser prepared an alternative "mass-appraisal valuation report." NS argues that its appraisal is superior because it applies methodologies consistent with Uniform Standards of Professional Appraisal Practice standards, and features more specific and detailed analysis than the Sunbelt report. NS's

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[438] See Sunbelt Opening III-F-2.

[439] See NS Reply III-F-10.

[440] See NS Reply III-F-10.

[441] See NS Reply III-F-29.

[442] See Sunbelt Rebuttal III-F-4 at III-F-5.

[443] Acres in yards were increased on rebuttal to add classification tracks. In addition, yard acres were increased to reflect acres for intermodal yards and an auto distribution yard. See Sunbelt Rebuttal III-F-5.

[444] See Sunbelt Opening III-F-2.

[445] See Sunbelt Rebuttal III-F-4.

expert concludes that the land acquisition costs for the SBRR would be $218,110,000.[446] On rebuttal, Sunbelt stands by its appraisal, but adds the additional yards and supporting facilities discussed above to calculate an acquisition cost, including easements, of $215,563,000.[447]

We accept Sunbelt's land valuation. Although Sunbelt's evidence is not perfect, it is the best evidence of record. Sunbelt's calculations show the methodology it used to reach its final unit costs, but NS does not provide calculations sufficient to demonstrate the methodology for its final unit costs. All of NS's unit prices are hardcoded into the spreadsheets with no explanation of the figures' derivation. NS's appraiser lists specific land use categories in his report, but in NS's spreadsheets, land uses are further divided by a class number/code designation which is never explained by NS or the appraiser. Each class shows different calculated values, so there are multiple average values in square foot units and one average value in acre units, but there is no indication of a relationship between the groups of values.

NS's arguments against the Sunbelt appraisal (discussed below) do not convince us that it is unrealistic or infeasible.

a. Physical Inspection

Each party's appraisal is based in part on some form of physical inspection. However, NS argues that the Sunbelt appraisal team only performed enough field-work to confirm what was otherwise a desktop review.[448] Sunbelt counters that its appraisal team inspected a greater number of urban centers than NS and that its inspection process was designed for maximum efficiency in the field.[449]

The Board believes that the Sunbelt analysis is valid and well-supported. Sunbelt's use of computer data to prepare the inspection route and note areas needing special attention is valid. Using these methods, the Sunbelt appraisers were able to inspect a greater area than the NS appraisers, and the Sunbelt appraisal included photographic documentation, while NS's appraisal did not.[450] Sunbelt's use of Internet tools is also valid because they can help to provide the most up to date information about an area. Additionally, although NS cites some alleged examples of Sunbelt's incorrect land use designations, Sunbelt correctly classified those sites.[451]

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[446] See NS Reply III-F-3.

[447] See Sunbelt Rebuttal III-F-5. As seen in Sunbelt's rebuttal at exhibit III-H-1 at Table C and discussed in the DCF appendix of this decision, Sunbelt indexes the total 2011 value for land and easements ($215,563,000) to a 2009 value ($194,806,740).

[448] See NS Reply III-F-13.

[449] See Sunbelt Rebuttal Ex. III-F-2 at 80.

[450] See Sunbelt Rebuttal Ex. III-F-2 at 80.

[451] In particular, NS claims that Sunbelt misclassified a stretch of land in the Birmingham, Ala., area and one in the New Orleans, La., area. See NS Reply III-F-16. Sunbelt

(continued . . .)

b. Valuation Date

NS argues that Sunbelt's appraisal team valued the real estate as of July 31, 2011 (the day after operations are scheduled to commence on the SBRR), but that this date fails to take into consideration the time necessary to acquire the land needed for the SBRR ROW and facilities and then construct the line.[452] NS asserts that this approach produces unrealistic results and runs counter to Board precedent.[453] Sunbelt responds that, in fact, its opening evidence did adjust the July 31, 2011 valuation back to the SBRR construction period through the DCF model.[454]

We find that Sunbelt's approach is acceptable. The practice of valuing land based on a period encompassing the start date of operations and then adjusting the valuation back to the acquisition date of property provides a fuller estimation of land's value than merely looking at past sales. Furthermore, as noted by Sunbelt, the Board has accepted the practice in prior cases, including in Arizona Electric Power Coop. v. BNSF Railway, (AEPCO), NOR 42113 (STB served Nov. 22, 2011), aff'd sub nom. BNSF Ry. v. STB, 748 F.3d 1295 (D.C. Cir. 2014).[455] NS has not demonstrated why that approach should not be used here.

(. . . continued)
provides more detailed photographs demonstrating that its classifications are correct. See Sunbelt Rebuttal Ex. III-F-2 at 69-79.

[452] See NS Reply III-F-2.

[453] NS cites McCarty Farms v. Burlington Northern, Inc. (McCarty Farms 1997), 2 S.T.B. 460, 525 n.132 (adjusting the land valuation date back to the beginning of the construction period) and Arizona Public Service Co. v. The Atchison, Topeka & Santa Fe Railroad Co., 2 S.T.B. 367, 387 n.55 (1997) (valuing land at 1993 values so as to provide for a 1-year construction period prior to the initiation of service in 1994). See NS Reply III-F-5 to III-F-6.

[454] See Sunbelt Rebuttal I-71 to I-72; see also the DCF appendix of this decision.

[455] In the recently served E.I. DuPont de Nemours & Co. v. Norfolk S. Ry. (DuPont), NOR 42125 (STB served Mar. 24, 2014), we noted this practice but adopted a different approach for the unique circumstances there. In that case, the parties disagreed about using an approach valuing land as of 2009, a year affected by the recession. We decided not to use the traditional approach, which would have included this skewed data. Here, there is effectively no disagreement about using 2009 as a valuation date, and we must therefore choose between using our traditional methodology or an unorthodox methodology that encompasses fewer data points. Given that the method put forward by Sunbelt follows our precedent and is better because it encompasses more data from which to extrapolate land value, we will use Sunbelt's methodology here.

c. Comparable Sales

Although both parties relied upon a sales comparison approach, NS claims that Sunbelt made numerous errors in selecting appropriate comparable sales and aggregating the value of the comparable sales. For example, NS claims that the Sunbelt appraiser inappropriately relied upon sales of improved land in valuing the vacant land along the SBRR ROW.[456] We disagree. Based on the notes Sunbelt provided with its file entries, Sunbelt has not included the value of any improvements for the examples noted by NS.

NS further argues that Sunbelt's approach of aggregating comparable sales into a global mean to "effectively act as a single transaction" for sales data analysis is flawed.[457] NS alleges that this approach leads to unreliable results because it does not represent the volume of transactions in the actual marketplace, prevents the appraiser from analyzing the specific attributes of individual transactions, and fails to account for the more accurate dollars per-acre unit of comparison.[458]

We are not persuaded by this argument. However, Sunbelt's averaging is not weighted, despite Sunbelt's claim that it is, because it does not take into account frequencies of values. Sunbelt's is a simple average showing the dollar cost average paid for an acre of land. Regardless, this particular issue is secondary to the fact that Sunbelt has provided the Board on the whole with better evidence demonstrating the value of the land the SBRR would need to acquire for its SARR.

d. Assessed Values

NS claims that Sunbelt improperly relied upon assessed values in certain instances as a basis for the value of SBRR land. NS claims that the use of assessed values of real estate is not a good indicator of market value of individual properties because it tends to equalize the application of taxes to achieve parity among assessment levels in a given district.[459] Furthermore, NS asserts that because assessed values are often subject to revision and are not responsive to short or mid-term changes in market conditions, assessment values are not suitable substitutes for market data and are not included in the methods cited in modern appraisal texts.[460]

Sunbelt claims that it did not in fact use assessment values as the basis for its land valuation. Rather, Sunbelt explains that, when improvements were included in some of the CoreLogic sales records, it took the assessment data fields that showed the value of any improvements and created a column that made it easy to see which sales potentially had

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[456] See NS Reply III-F-18.

[457] See NS Reply III-F-20 to III-F-21.

[458] See NS Reply III-F-21.

[459] See NS Reply III-F-26 to III-F-27.

[460] See NS Reply III-F-27.

improvements. The assessment data was analyzed for the CoreLogic[461] sales, because the CoreLogic data tended to be less complete than CoStar data. In sum, according to Sunbelt, providing the CoreLogic assessment data is not a per se indication that it was attempting to extract land values using the assessment ratios.[462]

We do not find fault with Sunbelt's appraisal based on NS's concern. Sunbelt has provided a credible explanation demonstrating that, although it did use assessment values in some instances as part of its multi-step analysis, it did not rely solely on that data in determining certain land values.[463]

e. Rural Town Valuations

NS claims that Sunbelt's appraisal and the supporting workpapers provide no clear explanation of Sunbelt's valuation of the SBRR ROW in rural towns. NS argues that there is no distinct set of comparable sale values for rural towns, that Sunbelt did not indicate how it reached the land value in the rural towns, and that it failed to provide a rural town category for the state of Mississippi.[464] Sunbelt counters that all of the Rural Town segments in Mississippi are clearly included in its valuation worksheet and that NS's appraisal even listed some of Sunbelt's calculations for Mississippi.[465]

We note that Sunbelt shows sales and unit cost calculations for rural towns in Mississippi, but Sunbelt does not list the value it applied in its summary. All the same, this data was clearly accurate enough for NS's purposes. As to the other concerns, we note that Sunbelt shows a unit value for rural towns in its calculations spreadsheet which is used in cost calculations. Regardless, Sunbelt provides, on whole, a greater quantity of accurate information demonstrating land value than NS. We therefore continue to find that Sunbelt has provided better evidence estimating real estate costs.

f. Easement Valuation

Sunbelt asserts that its expert conducted an extensive review of NS valuation maps and easement documents provided in discovery. Sunbelt used this material to determine the easement acreage. The acreage cost per-easement-acre for each state was then applied to the acreage for each easement in the individual state.[466]

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[461] CoreLogic, CoStar, and LoopNet are recognized sources of real estate sales data routinely used by market participants, including appraisers. See NS Reply III-F-11 n.11.

[462] See Sunbelt Rebuttal Ex. III-F-2 at 94-95.

[463] See Sunbelt Rebuttal Ex. III-F-2 at 94-95.

[464] See NS Reply III-F-27.

[465] See Sunbelt Rebuttal Ex. III-F-2 at 86-87.

[466] See Sunbelt Opening III-F-5.

NS claims that Sunbelt's appraisal inappropriately valued the approximately 273 acres of easements to be acquired by the SBRR. NS asserts that the Sunbelt appraiser valued the easements based upon the unindexed historic value paid by NS or its predecessors at the time that the easement was acquired. According to NS, this method of valuation is contrary to settled Board precedent, citing Public Service Co. of Colorado d/b/a Xcel Energy v. Burlington Northern & Santa Fe Railway (Xcel 2004), 7 S.T.B. 589, 669 (2004), and Board policy that easements must be valued at their current market value. NS asserts that its appraiser properly indexed easement values to current market levels.[467] On rebuttal, Sunbelt claims that easements are typically acquired by a one-time fee and that, because the SBRR is stepping into NS's shoes, to require the new entrant to pay an inflated easement price would constitute a barrier to entry. Sunbelt further argues that there is no evidence the value of easements escalates over time with inflation.[468]

We find NS's easement concerns credible. As we noted in our discussion of easements in Xcel 2004, a SARR's investments should be valued at current costs. See Xcel 2004, 7 S.T.B. at 669. Easement values therefore must reflect current values of the easements. Here, Sunbelt's easement valuation methodology assigns costs to all of the easements.[469] On rebuttal, Sunbelt stands by its historical costs and argues that there is no general trend in easement values,[470] but the data Sunbelt offers in support of this position are not convincing. Of the 24 transactions Sunbelt cites, only three occurred after 1910, and two of these three actually indicate an increase in the value of property.[471] Therefore, we are accepting NS's adjustments as the best evidence of the current costs of SBRR easements. Because we find that Sunbelt has not supported its contention that NS's easement values are improperly inflated, we also conclude that Sunbelt has not shown a difference in treatment between the SARR and the incumbent railroad that would constitute a barrier to entry.

3. REAL ESTATE ACQUISITION COSTS

NS claims that Sunbelt did not provide for any additional costs to the SBRR for the acquisition of the necessary land. NS estimates that between title work, surveying, appraisals,

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[467] See NS Reply III-F-28.

[468] See Sunbelt Rebuttal III-F-13 to III-F-14.

[469] As noted by NS, when developing the cost of the SBRR's easements, Sunbelt took the average cost per easement acre for each state and then applied it to the acreage for each easement in the individual state. See Sunbelt Opening III-F-5. But see Wis. Power & Light Co. v. Union Pac. R.R. (Wisconsin Power & Light), 5 S.T.B. 955, 1019 (2001), aff'd sub nom. Union Pac. R.R. v. STB, 62 F. App'x 354 (D.C. Cir. 2003) (railroads did not historically pay for easements, and under SAC theory a stand-alone railroad need not include any costs to acquire an easement property unless the defendant railroad demonstrates that it actually incurred such costs).

[470] Sunbelt Rebuttal III-F-14.

[471] See Sunbelt Rebuttal WP "SBRR Easement Fees_Rebuttal.xlsx."

negotiations, and closing costs, it would cost the SBRR an additional $8,233,100 for these services.[472] Sunbelt argues that these costs should not be included because they constitute a barrier to entry.[473] It further argues that NS has failed to show that it incurred these supplemental real estate acquisition costs given that some of the replicated SBRR lines traverse part of a longer federal land grant between Meridian, Miss., and Chattanooga, Tenn.[474]

We will accept NS's additional costs.[475] These costs are separate from the cost of the land being purchased and would be incurred by a new rail entrant. Furthermore, while it is true that NS's costs are unsupported by any original documentation, these costs are inherent in real estate transactions. Therefore, the original rail companies incurred such costs in purchasing the property for the lines replicated here even though the amount of the original expenditure is not now known.[476] Although some lines were bestowed by land grants, there would still have been some type of transaction costs in the form of transfer of title or documentation of awarded rights to the railroads acquiring the grants.

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[472] See NS Reply III-F-271.

[473] Sunbelt notes that in Duke Energy Corp. v. Norfolk Southern Railway (Duke/NS), 7 S.T.B. 89, 169 n.97 (2003), the Board found an assemblage factor is an impermissible barrier to entry unless the defendant railroad can show that it incurred such costs for the rail line at issue and that in West Texas Utilities Co. v. Burlington Northern Railroad, 1 S.T.B. 638, 672-73 (1996), aff'd sub nom. Burlington Northern Railroad v. STB, 114 F.3d 206 (D.C. Cir. 1997), the Board found licenses to be a barrier when the cost was not incurred by an incumbent. See Sunbelt Rebuttal III-F-142 & n.401.

[474] See Sunbelt Rebuttal III-F-142.

[475] Although NS places these costs under Mobilization, as discussed in DuPont, we consider these expenses to be real estate transaction costs rather than as real estate mobilization costs. Thus, the cases cited by Sunbelt with respect to mobilization are inapposite. See Sunbelt Brief 43 n.132. Also, Sunbelt implies that NS inflated these costs because the land sales would be completed in only seven months—an approach that would arguably conflict with the Board's prior reasoning with regard to a SARR's expedited construction. See Sunbelt Brief 43-44, n.134. But NS relies on the limited number of SBRR real estate employees, as posited by Sunbelt, and not only on the time period available. See NS Reply III-F-269.

[476] See Sunbelt Opening WP Folder "Deed Documents" (real estate transactional documents involving NS's predecessors dating back to the mid-19th century).

B. ROADBED PREPARATION

TABLE B-4
Roadbed Preparation Costs

	Sunbelt	NS	STB
Earthwork	$171,340,563	$322,380,477	$282,877,949
Clearing & Grubbing	$14,357,564	$16,867,595	$16,867,595
Lateral Drainage	$2,880,884	$3,673,984	$2,880,884
Retaining Walls	$39,015,289	$74,522,927	$39,093,879
Rip Rap	$436,860	$139,628,412	$436,860
Topsoil Placement / Seeding	$6,459	$3,714	$3,714
Land for waste quantities	$8,925,126	$22,343,838	$8,925,126
Subgrade Preparation	$0	$5,103,991	$5,103,991
Lighting & Dust control	$0	$20,665,924	$0
Drainage for Yards	$0	$10,296,340	$10,296,340
Access Road Mats	$0	$33,262,260	$0
Road Surfacing	$0	$0	$0
Relocation of Utilities	$0	$0	$0
Environmental Compliance	$0	$0	$0
Weather Costs	$0	$1,655,113	$0
Sub TOTAL	$236,962,746	$650,404,574	$366,486,337
Culvert Cost	$23,987,283	$26,313,840	$26,313,840
TOTAL	$260,950,029	$676,718,415	$392,800,178

Sunbelt used the ICC Engineering Reports (Engineering Reports) to develop the SBRR quantities for clearing, grubbing, earthwork, rip rap, retaining walls, and lateral drainage. It

adjusted the reports to reflect modern engineering and design specifications.[477] The unit costs it used for roadbed preparation are a combination of actual costs from South Central Tennessee Railroad's Trestle Hollow rail construction project[478] and R.S. Means Handbook (Means) costs.[479] According to Sunbelt, these Means costs are very conservative because they are based on an average of costs for projects of all sizes from around the country and assume a unionized workforce.[480]

NS asserts different costs for roadbed preparation. Much of the difference in the parties' costs for this section is over whether it is proper to use the costs from the Trestle Hollow Project, given that portions of the SBRR would be constructed through wetlands. In particular, NS challenges Sunbelt's use of the Trestle Hollow Project costs and claims that Sunbelt has failed to properly account for construction challenges attributable to the significant amount of wetlands traversed by the SBRR. We will next examine the Trestle Hollow question and review the wetlands concerns in the Undercutting section.

1. TRESTLE HOLLOW PROJECT COSTS V. MEANS COSTS

According to NS, Sunbelt improperly used data from the Trestle Hollow Project to determine costs for common earthwork excavation, clearing and grubbing, and seeding. NS claims that the cases cited by Sunbelt[481] do not provide precedent for using the costs of a small project on a foreign shortline as the basis for the costs of constructing a SARR that purports to be on a Class I carrier's system.[482] NS claims that the Trestle Hollow Project is also not applicable to the SBRR because it traverses different topography, requires less water compaction, realizes economies from having a small geographic area, and, generally, reflects much lower costs than other NS projects or costs derived from Means.[483] Instead of using costs from the Trestle Hollow Project, NS claims that the SBRR's costs should be derived from Means, a method that the Board has favored in the past.[484]

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[477] See Sunbelt Opening III-F-6.

[478] The project took place in 2007 and involved re-routing and building a 1.3-mile rail line near Centerville, Tenn. See Sunbelt Opening III-F-6; NS Reply III-F-33 to III-F-34.

[479] Means provides a "set of nationwide standardized unit costs, adjusted for localities, used to estimate the cost of construction." NS Reply III-F-49.

[480] See Sunbelt Opening III-F-6.

[481] See AEPCO; W. Fuels Ass'n v. BNSF Ry. (WFA/Basin), NOR 42088 (STB served Sept. 10, 2007), remanded sub nom. BNSF Ry. v. STB, 604 F.3d 602 (D.C. Cir. 2010), on remand W. Fuels Ass'n v. BNSF Ry., NOR 42088 (STB served June 15, 2012) (with Vice Chairman Begeman dissenting), remanded sub nom. BNSF Ry. v. STB, 741 F.3d 163 (D.C. Cir. 2014).

[482] See NS Reply III-F-36.

[483] See NS Reply III-F-36.

[484] See NS Reply III-F-33.

Sunbelt claims that these Trestle Hollow unit costs are supportable, feasible, and a superior real-world substitute for the Means costs.[485] Sunbelt claims that, while the Board used to accept Means costs when the defendant railroads have failed to provide representative earthwork cost data from actual projects, the Board broke this trend in WFA/Basin and AEPCO when it accepted real world evidence as the best evidence of record.[486] Furthermore, Means costs should not be adopted here, according to Sunbelt, because these costs do not recognize economies of scale of large railroad projects, such as the construction of the SBRR.[487]

Additionally, Sunbelt takes issue with NS's attempt to distinguish the SBRR from the Trestle Hollow Project based on size and scale.[488] Sunbelt does concede that volume concentrations of soil were higher on the Trestle Hollow Project, providing economies that are not available to the SBRR. However, Sunbelt also argues that the Trestle Hollow Project was more complicated than construction of the SBRR's lines, so its use of the Trestle Hollow Project costs is comparable in that sense.[489] Specifically, Sunbelt notes that the Trestle Hollow Project was constructed in difficult conditions, including steep terrain, with slopes in excess of 2:1, requiring deep cuts and high fills.[490] Sunbelt claims that any recent railroad construction project, including all other projects identified by NS in Reply, would be small in scope and scale in comparison to the SBRR.[491]

We will use Means costs rather than the Trestle Hollow Project costs put forward by Sunbelt. Sunbelt has not provided sufficient support for the proposition that a single, 1.3-mile rail relocation project in Tennessee could serve as a suitable proxy for all 578 miles of line that the SBRR would have to build. The two projects involve construction over significantly different topographies with different soil characteristics and different economies of scale. Sunbelt itself recognizes these differences, but tries to explain them away by arguing that both projects are still similar enough because both are "complicated." But those complexities only highlight the differences between constructing a line in a small, rugged section of Tennessee, and constructing a system of lines through stretches of wetlands in Alabama, Mississippi, and Louisiana. Just because both types of construction would be complicated in a general sense does not mean that the costs from one would be similar to the other. Finally, we note that Sunbelt relies on a single project, rather than supporting its position with multiple data points. Based on a combination of these factors, we find that Trestle Hollow Project cannot serve as an adequate proxy. In the absence of a fully supported "real-world substitute," which under these

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[485] See Sunbelt Brief 46.

[486] See Sunbelt Rebuttal III-F-15.

[487] See Sunbelt Rebuttal III-F-16.

[488] See Sunbelt Rebuttal III-F-17.

[489] See Sunbelt Rebuttal III-F-20.

[490] See Sunbelt Rebuttal III-F-18.

[491] See Sunbelt Rebuttal III-F-17.

circumstances would likely require more than one estimate to avoid potential aberrations, we will use the Means costs proposed by NS.

2. CLEARING AND GRUBBING

Clearing is the process of removing brush and trees (leaving roots and stumps), and is the initial step in roadbed preparation. Grubbing is the process of removing roots and stumps.[492]

Sunbelt determined valuation sections and clearing and grubbing quantities based on the Engineering Reports.[493] It then modified these quantities to reflect current construction specifications. NS agrees on clearing and grubbing quantities, except for differences resulting from their respective mileage proposals. Because we accept NS's operating plan and associated system configuration, we also accept NS's resulting clearing and grubbing quantities.

The parties disagree on the costs for clearing and grubbing. Sunbelt's engineers based its costs on the Trestle Hollow Project and applied this cost to all SBRR acreage to be cleared. The cost for that project's clearing and grubbing was $2,000 per acre, but Sunbelt has indexed this 2007 unit cost to July 30, 2011, the first day of operations on the SBRR. Accordingly, Sunbelt calculated an indexed unit cost for clearing and grubbing at $2,257 per acre.[494]

NS asserts that the costs should have not been based on the Trestle Hollow Project, which it alleges to be a dissimilar project that improperly lumped clearing and grubbing costs into one category. It is not clear whether the ratio of clearing to grubbing is the same for the two projects. Instead, NS claims that Sunbelt should have used separate categories with Means as their basis. NS notes that Sunbelt did provide separate costs for clearing and grubbing based on Means in its workpapers, but it did not use them in its analysis. NS accepts these separate Means unit costs of $5,458 per acre for clearing and of $3,275 per acre for grubbing.[495] On rebuttal, Sunbelt claims that the Trestle Hollow Project unit cost used on opening is feasible and more appropriate for the SBRR.[496]

We agree with NS. As we discuss above, we do not find the Trestle Hollow Project to be a suitable indicator of costs associated with the SBRR. We will therefore use the Means costs generated by Sunbelt as the best evidence of record for land requiring clearing and grubbing.

NS proposes two adjustments to Sunbelt's alternate Means cost for land only requiring clearing. NS asserts that the productivity level for the SBRR would be less than the Means cost because the Means cost does not account for stockpiling material. NS further claims that

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[492] See NS Reply III-F-48.

[493] See Sunbelt Opening III-F-7.

[494] See Sunbelt Opening III-F-8.

[495] See NS Reply III-F-51.

[496] See Sunbelt Rebuttal III-F-32.

Sunbelt's Means cost neglects to include the cost of the equipment and labor necessary to load and haul away loose material created during clearing.[497] NS calculates that, with the additional equipment and labor, the total daily cost of clearing and loading waste from a 30-foot wide section of land is $1,173.94 per acre.[498]

We will not make these adjustments. NS presents no evidence that the Means production rate in question is incorrect or that it omits or does not include a particular component of the work for which the cost is shown. Furthermore, as Sunbelt notes, NS does not demonstrate how much material would need to be moved, and a cost therefore cannot be placed on this activity.[499]

3. STRIPPING

Stripping removes all vegetation, sod, topsoil, and unsuitable material, including leaves, branches, and wood chips left over from clearing and grubbing activities. See AEPCO, slip op. at 84. NS asserts that Sunbelt has failed to include costs for stripping.[500] NS doubts that these costs are all included in the Trestle Hollow Project unit costs, and, as before, it questions the usefulness of this project for SBRR costing purposes. To determine the amount of the SBRR roadbed that would require stripping, NS developed the square footage of the roadbed under embankment based on the relative proportion of embankment to excavation calculated based on the Engineering Report quantities. NS then added this amount to the total common excavation quantities.[501]

We will not add additional costs for stripping. Stripping costs have not been included in prior SAC cases. Xcel 2004, 7 S.T.B. at 671. It is incumbent upon the proponent of a new cost to demonstrate that such a cost would need to be incurred by the SBRR. NS has failed to show that stripping would be needed in the areas that the SBRR would traverse or that stripping costs were incurred during actual construction of the lines that would be replicated.

Regardless, the additional work of stripping that NS claims is needed for building an embankment would be included in clearing and grubbing activities and would be done regardless of the type of grading. Because we have accepted NS's clearing and grubbing costs and consider stripping costs to be included therein, we will reject the additional charge for stripping presented by NS.

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[497] See NS Reply III-F-51 to III-F-52.

[498] See NS Reply III-F-53.

[499] See Sunbelt Rebuttal III-F-32.

[500] See NS Reply III-F-68.

[501] See NS Reply III-F-70.

4. UNDERCUTTING

Undercutting involves the removal of pockets of organic and other materials unsuitable for use in railroad embankments including organic peat, silty clays, and unsuitable soils.[502] According to NS, the SBRR route traverses a substantial amount of wetlands, which contain wet, decomposed organic materials that are not suitable for use in railroad roadbed construction and must be removed and replaced with suitable materials.

On opening, Sunbelt did not include a separate cost for undercutting[503] because these costs are already allegedly included in its Trestle Hollow Project costs. NS doubts Sunbelt's claims about undercutting are being properly accounted for in Sunbelt's evidence. Based on United States Fish and Wildlife Service Wetland Inventory maps, NS explains that the SBRR ROW would traverse wetlands and would therefore need undercutting. To determine the amount of undercutting, NS relied on one of its recent projects to expand the Birmingham Regional Intermodal Facility in McCalla, Ala. NS estimates that the SBRR would require two foot undercutting[504] and backfill with 1,765,148 cubic yards (CY) of rip rap.[505]

NS also notes that Means applies a 50% mark-up to the unit cost of the excavation to account for the reduction in productivity resulting from excavating of such wet soils and materials. According to NS, such material warrants wasting because of its unsuitability for fill in other areas of the alignment, and NS added it to the total waste material quantity.[506] NS also argues that temporary access roads would be needed to allow continuous roadbed construction, site access, and corridor connectivity. Lastly, NS claims that the SBRR would require approximately 479,395 feet of matting at a cost of $33.3 million.

We reject NS's addition of work and costs for undercutting. NS points to no separate undercutting quantities from the Engineering Reports and provides no evidence that the earthwork quantities in the Engineering Reports do not include undercutting quantities.[507] Additionally, there are Engineering Reports showing subsidence quantities, indicating work done to prevent or correct some type of unstable roadbed condition. None of the Engineering Reports associated with this case indicate subsidence quantities. Based on this lack of evidence,[508] the SBRR cannot be required to incur an undercutting cost.

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[502] See NS Reply III-F-70.

[503] See NS Reply III-F-70.

[504] See NS Reply III-F-76.

[505] See NS Reply III-F-78.

[506] See NS Reply III-F-78.

[507] See Sunbelt Rebuttal III-F-44.

[508] NS refers to undercutting performed at its Birmingham Regional Intermodal Facility expansion project in McCalla, Ala. NS Reply III-F-75 to III-F-76. However, this analysis describes undercutting as part of the construction of a new facility, and does not indicate that the

(continued . . .)

5. EARTHWORK

Sunbelt used the Engineering Reports to develop the earthwork quantities for each valuation section covering the line segments of the SBRR.[509] These segments were adjusted to reflect current roadbed specifications. The adjusted earthwork quantities were then used to develop the earthwork requirements and the costs for the SBRR.[510] Sunbelt used a combination of actual unit costs from the Trestle Hollow Project (indexed to 3Q11) and the Means average costs to develop its earthwork costs.[511] Sunbelt estimates the total earthwork cost associated with the SBRR, including the cost of land for waste excavation, is $174.7 million.[512] NS takes issues with various aspects of Sunbelt's analysis and argues that adjustments should be made.

a. Earthwork Quantities

Sunbelt's engineers estimate that the quantities from the Engineering Reports for the rail lines that would comprise the SBRR reflect average roadbed widths of 19 feet for fills and 23 feet for cuts (including ditches).[513] Sunbelt adjusted the quantities to reflect the requirements of today's heavier trains.[514]

NS accepts Sunbelt's general method of determining earthwork quantities from the Engineering Reports, but it claims that Sunbelt erroneously treats 332,600 CY of slag as a common excavation quantity rather than as a borrow quantity.[515] We will not make NS's adjustment. NS has provided no evidence that the material was ever used as fill. NS contends that slag cannot be common excavation because it does not occur naturally, and instead is a waste product from steel mills.[516] However, this material is waste excavation and is not used as fill under modern standards. There would be no special handling required for slag removal and wasting.

Furthermore, NS claims that Sunbelt, without explanation, understated the quantity of borrow materials hauled for placement in the SBRR's roadbed by excluding material hauled

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(. . . continued)
undercutting was a repair that NS would have had to perform on its line if not for the new facility. See NS Reply III-F-75 to III-F-76.

[509] See Sunbelt Opening III-F-9.

[510] See Sunbelt Opening III-F-9.

[511] See Sunbelt Opening III-F-9.

[512] See Sunbelt Opening III-F-15.

[513] See Sunbelt Opening III-F-9 to III-F-10.

[514] See Sunbelt Opening III-F-10.

[515] See NS Reply III-F-58.

[516] NS Brief 27-28.

from sources up to 5,000 feet away.[517] Sunbelt counters that NS is improperly attempting to convert team overhaul quantities into borrow quantities because the SBRR already includes the cost to move the material beyond the distance of an average team overhaul distance (2,250 feet).[518]

We will not make NS's adjustment and will not add the alleged borrow quantity. Team overhaul would be considered a borrow activity if mule teams were still employed to cut material and move it the required distances of 500 to 5,000 feet. With today's construction equipment, however, these hauls would be simple excavation and not a borrow quantity. For example, NS's spreadsheets show excavation costs stated for 3,000-foot hauls, which is greater than what would be the average haul distance by a mule team as stated in the Engineering Reports.[519]

i. Excavation Quantities for Yards

NS disagrees with Sunbelt's yard locations and yard track configurations. NS claims that the yards that it proposes on reply are in reasonable proximity to its current yards and that the earthwork quantity for yards should equal 693,349 CY.[520]

Sunbelt counters that, even though NS allegedly accepted Sunbelt's methodologies for yard quantities, NS's workpapers reveal two errors.[521] Sunbelt alleges NS has overstated the SBRR's yard track miles. Additionally, Sunbelt argues, NS developed the earthwork quantities for its automobile and intermodal yards using the entire square footage of the facility instead of just the track feet, leading to what Sunbelt claims is an overstatement of yard excavation quantities.[522] In particular, Sunbelt argues that any excavation for non-track areas is already included in the building and facility costs, and therefore, including non-track area quantities in yard track excavation quantities results in a double count.[523]

Sunbelt's claim about NS overstating the track miles in the yards lacks merit. We are accepting NS's operating plan in this case. We therefore accept NS's configuration, including the configuration of yards and the associated track miles. We also accept NS's earthwork quantities, but without the unsupported adjustments proposed by NS, as discussed above.

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[517] See NS Reply III-F-54.

[518] See Sunbelt Rebuttal III-F-34 to III-F-35.

[519] See Sunbelt Rebuttal III-F-34 to III-F-35.

[520] See NS Reply III-F-55.

[521] See Sunbelt Rebuttal III-F-35 to III-F-36.

[522] See Sunbelt Rebuttal III-F-35.

[523] Sunbelt Rebuttal III-F-35 to III-F-36.

Sunbelt's claim about an overstatement of earthwork quantities lacks merit as well. There is not a double count of excavation quantities for automobile and intermodal yards, because neither party included excavation quantities in building and facility costs.

b. Earthwork Unit Costs

i. Common Earthwork Unit Costs

Sunbelt based its common earthwork excavation costs for the SBRR on the actual unit cost from the 2007 Trestle Hollow Project of $1,67 per CY indexed to 3Q11 resulting in a cost of $1,86 per CY.[524] According to Sunbelt, this unit cost includes all necessary work to prepare the roadbed for the placement of subballast, the handling of waste and hauling it to off-site locations, as needed, as well as costs associated with any water for compaction that might be necessary.[525]

As before, NS takes issue with costs stemming from the Trestle Hollow Project and claims that the common excavation unit cost should be based on Means costs. NS notes that Sunbelt included a Means-based common excavation cost in its workpapers. Although Sunbelt did not use this Means cost in its final calculations, NS accepts this cost on reply.[526] We will base the SBRR's common earthwork unit cost on this Means cost rather than the Trestle Hollow Project cost. As discussed above, the Trestle Hollow Project is too small in comparison to the SBRR to be a reliable projection of the SBRR's costs. Sunbelt's Means-based common excavation cost is a sound alternative to the Trestle Hollow-based cost.

ii. Subgrade Preparation Costs

NS claims that Sunbelt has failed to include either costs for drying soil that has a higher moisture content than needed for compaction or costs for applying water to soil that has a lower moisture content than needed for compaction.[527] NS estimates these costs based on Means and applies them, where necessary, to common excavation and borrow costs.[528] Sunbelt argues on rebuttal that NS has provided no supporting evidence that such costs are required and that Trestle Hollow Project unit costs include the costs for these two items, should they be necessary.[529]

We will accept NS's costs. As discussed above, we are not accepting Sunbelt's Trestle Hollow Project costs. Thus, NS's evidence concerning costs for drying and water for compaction of the soil is the best evidence of record. Sunbelt claims that NS has overstated the

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[524] See Sunbelt Opening III-F-13.

[525] See Sunbelt Opening III-F-13.

[526] See NS Reply III-F-58.

[527] See NS Reply III-F-94.

[528] See NS Reply III-F-94 to III-F-95.

[529] See Sunbelt Rebuttal III-F-55.

cost for water for compaction,[530] but this argument lacks merit. NS's cost is based on a Means cost Sunbelt put forward in this case. NS, however, disagrees with Sunbelt's assertion that Means mistakenly listed a cost per embankment cubic yard when it intended to list a cost per cubic yard of water.[531] Sunbelt has not supported its assertion of an error in the Means cost,[532] and therefore, we reject Sunbelt's adjustment.

Although Sunbelt claims that NS provides cost for drying and water for compaction of waste material,[533] this is not the case. NS explains that its Means cost includes the cost of loading, transporting, and distributing water in the roadbed material.[534] As to drying wet material, NS also bases its unit cost on Means items and "has applied this cost to each CY of Common Excavation and borrow used in the areas with soil that is too wet."[535]

NS also proposes various cost adjustments to other excavation categories put forward by Sunbelt. In particular, NS argues that: costs for loose rock excavation must be adjusted for hauler size, hauler distance, fine grading, and a swell and shrinkage factor; costs for solid rock excavation must be adjusted for hauler size, hauling distance, fine grading, a swell and shrinkage factor, removing boulders, blasting mats, and over-excavation; and costs for borrow/embankment excavation must be adjusted for fine grading and a charge for water compaction. These various cost adjustments are discussed below.

iii. Hauler Size

Sunbelt proposes using two 300 HP dozers for ripping the loose rock and pushing it into piles, a 3-CY power shovel for placing the ripped and dozed rock into the track (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. Each of the 300-HP dozers is equipped with rock rippers at the rear and large push blades in front. Sunbelt selected the 42-CY off-highway truck because it is capable of turning in a 27-foot, 11 inch radius, and is thus able to work in a railroad ROW.[536]

NS takes issue with Sunbelt's use of a 42-CY hauler for excavating. NS claims that these are mostly used for large-scale mining operations and are unwieldy for the SBRR's task. NS accepts the use of the 42-CY hauler here because the Board has accepted their use in the past.

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[530] Sunbelt Rebuttal III-F-54 to III-F-55.

[531] NS Brief 25-26.

[532] See Sunbelt Opening WP "SBRR Open Grading.xlsx," Unit Costs tab, Rows 142-145.

[533] Sunbelt Rebuttal III-F-54.

[534] See NS Reply III-F-94.

[535] See NS Reply III-F-94 to III-F-95.

[536] See Sunbelt Opening III-F-14.

NS argues, however, that the hauler could only be used for the SBRR 45% of the time. The rest of the time, NS claims that a 22-CY hauler would be appropriate.[537] On rebuttal, Sunbelt agrees to this adjustment.[538] We will use the division of labor agreed to by the parties.

iv. Haul Distance

NS claims that Sunbelt has understated the distance that a hauler would need to transport excavated materials. NS claims that the haul distance for the high-capacity haulers used for excavation of loose rock and solid rock must equal the haul distance implicit in the unit cost for the elevated scrapers used for common excavation.[539]

We will not make this adjustment. NS would have us find appropriate the same haul distance for all types of machines. Because of different purposes, capabilities, and design of equipment, efficient haul distances and the equipment's applicability to the work in question would not be the same for different equipment. Additionally, waste material would have no specific location where a hauler would have to be employed in building the line. Thus, haul distances to waste areas are flexible with areas likely located to the nearest acceptable point from where the material is removed. And NS has not provided any evidence that the distances implicit in the unit costs are unreasonable. Sunbelt correctly notes that NS has provided no analysis of the original topography and that there are no distances shown in the Engineering Reports other than the train overhaul categories.[540]

v. Fine Grading

On opening, Sunbelt's Trestle Hollow Project earthwork unit cost already accounts for fine grading. NS disagrees with using the Trestle Hollow Project for the reasons discussed above, and it instead calculates a Means unit cost for fine grading.[541] On rebuttal, Sunbelt defends its position on opening.[542] Sunbelt also disagrees with NS's calculation of fine grading unit costs.[543]

As discussed above, the Board has rejected Sunbelt's use of the Trestle Hollow Project, and therefore, the Board will accept NS's additional costs for fine grading because those costs are not already accounted for in Means or in NS's earthwork costs. Means lists fine grading separately from other grading activities, and this additional step would be needed to shape the

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[537] See NS Reply III-F-61.

[538] See Sunbelt Rebuttal III-F-38.

[539] See Sunbelt Rebuttal III-F-37.

[540] See Sunbelt Rebuttal III-F-37.

[541] See NS Reply III-F-83.

[542] See Sunbelt Rebuttal III-F-48.

[543] Sunbelt Rebuttal III-F-48 to III-F-49.

SBRR's roadbed. Xcel 2004, 7 S.T.B. at 678. Because Sunbelt did not calculate a fine grading cost, NS's calculation of this cost is the only available evidence on this cost.

vi. Swell and Shrinkage Factor

NS claims that Sunbelt failed to include any adjustment in earthwork unit costs or quantities for swell or shrinkage of material during excavation, hauling, and compaction.[544] NS includes these estimates based on the type of soil that would be encountered during construction. NS claims that, by failing to include these factors, Sunbelt significantly underestimated the cost of embankment construction for the SBRR.[545] However, NS's adjustments are unnecessary because Means costs are based on the specific type of earthwork, thereby accounting for shrinkage and swell associated with that use. See AEPCO, slip op. at 92. NS also argues that the Engineering Reports record earthwork quantities in bank cubic yards, but Means reports some cost categories in loose or embankment cubic yards, and therefore, units for these categories must be converted.[546] But NS does not cite any support for its claim that the Engineering Reports record earthwork quantities in bank cubic yards, and the fact is not self-evident. "Bank" means in place, undisturbed, natural ground, and the Engineering Reports address earthwork in its post-construction state.

vii. Loose Rock Excavation Costs

Sunbelt calculates a unit cost based on Means and the equipment described above adjusted by an average location factor.[547] NS agrees with the use of the Means cost for loose rock excavation.[548] We will accept the parties' agreement on loose rock excavation subject to their agreement on hauler size discussed above. Furthermore, also discussed above, we will adjust this base cost to include NS's added cost for fine grading, but reject its additional costs stemming from hauler distance and from a shrinkage and swell factor.

viii. Solid Rock Excavation Costs

Sunbelt bases its unit cost for solid rock blasting on an average of the Means cost for blasting rock over 1,500 cubic yards and the cost for bulk drilling and blasting. Sunbelt adds the costs to excavate the blasted rock, load it into trucks, haul it away, and dump it.[549] Sunbelt also applied the cost to spread the material, and the average compaction cost for embankment that

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[544] See NS Reply III-F-83.

[545] See NS Reply III-F-85.

[546] See NS Brief 23-24; NS's Reply III-F-84 to III-F-85.

[547] See Sunbelt Opening III-F-14, n. 34.

[548] See NS Reply III-F-59.

[549] See Sunbelt Opening III-F-14.

was used for the other earthwork categories.[550] Furthermore, Sunbelt used a 50/50 combination unit cost made up of the solid rock unit cost and the loose rock unit cost.

NS made adjustments to Sunbelt's solid rock excavation costs for hauling distance, swell, fine grading, and hauler size.[551] Additionally, NS accepts the 50/50 unit combination cost, but asserts that some sites along the SBRR would require pre-splitting of rock faces and other sites close to highways and densely populated areas would require blasting mats.[552] In other areas, NS states its engineers have determined that solid rock removal would require benching—a form of slope stabilization consisting of horizontal berms cut into the sideslope to mitigate water runoff and control erosion.[553] NS claims that Sunbelt has excluded these costs.[554]

NS also claims that Sunbelt excluded costs for loading, hauling, and burying boulders in the embankments or waste pits. NS estimates that, based on the expected characteristics of the rock that the SBRR would encounter, 20% of the entire quantity of the solid rock classification (both blasted and ripped) found in the Engineering Reports would be boulders of at least one-half of a cubic yard in size.[555] NS has revised the unit costs developed from Means by using what it claims to be the correct open face blasting item, excavating and hauling boulders, and using the hauler size split discussed above to create a unit price for sold rock excavation of $19.02 per CY.[556] On rebuttal, Sunbelt claims that NS has provided no detail concerning its blasting procedures and that the boulders do not need to be removed because they will be blasted.[557]

These NS adjustments are not supported, and we will not make them. NS has not provided the required level of detail regarding this work, so pre-splitting and benching are unsupported assumptions, particularly when applied to the entire quantity of solid rock. Blasting mats would also not be required, as it is highly unlikely that this work would happen anywhere other than rural areas. Additionally, NS's cost for excavating and hauling boulders is extraneous. Regardless of the percentage of boulders encountered in place, as noted by Sunbelt on rebuttal, boulders can be blasted and removed with the surrounding material.[558] There is therefore no need for NS's additional boulder removal cost.

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[550] See Sunbelt Opening III-F-15.

[551] See Sunbelt Rebuttal III-F-38.

[552] See NS Reply III-F-62 to III-F-63.

[553] NS Reply III-F-63 & n.94.

[554] See NS Reply III-F-63.

[555] See NS Reply III-F-64.

[556] See NS Reply III-F-64.

[557] See Sunbelt Rebuttal III-F-39 to III-F-40.

[558] See Sunbelt Rebuttal III-F-39 to III-F-40.

ix. Over-Excavation

NS notes that, when solid rock is encountered at subgrade levels in cuts, modern roadbed construction requires at least 12 inches of over-excavation and replacement with at least 12 inches of compacted fill or subballast to the same specifications as embankments. NS states that Sunbelt did not include these costs.[559] Sunbelt counters that NS has provided no evidence that the solid rock quantities on the Engineering Reports do not include over-excavation where it might have been necessary.[560] Furthermore, NS provided no evidence of instances where the original roadbed construction for any of the SBRR's rail lines had to be replaced because over-excavation was not performed during the original construction.[561] We agree with Sunbelt's observations that NS has failed to provide evidentiary support for its added costs and therefore reject them.

x. Embankment/Borrow Unit Costs

Sunbelt's borrow costs are based on Means and include a 5-CY 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.[562] Sunbelt submits unit costs of $26.74 per CY indexed to the third quarter of 2011.[563]

On reply, NS accepts Sunbelt's unit costs for borrow, and rejects its exclusion of water for compaction for the entire SBRR roadbed.[564] NS states that it adds a separate water for compaction charge.[565]

On rebuttal, Sunbelt argues that, while NS states it accepts Sunbelt's opening unit costs for borrow, a review of NS's workpapers reveals that it added a finished grading cost.[566] Sunbelt rejects this additional cost and continues to use its opening borrow unit cost.[567]

The Board will accept Sunbelt's opening unit costs for borrow, as agreed to by the parties (except with respect to water for compaction). We accept the fine grading cost added by NS.

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[559] See NS Reply III-F-80.

[560] See Sunbelt Rebuttal III-F-47.

[561] See Sunbelt Rebuttal III-F-47.

[562] See Sunbelt Opening III-F-15.

[563] Sunbelt Opening III-F-15.

[564] NS Reply III-F-64.

[565] NS Reply III-F-64.

[566] Sunbelt Rebuttal III-F-41.

[567] Sunbelt Rebuttal III-F-41.

Although NS states that it accepts Sunbelt's unit cost for borrow, it also argues that fine grading should be added to various earthwork categories, including borrow—a position we have accepted above.[568] However, we reject NS's attempt to break out the cost for water used in compaction. This would result in a double-count because compaction costs already include all water, equipment, and labor charges. Therefore, we accept Sunbelt's evidence on this point, which we consider feasible and supported.

6. LAND FOR WASTE EXCAVATION

Sunbelt assumes that 30% of excavated material for the SBRR would not be re-used as fill and that acreage would therefore be needed to dispose of the waste.[569] NS agrees with the waste ratio, but it argues that Sunbelt would need a 1:1 sideslope for the 15-foot high piles and more acreage to account for activities other than storage of soil. Sunbelt accepts these adjustments to the footprint.[570] NS also argues for a 1-mile cycle to dump waste as opposed to 1/2-mile envisioned by Sunbelt. As to the cost of excavating the waste dump sites, NS claims that Sunbelt cannot assume that all soil would be stored in rural areas and hence increases the cost of acreage.[571]

We will accept the waste ratio and the increased footprint agreed to by the parties.[572] We will, however, reject NS's increased haul distance and land unit costs. With waste volume occurring primarily in rural areas, the cost for waste areas would be more correctly based on rural land costs than on the urban acreage NS would have us include in the average land cost. Furthermore, NS has not justified an increase in the haul distances because it is not clear where sites would be needed, due to the variability in waste site spacing. As we stated above, waste material would have no specific location where it would be disposed of in building the line. Thus, haul distances to waste areas are flexible with areas likely located to the nearest acceptable point from where the material is removed.

7. DRAINAGE

a. Lateral Drainage

Sunbelt determined the linear feet (LF) of pipe per route mile for lateral draining based on the Engineering Reports. The cost per LF for installed pipe, including backfill and compaction, was taken from the 2011 Means and indexed to 3Q11 and adjusted by the

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[568] NS Reply III-F-64, III-F-81 (addressing borrow unit costs in reference to fine grading).

[569] See Sunbelt Opening III-F-15.

[570] See NS Reply III-F-66.

[571] See NS Reply III-F-67 to III-F-68.

[572] See Sunbelt Rebuttal III-F-56.

handbook's location factors.[573] NS rejects Sunbelt's quantities of lateral drainage and claims that Sunbelt erroneously left out 3,550 LF of French drain from the Engineering Report. NS has corrected this alleged error.[574] On rebuttal, Sunbelt agrees with NS that it failed to include the French drain, but it claims that NS overstated the error by a magnitude of 10, adding 35,500 LF instead of 3,550 LF.[575] Furthermore, Sunbelt counters that NS erred by assigning the entire French drain amount to the SBRR as opposed to making the change at the input level.[576]

We will accept Sunbelt's revised cost for lateral drainage. The Engineering Report calculations, which are shown twice in the Engineering Report, indicate that the quantity would be only 3,550 LF. Additionally, we agree with Sunbelt that NS improperly incorporated the French drain quantity by assigning the amount to the quantities used to develop the SBRR's lateral drainage costs. The French drain should have been added at the input level.

b. Yard Drainage

Sunbelt includes $1.5 million for yard drainage for the SBRR's one major yard in the yard building site development costs. For the remaining SBRR yards, Sunbelt's engineers accounted for drainage by sloping the yard track roadbed so that water runs off through the ballast into ditches.[577]

NS claims that drainage structures must be included for every foot of the SBRR's 117.8 miles of yard track.[578] Sunbelt counters that NS has not demonstrated that the drainage structures are needed for every foot of SBRR yard track nor has NS provided any evidence that the drainage it proposes for the SBRR is included in all of its own yards.[579] Sunbelt does, however, increase its yard drainage costs from its opening statement to reflect the increased size of the SBRR's major yard.[580]

We accept Sunbelt's revised cost for drainage at its major yard, but we accept NS's added cost to provide proper drainage in all other yards. It might be true that not all of NS's existing yards have the drainage NS proposes here, but assembling a SARR requires the parties to use the current standards for track and roadbed—see, e.g., Texas Municipal Power Agency v. BNSF Railway, 6 S.T.B. 573, 707 (2003)—and the same is true of yard drainage. Also, Sunbelt's plan of employing water drainage through ballast is not the correct way to transfer runoff to ditches,

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[573] See Sunbelt Opening III-F-15 to III-F-16.

[574] See NS Reply III-F-95.

[575] See Sunbelt Rebuttal III-F-34 & n.64.

[576] See Sunbelt Rebuttal III-F-34.

[577] See Sunbelt Rebuttal III-F-58.

[578] See NS Reply III-F-96.

[579] See Sunbelt Rebuttal III-F-58.

[580] See Sunbelt Rebuttal III-F-58.

as water deteriorates track and roadbed—water should be drained away from the tracks, not through them. Thus, Sunbelt's approach can lead to track instability.

8. CULVERTS

On opening, Sunbelt notes that 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.[581] The culverts specified by Sunbelt are corrugated aluminized metal pipe (CMP).[582]

a. Culvert Unit Costs

NS rejects Sunbelt's unit cost for culverts as they were indexed from 2010 to 2009 instead of to 3Q11. NS also rejects Sunbelt's Means unit costs for excavation and backfill because Sunbelt used the 2009 Means instead of the 2011 Means. NS accepts Sunbelt's transportation cost of $0.035 per ton-mile but claims that Sunbelt understated transportation costs by understating the weight of the culverts.[583] On rebuttal, Sunbelt agrees that it understated culvert weights on opening, and it accepts NS's change in weights used to calculate the culvert transportation costs.[584] Sunbelt also accepts the indexing of culvert costs to 3Q11 and the use of the 2011 Means for the unit costs for excavation and backfill.[585] We will use these calculations agreed to by the parties.

NS rejects Sunbelt's unit cost for crushed rock bedding material derived from the Trestle Hollow Project and develops bedding costs from Means instead.[586] On rebuttal, Sunbelt defends costs derived from the Trestle Hollow Project.[587] However, because we are not accepting the Trestle Hollow Project as a measure for the SBRR, we will accept NS's costs as the best evidence of record.

b. Culvert Installation Plan

Sunbelt explains that, once the base layer of roadbed is in place, the trench for the CMP is excavated one foot wider on each side than the culvert width. The bottom of the excavation is covered with an average area of 12 inches of crushed stone bedding material to act as a foundation and cushion for the culvert, providing a means for transferring the load into the

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[581] See Sunbelt Opening III-F-16.

[582] See Sunbelt Opening III-F-16.

[583] See Sunbelt Rebuttal III-F-59.

[584] See Sunbelt Rebuttal III-F-59.

[585] See Sunbelt Rebuttal III-F-59.

[586] See NS Reply III-F-99.

[587] See Sunbelt Rebuttal III-F-59 to III-F-60.

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. The process is then repeated.[588]

Based on comments from NS, Sunbelt makes modifications to culvert widths and spacing between pipes on multiple barrels and corrects a discrepancy concerning trench widths.[589] Sunbelt also corrects its calculations of bedding material to correspond to the corrections in trench width and accepts NS's modification to the height of the bedding material. Finally, Sunbelt corrects trench backfill quantities to correspond to the applicable dimensions.[590] We will use the modifications noted by NS and accepted by Sunbelt.

c. Culvert Quantities

Sunbelt makes the adjustments to the culvert quantities sought by NS.[591] We accept these adjustments agreed to by the parties and the resulting quantities.

9. OTHER ROADBED PREPARATION WORK

a. Sideslopes

The parties agree on an average 1.5:1 sideslope.[592] We will use their agreed sideslopes.

b. Ditches

The parties agree on the specifications for ditches,[593] and we will use these specified ditches.

c. Retaining Walls

The Engineering Reports include CY of masonry walls, timber and tie walls, and piling retaining walls.[594] Sunbelt uses these quantities, but rather than construct masonry and timber and tie retaining walls, it uses gabions (galvanized steel mesh boxes filled with rock) for all of its retaining walls. Sunbelt claims that gabions are suitable because they can be assembled on site

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[588] See Sunbelt Opening III-F-17.

[589] See Sunbelt Rebuttal III-F-60.

[590] See Sunbelt Rebuttal III-F-60.

[591] See Sunbelt Rebuttal III-F-60 to III-F-61.

[592] See NS Reply III-F-108; Sunbelt's Rebuttal III-F-61.

[593] See NS Reply III-F-108; Sunbelt's Rebuttal III-F-61.

[594] See Sunbelt Opening III-F-18 to III-F-19.

and bent to fit the existing terrain.[595] NS accepts the use of gabions and their unit cost, and we therefore accept their cost and use. NS, however, does challenge other aspects of Sunbelt's retaining wall analysis, as discussed below.

i. Wall Weight

NS claims that Sunbelt erroneously replaced the CY of masonry wall with equal CY of gabion wall and hence underestimated necessary quantities of gabion for those walls.[596] According to NS, to substitute gabion for masonry, the weight of gabion used must equal the weight of the masonry replaced. Therefore, NS claims that Sunbelt erred by substituting gabions for masonry wall based only on volume.[597] We agree with NS's weight concern for the reason it states. However, because retaining walls are replaced on a 1 to 1 ratio on a length basis, the weight concern is only valid for Sunbelt's masonry walls, whose unit weight is more than the gabion type walls. For the walls shown in Sunbelt's calculations as masonry walls, we will therefore increase the CY of gabions by 54% to achieve an equal unit weight of wall and accept NS's weight ratio of 1.54 CY of gabion basket per CY of masonry wall.[598]

ii. Wall Height

NS asserts that all the retaining walls need to be higher to accommodate the roadbeds envisioned by Sunbelt.[599] We will not make these height adjustments because NS has presented no specific evidence to demonstrate that such additions to the SBRR walls are necessary. The topography of each location, the number of existing tracks to be replaced by the SBRR, and whether the widening will be centered along the centerline of existing tracks will all affect wall height. NS did submit three photos showing retaining walls to establish an average wall height, but NS did not show that it investigated the topography at wall locations.

iii. Wall Foundations

NS claims that the retaining walls require a greater foundation to be excavated. Based on an average wall height of 10 feet, and the corresponding length, NS derives an excavation

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[595] See Sunbelt Opening III-F-18 to III-F-19.

[596] See NS Reply III-F-109.

[597] See NS Reply III-F-111.

[598] Sunbelt argues that it overstated retaining wall quantities because it assumed that all the masonry retaining walls in the Engineering Reports are on the SBRR's main line, when in fact, some of the valuation sections where masonry retaining walls are located include miles of second main and yard track that the SBRR is not constructing. (Sunbelt Rebuttal III-F-65.) But this argument is speculative—because Sunbelt does not know the topography at every wall location, there is an equal probability that its quantities are understated.

[599] See NS Reply III-F-113 to III-F-114.

volume of 53,446 CY.[600] NS would have us add this additional excavation, but we will not do so. It is unlikely that wall excavations done at the time of building of the original line are represented in any report quantities, as the Engineering Reports were generated from field observations done after the construction of the line. Furthermore, NS does not properly support a retaining wall length from which an estimate of wall excavation work could be derived. NS did submit three photos showing retaining walls, but there is no information about the location of these photos or basis to assume these small sections are indicative of the entire 578-mile SBRR system.

iv. Timber and Tie Walls

As explained above, NS's revisions to wall heights are unsupported and its related adjustments of quantities are also therefore unsupported. NS further claims that for timber retaining walls, Sunbelt miscalculated the conversion quantities of walls made of gabion baskets.[601] According to NS, Sunbelt's conversion assumes one square yard (SY) of timber wall to one CY of gabion wall. This assumes that all SY of exposed timber wall are directly interchangeable with the exposed gabion surface. However, NS claims that this assumption is only valid for walls lower than three feet in height that would require only a single course of gabion baskets.[602]

We will reject NS's quantities for timber and tie walls. There are errors in NS's calculations of area; a comparison of the manufacturer's design handbook and the workpapers[603] indicates that NS uses the wrong sized gabions for an intermediate course. Additionally, NS selects a wall height from the design manual (18 feet) that is greater than the SBRR's necessary wall heights (13.8 - 14.0 feet) when the manual provides a wall height of 15 feet. NS does not explain why the SBRR would need an 18 foot wall when a 15 foot wall would suffice. We therefore accept Sunbelt's quantities for timber and tie walls as the best evidence of record.

v. Piling Retaining Walls

On opening, Sunbelt relies on Means for the cost of timber pilings.[604] NS accepts Sunbelt's use of piling retaining walls, but it claims that Sunbelt did not include the use of treated timber piles for the piling retaining walls.[605] NS claims that the International Code

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[600] See NS Reply III-F-115.

[601] See NS Reply III-F-112.

[602] See NS Reply III-F-112.

[603] See NS Reply WP "Maccaferri Gabion Description,pdf;" NS Reply WP "Retaining_Wall_Description.pdf."

[604] See Sunbelt Opening III-F-19.

[605] See NS Reply III-F-109, III-F-116.

Council, which is the source for the state building codes through which the SBRR is routed, requires either treated wood or wood of a species resistant to rot and insect attack.[606]

NS apparently takes the position that, in this instance, Means provides costs for materials that are not appropriate for railroad construction. But it has not shown that the materials and associated costs listed in Means are deficient in this way. That is, assuming for purposes of discussion that NS is correct, and timber piles must be made of treated wood or wood that is naturally resistant to rot and insects, NS failed to show that the Means cost does not already include a wood that meets this standard. We will therefore reject NS's argument and use Sunbelt's unit cost for timber piles as the best evidence of record.

d. Rip Rap

Sunbelt developed rip rap quantities from the Engineering Reports, and it applied the unit cost from Means to machine-place the rip rap.[607] NS accepts Sunbelt's unit costs for rip rap, but it rejects Sunbelt's quantities. NS claims that Sunbelt overlooked an essential shoreline protection berm along Lake Pontchartrain and failed to include rip rap as undercutting backfill for the areas NS designated as wetlands.[608] Sunbelt counters on rebuttal, among other things, that NS did not disclose this berm in discovery and that there is no evidence that this berm was included in the original construction of the line along the Lake.[609] As to the second ground, Sunbelt opposes the placement of additional rip rap for the reasons discussed above in the Undercutting section.

We will not accept NS's argument concerning Lake Pontchartrain. Sunbelt requested "the number of cubic yards of rip rap placed for the protection of the roadway" on "any portion of NS'[s] system . . . located in the SARR States." Rather than provide the requested information, NS responded that it would "produce a list of AFEs from which Sunbelt can select a reasonable number."[610] NS cannot restrict the scope of its discovery responses and then use requested information for the first time on reply after failing to produce it in discovery.[611]

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[606] See NS Reply III-F-116.

[607] See Sunbelt Opening III-F-19.

[608] See NS Reply III-F-116 to III-F-117.

[609] See Sunbelt Rebuttal III-F-68 to III-F-69.

[610] NS claims that the berm is displayed in an aerial photograph it produced to Sunbelt in discovery. NS Brief 37. However, Sunbelt submitted the relevant discovery request and NS's response, and the response does not refer to this aerial photograph or otherwise notify Sunbelt, even though Sunbelt requested this information specifically. See Sunbelt Rebuttal WP "NS Response to Rip Rap Discovery Request.pdf."

[611] When discovery disputes arise, we remind parties that they can file motions to compel discovery.

Furthermore, we reject NS's argument that more rip rap is necessary to serve as backfill in the wetlands areas that it claims need undercutting. NS has provided no evidence that these rip rap quantities were incurred separately by the original railroads or were not part of other quantities already provided for in the Engineering Reports. NS also does not show its additional rip rap was placed on the existing line to correct or address an unstable condition under the existing track that was not addressed in the original construction, so the SBRR cannot be required to incur NS's additional quantities of rip rap for backfill.

e. Relocating and Protecting Utilities

The parties agree that no costs would be incurred for these activities,[612] and we will not add any to our analysis.

f. Seeding/Topsoil Placement

NS accepts Sunbelt's embankment protection quantities,[613] and we accept these quantities. NS rejects Sunbelt's use of the Trestle Hollow Project unit cost for seeding. NS used Means to calculate the total seeding cost.[614] As discussed above, we do not find the Trestle Hollow Project to be a supported measure of the SBRR's costs, and we are therefore accepting NS's Means-based seeding costs as the best evidence of record.

g. Surfacing for Detour Roads

The parties agree not to add costs for surfacing detour roads,[615] and we will not add any to our analysis.

h. Environmental Compliance

The parties agree not to add costs for environmental compliance,[616] and we will not any to our analysis.

i. Lighting for Night Work

NS claims that Sunbelt did not include costs for lighting for night work, arguing that "[n]ight work requires lighting in order to meet the aggressive construction schedule."[617] We

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[612] See Sunbelt Rebuttal III-F-70.

[613] See NS Reply III-F-117.

[614] See NS Reply III-F-117.

[615] See NS Reply III-F-118.

[616] See NS Reply III-F-118.

[617] See NS Reply III-F-118.

will reject these additional expenses because they represent a barrier to entry and are unnecessary. Under the theory of unconstrained resources, the SBRR would be able to utilize additional resources necessary to complete construction within the specified time period. On brief, NS argues that "[t]he theory of unconstrained resources allows Sunbelt to assume it could find resources to work at night, not to avoid the attendant costs."[618] However, this argument closely resembles railroad arguments previously rejected by the ICC and the Board, i.e., that the SARR can find the labor and other resources it needs for expedited construction, but only if it pays an attendant cost premium for the compressed time frame. See Coal Trading Corp. v. Baltimore & Ohio R.R., 6 I.C.C. 2d 361, 412-14 (1990); McCarty Farms 1997, 2 S.T.B. at 484 n.52. In addition, we note that real world projects often fall behind schedule for all sorts of reasons, and it is precisely for that reason our SAC procedures account for a contingency factor. As discussed below, the parties have agreed to a 10% contingency factor. If the need for night lighting arose, it would be an expense that would fall in that category, and to include it here would thus be a double count. Therefore, the Board will reject NS's inclusion of costs for lighting for night work.

j. Dust Control

Sunbelt does not provide costs for dust control on opening. NS does provide these costs on reply and claims that an Environmental Protection Agency fact sheet and Natural Resources Conservation Service code provide that dust control should be practiced during construction.[619] On rebuttal, Sunbelt counters that the dust control cost was not incurred when the actual line was built and that NS's proposed cost should be eliminated as a barrier to entry.[620]

As a practice in SAC cases, the Board excludes environmental mitigation requirements unless the defendant can demonstrate that these costs were incurred in construction. See DuPont 156; Duke/NS, 7 S.T.B. at 180; FMC Wyo. Corp. v. Union Pac. R.R., 4 S.T.B. 699, 802 (2000). Here, NS has failed to demonstrate that these costs were incurred when the lines in question were built. Indeed, as noted by Sunbelt, these lines were built long before the advent of environmental regulation. Therefore, we consider the addition of dust control costs to be a barrier to entry, and we reject NS's addition.

[618] NS Brief 38.

[619] See NS Reply III-F-119.

[620] See Sunbelt Rebuttal III-F-72 to III-F-73.

C. TRACK CONSTRUCTION

TABLE B-5

Track Construction Costs

	Sunbelt	NS	STB
Sub-ballast & Ballast	$79,914,722	$268,182,595	$237,980,679
Ties	$114,442,591	$131,283,693	$131,383,556
Rail	$178,891,933	$229,080,379	$181,888,555
Other Track Materials	$55,496,962	$63,808,552	$62,997,649
Turnouts	$39,187,494	$50,898,075	$49,492,135
Switch heaters	$730,305	$730,286	$730,286
Derails and Wheel Stops	$2,849,505	$2,849,505	$2,849,505
Lubricators	$617,424	$653,717	$653,717
Field Welds	$2,269,677	$2,784,050	$2,449,065
Diamond Crossings	$3,536,053	$3,524,841	$3,538,555
Weather related labor additions	$0	$3,821,430	$0
Track Installation/Labor	$105,921,826	$116,782,962	$114,842,655
TOTAL	$583,858,491	$874,400,085	$788,806,358

Track construction is the work required to lay track once the subgrade has been completed. This includes the placing of subballast, ballast, ties, rail, and other track components. Both parties put forward a different cost for track construction. The differences between these figures stem from conceptual disagreements and NS's claim that Sunbelt's SARR needs additional running, siding, and yard tracks to serve the SBRR customers.[621]

[621] See NS Reply III-F-120.

1. GEOTEXTILE FABRIC

On opening and reply, the parties agree on the unit cost of geotextile fabric, and we will use the agreed to unit costs.[622]

The parties disagree about the amount of geotextile fabric that is necessary for the SBRR. Sunbelt asserts that geotextile fabric should be placed under turnouts (switches) and at at-grade crossings.[623] NS claims that Sunbelt's quantity is insufficient because it assumes that the fabric is only needed from the frog area to the end of the turnout long ties.[624] Given that the full length of the turnout is subject to lateral forces, NS argues that the material must extend under the full length of the turnout.[625] Sunbelt counters that NS has included too much fabric per turnout. According to Sunbelt, current railroad practice places fabric extending six feet from the centerline of track on each side of the mainline side and the diverging track side. Sunbelt claims that, in fact, it has provided enough fabric to cover the entire turnout footprint and where loads are being transferred at a 1 to 1 slope from the edge of the tie.[626]

We will accept NS's geotextile fabric quantities. The entire turnout area should be covered with geotextile fabric. As observed by NS, the full length of the turnout is subject to lateral forces when trains switch tracks and requires additional support.[627] Additionally, we note that not providing a complete drain path to the edge of the roadbed and into the side ditches could possibly lead to roadbed deterioration in the future. Furthermore, we are also accepting NS's quantity because we are accepting its operating plan and related configuration. The configuration determines the quantity of geotextiles because it establishes the number of turnouts.

2. BALLAST

a. Ballast Quantities

The parties disagree on the correct conversion factor to determine quantities. NS assumes a conversion factor of 1.5 tons/cubic yards (CY) to derive the price per cubic yard. Sunbelt notes that it did use this factor in its opening narrative, but that it meant to use a different

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[622] See Sunbelt Rebuttal III-F-75.

[623] Sunbelt includes the SBRR's geotextile quantity calculations in the costs of turnouts and grade crossings. (See Sunbelt Opening III-F-22.)

[624] See NS Reply III-F-121.

[625] See NS Reply III-F-122.

[626] Sunbelt also notes an error in its calculations. It states that it calculated geotextile quantities in track foot units but applied a unit cost expressed in square yards. Sunbelt converts its quantity to square yards and applies that figure to its per square yard unit cost. (See Sunbelt Rebuttal III-F-75.)

[627] See NS Reply III-F-122.

factor found in its workpapers, 1.35 tons per CY.[628] We will accept the use of the conversion factor of 1.50 tons per CY because this is the number Sunbelt stated in its narrative, and NS acted in reliance upon the number.

The parties also disagree on the cross sectional area of the ballast section. Although both parties use the same set of drawings, NS uses other values than those shown in the drawings. NS claims that it is making "correction for proper application of AREMA sectional properties," but it does not state what corrections are necessary. On the other hand, Sunbelt uses the area values shown in the drawing for its calculations. Because Sunbelt has presented better support for its evidence, we will use Sunbelt's ballast cross-sectional areas as shown in the drawings.

However, Sunbelt did not use cross sectional areas for multiple tracks, but built all side by side tracks using single track sections.[629] We note that this approach results in an overstatement of quantities and associated costs because of component overlap. It is true that Sunbelt has discretion to choose a method for determining costs, but in this case, where costs are overstated and evidence exists that, if used, would avoid an overstatement, Sunbelt should have calculated the more representative cost. It is incumbent upon all parties to use the best available evidence known to calculate costs. We will therefore reject Sunbelt's method of using multiple single track cross-sections for determining quantities in multiple track sections.

Additionally, we accept the parties' use of 13.9 square feet (SF) for the ballast area of industrial and siding tracks when calculating associated ballast quantities. This is not the value shown in the parties' cross-sectional drawings, but they agree to this value.

b. Ballast Suppliers

NS claims that Sunbelt miscalculated the cost of ballast. NS argues that Sunbelt's costs stem from the proposed use of quarries that are a significant distance from the SBRR and could not efficiently supply ballast. Instead, NS proposes the use of three of the 10 quarries Sunbelt factored into its price, plus the Martin Marietta Quarry in Dallas, Ga.[630] On rebuttal, Sunbelt accepts NS's selection of three of the 10 quarries Sunbelt used on opening, but not NS's addition of the Martin Marietta Quarry.[631] Sunbelt claims that NS added the Martin Marietta source to increase the unit cost.[632] We will accept NS's list because it provides a larger sample size on which to determine the cost of ballast. Although the unit cost of material from Martin Marietta is higher than the other three locations, it is the next to least expensive per ton when accounting for transportation costs using Sunbelt's proposed $0.035 per ton mile (discussed below), or the least expensive if using NS's proposed $0.074 per ton mile (also discussed below).

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[628] See Sunbelt Rebuttal III-F-76 to III-F-77.

[629] See Sunbelt Rebuttal III-F-77 to III-F-78.

[630] See NS Reply III-F-127.

[631] Sunbelt Rebuttal III-F-79.

[632] See Sunbelt Rebuttal III-F-79.

c. Ballast Haul Distance and Costs

Although the parties agree on the online haul distances and on the online transportation costs of $0.035 per ton-mile, which we accept, they disagree on the offline transportation distances and costs. As to offline haul distances, NS's calculation is flawed. NS claims that ballast would travel from various suppliers to SBRR railheads at New Orleans, McIntosh, and Hattiesburg.[633] In fact, however, NS employs an average quarry-to-railhead transportation distance of 349.9 miles. This represents an average of actual distances from various ballast sources to the railhead at Birmingham only, rather than the railhead closest to each quarry. Therefore, we will accept Sunbelt's offline haul distance of 100 miles as the best evidence of record.[634] See DuPont 191-92 (accepting complainant's 100 mile proposal because defendant's average of ballast haul distances included two improper data points).

As to offline transportation costs, NS disagrees with Sunbelt's claim that such an activity would cost $0.035 per ton-mile.[635] Sunbelt explains that this figure came from AEPCO,[636] but NS argues the number reflects online shipping costs (over the SARR's own system) rather than offline shipping costs (over the incumbent carrier's system to the railhead).[637] NS determines that the per-car cost for transporting ballast in a 100-ton open-top hopper car is $0.074 per ton-mile, based on price per-ton and length of haul figures provided by Vulcan Materials Company and indexed to 2011 levels.[638]

We will accept NS's cost as the proper offline transportation cost. NS has presented a current quote from a ballast supplier stating the transportation cost, as compared to Sunbelt's number, which dates back to 2000.[639] This price reflects current market conditions that would be applicable to the construction of the SBRR. Although a Board fact determination in prior cases can be cited to suggest the reasonableness of facts presented in later cases, the Board must still make fact determinations based on the evidence and arguments presented by the parties in each case.

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[633] See NS Reply III-F-129.

[634] See Sunbelt Rebuttal III-F-79.

[635] See Sunbelt Rebuttal III-F-80 to III-F-82.

[636] See Sunbelt Rebuttal III-F-80.

[637] See NS Reply III-F-132.

[638] See NS Reply III-F-132.

[639] See Sunbelt Opening III-F-24; AEPCO, slip op. at 99-100; Opening Evidence of Ariz. Elec. Power Coop., Inc., NOR 42113, filed Jan. 25, 2010, at III-F-53; Wis. Power & Light, 5 S.T.B. at 960, 1030 (transportation cost originated in evidence filed in 2000).

3. SUBBALLAST

a. Subballast Quantities

NS generally accepts Sunbelt's subballast quantities, but the railroad makes several adjustments. First, NS assumes a conversion factor of 1.5 tons/CY to convert subballast area cross sections into tons.[640] Sunbelt notes that it did use this factor in its narrative, but that it meant to use a different factor found in its workpapers, 1.35 tons per cubic yard.[641] As discussed in the Ballast Quantities section, we will accept the conversion factor of 1.50 tons of ballast per CY because this is the number Sunbelt stated in its narrative, and NS acted in reliance upon that number.

Second, NS notes that for yard and other siding track, Sunbelt's narrative specified a four-inch subballast section while its workpapers compute the cross section area based on a six-inch depth.[642] Sunbelt corrects the error on rebuttal and applies the four-inch depth. We accept the parties' agreed to depth. Furthermore, NS accepts Sunbelt's subballast cross sections for mainline track,[643] and we will use these cross sections.

b. Subballast Material Cost

Sunbelt bases its subballast unit price on the Trestle Hollow Project, which it claims includes delivery costs as well as placement of the subballast on the roadbed.[644] As discussed above, we are not accepting the Trestle Hollow costs in this case. NS supports its unit costs for subballast material and transportation cost with third party quotes and derives a figure of $24.47,[645] and we will therefore accept this cost as the best evidence of record.

4. CROSS TIES

The parties agree on Sunbelt's cross tie type, the spacing of the ties, and the price of the cross ties.[646] We accept these specifications. However, the parties disagree on the issue of tie weight. Sunbelt bases its tie weight on AREMA specifications,[647] whereas NS relies on a number from the Railroad Tie Association.[648] NS argues that Sunbelt's tie weight is unsupported

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[640] See NS Reply III-F-134.

[641] See Sunbelt Rebuttal III-F-76 to III-F-77.

[642] See NS Reply III-F-134.

[643] See NS Reply III-F-133 to III-F-134.

[644] See Sunbelt Opening III-F-24.

[645] See NS Reply III-F-134 to III-F-135.

[646] See Sunbelt Rebuttal III-F-83.

[647] See Sunbelt Rebuttal III-F-83.

[648] See NS Reply III-F-137 to III-F-138.

and incorrect,[649] but Sunbelt uses specifications from an organization commonly relied on for recommended railroad practices.[650] Indeed, NS itself relies on information from AREMA in its evidence regarding ties.[651] Because NS has not demonstrated that Sunbelt's tie weight is infeasible or unsupported, we will accept Sunbelt's proposed weight.[652]

NS claims that Sunbelt's opening calculation of an average of 430.9 miles for tie transportation is incorrect because it assumes multiple sources of ties but derives its tie price from only one source.[653] Sunbelt counters that NS's restriction of tie sourcing to one location is contrary to the theory of unconstrained resources and that there is no reason to believe other tie manufacturers would not match the price obtained by Sunbelt.[654]

We agree with NS. Sunbelt's assumption that all tie manufacturers would charge it the same price for ties is not supported, and absent evidence to the contrary, not likely.[655] Because the price used is from only one supplier and not an average from several suppliers, the most accurate and representative way to determine transportation costs is by using the average of the distances from one supplier to the various railheads.

And, NS takes issue with the Sunbelt's offline transportation cost for ties of $0.035 per ton-mile. Both parties reiterate their arguments from the Ballast Haul Distances and Costs section above.[656] NS calculates the offline cost of cross tie shipping to be $0.0902 per ton-mile based on a quote from McCord Tie and Timber for moving ties over CSXT.[657] As with ballast costs for offline transportation, we find that this real world quote is superior evidence to the 2000 figure Sunbelt cites from AEPCO.

5. RAIL

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[649] NS Reply III-F-137.

[650] See Sunbelt Opening WP "Track Construction Costs.xls," Ties tab and Ties-Grade 3 tab (citing AREMA specification).

[651] See, e.g., NS Reply III-F-137.

[652] The Board's recent decision in DuPont accepted a tie weight based on information from the Railroad Tie Association, rather than a tie weight based on AREMA specifications. See DuPont 193-94. The Board has now determined that the conclusion in DuPont was in error, because the complainant's proposal in that case also was properly supported by AREMA specifications.

[653] See NS Reply III-F-139.

[654] See Sunbelt Rebuttal III-F-83.

[655] It makes sense that various manufacturers would charge different amounts for ties: these are competing entities and each has a unique set of expenses and profit considerations.

[656] See NS Reply III-F-139; Sunbelt Rebuttal III-F-84.

[657] See NS Reply III-F-140.

a. Main Line, Yards, and Siding Track

The parties agree on the weight of the rail for the various types of track needed in the SBRR. We will use the rail weights agreed upon by the parties.

b. Rail Pricing

Although the parties agree on the price of the rail, NS claims that Sunbelt failed to properly account for the cost of transporting the rail from the manufacturer to the railheads. According to NS, Sunbelt overlooked these costs because the NS 2010 R-1 Report from which Sunbelt drew the cost does not include hauling over NS's own system.[658] NS claims that the $0.035 per ton-mile cost provided by Sunbelt is also unreliable and unfounded for the reasons discussed above. After adjusting a quote from L.B. Foster to 3Q11, NS claims that the additional transportation cost should be $8.24 per track-foot.[659] However, NS has not justified the inclusion of these additional transportation costs. NS points out that transportation from the rail plant at Steelton, Pa., to the SBRR railheads would include significant distances that are foreign line transportation for the SARR but not for the incumbent NS—because the rail moves over NS lines not replicated by the SARR—and thus are not reflected in the incumbent NS's R-1 report.[660] But Schedule 724 of the R-1 form includes costs from NS's entire system, not limited to rail transported from the Steelton plant to the lines replicated by the SBRR.[661] NS asserts that it "obtains substantial amounts of rail from suppliers located on and near its lines," but it provides no support for this claim.[662] Without such a showing, it remains possible that the system-wide costs in NS's R-1 include other transportation of rail, in other parts of the country, that moves significant distances over foreign lines. Thus, based on a specific movement of rail, NS's proposal would add foreign line transportation costs to a general, system-wide figure that might already include significant foreign line transportation costs. Because this results in a possible double count, the additional transportation costs are rejected.

c. Rail Unloading Costs

NS claims that Sunbelt's rail unloading costs are flawed because they omit the cost of locomotives and crews to operate rail trains to haul the rail from the railhead to the contractor's work area. As Sunbelt accepts these additional costs on rebuttal,[663] we will also accept them.

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[658] See NS Reply III-F-140 to III-F-141.

[659] See NS Reply III-F-142.

[660] See NS Brief 34-35; Sunbelt Opening WP "NS 2010 Rail Cost.pdf" (Schedule 724 includes freight charges paid to foreign lines but not the cost of carrying rail over the carrier's own lines).

[661] See Sunbelt Opening WP "NS 2010 Rail Cost.pdf."

[662] See NS Reply III-F-141.

[663] See Sunbelt Rebuttal III-F-85.

6. FIELD WELDS

The parties agree on the price of field welds.[664] However, NS claims that Sunbelt understates the number of field welds and that welds are also required for cutting in road crossings, insulated joints, diamond crossings, turnouts, and the final assembly of individual panels that make up the completed panelized turnouts.[665] On rebuttal, Sunbelt adds field welds for crossing diamonds and insulated joints, but notes that NS has already accepted the costs for turnouts and highway grade crossings.[666] We agree with Sunbelt that, by accepting these costs, NS has already accepted the lower field weld count. We accept these agreements concerning the number of field welds and their price.

7. SWITCHES

The parties agree on the elements of a switch (i.e., turnout), turnout weights, and transportation distances,[667] but they disagree on their pricing and quantity. As to pricing, NS takes issue with Sunbelt's $0.035 per ton-mile for shipping to the railhead.[668] Instead, NS acquired a quote from A&K Railroad Materials and indexed those costs to 3Q11, producing a cost of $0.084 per ton-mile.[669] We will accept NS's new transportation cost. It is more current than Sunbelt's 2000 figure from AEPCO. Even though the AEPCO cost could be updated, a recent cost example is superior to a historically updated cost for this purpose. As to the number of switches, the difference stems from the different track configurations. Because we are accepting NS's operating plan and track configuration, we will accept its resulting number of switches.

8. SWITCH HEATERS

On opening, Sunbelt included $4,000 for switch heater costs, but failed to include propane tanks and their installation. NS accepts the unit cost[670] but adds the missing equipment for a total cost of $5,504.67. Sunbelt agrees to the addition,[671] and we accept the parties' agreed to total cost for switch heaters. The parties have differences in the quantity of switch heaters based on the different plan and track configurations they propose. Because we are accepting NS's operating plan and track configuration, we will accept the requisite quantity of switch heaters NS proposes.

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[664] See NS Reply III-F-145.

[665] See NS Reply III-F-145.

[666] See Sunbelt Rebuttal III-F-85 to III-F-86.

[667] See NS Reply III-F-146.

[668] See Sunbelt Rebuttal III-F-86.

[669] See NS Reply III-F-148 to III-F-149.

[670] See NS Reply III-F-149.

[671] See Sunbelt Rebuttal III-F-86.

9. RAIL LUBRICATORS

The parties agree to use Sunbelt's unit cost for rail lubricators. Also, the parties agree to use NS's assertions concerning lubricator locations, quantities, the need for protective mats, shipping costs, and the costs associated with installation.[672] We accept the parties' agreements on these subjects.

10. PLATES, SPIKES, AND ANCHORS

The parties agree on the unit costs for these other track materials, but NS claims that Sunbelt has miscalculated the associated transportation costs. In particular NS claims that Sunbelt misstates the transportation distance by failing to account for transporting the items from the SBRR railhead to the construction site.[673] On rebuttal, Sunbelt accepts the additional distance.[674] We will accept the additional distance agreed upon by the parties.

NS also claims that Sunbelt used the allegedly unsupported cost of $0.035 per ton-mile to ship the materials to the SBRR system. NS asserts that this cost should actually equal $0.934 per ton-mile based on a quote.[675] We will use Sunbelt's figure. Although NS claims that the cost should equal $0.934 per ton-mile in its narrative, it uses $0.0934 in its workpapers. Because Sunbelt's narrative and spreadsheets are in sync for this cost, we will use that cost as the best evidence of record.

11. CROSSING DIAMONDS

NS claims that Sunbelt has neglected to account for the costs of crossing diamonds on the SBRR. NS generates a cost for the purchase and installation of the diamonds, but it subtracts 0.27 miles of track to make room for them.[676] On rebuttal, Sunbelt accepts these quantities and costs.[677] We will use the quantities and costs agreed to by the parties.

12. DERAILS

Derails are used to keep cars from rolling from a spur track or side track through a turnout and onto the main track. NS claims that Sunbelt seeks to employ an inadequate derail for mainline tracks.[678] Instead, NS proposes the use of a double switch point derail. NS prices the

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[672] See Sunbelt Rebuttal III-F-86 to III-F-87.

[673] See NS Reply III-F-151 to III-F-152.

[674] See Sunbelt Rebuttal III-F-87.

[675] See NS Reply III-F-152.

[676] See NS Reply III-F-155 to III-F-157.

[677] See Sunbelt Rebuttal III-F-88.

[678] See NS Reply III-F-152.

derail based on a quote from Progressive Rail Services, then adds the installation costs, the costs of switch stands, and the transportation costs from the Progressive Rail yard at Decoursey, Ky.[679] On rebuttal, Sunbelt accepts NS's use of double switch point derails to protect the mainline at set-out track locations and NS's unit cost.[680] We accept the parties' agreement on this subject.

13. WHEEL STOPS

Wheel stops are used at the end of the single ended tracks to keep the cars from rolling off the end of the track. NS accepts the unit costs for wheel stops put forward by Sunbelt, but changes the quantity based on the additional track set forth in the operating plan it submits for this case.[681] On rebuttal, Sunbelt accepts the number of wheel stops proposed by NS.[682] We will use the parties' agreed to number of wheel stops and costs.

14. TRACK INSTALLATION AND LABOR

Sunbelt derives its track laying and related costs from direct quotes and bids obtained from contractors. Labor quotes for track construction were obtained from Queen City Railroad Construction and RailWorks (Queen City).[683] Bid prices were also obtained from several NS track construction projects.[684] NS accepts Sunbelt's quote from Queen City for construction of the track and placement of the track turnouts. However, as discussed in the sections above, NS adds the necessary costs to transport track materials from the construction railheads to the locations for placement in track and to unload rail.[685] We use the agreed to labor costs for installation. We address the transportation and unloading costs for specific items above.

D. TUNNELS

There are no tunnels on the SBRR.

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[679] See NS Reply III-F-154.

[680] See Sunbelt Rebuttal III-F-88.

[681] See NS Reply III-F-154.

[682] See Sunbelt Rebuttal III-F-88.

[683] See Sunbelt Opening III-F-28.

[684] See Sunbelt Opening III-F-28.

[685] See NS Reply III-F-158.

E. BRIDGES

TABLE B-6
Bridge Costs

	Sunbelt	NS	STB
Railroad Bridges	$283,096,413	$484,853,353	$375,148,387
Highway Overpasses	$815,977	$815,977	$815,977
Weather Related Additions	$0	$1,566,873	$0
Total	$283,912,390	$487,236,203	$375,964,364

1. BRIDGE HEIGHTS

According to Sunbelt, the SBRR's bridges have the same lengths as those being replicated, but its engineers have designed those bridges using more efficient spans where possible using several standard bridge designs based on the diverse bridge lengths and heights that are required. However, Sunbelt claims that the bridge inventory provided by NS did not include complete and detailed bridge height data, only the maximum height.[686] Therefore, to determine the necessary heights of the bridge being replicated, Sunbelt used heights based on requirements from the United States Coast Guard (USCG) and the American Association of State Highway Transportation Officials.[687]

NS asserts that Sunbelt assumed values for bridge heights that bear no relation to the bridges' actual heights. NS claims it provided the actual heights, but Sunbelt used hypothetical numbers instead.[688] NS adds that the maximum bridge height data furnished in discovery is a very accurate representation of the bridge height that should be considered for these bridges.[689]

We reject Sunbelt's bridge heights and use those submitted by NS. Sunbelt determined its costs based on only three bridge heights. Sunbelt's criteria for determining bridge height was

[686] Bridge heights help determine substructure costs. The higher the bridge, the more substructure it needs for support.

[687] See Sunbelt Opening III-F-30.

[688] See NS Reply III-F-161 to III-F-163.

[689] See NS Reply III-F-164.

either the physical feature the bridge would be spanning or height requirements mandated for the existing bridge. Sunbelt's claim that bridge heights can be set based on the physical feature being spanned is unsubstantiated. Sunbelt's claim that NS overstates costs by increasing bridge heights, and thereby pier heights, is not supported by the bridge data and in fact is contradicted by the inventory. For example, Sunbelt designs bridges that would span the East and West Pearl Rivers for a height of 54 feet based on USCG criteria. NS shows those heights in its inventory to be 28.4 and 21 feet. Because we are accepting the bridge heights used by NS, we are also accepting its pier heights and associated pier costs.

2. BRIDGE LENGTHS

NS criticizes Sunbelt's bridge lengths, claiming that Sunbelt overstated bridge lengths by misinterpreting the NS bridge data provided in discovery.[690] Sunbelt has reviewed NS's workpapers and concurs that bridge lengths were overstated for some of the SBRR bridges. Sunbelt has corrected this on rebuttal, resulting in a reduction in total bridge feet from its opening narrative.[691]

Although Sunbelt claims it corrected its bridge length errors on rebuttal, we note that some errors still exist. For example, at milepost 159.40, Sunbelt continues to use an incorrect bridge length from the opening when calculating the cost even though the inventory shows span lengths whose sum would equal the correct bridge length. The same error also exists for the bridge at milepost 88.2. NS uses the correct lengths, and we accept them.

Although we are accepting NS's bridge lengths, we will use Sunbelt's means of cataloging bridges based on their various lengths. Beyond moveable bridges, varied span bridges, and spans under 20 feet,[692] Sunbelt divides the bridges into Type I (spans ranging from 20 feet to 32 feet),[693] Type II (spans ranging from 32 feet to 45 feet), Type III (spans ranging from 60 feet to 92.5 feet), and Type IV (spans longer than 150 feet).[694]

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[690] See NS Reply III-F-165 to III-F-166.

[691] See Sunbelt Rebuttal III-F-91.

[692] Sunbelt explains that bridges crossing waterways that are 20 feet or less would be constructed as culverts. See Sunbelt Opening III-F-16. Although NS accepts the concept, it questions Sunbelt's methodologies, resulting in different quantities of culverts. See NS Reply III-F-103. As discussed in the Culvert Quantity section, Sunbelt accepts these adjustments on rebuttal.

[693] See Sunbelt Opening III-F-32.

[694] Although Sunbelt has a category for Type IV bridges, none of the SBRR's bridges fit into it.

3. SUPERSTRUCTURES

The parties agree on superstructures for the Type I through Type III bridges, and we will use these superstructures.

4. SUBSTRUCTURES

a. Type I Bridges

Sunbelt proposes that each abutment for this type of bridge use six piles in the foundation.[695] On reply, NS argues that, although Sunbelt proposes six piles, its bridge cost spreadsheet uses a standard CSXT stub abutment with four piles.[696] NS asserts that the standard CSXT stub abutment with its four piles would be adequate.[697] However, Sunbelt's bridge cost spreadsheet actually uses six piles, as Sunbelt states in its narrative.[698] NS's unsupported assertion that four piles would be adequate is not enough to demonstrate that Sunbelt's proposal is unrealistic or infeasible. Therefore, we will accept Sunbelt's proposed pile configuration, with six piles, for this bridge type.

NS argues that Sunbelt erred by assuming that the Type I piers would be resting on the ground rather than buried.[699] NS therefore adds increased quantities of concrete. We will reject this additional concrete. Sunbelt already intends to excavate to the bedrock or place pier footings on piles as indicated by its inclusion of piles in its pier unit costs.[700]

b. Type II Bridges

NS largely accepts Sunbelt's Type II bridge design and designations.[701] The parties disagree on the pile count, and as discussed in Type I bridges, we will accept Sunbelt's abutment pile count of six.

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[695] See Sunbelt Opening III-F-32.

[696] See NS Reply III-F-177.

[697] See NS Reply III-F-177.

[698] Sunbelt Opening WP "SBRR Bridge Construction Costs.xls," Abutment Piles tab, Column C. NS cites a different Sunbelt workpaper, but that document contains abutment schematics—not the number of piles Sunbelt actually used in calculating its proposed bridge costs. See NS Reply III-F-177, citing Sunbelt Opening WP "CSXT Standard Stub Abutment.pdf."

[699] See NS Reply III-F-179.

[700] See Sunbelt Rebuttal III-F-95 to III-F-96.

[701] See Sunbelt Rebuttal III-F-96.

c. Type III Bridges

Sunbelt claims that 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 typical column uses eight-HP14x73 piles as the foundation, and each abutment uses six-HP14x73 piles as the foundation.[702] NS claims that the piers for the standard Type III bridge pier need to have substantially more load capacity than the standard Type I bridge pier of the same height because of the length of superstructure span and the resulting design loads that each is required to support.[703] NS claims that the stub abutments presented by Sunbelt are inadequate for Type III bridge spans and that HP12x73 piles, which are more substantial, are necessary.[704] NS adjusted the quantities of concrete, steel piling, and pile tips for Type III bridge piers based on its adjusted designs of standard Type III piers.[705]

The parties agree on an abutment pile count of eight, and we will use that count. However, we accept NS's designs for piers and abutments. Sunbelt's designs are inadequate if they do not account for representative bridge heights. Although Sunbelt claims that NS has over-designed piers, these overdesigns are for bending only. The component must satisfy all capacity requirements, and this will naturally result in some failure modes being overdesigned.

d. Bridges with Multiple Span Types

NS determined the number and type of abutments and piers for these bridges by looking at the specific span composition proposed by Sunbelt for each bridge in question.[706] Because we are accepting NS's arguments concerning bridge lengths and heights, we are accepting NS's modifications and costs for this type of bridge.

e. Moveable Bridges

NS claims that Sunbelt's list of moveable structures is inaccurate and that there are moveable bridges that Sunbelt included as part of the general bridge inventory rather than in its calculation of moveable bridge costs. Also, NS does not own one of the moveable bridges that Sunbelt has in its moveable bridge inventory.[707] Sunbelt accepts these adjustments on rebuttal,[708] and we will use the adjusted list of moveable bridges.

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[702] See Sunbelt Opening III-F-33.

[703] See NS Reply III-F-180.

[704] See NS Reply III-F-181 to III-F-182.

[705] See NS Reply III-F-184.

[706] See NS Reply III-F-185.

[707] See NS Reply III-F-187.

[708] See Sunbelt Rebuttal III-F-99.

Sunbelt states on opening that it used a cost from a recent SAC proceeding to develop the cost per foot for the moveable span component of the SBRR moveable bridges.[709] NS accepts Sunbelt's cost per foot, but only for bascule spans. For vertical lift spans, NS relies on the cost of a CSXT railroad lift-bridge developed in a 2006 value engineering report.[710] Sunbelt counters that NS's costs are not valid because, among other reasons, that bridge was retrofitted under traffic, did not provide a separation of costs between new and replacement costs, and presents increased costs because the project involved off-site work and limited track time.[711] We find Sunbelt's arguments persuasive and accept its cost for the vertical lift spans.

Sunbelt assumes that the SBRR is eligible for federal funding under the Truman-Hobbs Act for 90% of the replacement cost of moveable bridges. NS argues that Sunbelt has failed to justify its claim that the SBRR would only need to pay 10% of the cost of moveable bridges.[712] Notably, according to NS, Truman-Hobbs Act funding could not be used to help subsidize the bridge because that funding only pertains to the replacement of existing structures rather than new construction.[713] Sunbelt counters that NS is attempting to place a barrier to entry on the SBRR.[714]

We agree with NS. The Truman-Hobbs Act applies to the retrofitting or replacement of existing bridges over waterways to accommodate water traffic whose changed characteristics require a change in the bridge. 33 U.S.C. §§ 512-516, 523; 33 C.F.R. pt. 116. According to Sunbelt: "the entire SARR is a replacement for the incumbent system, including all bridge structures. Although the SBRR does not own the existing structures in the real world, it is replacing them in the hypothetical SAC analysis."[715] But as demonstrated by Sunbelt's evidence and the Board's discussion throughout this appendix, this SAC analysis involves constructing new infrastructure for the hypothetical SARR—not removing and replacing the incumbent railroad's existing infrastructure. Similarly, the American Recovery and Reinvestment Act, another act cited by Sunbelt, replaces existing structures, but does not fund original construction.

f. Non-Moveable Bridges over Navigable Waterways

NS argues that Sunbelt's bridge over the Tenn-Tom Waterway falls short of USCG requirements, and would not allow for the same navigational activity on the Tennessee River as the existing bridge. NS proposes replicating the long truss span of the existing bridge to remedy

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[709] See Sunbelt Rebuttal III-F-99.

[710] See Sunbelt Rebuttal III-F-99.

[711] See Sunbelt Rebuttal III-F-100 to III-F-101.

[712] See NS Reply III-F-191 to III-F-192.

[713] See NS Reply III-F-192.

[714] See Sunbelt Rebuttal III-F-104.

[715] Sunbelt Rebuttal III-F-104 n.272.

Sunbelt's inadequate horizontal clearance.[716] NS also proposes assembling the approach spans leading up to the main long truss span in the same manner described for the moveable bridges.[717]

Sunbelt accepts NS's truss span length, pier heights, and costs for these items for the portion of the bridge spanning the waterway. Sunbelt continues to use its opening methodologies and costs for the abutments, approach span pier heights, span lengths, and costs.[718] We accept NS's designs and costs for non-movable bridges over navigable waters. Problems with Sunbelt's abutments, pier heights, and their associated costs continue to be a concern here. Sunbelt's designs are inadequate because they do not account for representative bridge heights. Although Sunbelt claims that NS has over-designed piers, these overdesigns are for bending only. The component must satisfy all capacity requirements, and this will naturally result in some failure modes being overdesigned.

5. HIGHWAY OVERPASSES

The parties agree on the unit cost for the one highway overpass on the SBRR.[719] According to NS, Sunbelt assigns a bridge deck area for the bridge based on a formula. This formulaic approach is not necessary in this case, argues NS, because the actual bridge deck area is available from the Louisiana Department of Transportation.[720] In turn, NS applies Sunbelt's unit cost to the actual real-world deck area of the bridge to come up with a cost. NS accepts that the railroad owner would be responsible for a 10% cost share of the bridge.[721] On rebuttal, Sunbelt accepts NS's bridge deck area and applies it to the corrected unit cost and 10% cost share factor agreed to by the parties.[722] We use these agreed upon values.

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[716] See NS Reply III-F-196.

[717] See NS Reply III-F-197.

[718] See Sunbelt Rebuttal III-F-108.

[719] See NS Reply III-F-198.

[720] See NS Reply III-F-198.

[721] See NS Reply III-F-198.

[722] See Sunbelt Rebuttal III-F-108.

F. SIGNALS AND COMMUNICATION

TABLE B-7
Costs for Signals and Communications

	Sunbelt	NS	STB
Signals	$83,088,057	$101,496,451	$91,122,827
Communications	$23,342,134	$24,547,872	$23,342,134
PTC	$30,611,725	$35,689,458	$35,689,458
Locomotive PTC Costs	$2,950,948	$5,737,647	$4,312,924
PTC Hump Yard Equipment	$0	$24,774,943	$24,774,943
PTC Development Costs	$6,234,552	$6,234,552	$6,234,552
Total	$146,227,416	$198,480,923	$185,476,838

Sunbelt claims that the SBRR would rely on a standard vital signal system based on Centralized Traffic Control (CTC) with components added to provide Positive Train Control (PTC). Additionally, Sunbelt claims that the SBRR would rely on a microwave system for communications.[723]

1. PTC

a. PTC Signal System

According to Sunbelt, the SBRR networks would employ a PTC system for all train control and communications on the entirety of its constructed rail network. Sunbelt assumes that the system is being installed at the outset of construction and investment. Investment costs are included for three basic components, which include track (wayside), information technology systems, and locomotive communications.[724]

NS claims that installing PTC at the outset is impossible because critical PTC components still do not exist.[725] Instead, NS claims that the SBRR would require the

[723] See Sunbelt Opening III-F-34.

[724] See Sunbelt Opening III-F-35.

[725] See NS Reply III-F-200.

construction of a CTC system for the beginning of operations in 2011 and then the overlay of a PTC system by December 31, 2015. NS claims that the Board favored such an approach in AEPCO.[726] Sunbelt counters that PTC is not a new concept and has been around for many years[727] and that requiring the SBRR to construct a CTC and overlay PTC later constitutes a barrier to entry.[728]

It is true, as NS argues, that the SBRR would not be able to implement a PTC system in 2011 that complies with the RSIA's 2015 standard, including interoperability.[729] As NS points out, the overwhelming weight of evidence from the railroad industry demonstrates that implementing a PTC system compliant with the RSIA's 2015 standard is currently infeasible. However, the same evidence shows that, even starting with a CTC system and overlaying PTC, the path to a RSIA-compliant PTC system is extremely uncertain. Sunbelt has made the point that PTC systems existed in 2011—for example, on parts of BNSF's system[730]—and NS has not demonstrated that starting with such a system and then upgrading it for interoperability and compliance with the 2015 standard would be any more uncertain than starting with CTC.[731] Therefore, we accept Sunbelt's position that the SBRR can install an initial PTC system in 2011.[732] However, because the SBRR would first install a PTC system and then upgrade it to RSIA requirements, upgrade costs must be spread over the 2011 through 2015 time period, rather than being incurred together with the initial costs of installing the system in 2011 or before.[733]

b. PTC Wayside System

On opening, Sunbelt used the concept of interlocking hut equivalents to account for interlocking installations of varying size and complexity. On Reply, NS accounts for interlockings of various sizes by applying separate costs for small interlocking/automatic signals,

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[726] See NS Reply III-F-205.

[727] See Sunbelt Rebuttal III-F-110.

[728] See Sunbelt Rebuttal III-F-113.

[729] See NS Reply III-F-201.

[730] See Sunbelt Rebuttal III-F-110; Sunbelt Rebuttal WP "WABTEC Management Discusses Q3 2012 Results.pdf" at 9.

[731] See Sunbelt Rebuttal III-F-113 (costs included for PTC development); Sunbelt Brief 50-52 (recognizing that there are costs associated with PTC development).

[732] Because we are accepting NS's operating plan, the performance statistics used in the RTC model will not reflect the initial installation of a PTC system. As discussed above, however, the SBRR will not be required to incur the cost of installing a CTC system and then overlaying a PTC system.

[733] Thus, we do not accept Sunbelt's position that the SBRR could incur all of its PTC implementation costs at or before the beginning of operations in 2011. See Sunbelt Rebuttal III-F-119.

double track and large interlockings. On rebuttal, Sunbelt accepts this alternate method and the associated costs.[734] We will use the method accepted by the parties.

NS claims that Sunbelt excluded necessary antenna tower costs for PTC radio equipment at wayside interfaces.[735] On rebuttal, Sunbelt accepts NS's addition of 60-foot towers at each interlocking and automatic signal location.[736] Sunbelt states that the inclusion of these towers renders unnecessary the 134 30-foot towers included by Sunbelt on opening for VHF communications. Accordingly, Sunbelt removes these 30-foot towers on rebuttal.[737] We find Sunbelt's substitution and elimination valid and accept the agreement between the parties.

Finally, NS claims that Sunbelt arbitrarily reduced installation labor by 75%. Sunbelt counters that the reduction is justified because the SBRR will be installing PTC as an integral part of the overall signal system from the beginning.[738] Given that we are holding that the SBRR could have a PTC system installed during its construction, we will use Sunbelt's labor cost.

c. PTC IT Costs

NS claims that Sunbelt erred by reducing the total IT deployment cost without support. Furthermore, it asserts that Sunbelt erroneously reduced the remaining IT cost estimate based on the ratio of assumed SBRR deployment of PTC route miles to the NS's actual deployment estimate.[739] Sunbelt makes these adjustments on rebuttal,[740] and we will use these figures.

d. PTC Locomotive Costs

The parties agree on the costs to outfit each locomotive with PTC capabilities, but they disagree on the number of locomotives that the SBRR would require.[741] We accept their agreed upon unit cost. Additionally, we will base the number of locomotives on NS's count because we are adopting its operating plan, but we will adjust our number because we are adopting Sunbelt's peaking factor.

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[734] See Sunbelt Rebuttal III-F-117.

[735] See NS Reply III-F-218.

[736] See Sunbelt Rebuttal III-F-117.

[737] See Sunbelt Rebuttal III-F-117.

[738] See Sunbelt Rebuttal III-F-117 to III-F-118.

[739] See NS Reply III-F-220.

[740] See Sunbelt Rebuttal III-F-118.

[741] See Sunbelt Rebuttal III-F-118.

e. PTC Development Costs

On opening, Sunbelt did not include any costs for PTC development, but on reply, NS includes such costs.[742] Sunbelt acknowledges that some development costs will be incurred by the SBRR and accepts NS's figure on rebuttal.[743] We will use these agreed upon costs.

2. SIGNAL EQUIPMENT

a. Inventory of Signal Equipment

According to Sunbelt, the number of each type of installation was identified based on the layout of the SBRR as manifested in the SBRR stick diagrams and track charts provided by NS in discovery.[744] NS claims that Sunbelt's signal count and inventory is incorrect and unreliable.[745] NS therefore developed its own count of required signals using site-specific criteria and industry-accepted signal practices.[746]

On rebuttal, Sunbelt accepts NS's inventory with several modifications. In particular, Sunbelt adjusts NS's signal component inventory to reflect Sunbelt's SBRR configuration. Sunbelt also claims that NS made a number of overstatements, such as the amount of cable per switch and AREMA maintenance units.[747]

Because we are accepting NS's operating plan, we are accepting NS's signal design that reflects NS's system configuration. Although Sunbelt claims that there are overstatements in some quantities, Sunbelt has failed to explain how shorter cable lengths would apply to NS's signal system design, which Sunbelt accepted, or to provide evidence supporting its AREMA claim (for example, a copy of any applicable parts of the manual it cites). We will therefore accept NS's inventory and not adjust it as sought by Sunbelt.

b. Unit Costs

NS claims that Sunbelt erred by failing to account for all of the parts necessary to construct complete and functional signal components. NS claims that Sunbelt omitted items such as foundations, battery power, and grounding kits for its signal components. Furthermore, NS claims that Sunbelt misstates the costs for two signal components. NS details the various omissions and notes for other items that Sunbelt did not include labor costs for installation.[748]

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[742] See NS Reply III-F-225.

[743] See Sunbelt Rebuttal III-F-118.

[744] See Sunbelt Opening III-F-35.

[745] See NS Reply III-F-206 to III-F-213; See also Sunbelt's Rebuttal III-F-114.

[746] See NS Reply III-F-209.

[747] See Sunbelt Rebuttal III-F-114 to III-F-115.

[748] See NS Reply III-F-213 to III-F-17.

On rebuttal, Sunbelt accepts NS's various adjustments and additional costs.[749] We will use these agreed to adjustments and costs.

c. Detectors

Sunbelt proposes placing failed equipment detectors (FEDs) on the SBRR pursuant to industry standards. In particular, it would place FEDs every 35 miles along the SBRR main line (one for each main track in areas with two or more main tracks).[750] NS claims that Sunbelt understates the need for FEDs. NS notes that Sunbelt cites for authority the AREMA Manual from 2001, but that the AREMA Manual from 2007 removes the spacing guidance upon which Sunbelt relies for guidance. NS claims that current standards require consideration of a number of factors, and that it typically places FEDs every 15 miles. For the SBRR, NS supports its FEDs numbers with the actual FEDs shown on its track charts.[751] On rebuttal, Sunbelt stands by its number of FEDs.[752]

Sunbelt put forward an expert to verify its count, and NS has failed to show why the count should be different. NS cites its own count as evidence of the correct count, but it does not demonstrate why that count is superior to the count put forward by Sunbelt. The mere fact that NS has placed a certain number of FEDs does not dictate that the new entrant needs the same number to comply with industry standards. Because Sunbelt has produced evidence and NS has failed to demonstrate why its evidence is better, we will accept Sunbelt's FED count. The parties agree to have a dragging equipment detector (DED) for every FED, and we accept this ratio and resulting quantity. The parties also agree on the unit costs for FEDs and DEDs, and we will use these costs.

d. Crossing Signal Equipment

NS claims that Sunbelt's inventory of SBRR crossings is inaccurate. According to NS, Sunbelt omits 173 of NS's crossings from the lines the SBRR is replicating without explanation or justification. But, NS claims that Sunbelt does include 69 crossings which should have not been on the list.[753] NS believes that these were removed because the crossings were either grade separated or a crossing without active warning devices.[754] To correct Sunbelt's crossing inventory, NS created its own inventory based on crossing inventory and track charts provided to Sunbelt in discovery. Sunbelt accepts this additional inventory on rebuttal,[755] and we accept these agreed upon quantities.

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[749] See Sunbelt Rebuttal III-F-115 to III-F-116.

[750] See Sunbelt Opening III-F-36.

[751] See NS Reply III-F-228 to III-F-229.

[752] See Sunbelt Rebuttal III-F-119.

[753] See NS Reply III-F-229.

[754] See NS Reply III-F-230.

[755] See Sunbelt Rebuttal III-F-119.

NS also claims that Sunbelt omits essential equipment from its SBRR crossing design. In particular, NS asserts that Sunbelt: omits unidirectional equipment; understates the number of flashing light pairs; provides for an insufficient number and improper design for cantilever signals; fails to install underground conduits needed to protect cables under roads and tracks; ignores the need for termination shunts for crossing predictor equipment; and omits cable to run between the equipment shed and outside equipment. NS claims to correct these omissions and to provide costs for labor and materials.[756] Sunbelt accepts these changes on Rebuttal, and we will use these agreed upon adjustments.[757]

3. COMMUNICATION SYSTEM

NS states that it accepts Sunbelt's material and installation unit costs for the SBRR's communication systems. Sunbelt notes that NS indexed several components from 2005 to 3Q11, and it accepts the indexing.[758] Sunbelt also notes that NS did not remove the costs for the 30-foot towers discussed in the PTC Wayside System section. We accept the parties' figure, as indexed, and subtract the costs for the 30-foot towers.

4. HUMP YARD EQUIPMENT

NS claims that the hump yard on the SBRR would require integrated switching and control to perform its required functions. NS claims that the total cost to equip the hump yard with integrated switching is $24.7 million.[759] Sunbelt counters that, as discussed in the operating plan appendix submitted with its case, the SBRR does not need a hump yard and therefore does not need to incur these costs.[760] As discussed fully in the body of this decision, we are accepting NS's operating plan and related hump yard. We are therefore accepting these necessary equipment costs here.

5. RMI IMPLEMENTATION

The parties' disputes concerning IT systems are discussed elsewhere, but we address the one-time RMI software implementation cost here. This implementation cost includes items such as: consulting and project planning; custom development for added features and interfaces with other software; training of SBRR personnel; and travel expenses.[761]

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[756] See NS Reply III-F-233 to III-F-234.

[757] See Sunbelt Rebuttal III-F-120.

[758] See Sunbelt Rebuttal III-F-120.

[759] See NS Reply III-F-235.

[760] See Sunbelt Rebuttal III-F-121.

[761] See NS Reply III-D-119.

Sunbelt argues that RMI implementation would cost $100,000.[762] Sunbelt's system is based on trainload movements, with multiple-car billing rather than billing for individual railcars. Sunbelt claims that this reduces the complexity of the computer communications systems required to support operations and renders unnecessary what it refers to as the "colossally expensive" mainframe systems that large carriers such as NS use.[763]

NS counters that Sunbelt's figure is an "estimate" and that recent implementation on another railroad company's system cost $4.5 million.[764] NS argues that that railroad company handles approximately the same number of carloads as Sunbelt would, and therefore serves as a sound analogy for the SBRR's RMI needs. NS also asserts that RMI implementation costs must take into account related costs, such as planning, development, and training.

On rebuttal, Sunbelt argues that the other railroad company's situation is not analogous. According to Sunbelt, using carloads as a benchmark is unreasonable. The largest determining factor for implementation costs, Sunbelt argues, is the reporting stations where information is input, such as freight offices. Sunbelt states that a railroad's total number of reporting stations is more aligned with route miles than it is with carloads.[765] Therefore, Sunbelt argues that the comparison railroad company, which comprises railroad systems with thousands of miles of track, is a bad analogy for the 578-mile SBRR.[766] Sunbelt also points out that, because the comparison railroad company consists of individual railroads dispersed across a wide geographic area, implementing RMI would be more complex than it would be on the SBRR, which is a single, contiguous railroad.[767] Additionally, Sunbelt asserts that the SBRR would write many training manuals for one railroad, whereas the comparison railroad company would have to write different manuals for several different railroads. However, to take into account the related, additional expenses such as training, Sunbelt increases its RMI implementation cost on rebuttal by taking the cost from NS's comparison railroad company and scaling it based on the SBRR's route miles.[768]

We will accept Sunbelt's cost for RMI implementation. Although NS provides a real-world example of this cost, Sunbelt argues persuasively that the comparison railroad company is not analogous to the SARR in this case.[769] The comparison railroad company operates in

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[762] See NS Reply III-D-119.

[763] See Sunbelt Opening III-D-15.

[764] See NS Reply III-D-119.

[765] See Sunbelt Rebuttal Ex. III-D-1 at page 51.

[766] See Sunbelt Rebuttal Ex. III-D-1 at page 51.

[767] Sunbelt Rebuttal Ex. III-D-1 at 51.

[768] Sunbelt Rebuttal Ex. III-D-1 at 51-52.

[769] See section B.1 above (addressing Sunbelt's proposed use of the Trestle Hollow real-world example).

geographically dispersed areas,[770] whereas the SBRR would be confined to a single geographic region. Thus, for the reasons Sunbelt states, implementing RMI for the comparison railroad company would be far more complex than it would be on the SBRR. Sunbelt's RMI implementation cost is the best evidence of record in this proceeding.

[770] The Board accepted NS's use of the same comparison railroad company in DuPont, but the SARR in that case bore greater similarity to the comparison railroad company than the SBRR does. See DuPont, slip op. at 14-15 (SARR would cover wide range of geographic areas and operate in 20 states); DuPont, slip op. at 95-96.

G. BUILDINGS AND FACILITIES

TABLE B-8
Costs of Buildings and Facilities

	Sunbelt	NS	STB
Headquarters Building	$2,974,174	$9,435,690	$9,435,690
Fueling Facilities	$10,556,472	$12,217,740	$12,217,740
Locomotive Shops [1]	$8,563,250	$8,563,232	$8,563,232
Car Repair Shop [2]	$0	$8,972,475	$0
Crew Facilities	$1,861,614	$2,868,831	$2,248,293
MoW & Signal Maintainer Facilities [3]	$1,040,578	$2,290,899	$1,929,302
Major Yards	$4,369,089	$905,288	$905,288
Minor Yards	$8,510,450	$2,074,409	$2,074,409
Non-Automotive Observation Towers	$0	$154,702	$154,702
Auto Yards	$14,819,363	$13,174,150	$12,730,398
Intermodal Yards	$7,164,169	$19,128,228	$7,155,838
Mechanical Offices	$0	$361,597	$0
Warehouses, and other miscellaneous buildings and site costs [4]	$0	$95,519,030	$46,544,112
TOTAL	$59,859,159	$175,666,272	$103,959,004

[1] Includes wastewater treatment

[2] Sunbelt provides no repair shop but does include lighting, compressed air, power

service, and paved roads

at various locations to accommodate car repair contractor owned facilities and shops.

[3] Signal maintainer and Hi-rail maintenance facilities rejected.

[4] Sunbelt's warehouses, miscellaneous buildings, and site costs that we accept are included in Major, Minor, Auto, and

Intermodal Yards above.

Sunbelt places the SBRR's major system facilities at the Birmingham, Ala. yard. These facilities include the SBRR's headquarters building, crew facilities, a yard office, a locomotive repair shop, 1,000 and 1,500-mile inspection facilities, and car and locomotive storage.[771] Sunbelt includes smaller yards throughout the SBRR system.[772]

1. HEADQUARTERS

On opening, Sunbelt developed a headquarters housing 51 employees using the American Institute of Architects standards. The square footage per employee includes additional space for work rooms, IT equipment, hallways, bathrooms, and mechanical services. Executives were allotted additional space. The resulting building is two stories with a total of 19,365 SF and a cost based on Means.[773]

NS claims that the headquarters should house 180 employees,[774] and calculates a larger, three-story structure based on Sunbelt's square footage per employee. Although it also uses Means to determine costs, NS adds the costs for such items as closed-circuit television systems, computer access flooring, a back-up generator, upgraded and redundant HVAC, a waterless fire suppression system in sensitive areas, additional fire hydrants, uninterruptable power supply, and lockers.[775] On rebuttal, Sunbelt accepts NS's average cost per square foot, but argues for a smaller building based on its revised employee count of 69.[776]

For the employees that would use the headquarters building—primarily G&A personnel—we are accepting a staffing level closer to the number proposed by NS, as discussed in the Operating Expenses appendix. Therefore, the Board will accept NS's headquarters building design, which better reflects the space required for these employees. See, e.g., W. Fuels Ass'n v. BNSF Ry., NOR 42088, slip op. at 118 (STB served Sept. 10, 2007). We will use the unit costs agreed to by the parties.

2. LOCOMOTIVE REPAIR FACILITIES

On opening, Sunbelt includes a locomotive shop designed to handle overhaul work as well as 92-day inspections and running repairs at the Birmingham (Norris) Yard.[777] NS agrees with Sunbelt that a locomotive facility is necessary in Birmingham, but it claims that Sunbelt's

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[771] See Sunbelt Opening III-F-39.

[772] See Sunbelt Opening III-F-39.

[773] See Sunbelt Opening III-F-40.

[774] See NS Reply III-F-237.

[775] See NS Reply III-F-238.

[776] See Sunbelt Rebuttal III-F-122 to III-F-123.

[777] See Sunbelt Opening III-F-41.

structure would need a higher roof to accommodate cranes and a larger footprint to effectively work on locomotives. NS also points out that Sunbelt fails to account for interior finishes or necessary improvements.[778]

In lieu of Sunbelt's proposal, NS models its facility on its locomotive shop in Linwood.[779] On rebuttal, Sunbelt accepts NS's size and costs for the repair facility,[780] and we will use the agreed upon size and costs.

3. LOCOMOTIVE SERVICE FACILITIES AND FUELING BY TRUCK

Sunbelt asserts that fueling platforms would be located at the SBRR's Birmingham (Norris) Yard. Locomotive fueling at all other locations (Meridian, Selma, New Orleans, and McIntosh) would be performed by truck at track-side (DTL). Sunbelt also provides for locomotive service facilities at these four locations.[781]

NS asserts, however, that based on the operating plan, the SBRR would require an additional fueling facility at the New Orleans flat yard.[782] NS accepts Sunbelt's base cost for a fueling facility, but adds to the cost what it claims are missing components such as hose reels, overhead service platforms, platform mounted fuel cranes, and fuel management systems.[783]

We will not include the additional fueling facility in New Orleans. Regardless of its narrative statement, NS's workpapers show only one fixed fueling facility. Sunbelt, however, adds the costs for the missing components except for hose reels,[784] and we use the agreed upon quantities and costs for a fueling facility. As for the hose reels, Sunbelt notes that NS has accepted Sunbelt's cost for these on reply, indicating that Sunbelt did not omit this component,[785] and we will therefore not add NS's additional cost for hose reels.

Although Sunbelt claims that NS also would place unnecessary DTL facilities and locomotive service facilities at Birmingham, the parties in fact agree on the number of locations. We will use these locations for the DTL facilities and locomotive service facilities.

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[778] See NS Reply III-F-241 to III-F-243.

[779] See NS Reply III-F-241.

[780] See Sunbelt Rebuttal III-F-125.

[781] See Sunbelt Rebuttal III-F-124; Sunbelt Opening III-F-40.

[782] See NS Reply III-F-239.

[783] See NS Reply III-F-240.

[784] See Sunbelt Rebuttal III-F-124.

[785] See Sunbelt Rebuttal III-F-124.

On rebuttal, Sunbelt notes that it inadvertently omitted on opening the costs for the facilities needed at DTL locations.[786] It therefore includes the items specified by NS at locations where Sunbelt includes locomotive servicing tracks. Sunbelt claims, however, that NS has overstated the costs for paving, lighting, and track pans.[787] Sunbelt therefore continues to use the unit costs from opening for these items.

We will accept the quantities agreed to by the parties, but we will use NS's costs as the better supported evidence.[788] Sunbelt's estimates for fuel facilities contain either hardcoded numbers or calculations using numbers whose origins are unknown and equations with unexplained derivations. As a result, we cannot determine whether Sunbelt's presentation is properly supported. Sunbelt's failure to present supported evidence on this issue leaves NS's presentation as the best evidence of record.

4. CAR REPAIR FACILITIES

Sunbelt claims that the SBRR would acquire its railcars via full service leases and therefore the lessor is responsible for providing all necessary car repair shops. Sunbelt does, however, include space and tracks for such a facility at the Birmingham (Norris) Yard.[789] NS counters that Sunbelt would still need to repair bad order cars from foreign carriers, and therefore it would need a car repair facility. NS notes that the Board has not required costs for such a facility in past cases, but it distinguishes those cases because they primarily involved coal cars owned by the carrier operating those SARRs. NS approximates the cost of a car repair facility based on its facility in Kansas City.[790] NS also argues that, although Sunbelt includes costs for four repair-in-place (RIP) tracks (located at Meridian, New Orleans, Selma, and McIntosh[791]), it omits other necessary costs for tools and parts storage, pole mounted work lighting, welding outlets, compressed air stations, and a canopy for covered work areas.[792]

On rebuttal, Sunbelt asserts that, although the SBRR would need to provide space and tracks for car repairs at five locations, the facilities and equipment at these locations would be provided by the contractor as all car repair costs on SBRR-owned cars are covered by the full service lease. According to Sunbelt, the costs for tools and parts storage and any necessary canopies would be the responsibility of the car repair contractor.[793]

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[786] See Sunbelt Rebuttal III-F-124.

[787] See Sunbelt Rebuttal III-F-124.

[788] This finding does not extend to disputes discussed in the Site Costs and Other Facilities section, which is found later in this appendix.

[789] See Sunbelt Opening III-F-41.

[790] See NS Reply III-F-244 to III-F-245.

[791] Sunbelt Opening WP "SBRR Yard Matrix.xlsx," ADDL TRACK tab.

[792] See NS Reply III-F-245 to III-F-246.

[793] See Sunbelt Rebuttal III-F-126.

We accept Sunbelt's plan for car repair shops because Sunbelt has entered into full service leases for its cars, which include car repair costs and are accounted for in its operating expenses. Thus, it would be a double count of those costs to include them here. NS has not adequately explained why it believes Sunbelt's approach is unrealistic or infeasible, and we will accept Sunbelt's plan for car repair activities and the associated facilities.

5. CREW CHANGE FACILITIES

Sunbelt claims that there are six locations on the SBRR that would require a crew change facility.[794] On reply, NS removes one of these facilities (at Boligee, Ala.), adds three facilities (at Wilton, Ala., Hattiesburg, Miss., and a second facility at the Birmingham yard), and replaces Sunbelt's large facilities at Meridian and New Orleans with small facilities.[795] Additionally, NS rejects Sunbelt's costs for its facilities. NS claims that Sunbelt only provides costs for two different sized metal sheds, but it does not include costs for all the necessary interior items such as furnishings, fixtures, and equipment.[796] NS develops its own costs for such structures, including a second major crew change facility at Birmingham to accommodate locomotive and freight car mechanical personnel.[797]

On rebuttal, Sunbelt continues to use the crew change facility locations and sizes from its Opening evidence. Sunbelt claims that NS did not explain the reasoning behind the reduction of the facilities at Meridian and New Orleans[798] and asserts that the yards in Wilton and Hattiesburg are just interchange yards and do not need crew change facilities. Sunbelt also claims that there is no need for a second facility in Birmingham because the contractor would handle car repairs. Although the parties disagree on locations, on rebuttal, Sunbelt accepts the additional costs for the small and large crew change buildings.[799]

The parties agree on the costs for small and large crew change buildings, and we will use these costs. NS's operating plan, which the Board has accepted, adds small flat switching yards at Wilton and Hattiesburg, thus adding two locations where crew changes would occur, and subtracts a crew change facility at Boligee, where crew changes would not occur under NS's operating plan. Sunbelt claims that the yards in Wilton and Hattiesburg are only interchange yards and do not need crew change facilities, but this is not the case under NS's operating plan. Similarly, because NS's operating plan requires only small facilities at Meridian and New Orleans, there is no reason for the SARR to incur the costs of large facilities at those locations.

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[794] See Sunbelt Opening III-F-42.

[795] See Sunbelt Rebuttal III-F-127.

[796] See NS Reply III-F-247.

[797] See NS Reply III-F-248.

[798] See Sunbelt Rebuttal III-F-127.

[799] See Sunbelt Rebuttal III-F-128.

Therefore, because the Board has accepted NS's system configuration and operating plan, it is appropriate to accept the resulting crew change locations and facilities. As for the second crew change facility at Birmingham, however, we are accepting Sunbelt's proposal for a contractor to perform car repairs, as discussed earlier in this appendix, and the contractor would provide the necessary facilities. Also, we agree with Sunbelt that locomotive maintenance personnel would report to the locomotive repair facility. Thus, NS has not shown that a second crew change facility at Birmingham is necessary.

6. YARD OFFICES

On opening, Sunbelt plans for five yard offices, one at each of the SBRR's major and mid-sized yards.[800] NS notes that Sunbelt made the same cost assumptions with its yard offices as it used for its crew change facilities. Accordingly, NS's criticisms of Sunbelt's crew change facilities costs also apply to Sunbelt's yard office costs. NS further claims that the buildings Sunbelt proposes would not be large enough to accomplish the purpose of the offices. NS proposes using structures modeled on Croxton Yard in Jersey City, N.J., and a smaller facility at Gang Mills, N.Y. As with crew change facilities, NS used Means to determine cost data. Costs were also added and deducted based on size and perimeters.[801]

On rebuttal, Sunbelt does not accept NS's increased building sizes. It claims that NS has provided no explanation as to why Sunbelt's yard buildings are too small and no justification for the larger buildings included by NS.[802]

For the employees that would use yard offices—primarily train and engine personnel, as well as some non-train and engine operating personnel—we are accepting a staffing level closer to the number proposed by NS, as discussed in the Operating Expenses appendix. Therefore, the Board will accept NS's proposed yard office sizes, which better reflect the space required for these employees.

7. MOW BUILDINGS

Sunbelt has three MOW buildings. Each building is similar in office space and design to the crew change facilities, but the interior is smaller as there are fewer employees using the space. Additional area is provided for garaging certain vehicles as necessary and storing MOW supplies.[803]

NS rejects Sunbelt's costs for these buildings because they allegedly fail to include the interior build-out. NS also claims that Sunbelt's proposal of a 1,400-SF structure is unrealistic

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[800] See Sunbelt Opening III-F-42.

[801] See NS Reply III-F-249.

[802] See Sunbelt Rebuttal III-F-128.

[803] See Sunbelt Opening III-F-42.

and inadequate in comparison to a NS facility in Mount Vernon, Ill.[804] Instead, NS claims that a facility between 3,000 to 3,500 SF is more suitable. And, NS claims it is standard practice to provide storage areas for MOW track gangs separate and apart from storage areas for communications and signals maintainers to protect the sensitive electronics equipment from heavy-duty track materials.[805] NS asserts that this separation requires additional space.

NS states that some MOW buildings would be stand-alone facilities not associated with a yard. According to NS, these buildings would therefore incur increased expenses because they require site development (such as parking space and covered area for equipment). NS also includes costs for mechanic facilities to service MOW high rail vehicles, small machines, and other mechanical tools and equipment. NS claims that Sunbelt has neglected both sets of costs.[806]

On rebuttal, Sunbelt claims that NS's increased building size is arbitrary and unsupported and that many of NS's facilities do not have any garage space or a covered area for equipment.[807] Sunbelt refuses to include NS's MOW facility to service high rail MOW vehicles because it already provided an allowance for MOW equipment repairs on opening.[808] Sunbelt therefore stands by its MOW building costs on rebuttal, but it does adjust its MOW facilities' cost to reflect the updated cost of small crew change facilities.

We are accepting an MOW staffing level closer to the number proposed by NS, as discussed in the Operating Expenses appendix. Therefore, the Board will accept NS's proposed MOW building costs, which better reflect the space required for these employees. See, e.g., Otter Tail Power Co. v. BNSF Ry., NOR 42071, slip op. at D-38 (STB served Jan. 27, 2006). However, NS has not shown that garage or outside storage areas are present in separate MOW buildings on NS's system or that they are necessary for the operation of the SBRR. We therefore reject NS's blanket addition of separate garage and storage areas.

Sunbelt has already included costs for high rail maintenance. Furthermore, NS has not shown that mechanical facilities have ever been present for high rail vehicle work or that railroad employees do this work. We will therefore reject NS's additional maintenance facilities.

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[804] See NS Reply III-F-250.

[805] See NS Reply III-F-250.

[806] See NS Reply III-F-251.

[807] See Sunbelt Rebuttal III-F-129 to III-F-130.

[808] See Sunbelt Rebuttal III-F-130.

8. WASTEWATER TREATMENT

Sunbelt includes costs for sewer tie-ins and oil/water separators. Sunbelt claims that engineers have used such facilities in projects for other railroads.[809] NS claims that Sunbelt's separators cannot handle the volumes generated by the SBRR and has thus developed costs for the necessary wastewater facilities. On rebuttal, although Sunbelt defends its oil/water separator, it nonetheless accepts NS's wastewater treatment system because of the increased size of the locomotive repair facility.[810] We will use the agreed upon system provided by NS.

9. SITE COSTS AND OTHER FACILITIES

Sunbelt includes costs for site preparation and smaller facilities. Costs in these categories include automobile handling facilities, locomotive servicing areas in certain SBRR yards, yard lighting, yard drainage, and other site preparation costs.[811]

a. Paving

NS claims that Sunbelt only assumes that the SBRR would have pavement at the accesses to the yard leads and the public way. NS adds paving for parking lots, perimeter roadways, parking lots at facility buildings, inspection cart paths, and thickened concrete for intermodal cranes. NS bases the footprint for such paving on aerial photos of various NS yards and facilities.[812]

On rebuttal, Sunbelt claims the quantities for yards are overstated and unrealistic. It asserts that parking is usually on hard-packed dirt or gravel. Sunbelt does accept the paving NS seeks at automotive and intermodal facilities. It argues, however, that the NS paving unit costs are not justified and it continues to rely on its original costs, except for the portion of intermodal facilities where containers are stored.[813]

We have accepted Sunbelt's facility installations and did not accept a second locomotive/car repair building or car repair shed. We therefore accept Sunbelt's quantities of paving as the best evidence of record. We accept Sunbelt's paving unit costs for areas other than container storage because NS has neither justified nor supported its higher costs. We accept the parties' agreement on cost for container storage areas and use this cost.

b. Lighting

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[809] See Sunbelt Opening III-F-43.

[810] See Sunbelt Rebuttal III-F-130.

[811] See Sunbelt Opening III-F-43.

[812] See NS Reply III-F-254 to III-F-255.

[813] See Sunbelt Rebuttal III-F-131.

The aerial photos mentioned in the Paving section help NS develop yard lighting for the SBRR. For the lighting, NS proposes the use of 100-foot steel poles with "stadium" lighting, which NS claims are normally used in the railroad industry.[814] It states that these poles tend to support fiber optic and copper wiring to enhance communications in larger yards. NS argues that Sunbelt provides no detail supporting its proffered cost of site lighting or for the infrastructure required to power the lights.

On rebuttal, Sunbelt counters that NS did not rely on actual lighting in NS yards. NS used a yard at Moraine, Ohio, as the template for its small classification yard and proposes 11 high mast lights.[815] However Sunbelt argues that there are no high mast lights in the Moraine yard. Sunbelt asserts that NS's template for a medium classification yard presents a similar discrepancy.[816]

Furthermore, Sunbelt claims that the proposed lighting layouts are unrealistic, overstated, and would most likely not be approved by local agencies because of light pollution concerns. Sunbelt therefore rejects the quantities put forward by NS and uses those it set forth on opening, except for lighting at the SBRR's small automotive yard.[817]

We will accept Sunbelt's lighting layouts. NS did not explain why it changed the number of masts at its template yards. What is sufficient at these yards today would be sufficient for the SBRR. NS argues that its proposed stadium lighting is the least cost, most efficient means of lighting yards using today's technology, regardless of what NS does at its existing yards.[818] However, NS has not supported this claim with a comparison to the cost and efficiency of the lighting layouts at the existing yards that NS uses as templates. We therefore accept the quantities and costs put forward by Sunbelt on rebuttal as the best evidence of record.

c. Hydrants

The photos mentioned above help NS place fire hydrant systems at each yard, and Sunbelt accepts this addition on rebuttal.[819] We will use this agreed upon quantity and cost.

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[814] See NS Reply III-F-255.

[815] See Sunbelt Rebuttal III-F-132; NS Reply WP "SBRR Lighting and Paving Unit Costs.xls," Measurements tab; NS Reply WP "09 Yard Lighting and Roadway Quantities.pdf."

[816] See Sunbelt Rebuttal III-F-132.

[817] See Sunbelt Rebuttal III-F-132 to III-F-133.

[818] NS Brief 36.

[819] See Sunbelt Rebuttal III-F-133.

d. Main Electrical Switchgear

NS observes that Sunbelt failed to include the cost for the main electrical switchgear for each large yard and locomotive shop and failed to provide cabling for distribution of power. Sunbelt agrees to the NS additions on rebuttal,[820] and we will include them.

e. Bollards

NS also includes costs for additional bollards (i.e., short poles to protect sites from moving equipment). Sunbelt argues on rebuttal that the bollard quantities it proposed on opening (25 bollards for major yards and six bollards for minor yards) are sufficient.[821] It asserts that bollards are typically only used to protect the overhead doors of a shop and occasionally to protect transformers on the ground. Sunbelt therefore claims that NS's proposal of 200 per yard is excessive.[822] We will accept Sunbelt's quantity and costs for bollards because we believe they provide a feasible and realistic approach to protecting SBRR's facilities. NS's 200 bollards per yard is excessive, as the record does not demonstrate that every item listed by NS requires protection based on items' possible location and nature. NS did not provide a specific listing of the location of each bollard or a correlation between a facility type quantity and associated bollards. NS has therefore failed to demonstrate that its quantities are necessary and that Sunbelt's costs are unrealistic.

f. Guard Booths

NS provides for guard booths at the entrance of the two SBRR intermodal facilities to prevent theft of commodities and a booth at the one automotive facility. NS obtained its cost from a supplier, FS Industries, including a 24-inch overhang for sun protection, an HVAC wall unit, a delivery cost, a sales tax of 8%, and a general contractor markup of 10%.[823] Sunbelt accepts placing these booths on the SBRR and their related costs.[824] We will use the cost and quantity agreed upon by the parties.

g. Observation/Yardmaster Towers

NS provides costs for three observation/yardmaster towers: two at the Birmingham hump yard and one at the SARR's automotive yard.[825] According to NS, the yard towers provide security to prevent theft and allow visual monitoring of the entire yard, and may facilitate

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[820] See Sunbelt Rebuttal III-F-133.

[821] See Sunbelt Rebuttal III-F-133.

[822] See Sunbelt Rebuttal III-F-133.

[823] See NS Reply III-F-258 to III-F-259.

[824] See Sunbelt Rebuttal III-F-133.

[825] NS Reply III-F-260; NS Reply WP "SBRR Facilities List NS Reply.xlsx," Facilities Cost tab, Column I.

switching at certain yards.[826] Sunbelt objects and does not include these towers on rebuttal. Sunbelt notes that neither of the automotive yard towers cited as examples by NS is on the lines being replicated by the SBRR. Additionally, Sunbelt has objected to the inclusion of a hump yard at Birmingham and therefore argues that those two towers are unnecessary.[827]

We will accept the observation tower proposed by NS at the SBRR's automotive yard. It is necessary to include some method of monitoring an automotive yard as a precaution against theft, and in this case, Sunbelt has not proposed an alternative to the observation tower included by NS. We will also accept one of the two towers at Birmingham. The hump yard, which we have accepted, requires a tower to serve as a control center overseeing the yard switches and ensuring that cars are blocked properly. However, NS has not explained why a second tower is necessary at the Birmingham yard, and therefore we will not accept it.

h. Storage Facilities

NS provides for the cost of storage/warehouse facilities at the yards based on Means.[828] NS claims that these facilities are based on its operating plan and are required to store and protect parts, equipment, and materials.[829] Sunbelt objects to this addition,[830] and we agree with Sunbelt. Although NS lists these facilities in the operating plan, it has not provided specific information as to what items the SARR would store in these facilities, i.e., what items do not already have storage space in other facilities, such as the MOW buildings discussed above. Therefore, their inclusion is not necessary to support the operations or configuration of the SBRR.

i. Mechanical Repair Shop

NS claims that Sunbelt did not provide for mechanical repair shops for any of the SBRR's yards, which would be necessary for the SBRR to maintain and repair yard hostlers and forklifts. NS uses Means to develop these costs.[831] Sunbelt counters that this facility is not needed, and we agree.[832] Although NS claims that these shops are required by its operating plan, typically, this work is not done by a railroad. It is also unclear which forklifts and yard hostler trucks are to be repaired, why this equipment is necessary, or where the involved equipment would be located. Therefore, their inclusion is not necessary to support the operations or configuration of the SBRR.

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[826] See NS Reply III-F-260 to III-F-261.

[827] See Sunbelt Rebuttal III-F-135.

[828] See NS Reply III-F-262.

[829] See NS Reply III-F-261.

[830] See Sunbelt Rebuttal III-F-135 to III-F-136.

[831] See NS Reply III-F-259.

[832] See Sunbelt Rebuttal III-F-134.

j. Mechanical Offices

NS includes the costs for two mechanical offices. Sunbelt opposes this addition because car repair personnel report to the contractor-provided car repair facility and locomotive repair personnel report to the locomotive repair facility. Sunbelt has already placed yard offices at all locations with car inspection personnel.[833] We agree with Sunbelt and will reject this addition. NS has provided no explanation or support for these buildings shown in its workpapers.

k. Signal Maintenance Building

NS claims that Sunbelt did not provide for the housing of signal maintainers on the SBRR. NS claims that signal maintainers must be stationed throughout the SBRR system in 10 separate two-man crews, each with a small building. NS provides the actual AFE costs of $61,000 for these facilities, and it has adjusted the costs for a location factor and to the 3Q11 historic cost index.[834] Sunbelt disagrees with this addition and claims that it has already included space for the signal maintainer in its MOW buildings.[835] We agree with Sunbelt. NS has not shown why Sunbelt's plan fails to provide adequate space for the signal maintainers. To include NS's additional buildings would double count this cost.

l. Miscellaneous Buildings

NS included the cost for three miscellaneous buildings measuring 400 SF at its Birmingham hump yard. Sunbelt claims that NS provides no explanation of the purpose of these buildings.[836] We agree and will therefore reject these structures.

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[833] See Sunbelt Rebuttal III-F-134.

[834] See NS Reply III-F-262.

[835] See Sunbelt Rebuttal III-F-136; Sunbelt Opening III-F-42.

[836] See Sunbelt Rebuttal III-F-136.

H. PUBLIC IMPROVEMENTS

TABLE B-9
Costs of Public Improvements

	Sunbelt	NS	STB
Construct Grade Crossing	$10,394,160	$10,394,160	$10,394,160
Crossing Detour Costs	$0	$3,921,096	$0
Furnish and Install CrossBucks and Support	$829,858	$836,751	$829,858
Furnish and Install Mileposts	$71,134	$67,406	$71,134
Furnish and Install Yard Limit Signs	$882	$700	$882
Furnish and Install Whistle Posts	$102,319	$101,487	$102,319
Furnish and Install ENS Signs	$117,056	$117,056	$117,056
Vegetation Clearing Costs (at-grade crossings)	$0	$1,301,143	$0
TOTAL	$11,515,408	$16,739,799	$11,515,408

1. FENCING

Sunbelt asserts that most of the ROW to be replicated is not fenced, so it only includes fencing for SBRR yards.[837] NS accepts Sunbelt's assumption about the lack of fencing along the ROW. However, NS claims that fencing is included at key MOW and signal facilities and is discussed in the appropriate sections.[838] Sunbelt claims that it cannot find the additional fencing costs in NS's construction costs, so it continues to provide fencing as discussed on opening.[839] We also could not find the costs for NS's proposed fencing additions, and will therefore accept Sunbelt's fencing quantities and costs.

[837] See Sunbelt Opening III-F-44.

[838] See NS Reply III-F-263.

[839] See Sunbelt Rebuttal III-F-137 to III-F-138.

2. SIGNS AND ROAD CROSSING DEVICES

Sunbelt includes a standard package of railroad signs for the SBRR. NS claims that the package is incomplete because Sunbelt omits Emergency Notification Signs and provides insufficient installation costs for railroad crossbucks. NS also asserts that Sunbelt's costs do not take into consideration additional tasks and measures required to install signage on railroad ROW and at-grade crossing locations.[840] On rebuttal, Sunbelt accepts the additional signage and related costs. It also accepts the additional costs for crossbuck installation.[841] We will use the costs and quantities agreed upon by the parties.

3. AT-GRADE CROSSINGS

SBRR is building all at-grade crossings and paying 100% of the cost for the crossing materials. Sunbelt has included $7.5 million for these costs.[842] NS takes exception to Sunbelt's grade crossing construction cost of $582 per track foot and claims that some of Sunbelt's estimates lack evidence showing that the SBRR would be in compliance with Class I crossing standards. NS states that the information it provided to Sunbelt indicated that the grade crossing construction cost should be $753 per track foot in 2Q09 and even higher when indexed to 3Q11.[843] On rebuttal, Sunbelt accepts these adjustments,[844] and we will use the parties' agreed upon quantity and costs for at-grade crossings.

4. AT-GRADE CROSSING DETOURS

NS claims that, on opening, Sunbelt failed to include any costs associated with roadway detours and signage required while the road is closed for construction of SBRR track and at-grade crossings. NS has added these costs based upon the construction of 580 at-grade crossings identified on the SBRR.[845] As noted by Sunbelt on rebuttal, these costs for roadway detours are included in its Roadbed Preparation section.[846] To include them again would double count these costs. We therefore reject NS's added roadway detour costs.

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[840] See NS Reply III-F-263.

[841] See Sunbelt Rebuttal III-F-138.

[842] See Sunbelt Opening III-F-44.

[843] See NS Reply III-F-266.

[844] See Sunbelt Rebuttal III-F-138.

[845] See NS Reply III-F-266.

[846] See Sunbelt Rebuttal III-F-139.

5. VEGETATION

NS includes costs for removing vegetation at each at-grade crossing at the time of the initial construction of each crossing.[847] On rebuttal, Sunbelt refuses to include these costs as they are already included under clearing and grubbing.[848] We agree with Sunbelt and therefore reject NS's added costs for annual vegetation removal. Those costs are already included in the maintenance of way costs we are accepting in this decision.

I. MOBILIZATION

The parties agree on a 2.7% mobilization cost factor.[849]

J. ENGINEERING

The parties agree on a 10% engineering additive.[850] We will use the additive.

K. CONTINGENCIES

The parties agree on a 10% contingency factor.[851] We will use the factor.

L. CONSTRUCTION SCHEDULE

Sunbelt presents a construction schedule.[852] Generally, NS agrees with the schedule, but argues it must include costs stemming from days lost to rain and bad weather. NS explains that the SBRR would still incur labor costs on these lost days. NS projects that these weather related losses would total approximately $7 million (accounting for adjustments to costs for bridges, earthwork, track construction, and total labor).[853]

We will reject NS's additional costs for weather related effects because they are speculative and unnecessary. We agree with Sunbelt that, under the theory of unconstrained resources, the SBRR would be able to allocate sufficient numbers of personnel and equipment to counter the effects of adverse weather related events during the construction period. Finally, as noted in the previous section, the parties have agreed to a 10% contingency factor for the

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[847] See NS Reply III-F-267.

[848] See Sunbelt Rebuttal III-F-139.

[849] See Sunbelt Opening III-F-45; NS Reply III-F-268.

[850] See Sunbelt Opening III-F-45; NS Reply III-F-272.

[851] See Sunbelt Opening III-F-45; NS Reply III-F-268.

[852] See Sunbelt Opening III-F-45 to III-F-46.

[853] See NS Reply III-F-277.

construction of the SBRR, which would account for any weather-related delays and additional labor costs to account for those lost construction days.

APPENDIX C—TRAFFIC VOLUMES AND REVENUES

In this appendix, we examine issues involving the amount of traffic that the SBRR would transport and the revenues that traffic group would be expected to generate for the SBRR over the 10-year SAC analysis period (2011-2021). The parties agree on certain aspects of the SBRR's traffic group for purposes of determining traffic volumes and revenues, but they disagree with respect to forecasting the SBRR's traffic volumes from 2017 through 2021, and the calculation of revenues that the SBRR is expected to earn on that traffic. Specifically, the parties disagree on the following issues: (1) Sunbelt's correction to the double-counting of certain selected traffic; (2) the appropriate procedure for projecting traffic volumes; (3) the appropriate Average Total Cost (ATC) methodology to determine cross-over traffic revenues, as well as the appropriateness of restrictions and adjustments to the cross-over traffic; (4) treatment of revenues from NS subsidiary Thoroughbred Direct Intermodal Service (TDIS); and (5) procedures for forecasting fuel surcharge revenues and fuel costs.

The appropriate ATC methodology and revenues from TDIS are discussed in the body of this decision. NS's proposed restrictions to cross-over traffic and its proposed trainload adjustment to that traffic are discussed in the Discounted Cash Flow Analysis Appendix. The remaining issues are discussed below.

A. TONNAGE

1. DUPLICATE WAYBILLS

On reply, NS asserts that Sunbelt erroneously duplicated a large number of waybills for the third quarter of 2011, which resulted in a double counting of traffic volumes and revenues in that quarter.[854] NS argues that because the third quarter of 2011 is both part of the SBRR "Base Year" and part of the first year of its operations (i.e., the first year of the SAC analysis period), Sunbelt's overstatement affects SBRR traffic volumes in every year of the SAC analysis period.[855] NS states that as a result of using the duplicates, the volumes and revenues Sunbelt attributed to the selected SBRR traffic group are substantially inflated.[856] But aside from this issue, NS accepts Sunbelt's actual historical traffic volume calculations.[857]

On rebuttal, Sunbelt acknowledges its inclusion of duplicate waybill records in its opening evidence.[858] Sunbelt states that it has corrected the problem and that the adjustment reduces SBRR's 2011 traffic volume by 2.5 million tons.[859]

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[854] NS Reply III-A-1.

[855] NS Reply III-A-1 to III-A-2.

[856] NS Reply III-A-2.

[857] NS Reply III-A-3.

[858] Sunbelt Rebuttal III-A-2 to III-A-3.

[859] Sunbelt Rebuttal III-A-3.

While Sunbelt made an attempt to remove the duplicate waybills, on rebuttal Sunbelt failed to correct overstated revenues for multi-car shipments.[860] As a result, we will accept NS's data, which corrects for all overstated revenues, as the best evidence of record.

2. 2012 THROUGH 2016

For the years 2012 through 2016, Sunbelt projects volumes using an annual volume index developed from NS internal shipment forecasts produced in discovery.[861] Sunbelt aggregates the NS forecasted carload and container totals on a commodity group basis and develops year-over-year volume change indices for each commodity group.[862] Sunbelt argues that this aggregation is necessary to maintain consistency between the traffic volume forecast and the train forecast because shipments that move together on a given train may be forecasted to grow at different rates in the NS forecast.[863] Sunbelt argues that this approach is consistent with the Board's decision in Carolina Power & Light Co. v. Norfolk Southern Railway, 7 S.T.B. 235 (2003).[864]

On reply, NS argues that applying NS-system-wide commodity group aggregate growth rates to a SARR only covering approximately 2.9% of the NS system inevitably distorts projections of future SARR traffic volumes.[865] NS argues that Sunbelt's approach is a blunt instrument that fails to account for the specific experience of the SBRR, which has only a single issue movement and would traverse portions of only three states, as compared to NS's system which comprises more than 20,000 route miles over 22 states.[866] To correct for this alleged distortion, NS includes only traffic that potentially might move on the SBRR, specifically identifying Origin State/Destination State combinations for each commodity group that Sunbelt selected for the SBRR, then calculating growth rates from NS's forecast for each commodity group for this subset of forecasted traffic.[867] NS argues that while it uses a single growth rate each year for each commodity group like Sunbelt, NS's growth rates reflect the actual traffic traversing the SBRR.[868]

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[860] See Sunbelt Rebuttal WP "SRR Traffic Selection Methodology v5 rebuttal.docx" at Step 17.5; Sunbelt Rebuttal WP "SRR 2011 Traffic Selection Methodology Scripts and Tables_v1 (rebuttal).xlsx"; NS Brief 47 n.63.

[861] Sunbelt Opening III-A-5.

[862] Sunbelt Opening III-A-6.

[863] Sunbelt Opening III-A-6.

[864] Sunbelt Opening III-A-6.

[865] NS Reply III-A-4.

[866] NS Reply III-A-4.

[867] NS Reply III-A-5.

[868] NS Reply III-A-5.

NS applies a different approach for coal, in order to eliminate potential disputes about so-called "origin shifting."[869] NS argues that Sunbelt's system-wide aggregate approach distorts projected SBRR coal volumes, particularly because the SBRR serves no coal origins and so few coal receivers—96% of the base year coal tons terminate at only two facilities, either Richburg, Mo., or Jackson, Ala.[870] For this reason, NS applies the coal growth rate from its forecast for each applicable Destination State, rather than also considering each Origin State.[871] NS asserts that this approach ensures that, even if SBRR destinations were to change the origins from which they source coal during the SAC analysis period, projected volumes terminating at those destinations would not be affected.[872] NS states that, given the low volumes of coal on the SBRR network, its approach eliminates any potential disputes with Sunbelt on the issue of mine origin shifting.[873]

On rebuttal, Sunbelt accepts NS's state-to-state forecast for both coal and non-coal commodities for the 2012-2016 time period.[874] We will accept the agreed-upon number.

3. 2017 THROUGH 2021/COMPOUND ANNUAL GROWTH RATE

For the January 2017 through July 2021 time period, Sunbelt calculated the SBRR coal traffic volumes by adjusting the prior year volume by a compound annual growth rate (CAGR) developed utilizing three years of NS actual data (2009-2011) and five years of NS internal forecast data (2012-2016).[875] On reply, NS rejects this CAGR approach. NS asserts that, for periods for which internal carrier coal forecasts are not available or demonstrated to be unreliable, over the last decade the Board has uniformly used the EIA AEO to project SARR coal volumes. See, e.g., Ariz. Elec. Power Coop. v. BNSF Ry. (AEPCO), NOR 42113, slip op. at 21-22 (STB served Nov. 22, 2011), aff'd sub nom. BNSF Ry. v. STB, 748 F.3d 1295 (D.C. Cir. 2014); W. Fuels Ass'n v. BNSF Ry., NOR 42088, at 6 (served Feb. 29, 2008); Duke Energy Corp. v. Norfolk S. Ry., 7 S.T.B. at 144-45.[876] NS states that, consistent with the approach it used for projecting SBRR coal volumes for 2012-2016, NS used total coal volumes for the Alabama and Mississippi demand region for projections for 2017-2021.[877]

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[869] NS Reply III-A-6.

[870] NS Reply III-A-6.

[871] NS Reply III-A-6.

[872] NS Reply III-A-6.

[873] NS Reply III-A-6.

[874] Sunbelt Rebuttal III-A-5.

[875] Sunbelt Opening III-A-7.

[876] NS Reply III-A-9.

[877] NS Reply III-A-9.

On rebuttal, Sunbelt accepts NS's use of EIA's coal demand forecast for Alabama and Mississippi for the 2017-2021 time period.[878] We will accept the agreed-upon number.

For non-coal traffic, NS rejects Sunbelt's use of a CAGR for projecting SARR traffic from 2017 through 2021, and specifically takes issue with Sunbelt using 2009, the bottom of the recession and NS's lowest traffic volume year in the last several years, as its base year to calculate the CAGR.[879] NS asserts that Sunbelt's use of the 2009 low traffic watermark as the baseline for developing mean growth rate for longer-term non-coal traffic overstates the likely growth rate in future years because it assumes that the rate of growth in traffic during the rebound from the recession will continue at the same rate from 2017-2021.[880] NS argues that there is no reason to anticipate that traffic growth would continue at the pace it followed coming out of the recession and Sunbelt proffers none in its evidence.[881] To correct what it argues is a distorting approach, NS states that it used the year-over-year 2015-2016 growth rate for each category of traffic (other than coal) handled by the SBRR, and applies that rate as the projected annual growth rate for each of those types of traffic for the subsequent years 2017 to mid-2021.[882] To calculate this growth rate, NS applied the Origin State/Destination State/Commodity Group approach described above.[883] NS alleges that the Board has accepted this approach for non-coal commodities in AEPCO.[884] NS argues that this is a more reasonable and accurate projection of SBRR non-coal traffic volumes than Sunbelt's CAGR approach.[885]

On rebuttal, Sunbelt accepts NS's criticism of using 2009 as the base year to calculate volume projections, and adjusts its CAGR calculation to use 2011 as the base year.[886] As noted, Sunbelt also revises its CAGR calculation to reflect NS's state-to-state volume growth rates for the 2011-2016 period.[887] Nonetheless, Sunbelt rejects NS's use of the year-over-year growth rate that NS developed from its internal state-to-state forecast for 2016 and applied to each year 2017 through 2021 for all commodity groups except coal.[888] Sunbelt asserts that the impact of using NS's approach for 2017 through 2021 would reduce SBRR volumes by approximately 2.7 million tons.[889] Sunbelt argues that because its approach is based on a time-series trend rather

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[878] Sunbelt Rebuttal III-A-7.

[879] NS Reply III-A-6 to III-A-7.

[880] NS Reply III-A-7.

[881] NS Reply III-A-7.

[882] NS Reply III-A-8.

[883] NS Reply III-A-8.

[884] NS Reply III-A-8.

[885] NS Reply III-A-8.

[886] Sunbelt Rebuttal III-A-6.

[887] Sunbelt Rebuttal III-A-6.

[888] Sunbelt Rebuttal III-A-6.

[889] Sunbelt Rebuttal III-A-6.

than a single point in time, i.e., NS's use of a single year-over-year change (the change from 2015 to 2016), it produces more reliable and accurate results than NS's one-year approach.[890]

With respect to the approach the parties have proffered for projecting non-coal SARR traffic for 2017 through 2021, we will accept Sunbelt's methodology presented on rebuttal. The benefit of the Sunbelt CAGR's eight-year time span—a combination of actual and forecasted data—is to mitigate the likelihood that a single, extraordinary year may skew the result. As we state elsewhere in this decision, Board practice encourages the use of multi-year data for most estimates. See Appendix A (addressing insurance costs and travel expense); Appendix D (addressing inflation and land issues); see also AEPCO, slip op. at 139. Indeed, the Board favors use of an average of multiple years because using data from a single year—as NS has done here, in relying on the year-over-year 2015-2016 growth rate—can increase the risk of an aberrational result.

Although NS is correct that its approach of using the final year growth rate in the forecast for the remaining years of the SAC analysis period was accepted by the Board in AEPCO, in that case, the Board accepted this approach without discussion simply because the parties agreed to use it. See AEPCO, slip op. at 22. Here, Sunbelt has proposed a better approach; one that is more consistent with the Board's general preference for multi-year analysis designed to improve the accuracy of estimates, and thus is the best evidence of record.

Table B-1 sets forth the total tonnage figures of the parties, for both coal and non-coal traffic, and the Board's findings here.

TABLE C-1

			Tonnages				
			SunBelt Rebuttal	NS	STB		
2011			27,973,737	27,970,894	27,970,894		
2012			30,193,466	30,190,479	30,190,479		
2013			32,126,440	32,123,271	32,123,271		
2014			33,654,134	33,650,825	33,650,825		

[890] Sunbelt Rebuttal III-A-6.

2015			35,200,677	35,197,237	35,197,237		
2016			36,716,249	36,712,634	36,712,634		
2017			38,844,320	38,363,614	38,840,524		
2018			41,177,498	40,151,942	41,173,511		
2019			43,579,660	41,933,583	43,575,470		
2020			46,081,477	43,730,429	46,077,074		
2021			49,155,290	46,005,073	49,150,660		
	Sources	SunBelt Rebuttal Workpaper SBRR Traffic and Revenue Summary - Rebuttal.xlsx					
		NS Reply Workpaper SBRR Traffic and Revenue Summary Reply.xlsx					
		STB Workpaper SBRR Traffic and Revenue Summary Reply STB.xlsx					

B. REVENUES

Sunbelt calculates SBRR revenue for the fourth quarter of 2011 through July 29, 2021, using: (1) NS system-wide fourth quarter of 2011 revenue data; (2) NS pricing authorities and fuel surcharge tariffs; (3) NS internal revenue forecasts; and (4) publicly available forecasts of key economic indices.[891] In calculating the forecasted revenues, Sunbelt assumes that moves subject to NS fuel surcharge (FSC) programs in 2011 will be subject to NS FSC programs throughout the SAC period, and therefore separates the fuel surcharge revenue from the movement revenues and forecasts the two revenue components separately.[892]

[891] Sunbelt Opening III-A-12.

[892] Sunbelt Opening III-A-13.

On Reply, NS alleges that there are two main errors in Sunbelt's projected revenues: (1) Sunbelt miscalculates intermodal revenue growth from 2011 to 2012; and (2) Sunbelt overstates projected net fuel surcharge revenues.[893]

First, NS alleges that instead of using actual rail revenues reported in the NS waybill revenues files for intermodal traffic, Sunbelt uses gross intermodal revenue data reported in the NS Quarterly Financial Review for the fourth quarter of 2011.[894] NS points out that the NS Quarterly Financial Review includes not only the revenue NS collects from Triple Crown Services (TCS) and TDIS customers (i.e., the line haul revenue), but also the total revenue collected by TCS and TDIS for the various services they provide to third parties.[895] NS argues that the result of Sunbelt's comparison of gross intermodal revenue for 2010 with rail line-haul intermodal revenue for 2011 was an apparent negative growth rate of 22% for intermodal revenues in 2011.[896] According to NS, this results in a significant understatement of 2012 revenues for the intermodal traffic selected for the SBRR traffic group.[897]

NS states that to correct Sunbelt's erroneous calculations, it uses the revenue waybill data for 2011 that it produced to Sunbelt in discovery instead of the NS Quarterly Financial Review.[898] As a result, NS states that this corrected growth calculation changes intermodal revenue per unit in 2011 from the 22% decrease presented in Sunbelt's opening evidence to a 4% increase, and increases SBRR revenues by $6-14 million per year throughout the SAC analysis period.[899]

On rebuttal, Sunbelt accepts NS's Reply 2011 and 2012 intermodal revenues-per-unit based on NS's state-to-state calculation.[900] We will accept the agreed-upon number.

Second, NS argues that Sunbelt introduces a significant distortion into its SAC evidence by using two different indices to project changes in the price of fuel.[901] NS states that, consistent with Board precedent, Sunbelt uses a hybrid RCAF-A/RCAF-U index for projecting fuel costs as a component of SARR operating expenses, which predicts fuel prices will decline through 2015 before increasing in later years.[902] However, NS states that, rather than applying the same fuel

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[893] NS Reply III-A-12 to III-A-15.

[894] NS Reply III-A-12.

[895] NS Reply III-A-12.

[896] NS Reply III-A-13.

[897] NS Reply III-A-13.

[898] NS Reply III-A-13.

[899] NS Reply III-A-13 to III-A-14.

[900] Sunbelt Rebuttal III-A-35.

[901] NS Reply III-A-14.

[902] NS Reply III-A-14.

price assumptions for purposes of forecasting the SBRR's fuel surcharge revenues, Sunbelt instead elects to use EIA data that forecast the very same fuel costs to increase throughout the SAC period, resulting in significantly higher fuel surcharge revenues than would be derived from the hybrid RCAF-A/RCAF-U index.[903] NS argues that Sunbelt's approach is problematic not only because it is based on an outlier forecast for fuel price escalation, but more importantly because Sunbelt uses the EIA forecast to escalate SBRR fuel surcharge revenues while using a different forecast—one predicting lower fuel prices—to escalate SBRR fuel expenses.[904] According to NS, Sunbelt seeks to have it both ways by assuming that rapidly rising fuel prices would allow the SBRR to generate additional SBRR fuel surcharge revenues, but that the prices the SBRR actually would pay for fuel would be flat or increase only slightly.[905]

NS states that its reply evidence corrects the mismatch in Sunbelt's projections by using the same fuel price index for both fuel surcharge revenue and fuel expenses.[906] Specifically, NS states that it uses the actual West Texas Intermediate (WTI) prices available from the EIA through 2012, and uses Global Insight's RCAF Fuel component forecast to index SBRR fuel surcharge revenues for the remaining years.[907] According to NS, Global Insight's RCAF Fuel forecast is based on its Diesel PPI forecast, and although NS's fuel surcharge is based on WTI rather than diesel, WTI prices and diesel prices are closely correlated.[908] NS asserts that the use of Global Insight's forecast for both fuel costs and fuel surcharges is the only way to correct for the mismatch in Sunbelt's approach, consistent with the Board's rulings and regulations.[909]

On rebuttal, Sunbelt states that NS admits that both the indices and the procedures used by Sunbelt in its opening evidence to develop fuel costs and fuel surcharge revenue were adopted by the Board in AEPCO.[910] In addition, Sunbelt argues that there is a valid reason why two different indices – one for fuel cost and one for fuel revenue – is justified and that it is NS's argument that similar indices are needed that is flawed. Sunbelt essentially asserts that the price that NS charges for fuel does not equal NS's cost for fuel.[911] According to Sunbelt, NS incorrectly argues that the change in operating "cost" associated with burning railroad diesel fuel in locomotives is the same as EIA's projected change in the "price" of intermediate crude oil at trading hubs that are used as a surrogate benchmark in NS's fuel surcharge mechanism.[912]

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[903] NS Reply III-A-14 to III-A-15.

[904] NS Reply III-A-16.

[905] NS Reply III-A-17.

[906] NS Reply III-A-17.

[907] NS Reply III-A-17.

[908] NS Reply III-A-17.

[909] NS Reply III-A-17.

[910] Sunbelt Rebuttal III-A-36.

[911] Sunbelt Rebuttal III-A-37.

[912] Sunbelt Rebuttal III-A-37.

According to Sunbelt, the cost of fuel measures not only the acquisition of fuel but also how efficiently that fuel is used to transport products.[913] By contrast, Sunbelt argues that the price of fuel only measures the price per gallon or barrel to purchase fuel at an intermediate point in the supply chain. It further argues that the same mismatch that NS accuses Sunbelt of exploiting in its SAC analysis actually does exist and is exploited by NS in the real world on a daily basis.[914]

We are not persuaded by Sunbelt's rebuttal evidence, which attempts to justify the inconsistency of using two divergent price forecasts for revenues and costs.

In particular, we are not persuaded by Sunbelt's "[p]rice does not equal cost" argument. Sunbelt argues that "[t]he 'price' of fuel . . . measures the price per gallon or barrel to purchase fuel at an intermediate point in the supply chain,"[915] whereas the cost of fuel "measures not only the acquisition price of fuel but also how efficiently that fuel is used to transport products."[916] As we explained in E.I. DuPont de Nemours & Co. v. Norfolk Southern Railway (DuPont), NOR 42125, slip op. at 274 (STB served Mar. 24, 2014), although there is a difference between price and cost (although not for the "efficiency" reason that Sunbelt posits), that difference does not justify an approach such as that adopted by Sunbelt here. A fuel surcharge program is ostensibly intended to allow the railroad to recoup changes in its fuel costs as fuel prices change. Admittedly, there may be periods in which a railroad's fuel surcharge revenues exceed its fuel costs, or vice-versa. The critical issue, then, is whether there is a high correlation between changes in fuel price and changes in fuel cost. We find that there is.[917] If the Global Insight forecast is correct, fuel prices would initially decline through 2015 and only increase thereafter, and both fuel surcharge revenues and fuel expenses would follow that pattern. On the other hand, if the EIA forecast is correct, fuel prices would increase immediately and continue to rise, and both fuel surcharge revenues and fuel expenses would follow that pattern. The following table from NS's reply illustrates this divergence:

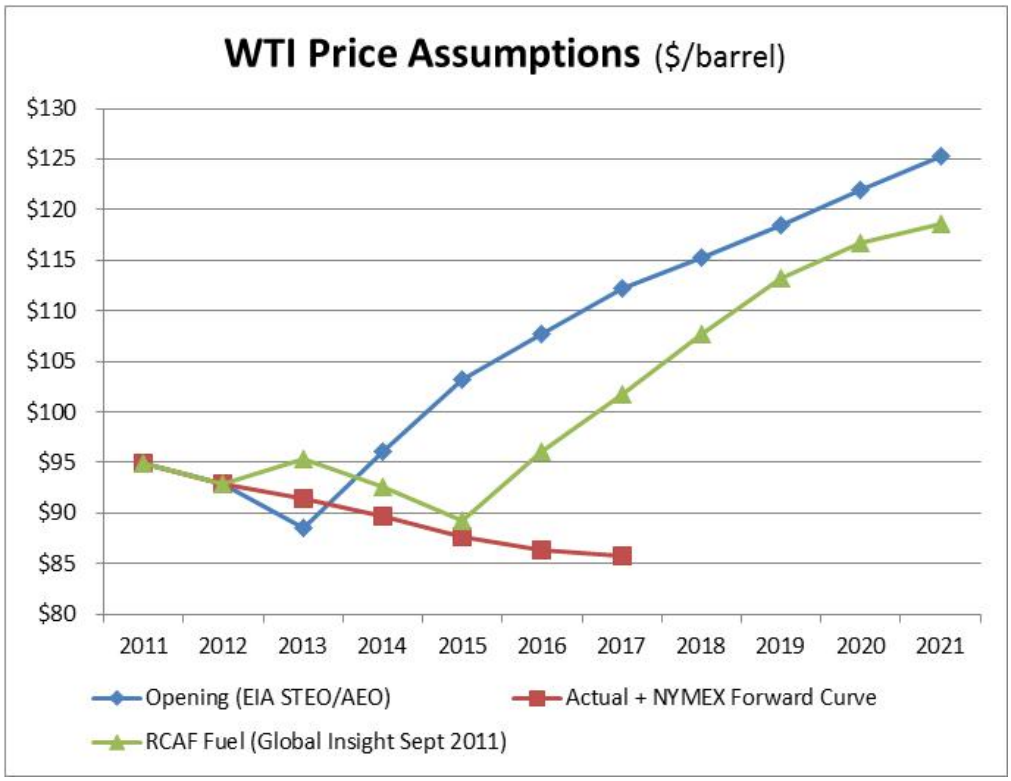
[913] Sunbelt Rebuttal III-A-37.

[914] Sunbelt Rebuttal III-A-37.

[915] Sunbelt Rebuttal III-A-37.

[916] Sunbelt Rebuttal III-A-37.

[917] See NS Reply WP "Fuel Surcharge Indices.xlxs."



NS Reply III-A-16, Table III-A-6. Here, Sunbelt has failed to explain why this historically tight correlation would not exist between changes in the market price of fuel and changes in the SBRR's cost of acquiring fuel. Nor does Sunbelt present any evidence to support its claim that this same tight correlation does not exist between changes in NS's fuel surcharge revenues and changes in NS's cost of fuel. We also do not agree with Sunbelt's argument that the SBRR's fuel costs would be lower due to lower fuel consumption by the SBRR. To the extent that this is true, those savings would already be reflected in the SBRR's operating expenses.

Thus, we agree with NS that the use of consistent indices (or a single index) to forecast the fuel cost that is the basis for both NS fuel surcharge revenues and SBRR fuel expenses is appropriate.

Finally, we do not agree with Sunbelt's argument that it is only taking advantage of a mismatch that NS takes advantage of in the real world. In the real world, the two indices report the same phenomenon—the price of fuel—and even if they do not match, they move in conjunction with each other as the price of fuel changes. Here, by contrast, Sunbelt is relying on two forecasts that do not move in conjunction with each other. Two forecasts going in opposite directions cannot both be correct when they predict the same phenomenon. Thus, while the real-world NS might gain or lose money as the two indices fluctuate in relation to one another, the correlation between the two indices means that NS will never encounter the total divergence shown in the forecasts here.

There remains the question of which index to use for both revenues and costs projections. Although NS argues that the Board should use the RCAF-U Fuel index to project fuel surcharge revenues, we believe that the better index to use is the EIA forecast of WTI prices. Just as we look to the policy-neutral, independent EIA forecasts for coal volumes, we prefer the similarly independent EIA forecast for fuel prices.[918] Sunbelt itself used this index to forecast fuel surcharge revenues, and we will use it as the sole index here and apply it to forecast the fuel portion of its operating expenses as well. See AEPCO, slip op. at 26-28 (accepting use of EIA reports to forecast fuel surcharge revenues).[919]

NS argues that the Board should not use this particular EIA forecast because it is an outlier. In the end, the relevant figure for purposes of the SAC analysis is the difference between NS's fuel surcharge revenues and the SBRR's fuel costs. That figure should be largely the same whichever index is used as long as the same index is used to determine both revenues and costs.

C. DIVISIONS—EXISTING INTERCHANGES

NS states that Sunbelt's opening evidence substantially understates the interchange payments NS made to handling and switching carriers for the traffic selected for the SBRR, thereby substantially overstating SBRR revenues in the first year of its operation and every year thereafter.[920] NS states that it corrects these errors, resulting in an initial year reduction in the SBRR revenues of approximately $4.6 million.[921] NS asserts that Sunbelt's error is its method of matching NS car and waybill records for purposes of identifying NS payments to handling and switching carriers.[922] Specifically, NS alleges that Sunbelt's error is the failure to use a date range to match car, equipment, and waybill records with interchange dates in the NS handling

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[918] NS claims that Major Issues in Rail Rate Cases (Major Issues), EP 657 (Sub-No. 1), slip op. at 65 (STB served Oct. 30, 2006), aff'd sub nom. BNSF Ry. v. STB, 526 F.3d 770 (D.C. Cir. 2008)), mandated the use of a hybrid RCAF-A/RCAF-U index for projecting SARR operating expenses. NS Reply III-A-17 to III-A-18, citing Major Issues, slip op. at 39-47. But the discussion in Major Issues on which NS relies dealt with how the Board would account for the SARR's productivity gains over the SAC analysis period in the DCF. The choice of which index to use to measure fuel surcharge revenues and fuel costs is not related to this productivity issue. While using differing, contradictory indices might indeed be a "collateral attack" on Major Issues, using just the EIA index to support fuel cost and surcharge projections is consistent with Major Issues and rate case precedent. See DuPont at 266. For the reasons discussed above, EIA's forecast is the best option here.

[919] Sunbelt argues that the Board's decision in AEPCO adopted the use of both indices, as well as the procedures Sunbelt used in its opening evidence to develop fuel costs and fuel surcharge revenue. Sunbelt Rebuttal III-A-36 to III-A-37. However, we note that, while these forecasts were applied in AEPCO, the parties did not raise the issue under discussion here, and the Board's decision did not address it.

[920] NS Reply III-A-19.

[921] NS Reply III-A-19.

[922] NS Reply III-A-19.

records, which results in the identification of a small percentage of all handling records—those for which the handling interchange occurred on the same date as the waybill issuance date.[923] NS asserts that Sunbelt's approach also results in an overstatement of SBRR revenues.[924]

On Rebuttal, Sunbelt states that it accepts NS's adjustment to handling line and switching payments and its minor impact on the SBRR net revenues.[925] Sunbelt rejects NS's criticism of Sunbelt's methodology, however, arguing that the methodology was necessary as a result of the challenges presented by the disparate sources of data provided by NS in discovery.[926] We will accept the agreed-upon number.

Table B-2 presents the parties' positions on the total revenues that the traffic group is expected to generate over the analysis period and the Board's findings.

[923] NS Reply III-A-19 to III-A-20.

[924] NS Reply III-A-21.

[925] Sunbelt Rebuttal III-A-29 to III-A-33.

[926] Sunbelt Rebuttal III-A-29 to III-A-33.

TABLE C-2

Revenues					
		SunBelt Rebuttal	NS	STB	
2011		$375,930,300	$353,466,701	$362,427,414	
2012		411,409,118	384,605,811	394,321,613	
2013		449,668,775	419,455,264	431,355,500	
2014		489,269,803	455,028,713	469,181,933	
2015		537,288,057	495,280,521	511,197,559	
2016		595,647,993	549,582,312	557,765,938	
2017		655,832,574	596,861,368	607,756,095	
2018		718,399,383	650,913,844	662,632,959	
2019		787,381,378	708,243,961	724,740,669	
2020		859,630,039	762,234,515	790,489,650	
2021		947,988,902	823,372,813	869,841,812	

Sources:

SunBelt Reb workpaper "SBRR Traffic and Revenue Summary - Rebuttal.xlsx"

NS Reply workpaper "SBRR Traffic and Revenue Summary Reply.xlsx"

STB workpaper "SBRR Traffic and Revenue Summary Reply STB.xlsx"

APPENDIX D—DISCOUNTED CASH FLOW ANALYSIS

The DCF analysis first estimates the revenue stream that a SARR would need to cover its operating costs and to provide a reasonable return on capital. It then compares these revenue requirements to the revenue the defendant railroad earns to determine if the revenues produced by the traffic in the group (based on existing and projected rate levels) would be greater or less than the amount required by the SARR. See generally Bituminous Coal—Hiawatha, Utah, to Moapa, Nev. (Bituminous Coal), 10 I.C.C. 2d 259, 274-77 (1994). This procedure is discussed in more detail below.

The estimated revenue requirements of the SARR would need to cover expected operating expenses and provide a reasonable return on the capital investment the SARR would make if it were to enter the marketplace to serve the selected traffic group. Because entry would not be instantaneous, the revenue requirements would need to cover the interest on debt during the SARR's construction period. Finally, the revenue requirements would need to cover the program maintenance needed to maintain the rail network once constructed.

The need to deal with taxes complicates the estimation of the SARR's revenue requirements because taxes are a function of the flow of revenue over the analysis period, and not just the present value of the revenue. This means that we must determine the flow of capital equal to the present value of the initial road-property investment, plus interest during construction, together with the present value of scheduled, program maintenance of the railroad. It is the necessity of dealing with taxes that precludes the use of a simpler model that would directly compute the SAC constraint without reference to the pattern of capital recovery over time.

The DCF model uses an iterative approach to determine the pattern of capital recovery that would attract entry in a contestable marketplace. The first step is to assume an amount of capital recovery in the first year. This annual capital recovery is then indexed for inflation over the SAC analysis period (in this case, 10 years). Indexes for the various components of the road-property investment (such as land, grading, rail) are used in the analysis.

The second step is to determine the value of the SARR at the end of the SAC analysis period. Because the assets the SARR would construct would have a longer useful life than the 10-year DCF period, the SARR would not need to recover the full investment in rail assets in the first 10 years. We must therefore estimate the economic value of the assets as of the end of the 10-year analysis period. This "terminal value" of the SARR equals the capital recovery in the tenth year divided by the estimated real cost of capital. This calculation yields the value (at year 10) of a perpetual income stream held constant (in real terms) at the capital return projected for the tenth year. (Thus, in effect, the DCF model is an in-perpetuity analysis, although it is referred to here as a 10-year DCF analysis.)

The third step is to determine the taxes the SARR would pay. The starting point is the capital recovery in a particular year, which conceptually is the net revenue (total revenues less operating expenses) for tax purposes. The parties submit a complex tax analysis that estimates the taxes, which are a function of interest on debt, depreciation of assets, and applicable state and

federal taxes. Because the SARR could take advantage of various tax loss provisions, the SARR would often pay no taxes for the first few years of operation.

The DCF model then calculates the present value of the projected capital recovery over the 10-year analysis period, together with the present value of the terminal value, minus the present value of taxes. If this total is less than the initial capital investment, plus interest, adjusted for depreciation and program maintenance, then the projected capital recovery would be too low to provide a reasonable return on investment and would not entice a SARR to enter the market. In that case, the initial capital recovery in the first year is adjusted upwards (or downwards if the flow of capital recovery is too low), and the steps described above are repeated.

This iterative process continues until the model finds the point at which the flow of capital recovery would, after taxes, provide a reasonable return on the initial capital investment. Once the necessary amount of capital recovery has been determined using this iterative process, the total revenue requirements of the SARR can be determined by combining the capital recovery with the projected operating expenses.

There are several inputs needed to perform this analysis, and the parties largely agree as to most of them. The areas of disagreement are described below.

A. COST OF CAPITAL

Capital expenses are estimated by calculating the cost of capital, which includes both the cost of debt and the cost of equity. Although the cost of debt is readily available and observable, the cost of equity (the expected return that equity investors require) can only be estimated using financial models.

The parties differ on whether to include a separate cost for "floating" (marketing) the shares that the SBRR would sell to raise capital. Historically, equity flotation costs were included in the Board's industrywide cost-of-capital calculation, and thus there was no need for a SARR to include a separate equity flotation cost.[927] Because the eligible Class I railroads have not issued new shares of equity in recent years, however, equity flotation costs have not been included in the Board's 2006 through 2011 railroad industrywide cost-of-capital determinations. Therefore, NS would add a separate equity flotation cost, which it would calculate by reference to Facebook's May 2012 initial public offering (IPO), a recent stock issuance that, in NS's view, was sufficiently comparable to the approximately $1.4 billion in equity that NS states the SBRR

[927] See, e.g., Duke Energy Corp. v. CSX Transp., Inc. (Duke/CSXT), 7 S.T.B. 402, 433 (2004); Pub. Serv. Co. of Col. d/b/a Xcel Energy v. Burlington N. & Santa Fe Ry. (Xcel 2004), 7 S.T.B. 589, 659 (2004); Tex. Mun. Power Agency v. Burlington N. & Santa Fe Ry., 6 S.T.B. 573, 751 (2003); Wis. Power & Light Co. v. Union Pac. R.R., 5 S.T.B. 955, 1040 (2001), aff'd sub nom. Union Pac. R.R. v. STB, 62 F. App'x 354 (D.C. Cir. 2003); Otter Tail Power Co. v. BNSF Railway (Otter Tail), NOR 42071, slip op. at E-2 (STB served Jan. 27, 2006), aff'd sub nom. Otter Tail Power Co. v. STB, 484 F.3d 959 (8th Cir. 2007).

would need to raise.[928] According to NS, relying on the Facebook IPO is conservative because demand for Facebook shares was very high, whereas demand for the SBRR shares would be low, meaning the SBRR would likely incur higher equity flotation costs.[929] NS states that the equity flotation costs paid by Facebook were 2.1% of the capital raised, and therefore, NS includes equity flotation costs for the SBRR of 2.1%.[930]

Sunbelt objects to NS's inclusion of equity flotation costs, arguing that including such costs is contrary to precedent; equity flotation costs are already included in the railroad industry cost of capital; including equity flotation costs would create a barrier to entry inconsistent with the theory of contestable markets; and the Facebook IPO is not a valid comparison for the SBRR.[931]

Because equity flotation costs are not included in the recent industrywide cost-of-capital determinations, we reject the argument that they may not be included as a separate item for the SARR here.[932] Sunbelt argues that including equity flotation fees would create a barrier to entry that is inconsistent with the theory of contestable markets. But the flotation cost is a fee that is specific to the hypothetical scenario of having to raise $1.4 billion in equity capital. Whether that capital is raised through one large IPO, or in smaller amounts over a longer time period, it would be unreasonable to assume that the SARR would raise this capital in either case without paying some form of equity flotation fee.

Nevertheless, we agree with Sunbelt that NS has not shown that the Facebook IPO adequately reflects the fees that the SBRR would pay to float equity.[933] NS has cited to a pair of journal articles, one from 1996 and the other from 2003, addressing the costs of raising equity capital. But one article reported on the costs that various corporations experienced in raising equity (and debt) capital from 1990 to 1994, while the other addressed the role of liquidity in raising capital. NS did not correlate either article to the costs that the SARR would incur. Nor

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[928] NS Reply III-G-3 to III-G-4.

[929] NS Reply III-G-4 n.6.

[930] NS Reply III-G-4.

[931] Sunbelt Rebuttal III-G-2 to III-G-6.

[932] See, e.g., AEP Tex. N. Co. v. BNSF Ry. (AEP Texas), NOR 41191 (Sub-No. 1) (STB served Sept. 10, 2007), slip op. at 108, reconsideration denied (STB served May 15, 2009), vacated on other grounds and remanded sub nom. AEP Tex. N. Co. v. STB, 609 F.3d 432 (D.C. Cir. 2010) (permitting inclusion of equity flotation costs, which both parties had agreed could be included, but accepting the complainant's methodology for calculating those costs).

[933] See Arizona Electric Power Cooperative v. BNSF Railway (AEPCO), NOR 42113, slip op. at 137-38 (STB served Nov. 22, 2011), aff'd sub nom. BNSF Ry. v. STB, 748 F.3d 1295 (D.C. Cir. 2014), in which the Board rejected the inclusion of equity flotation costs, pointing out that, to include such a fee separately, there would have to be evidence of the existence and size of equity flotation fees for stock issuances of a similar size as that needed by the SARR.

did NS in any other way present evidence of the existence and size of the equity flotation fee for stock issuances of a similar size (and for transportation companies or other companies with a similar profile) as that needed by the SARR. As recently discussed in E.I. DuPont de Nemours & Co. v. Norfolk Southern Railway (DuPont), NOR 42125, slip op. at 274 (STB served Mar. 24, 2014), the Facebook IPO has not been shown to be an appropriate comparison because that company is not as capital-intensive as a hypothetical railroad, which an underwriter must consider prior to purchasing the stock. Also, firms with different credit ratings have significantly different costs when issuing debt – see Inmoo Lee et al., The Costs of Raising Capital, 19 J. Fin. Res. 59 (1996)[934] – yet the defendant railroad here has failed to demonstrate that Facebook's credit rating would be comparable to that of the SARR. NS's own evidence notes that there are differences in the risk to an underwriter for IPOs for companies with different risk profiles. We acknowledge that it is possible that the risk to an underwriter associated with an IPO for the SBRR might actually be greater than the risk from the Facebook IPO. However, as Sunbelt notes: "NS has not even begun to explain why a social media website is an appropriate benchmark for the railroad industry."[935] Because NS has not provided adequate evidence in support of its proposed 2.1% fee, we will not accept that proposal here.

B. INFLATION OF LAND VALUES

The parties account for changes in both the values of capital assets and the prices of operating expenses because these values and prices would change during the 10 years covered by the DCF analysis. To do so, the parties employ forecasts of rates of inflation.

The land necessary to construct and operate a SARR is one component of the capital assets. To calculate the rate of inflation in land values, Sunbelt uses a combination of indices reflecting rural and urban land prices, weighted in proportion to the values of rural and urban land in the SBRR's rail system.[936] Relying on historic rural land values reported by the U.S. Department of Agriculture (USDA), Sunbelt developed a historic average annual and quarterly percentage change in rural land values between 1930 and 2011 for the states traversed by the SBRR, and used these historic averages to forecast future changes in rural land values.[937] For urban land values, Sunbelt used a commercial land index prepared by the National Council of Real Estate Investment Fiduciaries (NCREIF).[938] For the years 2009 through 2011, Sunbelt used the actual historic change in the Southern Region of this NCREIF index.[939] For the years 2012 to 2021, Sunbelt calculated the long-term historic change in the Southern Region of the index from

[934] NS Reply WP "III-G Cost of Raising Capital.pdf."

[935] Sunbelt Rebuttal III-G-5.

[936] Sunbelt Opening III-G-5.

[937] Sunbelt Opening III-G-5 to III-G-6.

[938] Sunbelt Opening III-G-6.

[939] Sunbelt Opening III-G-6.

1978 (the first year reported) to 2011, and used this average as a proxy for future urban land value growth.[940]

On reply, NS argues that U.S. farm exports and global crop prices have had a greater effect on rural land values in recent years, making Sunbelt's historic average unreliable for projecting changes in these values.[941] Instead, NS predicts that, at best, rural land values will remain stable and appreciate at the average annual general rate of inflation, which is forecasted at 2.39% through 2021.[942] NS also asserts that the NCREIF index Sunbelt used for urban land values is distinguishable from the SBRR's urban real estate because it covers "high-quality real estate in top-tier markets," making it an inaccurate measure of inflation for unimproved SBRR land.[943] NS predicts that urban land values will grow more slowly in areas such as the SBRR's, and therefore, NS proposes using the same general rate of inflation of 2.39%.[944] NS also contends that Sunbelt's land inflation rate is inconsistent with the index that Sunbelt's real estate appraisers used.[945]

On rebuttal, Sunbelt argues that its approach follows the procedures adopted by the Board in prior rate cases, adding that NS's claims with respect to the estimation of land values over time are incorrect and contradicted by more recent evidence.[946]

We will accept Sunbelt's annual average growth rate of 7.09% for rural land values. Although NS makes arguments as to why rural land values are likely to increase more slowly than Sunbelt predicts, NS does not offer specific support for the 2.39% inflation rate it offers. Instead, NS relies on a tenuous argument that in general land value will track the average annual general rate of inflation. Sunbelt, however, provides direct support for its position, using its calculation of historic USDA data.[947]

For urban land values, we will also accept Sunbelt's index. NS relied on only 10 years' worth of index data, and nearly half of the time covered by NS's analysis was during the world financial crisis, which produced anomalous conditions in real estate markets.[948] By contrast,

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[940] Sunbelt Opening III-G-6.

[941] NS Reply III-G-4 to III-G-5; NS Reply WP "NS SUNBELT Inflation Indices.docx."

[942] NS Reply III-G-4 to III-G-5; NS Reply WP "NS SUNBELT Inflation Indices.docx."

[943] NS Brief 56; NS Reply WP "NS SUNBELT Inflation Indices.docx."

[944] NS Reply WP "NS SUNBELT Inflation Indices.docx."

[945] NS Brief 56 & n.76, citing Sunbelt Opening Workpaper "SunBelt SAR Land Valuation- 2012.pdf" at 31-32.

[946] Sunbelt Rebuttal III-G-8 to III-G-9; Sunbelt's Rebuttal Exhibit III-G-1.

[947] See Sunbelt Opening III-G-5 to III-G-6 & n.14, citing AEPCO, slip op. at 139; R.R. Cost of Capital—2006, EP 558 (Sub.-No. 10) (STB served Jan. 17, 2008).

[948] See Sunbelt Rebuttal Exhibit III-G-1, at p. 8.

Sunbelt relies on 34 years of NCREIF data, thus taking into account longer term historic values and helping to smooth out anomalies. See AEPCO, slip op. at 139.

For support of its position, NS looks to the Moody's Commercial Property Price Index (MCPPI) and the CoStar Repeat Sale Indices (CCRSI). Sunbelt argues that these indices are less reliable than the NCREIF index because they are transaction-based, meaning they are based solely on the prices for which properties are sold, whereas the NCREIF index is appraisal-based, meaning that it is constructed from the valuation of interval property appraisals.[949] According to Sunbelt, transaction-based indices rely on sampling, as opposed to the census approach of an appraisal-based index. For this reason, Sunbelt asserts, the creator of the MCPPI states that it is not appropriate to use transaction-based indices for benchmarking, unlike appraisal-based indices, and transaction-based indices should be used only as a complement, not a substitute for the NCREIF index.[950] However, the report cited by Sunbelt also points out shortcomings of appraisal-based indices—for example, a "smoothing and lagging bias"—and notes that using an appraisal-based index with a complementary transaction-based index can mitigate these drawbacks.[951] In this case, neither party has presented an analysis using both a transaction-based and an appraisal-based index, but we encourage future rate litigants to do so.

NS raises several arguments against Sunbelt's approach, asserting, for example, that the NCREIF index used by Sunbelt focuses on office, apartment, and retail properties, which, NS states, are not typically located in close proximity to railroad freight trackage, interchanges, or destinations.[952] Even if Sunbelt's analysis did have these drawbacks, however, it would not overcome our concern with NS's reliance on a smaller data set that includes anomalous, recession-influenced years. Sunbelt's use of a greater number of years is a better approach to smooth out data anomalies.

Therefore, we find that the indexing analysis relied on by Sunbelt, which projects an annual average growth rate of 7.09%,[953] better reflects the SBRR's urban real estate than the analysis relied on by NS.

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[949] Sunbelt Rebuttal Exhibit III-G-1, at p. 8.

[950] Sunbelt Rebuttal Exhibit III-G-1, at p. 8.

[951] See David Geltner, A Simplified Transactions Based Index (TBI) for NCREIF Production, May 2, 2011, at 3-4, available at http://mitcre.mit.edu/wp-content/uploads/2012/11/TBI_WhitePaper_DG_FINAL_May2011.pdf.

[952] NS Reply WP "NS SUNBELT Inflation Indices.docx." NS states that its real estate expert toured SBRR urban real estate for 25 days and recorded extensive field observations, concluding that SBRR urban real estate is primarily located in underdeveloped industrial areas that suffer from a lack of investment and high vacancy rates. NS Reply WP "NS SUNBELT Inflation Indices.docx."

[953] Sunbelt Rebuttal WP "Sunbelt Land Appreciation (Rebuttal).xlsx."

C. BONUS DEPRECIATION

The parties disagree on the applicability of "bonus" depreciation provisions enacted as a part of federal economic stimulus efforts. On opening, Sunbelt argues that these provisions were applicable during the SBRR's construction, and NS took advantage of the bonus depreciation from 2008 through 2011.[954] According to Sunbelt, not permitting the SBRR to use this bonus depreciation would constitute a prohibited barrier to entry, as it would force the SBRR to pay a cost that the incumbent railroad did not incur.[955]

NS argues on reply that the SBRR would be able to take full advantage of the bonus depreciation only because of the stand-alone assumption of unconstrained resources, which allows for all of the SBRR construction to occur during the limited bonus depreciation tax window.[956] For this reason, NS asserts, allowing the SBRR to use the bonus depreciation fully would result in a reverse barrier to entry that would bestow cost savings to a new hypothetical entrant that were not available to the incumbent.[957] NS proposes to allow the SBRR to use the bonus depreciation only to the extent NS itself was able to use these provisions. NS also argues that Sunbelt incorrectly extended the benefits of bonus depreciation to the replacement cost of assets as they reach the end of their useful lives, and NS removes this application of bonus depreciation in the DCF model.[958]

On rebuttal, Sunbelt argues that NS's claim of a reverse barrier to entry is inconsistent with the theory of contestable markets, and that NS miscalculated its proposed adjustment.[959] Sunbelt accepts NS's removal of bonus depreciation from the calculation of asset replacement costs.[960]

NS's approach would require the SARR to bear any disadvantages of its construction timing while denying it the tax advantages available during that timing. The fact that the SARR's construction is assumed to occur during a limited time frame, which may result in efficiencies unavailable to the incumbent, does not make it a reverse barrier to entry as NS argues. See Coal Trading Corp. v. Balt. & Ohio R.R. (Coal Trading), 6 I.C.C. 2d 361, 412-14 (1990) (rejecting defendants' arguments that the SARR construction period should be much longer or the SARR should incur premium costs for an expedited construction schedule); McCarty Farms, Inc. v. Burlington N., Inc. (McCarty Farms 1997), 2 S.T.B. 460, 484 n.52 (1997) (same). Placing the SARR on equal footing with the incumbent is not feasible in all

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[954] Sunbelt Opening III-H-5 to III-H-7 & n.9.

[955] Sunbelt Opening III-H-7.

[956] NS Reply III-H-5.

[957] NS Reply III-H-5 to III-H-6.

[958] NS Reply III-H-6.

[959] Sunbelt Rebuttal III-H-6 to III-H-9.

[960] Sunbelt Rebuttal III-H-9.

instances if doing so would undermine the usefulness of SAC as an analytical tool (e.g., a 20 year construction period for a 10 year DCF analysis). Therefore, we will accept Sunbelt's application of these bonus depreciation provisions. Based on the consent of the parties, however, Sunbelt's application of bonus depreciation in the calculation of asset replacement costs will be removed.

D. TAX DEPRECIATION LIVES

NS argues that Sunbelt's tax depreciation schedules use the wrong tax depreciation lives for certain of the SBRR's road property assets.[961] According to NS, Sunbelt assumed certain accounts qualify for 15-year lives when under IRS rules they actually qualify as 20-year properties.[962] NS lists the following asset categories as carrying 20-year tax lives:

> Bridges and Trestles (Account 6)
> Fences & Roadway Signs (Account 13)
> Roadway Buildings (Account 17)
> Fuel Stations (Account 19)
> Shops and Engine Houses (Account 20)
> Public Improvements (Account 39)[963]

On rebuttal, Sunbelt argues that the 15-year asset lives it used for these accounts have been used by shippers and railroads, and endorsed by the Board, since Arizona Public Service Co. v. Atchison, Topeka & Santa Fe Railway, 2 S.T.B. 367 (1997).[964]

We will accept NS's adjustment of the depreciation period for these asset categories and resulting adjustment of the depreciation percentages. As the Board recently concluded in DuPont, slip op. at 279, even if, as Sunbelt argues, the Board and parties have consistently used 15-year asset lives for these accounts, we can and will change our practices if new and better evidence comes to light. Here, NS has demonstrated that IRS rules call for 20-year lives for these accounts, which is persuasive evidence as to their proper treatment. See Internal Revenue Code § 168(e)(1); Revenue Procedure 87-56, Asset Class 40.2.[965]

E. INTEREST SCHEDULE OF ASSETS PURCHASED WITH DEBT CAPITAL

Sunbelt makes a change to the interest schedule used in prior cases for the SARR's debt. Sunbelt asserts that railroad companies, including NS, do not customarily make periodic payments that contain constantly changing principal and interest components, but rather make

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[961] NS Reply III-H-7.

[962] NS Reply III-H-7.

[963] NS Reply III-H-7.

[964] Sunbelt Rebuttal III-H-9.

[965] NS Reply WP "Rev. Proc. 87-56 – 5.rtf."

coupon payments on their debt consisting of fixed interest payments.[966] Sunbelt argues that, if Board precedent assumes that the SARR's cost of debt should mirror the railroad industry cost of debt, the SBRR debt should also mirror the composition of that debt and how the interest is paid to the debt holders.[967] Thus, instead of amortizing the debt in a mortgage-style approach over a 20-year schedule, Sunbelt developed quarterly interest-only coupon payments associated with the SBRR's debt.[968]

On reply, NS claims that Sunbelt's approach assumes the SBRR could be financed with a single debt instrument that has a 20-year term.[969] NS argues that such a debt instrument would not be consistent with the railroad industry's cost of debt, which Sunbelt uses for its SARR, because the calculation of the railroad industry cost of debt includes a variety of debt instruments with a variety of yields and intervals to maturity.[970] Thus, NS instead uses the current debt amortization schedule traditionally found in the DCF, which the ICC introduced in Coal Trading.[971]

On rebuttal, Sunbelt argues that its approach does not assume a single 20-year debt instrument, only that the SARR's debt would be financed over 20 years, and that financing can include multiple debt instruments of varying duration.[972] Sunbelt states that it expects the railroads' interest payments to be consistent from year to year and not decline over time, because their level of debt has remained fairly constant since the last round of mergers in the mid-1990s, meaning that the railroads are issuing new debt as debt instruments mature, or as they redeem older debt issuances and replace them with newer issuances.[973] Sunbelt further argues that the mix of debt instruments in the railroad industry cost of debt is more consistent with Sunbelt's determination of fixed quarterly interest payments than it is with home mortgage-style amortization.[974] If interest payments fall over time under home mortgage-style amortization, according to Sunbelt, it would have to reflect the SARR paying off shorter term notes and continuing payment on longer term notes, but in fact, interest payments would be higher in later years because longer term bonds have higher interest rates than shorter term bonds.[975] Thus, Sunbelt argues, the fact that the interest rate does not change over time in the Board's DCF

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[966] Sunbelt Opening III-H-3.

[967] Sunbelt Opening III-H-3.

[968] Sunbelt Opening III-H-3; Sunbelt Opening Exhibit III-H-1, Table E.

[969] NS Reply III-H-2.

[970] NS Reply III-H-3.

[971] NS Reply III-H-4.

[972] Sunbelt Rebuttal III-H-3.

[973] Sunbelt Rebuttal III-H-3.

[974] Sunbelt Rebuttal III-H-3.

[975] Sunbelt Rebuttal III-H-3 to II-H-4.

model is consistent with Sunbelt's schedule of interest payments rather than NS's amortization schedule.[976]

On brief, NS argues that Sunbelt's claim that the SBRR would continually roll over its debt while only paying interest is inconsistent with its assumption that the SBRR's cost of debt would be locked in at the average cost of debt over its construction period.[977]

Under Board precedent, as Sunbelt acknowledges,[978] the SARR's debt payments contain an interest component and a principal component, and the interest portion decreases as the debt is amortized over time. See, e.g., Bituminous Coal, 10 I.C.C. 2d at 319 (finding it more realistic to assume that the SARR would issue new debt as old debt is amortized, maintaining a constant capital structure over the DCF period). In this case, Sunbelt has not carried its burden to depart from this precedent. The SAC test asks whether the SARR can pay the cost of constructing, maintaining and operating its system. But if the SARR pays only interest, and no principal, throughout the SAC analysis period, it has not paid for its assets. This debt financing approach would abandon the fundamental structure of the SAC test, a result we cannot allow.

We recognize that this treatment differs from the practices of the railroad industry as alleged by Sunbelt.[979] Treating the SARR identically to the railroad industry is not feasible, however, if it would erase the basic outlines of the SAC test. The nature of the SAC test leads to differences in treatment between the SARR and the railroad industry in other instances as well, and as discussed above, they can be favorable to the complainant—for example, expedited construction without paying a construction cost premium, with the collateral benefit, in this case, of being able to apply bonus depreciation to the entire construction period. See Coal Trading, 6 I.C.C. 2d at 412-14; McCarty Farms 1997, 2 S.T.B. at 484 n.52.

The SARR is evaluated through a regulatory lens—its ability to pay the cost of constructing, maintaining and operating its system—whereas the railroad industry is evaluated every day by the financial markets, which assess whether a railroad will be able to pay its debt. Freeing the SARR from this regulatory evaluation, by allowing it to pay only interest and no principal on its assets, would insulate its borrowing from any scrutiny at all, because the SARR is not subject to the scrutiny of the financial markets. Thus, while we recognize the importance of allowing the SARR to use the same business strategies as the railroad industry to the maximum extent possible, we will not permit an interest-only approach to the repayment of debt, detached from the checks and balances that apply in the real world.

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[976] Sunbelt Rebuttal III-H-4.

[977] NS Brief 58.

[978] Sunbelt Opening III-H-2 to III-H-3.

[979] See Sunbelt Opening III-H-3 to III-H-4.

F. TERMINAL VALUE ADJUSTMENT

Sunbelt proposes an adjustment to the terminal value in the Board's DCF model.[980] The terminal value represents the residual value of the SARR's assets, future interest payments and remaining tax liabilities (for both interest and depreciation), and reflects the cash flow required to account for the value of the assets not consumed during the 10 year life of the DCF model. Sunbelt states that the Board's DCF model assumes that the SARR's capital structure remains constant in perpetuity, so there will always be debt, with associated interest payments, as well as equity.[981] But for tax purposes, according to Sunbelt, the Board's DCF model assumes that the SARR is 100% equity financed during the period after year 20 and before the first assets are replaced in the replacement level of the model.[982] Therefore, Sunbelt argues, during this period, the cost of capital assumes that the SARR makes interest payments, but the model does not allow the SARR to receive the tax shielding effect of those interest payments.[983] Sunbelt proposes to correct this mismatch by assuming that interest payments continue in perpetuity for tax shield purposes as well.[984] To do this, Sunbelt adjusts the terminal value in the capital carrying charges to reflect the cost of capital assumption that the SARR's level of debt is held constant into perpetuity, and that interest tax shields consistent with this level of debt are accounted for in the cash flow calculation.[985]

NS disagrees, arguing that this assumption contradicts Sunbelt's position and Board precedent that the term of the SARR's debt is 20 years.[986] NS also argues that Sunbelt's extension of the SBRR's interest payments into perpetuity conflicts with the interest rates included in the SBRR's cost of debt, because the cost of debt is based on a collection of short and long term debt instruments.[987] NS asserts that, if the Board is inclined to eliminate the mismatch identified by Sunbelt, the correct method would be to revert back to Coal Trading and recalculate the SBRR capital structure as the debt is amortized.[988] NS includes a version of the DCF model implementing this change.[989]

On rebuttal, Sunbelt argues that, contrary to NS's position, the ICC and the Board did not even recognize this mismatch, let alone approve it, in Coal Trading, McCarty Farms 1997, or

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[980] Sunbelt Opening III-H-9.

[981] Sunbelt Opening III-H-9.

[982] Sunbelt Opening III-H-9.

[983] Sunbelt Opening III-H-9 to III-H-10.

[984] Sunbelt Opening III-H-10.

[985] Sunbelt Opening III-H-10.

[986] NS Reply III-H-9.

[987] NS Reply III-H-9.

[988] NS Reply III-H-9.

[989] NS Reply III-H-9 to III-H-10, citing NS Reply WP "Alternative DCF.xlsx."

Major Issues.[990] Sunbelt argues that NS's proposed fix matches the capital structure adopted in Coal Trading, but the ICC soon discarded this approach in Bituminous Coal, 10 I.C.C. 2d at 319.[991] Sunbelt also argues that the Coal Trading approach is unrealistic because it contends that the cost of equity would decline as the proportion of equity increases over time, but NS fails to adjust the cost of capital downward.[992]

Consistent with the Board's decision in DuPont, slip op. at 282-84, we will accept Sunbelt's argument regarding the terminal value adjustment to correct the mismatch it has identified, but we will correct Sunbelt's interest rates to reflect the Board's holding that Sunbelt must pay down the principal on its capital investments. See supra Section E. Interest Schedule of Assets Purchased With Debt Capital. Sunbelt is correct that the ICC's decision in Coal Trading did not encounter the mismatch described here, because the capital structure adopted by the ICC shifted to greater proportions of equity over time as the SARR paid off the principal on its debt. Coal Trading, 6 I.C.C. 2d at 379-80. The Board's decisions in McCarty Farms 1997 and Major Issues did not approve or even refer to the mismatch identified by Sunbelt. McCarty Farms 1997, 2 S.T.B. at 522-23 & n.123; Major Issues, slip op. at 65. Accordingly, Sunbelt's adjustment is not contrary to Board precedent.

To the extent there is a contradiction between Sunbelt's adjustment and the assumption that the term of the SARR's debt is 20 years, as NS claims, it is a contradiction that already exists in the Board's DCF model. That is, as Sunbelt points out, the DCF model assumes that the SARR's capital structure includes a debt component (including the cost of the associated interest payments) in perpetuity, not for 20 years. However, as structured the model does not allow the SARR to receive the tax shielding effect of those interest payments. Thus, Sunbelt's adjustment fixes one aspect of an apparent contradiction, rather than creating a new one. As for NS's argument that there would be a conflict with the interest rates included in the SBRR's cost of debt, it is a feature of the DCF model to assume current numbers into perpetuity. If interest rates significantly change, the lawful rate may change as a result, and any party is free to petition the Board, under 49 C.F.R. § 1115.4, to reopen a proceeding on the grounds of substantially changed circumstances. Finally, NS's proposed alternative solution, reverting to the Coal Trading approach of recalculating the SARR's capital structure over time, would be unnecessarily disruptive to the Board's DCF methodology, unlike the adjustment proposed by Sunbelt.

As discussed in the previous section, Sunbelt's DCF utilizes coupon, interest-only payments and does not include a home mortgage style payment as the Board requires. Because of the inconsistency between the interest payments in these two scenarios, the Board must adjust the interest value to determine the proper tax benefit. To do so, a straight-line average of the

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[990] Sunbelt Rebuttal III-H-11 to III-H-12 (citing Coal Trading, 6 I.C.C. 2d at 379-80; McCarty Farms 1997, 2 S.T.B. at 522 n.123; Major Issues in Rail Rate Cases (Major Issues), EP 657 (Sub-No. 1), slip op. at 65 (STB served Oct. 30, 2006), aff'd sub nom. BNSF Ry. v. STB, 526 F.3d 770 (D.C. Cir. 2008)).

[991] Sunbelt Rebuttal III-H-12 to III-H-13.

[992] Sunbelt Rebuttal III-H-13.

interest payments over the amortization period, here 20 years, is used as the value for determining the tax benefit received in the terminal value calculation.

G. PRESENT VALUE OF REPLACEMENT COST

NS changes the discount factor used to compute the present value of the asset replacement costs to the average SBRR cost of capital instead of the average railroad industry cost of capital used by Sunbelt.[993] NS argues that this change aligns the replacement cost discounting assumptions with those used for the initial SBRR investment.[994] On rebuttal, Sunbelt argues that Board precedent calls for use of the historic average railroad industry cost of capital.[995] Sunbelt adds that, although NS claims to have made this change, NS's DCF model shows that it used the same procedure as Sunbelt.[996]

In support of its proposal, NS offers only its statement that using the average SBRR cost of capital aligns the replacement cost discounting assumptions with those used for the initial SBRR investment, with no further explanation and no supporting evidence. We find that NS has not provided sufficient reason to depart from Board precedent on this subject, and therefore, we accept Sunbelt's position. See DuPont, slip op. at 284; AEP Texas, slip op. at 108-09.

H. TIMING OF PTC INVESTMENT

As discussed in the Signals and Communications section of the RPI Appendix, Sunbelt argues that the SBRR should install its PTC system at the outset of construction and investment, and NS disagrees, arguing that the SBRR's PTC-related costs will not be incurred until after commencement of operations. NS makes a corresponding adjustment to the DCF model to recover PTC investment only after the actual PTC expenditures take place.[997] Sunbelt argues on rebuttal that NS's adjustment is incorrect, due to the timing of the PTC investment and also because NS did not account for bonus depreciation available on PTC assets.[998]

For the reasons set forth above in the Appendix B, we are accepting Sunbelt's position that the SBRR would install a PTC system from the outset and then upgrade it to provide interoperability and otherwise meet the applicable standards. Therefore, we will reject NS's corresponding adjustment to the DCF model. However, as discussed in Appendix B, we will require the SBRR to spread the costs of upgrading this PTC system for compliance with the Rail Safety Improvement Act through the 2010 to 2015 period, rather than incurring all such costs together with the initial costs of installing the system in 2009 or before. As discussed above, we

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[993] NS Reply III-H-4 to III-H-5.

[994] NS Reply III-H-4 to III-H-5.

[995] Sunbelt Rebuttal III-H-4 (citing AEP Texas, slip op. at 108-09).

[996] Sunbelt Rebuttal III-H-4 to III-H-5.

[997] NS Reply III-H-10.

[998] Sunbelt Rebuttal III-H-14 to III-H-15.

are accepting Sunbelt's application of certain bonus depreciation provisions, and the bonus depreciation will apply to the SBRR's PTC system to the extent the costs are incurred during the appropriate time period and the bonus depreciation is otherwise applicable.

I. ANNUAL ADJUSTMENT OF OPERATING EXPENSES

To adjust annual operating expenses that change with the level of traffic volumes, Sunbelt uses the annual change in ton-miles, stating that this will take into consideration the shifting nature of the SBRR's traffic.[999] NS argues that using ton-miles inaccurately forecasts changes in volumes of different commodities, and NS instead uses SBRR car-miles.[1000] On rebuttal, Sunbelt argues that using car-miles is an insufficient metric because it only includes one factor, mileage, while ignoring the relationship between shipment weight and operating expenses.[1001]

The Board has previously used tons to adjust operating expenses. See, e.g., Xcel 2004, 7 S.T.B. at 618. Here, both parties advocate departing from this prior practice, but NS's proposal to use car-miles is superior to Sunbelt's proposal to use ton-miles. The SBRR, as discussed above, is primarily a carload traffic railroad, and what drives the system's operating expenses is the number of cars, not the tonnage or ton-miles (as would be the case with coal). Therefore, adjusting operating expenses on a car-mile basis will be more accurate in this case. See DuPont, slip op. at 285.

J. STARTUP AND TRAINING COSTS FOR 2011

Sunbelt included SBRR startup and training costs beginning on July 31, 2011.[1002] NS argues that, because the SBRR is assumed to commence operations on July 31, 2011, only approximately five-twelfths of the full year 2011 operating expenses are applied to the SBRR, including startup expenses.[1003] NS adjusts the DCF model to treat startup and training costs as an annual operating expense spread over the first full year of SARR operations.[1004] On rebuttal, Sunbelt agrees with NS that the startup costs should be allocated over the first full year of SBRR operations.[1005] However, Sunbelt argues that NS incorrectly applied expense levels that assume startup and training costs were incurred after the July 31, 2011 startup, when the SARR should actually incur these expenses before operations commence.[1006] Instead, Sunbelt allocates the

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[999] Sunbelt Opening III-H-12.

[1000] NS Reply III-H-11.

[1001] Sunbelt Rebuttal III-H-17 (citing Xcel 2004, 7 S.T.B. at 618).

[1002] See Sunbelt Opening Exhibit III-H-1, "Operating SAC" tab.

[1003] NS Reply III-H-11 to III-H-12.

[1004] NS Reply III-H-11 to III-H-12 (citing Xcel 2004, 7 S.T.B. at 658).

[1005] Sunbelt Rebuttal III-H-17.

[1006] Sunbelt Rebuttal III-H-17 to III-H-18 (citing Otter Tail, slip op. at C-17).

costs over the first full year of SBRR operations but maintains them at the startup time period wage and price levels.[1007]

We accept Sunbelt's rebuttal position regarding the startup and training cost levels for 2011. Sunbelt is correct that the level of these costs should reflect the time period before the system's startup on July 31, 2011, and should not reflect changes in cost levels after that date. See Otter Tail, slip op. at C-17.

K. INDEX FOR MMM URCS COSTS

Sunbelt uses the Board's standard URCS indexing approach to adjust variable costs in the MMM analysis, arguing that it produces the most accurate results.[1008] NS disagrees and instead uses RCAF-A.[1009] According to NS, the Board's decision in AEP requires the use of RCAF-A, and the Board has done so in other cases such as AEPCO.[1010] NS argues that Oklahoma Gas & Electric v. Union Pacific Railroad, NOR 42111 (STB served July 24, 2009), cited by Sunbelt, is inapposite because it involved short term indexing of URCS costs to inflate them only for specific quarters within one year, and not across years, whereas the MMM model here is projecting URCS costs nine years into the future.[1011] On rebuttal, Sunbelt again argues that the URCS index is superior to RCAF-A for adjusting MMM variable costs, because it takes into consideration the specific weighting of cost components unique to the defendant carrier, while the RCAF-A bases its cost weighting on inputs from all Class I railroads.[1012]

NS is correct that the Board has used RCAF-A to adjust the MMM URCS costs in certain prior decisions. See, e.g., AEP Tex. N. Co. v. BNSF Ry., NOR 41191 (Sub-No. 1), slip op. at 14-15 (STB served May 15, 2009). However, in DuPont, slip op. at 285-86, the Board departed from that precedent, and Sunbelt has made an equally strong case to continue that position here. As Sunbelt explains, URCS indexing will take into account the weighting of cost components applicable to NS itself, as opposed to the inclusion of inputs from all Class I railroads in RCAF-A, and the goal of this indexing is an accurate forecast of the defendant railroad's variable costs.[1013] NS has not stated a reason why, in this instance, the Board should continue to rely on a generalized, industry index when a more specific approach is available. Therefore, we will accept Sunbelt's use of URCS indexing to adjust the MMM variable costs.

[1007] Sunbelt Rebuttal III-H-18.

[1008] Sunbelt Opening III-H-20 to III-H-21.

[1009] NS Reply III-H-29.

[1010] NS Reply III-H-29.

[1011] NS Reply III-H-29.

[1012] Sunbelt Rebuttal III-H-34 to III-H-35.

[1013] URCS indexing is also more internally consistent with the parties' agreed upon use of the railroad's URCS costs over the SARR's URCS costs in the MMM analysis. Sunbelt Opening I-67 to I-71; NS Reply III-H-22 n. 20.

L. TIH ADJUSTMENT FOR MMM ANALYSIS

NS has proposed an adjustment to the variable costs of some of the traffic in the traffic group. The proposal would reassign what NS believes to be TIH-specific costs to TIH traffic, resulting in a change to the MMM rank order as the R/VC ratios for that traffic would be reduced. NS cites AEPCO, slip op. at 35, as an instance where the Board has directed the parties to make similar adjustments. Sunbelt replies that the proposal violates the prohibition on movement-specific adjustments to URCS, and if the Board allowed such an adjustment, it would have to also account for the unique characteristics of all types of traffic. Sunbelt further argues that AEPCO is not analogous to the current situation.

We need not decide whether the general restriction on movement specific adjustments to URCS applies to this circumstance. In establishing MMM, the Board stated specifically that the methodology should use "unadjusted URCS to estimate the variable cost of each movement in the traffic group." Major Issues, slip op. at 14. NS itself acknowledges this express directive but nonetheless urges the Board to use what it admits to be an adjusted URCS in the MMM analysis.[1014]

Furthermore, Sunbelt is correct that the AEPCO precedent is inapplicable here. In that proceeding, the Board was concerned that the type of movement performed by the SARR did not match the train type inputs into URCS. Here, by contrast, NS seeks to make adjustments to our standard practice of using system averages to account for the alleged higher costs of hauling TIH commodities - there is no concern that the inputs to URCS are incorrect. As the Board has noted in other proceedings, it disfavors the use of movement-specific adjustments to URCS. Major Issues NPRM, slip op. at 23-27; Major Issues, slip op. at 47-61; Kansas City Power & Light Co. v. Union Pac. R.R., slip op. at 6-8 (STB served May 19, 2008); Entergy Arkansas, Inc. v. Union Pac. R.R., NOR 42104 et al., slip op. at 12-13 (STB served Nov. 26, 2012); Cargill, Inc. v. BNSF Ry., slip op. at 11 (STB served Aug. 12, 2013). Therefore, we will not apply the NS TIH adjustment to the MMM analysis.

M. CROSS-OVER TRAFFIC ADJUSTMENTS

NS has proposed cross-over traffic adjustments which Sunbelt finds objectionable. The first NS proposal is a trainload adjustment to the MMM analysis.[1015] NS asserts a trainload adjustment "better aligns the MMM URCS costs with the loaded and empty car movements over

[1014] NS Reply III-H-23 to III-H-24.

[1015] NS Reply III-H-28. NS, citing a more limited version of a trainload adjustment included in Sunbelt's opening workpapers, makes this proposal contingent on the Board's conclusion that a MMM analysis is necessary. NS Reply III-H-28. Sunbelt included that adjustment "to demonstrate the minor impact of this adjustment upon the final results, and is not intended to endorse or accept that approach as appropriate." Sunbelt Opening I-71 n.46.

the SBRR."[1016] NS states that this modified trainload adjustment to MMM (a modification of Sunbelt's application of the unit train cost adjustment) covers all SBRR traffic crossing on a single train (e.g., "hook-and-haul" traffic).[1017] Sunbelt argues that the NS adjustment is unwarranted for a number of reasons, including the fact that the SBRR carries very little hook-and-haul traffic.[1018] Sunbelt claims that NS is instead "seeking to artificially lower the variable costs of the SBRR's non-coal, primarily intermodal, traffic in order to dilute the MMM relief for the issue traffic."[1019]

We conclude that NS's MMM trainload adjustment proposal is inadequately supported. NS's modification of the adjustment described in Sunbelt's workpapers would apply to about 69% of the SBRR's carload/container traffic during the base period. However, at least 92% of that traffic moves on or off the SBRR at the Birmingham Yard[1020] and is thus unlike the cross-over traffic with which the Board was concerned in AEPCO.[1021] NS claims that "even after [Sunbelt's] operating plan failures are corrected . . . the URCS costing mis-match identified by the Board, and the resulting over-allocation of revenues to the SARR would remain,"[1022] but NS has not demonstrated this to be true. Nowhere in its evidence does NS indicate from where or how it derived its 69% figure. Accordingly, NS's trainload adjustment proposal is both overbroad and unsupported, and thus the Board will not apply this proposed adjustment to the MMM analysis.[1023]

In addition, NS has proposed two other related methods for dealing with the alleged distortions arising from Sunbelt's use of cross-over traffic. On reply, NS proposed a significant restriction on Sunbelt's use of cross-over traffic in its traffic group.[1024] On brief, NS proposed an

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[1016] NS Reply III-H-28 (citing AEPCO in support). In AEPCO, slip op. at 35, the Board expressed concern that, although most of the traffic group moved in trainload service on the SARR portion of the movement, most of the variable costs were calculated assuming movement in carload and multi-car service.

[1017] NS Reply III-H-28-29.

[1018] Sunbelt claims that "[l]ess than 1 percent of the SBRR's traffic consists of 'hook-an[d]-haul overhead trainload service' traffic . . . . Because the SBRR performs I&I switching on most of its overhead cross-over traffic at Birmingham, AL, and other yards." Sunbelt Rebuttal Ex. III-A-1 at 24. Sunbelt concludes that this activity means that the SBRR incurs costs comparable to those incurred by NS for handling this traffic. Sunbelt Rebuttal Ex. III-A-1 at 24.

[1019] Sunbelt Rebuttal III-H-33.

[1020] STB WP "Unit Train Adj Analysis_SBRR MMM Model Reply STB.xlsm."

[1021] NS Reply III-A-37 (citing Rate Regulation Reforms, slip op. at 16).

[1022] NS Reply III-A-38-39.

[1023] Sunbelt made several other arguments against the application of NS's MMM trainload adjustment proposal. We are not addressing the relative merits of those other Sunbelt arguments.

[1024] NS Reply III-A-35 to III-A-40.

alternative to that restriction – an adjustment to the allocation of cross-over revenues based on the variable costs of the movements, similar to the trainload adjustment it proposed for MMM.[1025]

In July 2012, the Board issued a notice of proposed rulemaking in which it proposed several changes to its rate reasonableness rules. Rate Regulation Reforms, EP 715 (STB served July 25, 2012). In particular, the Board was concerned that there was a disconnect between the costs to SARRs of handling the cross-over portion of what is carload traffic in a hook-and-haul manner and the revenue allocations from this traffic that the SARR received. Because of concerns that shippers could use this hook-and-haul traffic to game the results of the SAC test, the Board proposed curtailing the use of cross-over traffic. NS filed a motion to hold this proceeding in abeyance until the rulemaking was completed. The Board denied the NS motion, stating that no new limitation on the use of cross-over traffic adopted in the final rulemaking would be retroactively applied to a pending dispute. E.I. DuPont de Nemours & Co. v. Norfolk S. Ry. (November 2012 Decision), NOR 42125 et al. (STB served Nov. 29, 2012). While addressing NS's unfairness arguments, the Board specifically invited NS to raise arguments regarding the use of cross-over traffic and the revenue allocation for that traffic in its reply.[1026]

In its January 2013 reply, NS requested that the Board either require the SBRR to originate or terminate cross-over traffic movements or limit cross-over traffic to movements that are handled completely in trainload service by NS,[1027] consistent with the Board's proposals in Rate Regulation Reforms. NS claimed that the Board needed to take this action to "prevent the distorting effect of cross over traffic" in this SAC analysis.[1028] In apparent anticipation of a Sunbelt fairness argument, NS also claimed that "Sunbelt had more than ample notice that the Board was considering changes to cross-over traffic limits and to allocation of revenues

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[1025] NS Brief 45-46.

[1026] November 2012 Decision, slip op. at 5 ("[NS's] fundamental unfairness arguments are best characterized as substantive arguments about the proper use of cross-over traffic in these pending cases, and involve detailed contentions specific to those matters. We will not now address these substantive arguments in resolving this procedural motion. [NS's] arguments go to the merits of this case, and [NS] is free to proffer such arguments in its reply evidence. The parties should have been, and continue to be, on notice that use and application of cross-over traffic, as well as ATC revenue allocation methodologies, are potential issues in these individual cases, and that parties are entitled to raise and respond to substantive arguments regarding those methodologies within those proceedings. The Board will address any arguments related to cross-over traffic and cost allocation raised in the pending proceedings . . . .") (citation omitted). See also November 2012 Decision, slip op. at 7 ("The complainant's opening evidence in these cases has already been submitted, and the Board can address any reply arguments raised by [NS] that the current rules should be modified to prevent distorted results from the complainants' use of cross-over traffic in these adjudications").

[1027] NS Reply III-A-40.

[1028] NS Reply III-A-40.

generated by such traffic in SAC cases."[1029] Sunbelt raised several objections to NS's proposal, including the claim that it had not abused cross-over traffic in structuring the traffic group.[1030] In particular, Sunbelt argued that the SBRR handles very little (i.e., less than 1% of SBRR's traffic) of the hook-and-haul cross-over traffic with which the Board was concerned in its rulemaking.[1031]

Consistent with our opinion in Rate Regulation Reforms (Adopted Rate Regulation Reforms), EP 715 (STB served July 18, 2013), the Board agrees with Sunbelt that NS's proposed restrictions on SBRR cross-over traffic are not warranted because they are too broad. In any event, NS has not demonstrated that Sunbelt makes wide use of hook-and-haul traffic on the SBRR. Accordingly, our overarching concern in Rate Regulation Reforms – that a shipper could use hook-and-haul traffic to game the SAC test – is not present here. Accordingly, we decline to accept NS's proposed restrictions.

We also need not rule on the merits of NS's alternative proposal to adjust the allocation of cross-over revenues based on the variable costs of the movements. This approach was raised by NS for the first time on final brief (despite the fact that NS raised all of its other arguments concerning cross-over traffic in its reply). In the November 2012 Decision, the Board made clear that the parties in individual adjudications were free to argue how cross-over traffic should be treated. On reply, NS made the decision to advocate for the use of the proposals from Rate Regulation Reforms. NS's ATC trainload adjustment proposal was submitted too late in the process. We will thus not consider the proposal's merits. In any event, we do not believe that consideration of such an adjustment, were it properly presented, is appropriate for the same reason we reject NS's proposed restriction on cross-over traffic; specifically, NS has not demonstrated that hook-and-haul traffic is widely present here.

N. DCF RESULTS

The first step of the DCF analysis is to calculate the SBRR's total revenue requirements over the 10-year analysis period. We find that the initial road property investment of the SBRR in the third quarter of 2011 would be $2,641.2M; interest during construction would be $282.7M; the present value of roadway property replacement would be $105.9M; and the resulting total road property investment would be $2,810.6M. Table D-1 shows the flow of capital recovery that would provide the SBRR a reasonable return on its capital investment and would therefore be sufficient to attract entry to serve the selected traffic group.

[1029] NS Reply III-A-41.

[1030] Sunbelt Rebuttal Ex. III-A-1 at 1.

[1031] Sunbelt Rebuttal Ex. III-A-1 at 23-25.

TABLE D-1

SBRR Capital Recovery ($ millions)				
Year	Capital Requirement Road Property	Total Taxes	Required Cash Flow	Present Value
2011	107.8	-	107.8	104.6
2012	262.5	-	262.5	235.8
2013	269.0	-	269.0	217.4
2014	279.5	-	279.5	203.4
2015	300.3	-	300.3	196.7
2016	310.8	-	310.8	183.3
2017	321.7	-	321.7	170.9
2018	333.8	92.1	241.6	115.9
2019	346.4	121.1	225.3	97.0
2020	359.1	126.5	232.6	90.1
2021	213.6	75.7	137.8	49.2
Terminal Value			***	1,146.9
TOTAL				2,811.5

As shown in Table D-2, the total revenue requirements of the SBRR over the 10-year analysis period are the sums of the capital return and the projected operating expenses.

TABLE D-2

SBRR Total Revenue Requirements ($ millions)			
Year	RPI Capital Recovery	Operating Expenses	SBRR Revenue Requirements
2011	107.8	87.0	194.8
2012	262.5	208.0	470.4
2013	269.0	213.0	482.0
2014	279.5	216.4	495.9
2015	300.3	226.6	526.8
2016	310.8	238.0	548.8
2017	321.7	252.3	574.1
2018	333.8	268.7	602.5
2019	346.4	286.6	633.0
2020	359.1	304.2	663.3
2021	213.6	187.1	400.6

The second part of the DCF analysis compares the revenues a defendant is expected to earn from the traffic group against the revenues the SARR would need to serve the same traffic. In general, if the present value of the revenue stream is less than the SARR's revenue requirements, then the analysis has not demonstrated that the challenged rate is unreasonable. If the opposite is true, then the Board must decide what relief, if any, to provide to the complainant by allocating the revenue requirements of the SARR among the traffic group and over time. Here, Table D-3 reveals that the defendant is earning more from the traffic group than the SBRR would require to serve the same traffic.

TABLE D-3

Discounted Cash Flow Analysis ($ millions)					
Year	SBRR Revenue Requirements	NS Forecast Revenues	Difference	Present Value	Cumulative Difference
2011	194.8	154.4	(40.3)	(40.3)	(40.3)
2012	470.4	395.4	(75.0)	(67.4)	(107.7)
2013	482.0	432.5	(49.5)	(40.1)	(147.8)
2014	495.9	470.4	(25.5)	(18.6)	(166.4)
2015	526.8	512.4	(14.4)	(9.4)	(175.8)
2016	548.8	559.0	10.2	6.0	(169.8)
2017	574.1	608.9	34.9	18.5	(151.3)
2018	602.5	663.9	61.4	29.4	(121.9)
2019	633.0	726.0	93.0	40.1	(81.9)
2020	663.3	791.6	128.3	49.8	(32.1)
2021	400.6	501.3	100.6	36.8	4.6

N. MMM ANALYSIS RESULTS

As noted in the decision, our MMM analysis starts with the distribution of R/VC ratios in the traffic group. The MMM analysis rank-orders these R/VC ratios and then, starting with the highest R/VC ratio, reduces the maximum R/VC ratio until it reaches that point where all of the defendant carrier's excess revenue has been allocated.

Following its establishment of an MMM rank-order for Sunbelt's traffic group, the MMM analysis set the following maximum R/VC ratios:

TABLE D-4

Sunbelt MMM Results	
Year	MMM R/VC Ratio
2011	N/A
2012	N/A
2013	N/A
2014	N/A
2015	N/A
2016	N/A
2017	N/A
2018	N/A
2019	N/A
2020	N/A
2021	579.8%
Source: "SBRR MMM Model Reply STB.xlsm."	

The DCF analysis projects a modest over-recovery during the final year of the DCF period. Furthermore, as discussed in the body of this decision, the maximum R/VC ratio determined by the MMM analysis for that year reduces only a portion of the issue traffic's R/VC ratios. Thus, while Sunbelt has demonstrated that the rates NS charges for the issue movements are unreasonable in 2021, the Board finds that the outcome of the DCF and MMM does not merit prescribing future rates here.

Finally, we note that NS raised the issue of a potential internal cross-subsidy and asked that the Board perform an analysis to determine whether traffic moving over the McIntosh to Burstall segment covered all of its attributable costs.[1032] The Board performs a cross-subsidy analysis to determine whether the issue traffic only appears to exceed the maximum R/VC ratio due to the impermissible shifting of facility costs to other traffic not benefiting from those facilities. Otter Tail, slip op. at 24, 30. Here, we applied the Board's internal cross subsidy analysis and found that there were no internal cross-subsidy issues. Additional detail is provided in the Board's workpapers.

[1032] See NS Reply III-H-16.