

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

**WESTERN FUELS ASSOCIATION, INC.
And BASIN ELECTRIC POWER
COOPERATIVE, INC.**

Complainants,

v.

BNSF RAILWAY COMPANY

Defendant.

Docket No. 42088

**REMAND
VERIFIED STATEMENT
OF
THOMAS D. CROWLEY
PRESIDENT
L. E. PEABODY & ASSOCIATES, INC.**

**ON BEHALF OF
WESTERN FUELS ASSOCIATION, INC.
AND BASIN ELECTRIC POWER
COOPERATIVE, INC.**

Filed: June 16, 2014

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LIST OF EXHIBITS

<u>Exhibit No.</u>	<u>Title</u>
(1)	(2)
1	Thomas D. Crowley Statement of Qualifications
2	Major SAC Components
3	Schematic of Original WFA/Basin SARR
4	Schematic of Revised WFA/Basin SARR
5	2009 LRR DCF Model Inflation Indexes

I. INTRODUCTION

I am Thomas D. Crowley, an economist and the President of L. E. Peabody & Associates, Inc., an economic consulting firm that specializes in solving economic, transportation, marketing, financial, accounting and fuel supply problems. I have spent most of my consulting career of over forty (40) years evaluating fuel supply issues and railroad operations, including railroad costs, prices, financing, capacity and equipment planning issues. My assignments in these matters were commissioned by railroads, producers, shippers of different commodities, and government departments and agencies. I have previously presented evidence in this proceeding, including evidence on the calculation of stand-alone railroad revenues and revenue allocation methods. A copy of my credentials is included as Exhibit___(TDC-1) to this verified statement (“VS”).

I have been requested by Counsel for Western Fuels Association, Inc. and Basin Electric Power Cooperative (collectively “WFA/Basin”) to address three issues. First, I have been asked to quantify the impact on WFA/Basin’s current rate prescription of retroactively applying the Alternative Average Total Cost (“Alternative ATC”) methodology adopted by the Surface Transportation Board (“STB” or “Board”) in 2013¹ to allocate revenues to cross-over traffic shippers included in the revised Stand-Alone Railroad (“Revised SARR”) traffic group accepted by the Board in its rate relief orders served in this proceeding in 2009 (“2009 Rate Relief Orders”).² Second, I have been asked to address whether any such retroactive application would produce an accurate or reasonable regulatory outcome in this case. Third, I have been asked to address what

¹ STB Ex Parte No. 715, *Rate Regulation Reforms*, Served July 25, 2012 (“EP 715”).

² STB Docket No. 42088, *Western Fuels Association, Inc. and Basin Electric Power Cooperative v. BNSF Railway Company*, served February 18, 2009, June 5, 2009 and July 27, 2009 (“2009 Rate Relief Orders”).

actions the Board must take to facilitate an even-handed resolution of this case if it decides to retroactively apply Alternative ATC to allocate cross-over traffic revenues.

I conclude that retroactive application of Alternative ATC on the current record will eliminate most of WFA/Basin's rate relief. I also conclude that elimination of most of this rate relief is not a fair, accurate or reasonable outcome in this case: (1) because WFA/Basin did not design their Revised SARR to perfect rate relief using Alternative ATC; (2) because forecasted BNSF Railway Company ("BNSF") coal revenues in the current record to which Alternative ATC would be applied do not accurately reflect the huge run-up in BNSF's actual revenues that occurred after the forecasts were made³; and (3) because other forecasts used in the Discounted Cash Flow ("DCF") and Maximum Mark-up Methodology ("MMM") models the Board relied on in its *2009 Rate Relief Orders* have produced materially inaccurate stand-alone costs ("SAC") and MMM results. Finally, I conclude that if the Board decides to retroactively apply Alternative ATC in this case, a fair, accurate and reasonable outcome can be reached in this case only if: (1) WFA/Basin is given the opportunity to revise its SARR configuration and SARR traffic group using Alternative ATC to allocate cross-over traffic revenues; and (2) WFA/Basin is given the opportunity to update the record with accurate volume, revenue and cost data.⁴

My VS is discussed further below under the following topical headings:

- I. Results of Retroactive Application of Alternative ATC on the Current Record
- II. Retroactive Application of Alternative ATC on the Current Record Produces Inaccurate and Biased Results

³ The run-up was caused by aggressive re-pricing after contract termination and by aggressive implementation of BNSF's fuel surcharge program.

⁴ BNSF may argue that actual volumes shipped were significantly lower than the projected volumes. Although this may be true, the aggressive pricing increases more than made up for the reduced volumes.

III. If Alternative ATC is Retroactively Applied In This Case, Accurate and Reasonable Maximum Rates Can Be Determined Only If WFA/Basin Is Given the Opportunity to Revise its Revised SARR and Update the State Record

II. RESULTS OF RETROACTIVE APPLICATION OF ALTERNATIVE ATC ON THE CURRENT RECORD

The Board adopted its Modified ATC formula for allocating revenues on cross-over traffic in 2007.⁵ It contains two steps. First, revenue up to the equivalent of total through movement variable costs are allocated between the SARR and the residual incumbent based on the ratio of on-SARR-to-off-SARR segment variable costs.⁶ Second, any remaining contribution is allocated based on the ratio of on-SARR-to-off-SARR total costs.⁷

The Board adopted its Alternative ATC formula for allocating cross-over traffic revenues in 2013.⁸ Alternative ATC contains a different two step cross-over traffic revenue allocation procedure than Modified ATC. Under the first step in Alternative ATC, the through movement variable costs are calculated.⁹ If the through movement revenues are less than or equal to the through movement variable costs, then the through movement revenues are allocated to the on-SARR and off-SARR segments based on the ratio of on-SARR-to-off-SARR variable costs. Second if the through movement revenues are greater than the through movement variable costs, then the through revenues are allocated to the SARR and the residual incumbent based on the ratio of total (variable plus fixed) costs for the two segment components (on-SARR and off-SARR), unless this allocation results in revenue allocations to the on-SARR or the off-SARR segment that

⁵ See *Western Fuels Ass'n, Inc. v. BNSF Railway*, Docket No. 42088 (STB served Sept. 10, 2007) at 14.

⁶ Variable costs are developed using the STB's unadjusted Phase III costing program that requires nine (9) inputs identifying the characteristics of the individual movements.

⁷ Contribution is defined as revenue in excess of variable costs and total cost for the on-SARR and off-SARR segments is the sum of the variable costs for each segment plus an allocated share of fixed costs.

⁸ See *Rail Rate Reforms*, Docket No. EP 715 (STB served July 18, 2013) at 30.

⁹ Variable costs are developed using the STB's unadjusted Phase III costing program that requires nine (9) inputs identifying the characteristics of the individual movements.

are insufficient to cover the segments' variable costs in which case revenues are reallocated to ensure the variable costs of both segments are covered.

Retroactive application of Alternative ATC to WFA/Basin's existing SARR, and existing SARR traffic group, reduces WFA's SARR revenues in a manner that has severe adverse consequences for WFA/Basin. Table 1 below compares the final MMM model R/VC ratios the Board prescribed in its *2009 Rate Relief Orders* using Modified ATC (Column (2)) to the MMM model R/VC ratios that would result from retroactive application of Alternative ATC on the current record (Column (3)).

Table 1
MMM Revenue to Variable Cost Ratios – Current Record

<u>Period</u>	<u>MMM R/VC With Modified ATC Revenues</u>	<u>MMM R/VC With Alternative ATC Revenues</u>	<u>Percentage Point Increase in MMM R/VC -- Alternative ATC versus Modified ATC 1/</u>
(1)	(2)	(3)	(4)
1. 4Q04	241%	292%	51
2. 2005	247%	347%	100
3. 2006	230%	293%	63
4. 2007	238%	314%	76
5. 2008	244%	331%	87
6. 2009	241%	327%	86
7. 2010	245%	339%	94
8. 2011	246%	340%	94
9. 2012	248%	343%	95
10. 2013	250%	348%	98
11. 2014	255%	360%	105
12. 2015	268%	402%	134
13. 2016	269%	401%	132
14. 2017	265%	386%	121
15. 2018	262%	370%	108
16. 2019	261%	365%	104
17. 2020	261%	360%	99
18. 2021	260%	348%	88
19. 2022	261%	349%	88
20. 2023	260%	343%	83
21. 1Q-3Q2024	<u>258%</u>	<u>327%</u>	<u>69</u>
22. Average 2/	253%	347%	94

1/ Column (3) – Column (2).

2/ Simple average of Lines 1 through 21.

As shown in Table 1 above, retroactively applying the Alternative ATC approach to the system and traffic group WFA/Basin designed to achieve optimum results under the Modified ATC approach results in a significant and punitive escalation in MMM model R/VC ratios that averages 94 percentage points over the 20 year prescription period.

Table 2 below compares the payments WFA/Basin has made, or that it is projected to make, to BNSF under the maximum R/VC ratios prescribed by the Board in its *2009 Rate Relief Orders* (Column (2)), and the payments WFA/Basin would have made or will have to make if the maximum R/VC ratios are adjusted by retroactively applying Alternative ATC on the current record without updating other facets of the analyses (Column (3)).

Table 2
Difference in Payments Under 2009 Rate Relief Orders and Alternative ATC

<u>Time Period</u>	<u>Modified ATC</u>	<u>Alternative ATC</u>	<u>Difference 1/</u>
(1)	(2)	(3)	(4)
1. 4Q04	\$8,030,374	\$9,729,748	\$1,699,374
2. 2005	\$32,652,113	\$45,871,592	\$13,219,479
3. 2006	\$36,777,083	\$46,850,806	\$10,073,723
4. 2007	\$41,018,999	\$54,117,502	\$13,098,504
5. 2008	\$46,376,511	\$62,912,398	\$16,535,887
6. 2009	\$34,733,886	\$47,128,550	\$12,394,665
7. 2010	\$38,749,727	\$53,616,969	\$14,867,242
8. 2011	\$41,111,580	\$56,820,883	\$15,709,303
9. 2012	\$38,150,132	\$52,764,093	\$14,613,962
10. 2013	\$37,551,543	\$52,271,747	\$14,720,205
11. 1/1/2014 – 4/23/14	<u>\$12,858,208</u>	<u>\$18,152,764</u>	<u>\$5,294,556</u>
12. Subtotal 2/	\$368,010,154	\$500,237,053	\$132,226,899
13. 4/24/14 – 12/31/14	\$28,674,942	\$40,482,271	\$11,807,329
14. 2015	\$46,202,222	\$69,303,333	\$23,101,111
15. 2016	\$44,040,041	\$65,650,768	\$21,610,727
16. 2017	\$45,338,211	\$66,039,809	\$20,701,598
17. 2018	\$47,150,446	\$66,586,507	\$19,436,062
18. 2019	\$48,175,334	\$67,371,636	\$19,196,302
19. 2020	\$49,331,857	\$68,043,940	\$18,712,084
20. 2021	\$50,010,028	\$66,936,499	\$16,926,471
21. 2022	\$51,500,680	\$68,864,895	\$17,364,214
22. 2023	\$52,452,211	\$69,196,570	\$16,744,360
23. 1Q2024 - 3Q2024	<u>\$39,546,004</u>	<u>\$50,122,261</u>	<u>\$10,576,257</u>
24. Subtotal 3/	\$502,421,975	\$698,598,488	\$196,176,513
25. Total 4/	\$870,432,129	\$1,198,835,540	\$328,403,411

1/ Column (3) – Column (2).
2/ Sum of Lines 1 through 11.
3/ Sum of Lines 13 through 23.
4/ Line 12 + Line 24.

As shown in Table 2, if Alternative ATC is applied to the existing record, WFA/Basin will owe BNSF principal sums totaling approximately \$132.2 million for

undercharges on shipments moving between 4Q04 and April 23, 2014¹⁰ and pay a projected additional \$196.2 million for shipments moving thereafter. All told, retroactive application of Alternative ATC on the current record will reduce WFA/Basin's rate relief by approximately \$328.4 million.¹¹

¹⁰ WFA/Basin and BNSF entered into an agreement in March of 2009 that requires each party to refund to the other any principal sums the Board may find due following final resolution of court appeals of the *2009 Rate Relief Orders*, plus an agreed-upon amount of interest.

¹¹ This amounts to roughly a 50% reduction in the rate relief the Board accorded WFA/Basin in its *2009 Rate Relief Orders*. See workpaper "AATC Impact Evaluation June 2014.xlsx at level "Prem Adj - Table 2 Support."

III. RETROACTIVE APPLICATION OF ALTERNATIVE ATC ON THE CURRENT RECORD PRODUCES INACCURATE AND BIASED RESULTS

Retroactive application of Alternative ATC on the current record to allocate cross-over traffic revenues in a vacuum produces inaccurate and unfair results for two reasons: (1) WFA/Basin designed their Revised SARR using Modified ATC per the Board's explicit instructions; and (2) the forecasted revenues and forecasted SAC¹² contained in the current record DCF analysis and the forecasted R/VC ratios¹³ contained in the current record MMM model are materially inaccurate for both now-historical and forecast periods.

A. WFA/BASIN DID NOT DESIGN ITS REVISED SARR USING ALTERNATIVE ATC

1. SARR Design Is A Complex, Iterative Process

The existing regulatory framework used by the STB to decide major rail rate disputes has evolved from the general standards for judging the reasonableness of rail freight rates originally promulgated three decades ago.¹⁴ This framework is based on a set of pricing principles known as "constrained market pricing" ("CMP").¹⁵ Under the principles of CMP, one of the three main constraints on the extent to which a carrier may charge differentially higher rates on captive traffic is called the SAC test.¹⁶ The primary

¹² Along with the underlying per-unit revenues and unit costs.

¹³ Along with the underlying revenues and variable costs.

¹⁴ See Ex Parte No. 347 (Sub-No. 1), *Coal Rate Guidelines, Nationwide*, 1 ICC. 2d 520 (1985) ("*Guidelines*").

¹⁵ CMP states that "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". See *Id* at pages 523-524.

¹⁶ The SAC test is made up of multiple analytical components aggregated together to produce a simulated competitive price that would result if the market for rail service were contestable and all unnecessary costs and barriers from entry or exit were removed from the analysis.

focus of the SAC test is the development of a hypothetical SARR that serves the traffic at issue if the rail industry were free from barriers to entry or exit.¹⁷

Over the past three decades, the SAC test has evolved into an intricate, expensive, and time-consuming process. Exhibit ____ (TDC-2) identifies eighteen distinct major SAC components (i.e., analytical modules) and the order in which they must be performed and validated (i.e., process flows). It illustrates the iterative and complicated nature of the work that must be completed to perform the SAC test.

As shown, these SAC components start with the development of the carrier's traffic, revenue, and train/car movement data (Module 0 – Data Prep) and identification of SARR traffic (Module 1 – ID SARR Traffic) and ends with the calculation of reparations (assuming that the challenged rate(s) are determined to be unreasonably high) (Module 17 – Reparations). The first and most fundamental task in the development of a SARR is the identification of the routes traversed by the issue and other traffic. After the routes of movement are identified, the complainant can begin testing combinations of traffic (and the revenues allocated to it) and physical plant that would provide end-to-end service for the issue traffic while moving other traffic that contributes revenues in excess of its collective expenses to determine the scenario in which the complainant's rate is as low as possible while the SARR covers all of its costs and earns a reasonable return on investment.

The development of a SARR is an iterative process wherein the complainant seeks to determine the lowest possible maximum rate under the STB's established framework. Different groups of traffic and different SARR configurations will determine

¹⁷ Under the SAC constraint, the rate at issue cannot be higher than what the SARR would need to charge to serve the complaining shipper while fully covering all of its costs, including a reasonable return on investment. This analysis produces a simulated competitive rate against which the challenged rate is judged. *See Guidelines* at 542.

the SARR revenues and expenses that produce different SAC results. Any STB decision or action that alters any of the methodologies used to develop the analyses underlying any individual SAC component shown in Exhibit ___(TDC-2) can alter the equilibrium of the efficient result that was produced by the extant methodology. A change in the result produced by any SAC component impacts the results produced by downstream SAC components, including the ultimate maximum rate determination.

**2. For this Iterative Process to Work As Intended
In this Case, WFA/Basin Must Know How the
Board Will Allocate Cross-Over Traffic
Revenues Before It Designs Its SARR**

**a. The Importance of
Revenue Allocation**

The SAC constraint is based on the premise that a captive shipper may have its rates established based on the lower costs of an alternate, stand-alone system in which the plant size and traffic base are designed to maximize the efficiencies and production economies.¹⁸ The STB's predecessor agency, the Interstate Commerce Commission ("ICC"), recognized when it adopted the SAC test in 1985 that the ability to group traffic of different shippers is essential to the workings of SAC as it allows a captive shipper to identify areas where production economies identify an efficient alternative system whose traffic is divertible to a hypothetical carrier.¹⁹ In subsequent decisions, both the ICC and the STB recognized that shippers have broad rights to group traffic, and configure their SARRs, in a manner that results in the best-case regulatory relief.²⁰

¹⁸ See *Guidelines* at 542.

¹⁹ *Id* at 544.

²⁰ See, e.g., STB Docket No. 42088, *Western Fuels Association, Inc. and Basin Electric Power Cooperative v. BNSF Railway Company*, service date February 18, 2009 at 7; STB Docket No. NOR 42113, *Arizona Electric Power Cooperative, Inc. v. BNSF Railway Company and Union Pacific Railroad Company*, service date November 22, 2011 at 9; STB Docket No. NOR 42057, *Public Service Company of Colorado d/b/a Xcel Energy v. The Burlington Northern and Santa Fe Railway Company*, service date June 7, 2004 at 9; STB Docket No. NOR 42056, *Texas Municipal Power Agency v. The*

Shippers' broad grouping rights include selection of traffic that would be originated and terminated by the SARR (so-called local traffic), as well as traffic that the SARR would interchange with other railroads, and interchange with the residual incumbent carrier. This latter group of traffic is known as cross-over traffic, and, as indicated by the ICC in *Nevada Power*,²¹ it is a critical component of SAC presentations because excluding cross-over traffic would "... weaken the SAC test because it would deprive the SARR of the ability to take advantage of the same economies of scale, scope and density that the incumbents enjoy over the identical route of movement."²²

Just as important, the STB has also deemed cross-over traffic to be a critical simplifying tool for SAC analyses. As explained by the STB in *Xcel*²³ the use of cross-over traffic provides a reasonable measure of simplification that allows SAC presentations to be more manageable.²⁴ Cross-over traffic therefore allows a shipper to enjoy similar economies of scale, scope and density the incumbent carrier enjoys without requiring the replication of the incumbent's railroad system. As the STB observed in *Xcel*, without the use of cross-over traffic, the SARR could eventually grow to near the same size as the incumbent carrier's system, defeating the purpose of the SAC test.²⁵

Under the Board's SAC test, SARR revenues must exceed SAC on a present value basis, so an accurate calculation of SARR revenues is critical. The total SARR traffic group revenues are made up of: (1) all revenues from the issue traffic; (2) all

Burlington Northern and Santa Fe Railway Company, service date March 24, 2003 at 16 and n.28, citing *Guidelines*, 1 I.C.C.2d at 543-44.

²¹ STB Docket No. 37038, *Bituminous Coal – Hiawatha, Utah to Moapa, Nevada*, 10 ICC 2d (259) ("*Nevada Power*").

²² See *Nevada Power* at 265, n. 12.

²³ STB Docket No. 42057, *Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company*, 7 STB (589) ("*Xcel*").

²⁴ See *Xcel* at 603.

²⁵ *Id* at 602 "The cascading analysis could result eventually in a complainant having to replicate almost all of BNSF's system."

revenues from traffic where the complete movement of the traffic is local to the SARR trackage; and (3) a share of revenues from traffic where the movement of the traffic is not local to the SARR (cross-over traffic). The share of revenue received by the SARR for cross-over traffic is dependent on the revenue allocation method applied to the total carrier revenues. The more cross-over traffic included in the SARR traffic group, the more important the revenue allocation method selected.

**b. WFA/Basin Designed Its Original SARR
Using MSP and Designed its Revised
SARR Using Modified ATC**

WFA/Basin modeled its Original SARR in 2004/2005, using the cross-over traffic revenue methodology the Board had used in its most recent SAC decisions: Modified Straight-Mileage Prorate (“MSP”). Relying on that methodology, WFA/Basin used the iterative process described above to develop its Original SARR, a SARR designed to obtain the lowest SAC rate relief using MSP, and the Board’s then current method for allocating SAC relief within the SARR traffic group.

WFA/Basin’s Original SARR traffic group included most of BNSF’s real world Powder River Basin, Wyoming (“PRB”) traffic moving over the PRB joint line south through Guernsey WY. The Original SARR provided service to the issue traffic as well as 47 other unit train shippers in cross-over traffic service. It was designed to move over 200 million tons of PRB coal per year²⁶ over 218 route miles.²⁷ A schematic of the Original SARR routing is included in my Exhibit ___(TDC-3). WFA/Basin’s evidence demonstrated that its Original SARR would produce substantial rate relief.

²⁶ STB Docket No. 42088, *Western Fuels Association, Inc. and Basin Electric Power Cooperative v. BNSF Railway Company*, served September 10, 2007, (“September 2007 Decision”) at 30.

²⁷ *Id* at 25.

Following the Board's decision to retroactively apply Modified ATC²⁸ in this case, WFA/Basin's Original SARR configuration and traffic group did not produce optimal (or any) relief: the Board found in its *September 2007 Decision* that SAC exceeded SARR revenues on the record developed to date, but also held that WFA/Basin should be permitted to revise its SARR within the framework established by its new rules, including the use of Modified ATC. WFA/Basin did so, and applying the same iterative process described above, developed its significantly Revised SARR.

This Revised SARR continued to consist primarily of cross-over traffic but with significant changes: there were fewer shippers in the traffic group, the total amount of tonnage transported annually was reduced, some internally re-routed traffic was added,²⁹ and one interchange move was added.³⁰ To accommodate the re-routed traffic, the SARR footprint was also expanded by 86 route miles, while the network facilities, equipment, and staffing were streamlined to align with the reduction in volumes.³¹ A schematic showing the Revised SARR routing is included in my Exhibit ___(TDC-4). WFA/Basin's evidence demonstrated that its Revised SARR would produce substantial rate relief, and the Board so held in its *2009 Rate Relief Orders*.

**c. WFA/Basin's Revised SARR Was
Not Designed to Perfect Relief
Using Alternative ATC**

Alternative ATC allocates cross-over traffic revenues differently than Modified ATC, and, as shown above, retroactive application of Alternative ATC on the current record (holding all other variables constant) increases the maximum MMM R/VC ratios

²⁸ Along with select other elements of its *Major Issues Decision*.

²⁹ WFA/Basin's internally re-routed traffic originated in the PRB and was interchanged with BNSF at Northport, NE.

³⁰ The Revised SARR originated this traffic in the PRB and interchanged it with Union Pacific Railroad Company at Northport, NE.

³¹ The footprint was expanded from Guernsey, WY east to Northport, NE.

by nearly 100 percentage points on average and reduces WFA/Basin's rate relief by over \$328 million. Retroactive application of Alternative ATC in this manner is fundamentally biased, and will not produce accurate MMM R/VC ratios, because WFA/Basin did not use the iterative process described above to develop its best case SAC relief using Alternative ATC.

Importantly, the SARR configuration and traffic group WFA/Basin developed in 2007/2008 using Modified ATC is very sensitive to changes in revenues. Retroactive reductions to the SARR revenue allocations (including ones as small as a few cents per ton) require revisiting the iterative process WFA used to develop the SARR system and traffic group, because reduced movement revenues for each cross-over shipper coupled with static costs of providing service to the shippers throws the cost-to-revenue relationship out of balance. As shown in my electronic workpapers,³² the change in revenue allocation methods impacts the revenue per ton and R/VC ratio rankings of the PRB moves that are potentially subject to inclusion in the traffic group, which changes ripple through the entire iterative process of designing a SARR.

WFA/Basin's revised SARR MMM Model developed using Modified ATC is also extremely sensitive to changes in SARR revenues, so that changes in revenues will have a significant impact on the maximum MMM R/VC ratios. For example, in 2005, retroactive substitution of Alternative ATC revenues for Modified ATC revenues reduces WFA/Basin's currently configured SARR revenues by 5 percent,³³ but increases the maximum MMM R/VC ratios by 40 percent.³⁴

³² See workpaper "Updated Rankings 06-2014.xlsx."

³³ $221.0M \div 232.5M - 1.0 = 0.05$. See workpaper "BNSF Coal Statistics (2004-2013).xlsx," at level "STB 2009 LRR."

³⁴ $3.47 \div 2.47 - 1.0 = 0.40$. See Table 1 above.

I was actively involved in developing WFA/Basin's revised SARR in 2007 and 2008, and, for the reasons set forth above, WFA/Basin would not have presented the same SARR configuration and traffic group to STB in 2007/2008 if it had used Alternative ATC to allocate cross-over traffic revenues.³⁵

B. THE FORECASTED REVENUES AND FORECASTED COSTS CONTAINED IN THE CURRENT RECORD ARE MATERIALLY INACCURATE

1. Forecasted Revenues

The Board's cross-over traffic revenue allocation methods are applied to allocate the defendant carrier's forecasted real world revenues on the cross-over traffic. In this case, over 95% of WFA/Basin's Original SARR traffic and over 70% of WFA/Basin's Revised SARR traffic was cross-over traffic.³⁶ All of this cross-over traffic was BNSF PRB traffic that WFA/Basin's SARRs originated and interchanged with the residual BNSF.

The through revenues the Board developed for WFA/Basin's Original SARR cross-over traffic started with through revenues from BNSF's internal forecast for a base period (4Q04 to 4Q05 for most traffic), which the Board then forecast over the 20-year DCF model period using a combination of forecasts including, most notably, EIA's AEO 2006 forecasts, and Global Insight's RCAF forecasts. All of these forecasts were developed and published in the 2004 to 2006 time period. The Board used the same procedures and the same forecasts in developing revenues for WFA/Basin's Revised

³⁵ As I discussed in my Verified Statement submitted to the Board in this case on March 18, 2011 at pp. 48-52, WFA/Basin also would not have presented the same SARR configuration and traffic group to the STB in 2007/2008 if the Board had used its "Original ATC" methodology to allocate cross-over traffic revenues.

³⁶ Based on 2005 volumes. See workpapers "STB LRR Traffic and Revenues BNSF 3-26-07 Reply (with OATC AATC and MATC).xls" at level "SARR Traffic_2005" cell BX6, and "STB LRR Traffic and Revenues BNSF 3-26-07 Reply_1.xls" at level "SARR Traffic_2005" cell BK7.

SARR cross-over traffic revenues in 2009: the base period remained the same and the Board applied the same vintage forecasts (developed in 2004 to 2006) to project Revised SARR revenues.

In its *2009 Rate Relief Orders*, the Board projected that per-unit through revenues for SARR (PRB) cross-over coal traffic would increase by approximately { } between 2004 and 2013.³⁷ These through revenue projections have proved to be way off the mark. BNSF’s actual revenues per unit on its coal traffic (most of which is PRB coal traffic)³⁸ actually increased by 95% per ton between 2004 and 2013 as shown in Table 3 below.

Table 3
BNSF Coal Statistics (2004-2013)

Year	BNSF QCS Reports			BNSF Rev per Ton 1/	STB 2009 Cross-over Traffic Through Rev per Ton 2/
	No. of Cars	Annual Tons	Annual Revenues		
(1)	(2)	(3)	(4)	(5)	(6)
1. 2004	2,225,621	256,497,354	\$2,382,446,406	\$9.29	{ }
2. 2005	2,248,560	260,133,392	\$2,628,234,542	\$10.10	{ }
3. 2006	2,470,794	288,184,081	\$3,110,714,403	\$10.79	{ }
4. 2007	2,476,749	291,324,603	\$3,441,553,980	\$11.81	{ }
5. 2008	2,524,478	297,439,530	\$4,197,708,529	\$14.11	{ }
6. 2009	2,395,528	283,073,155	\$3,756,828,043	\$13.27	{ }
7. 2010	2,216,095	263,223,407	\$3,901,625,529	\$14.82	{ }
8. 2011	2,313,183	274,975,800	\$4,969,552,892	\$18.07	{ }
9. 2012	2,180,376	259,630,331	\$4,755,926,775	\$18.32	{ }
10. 2013	2,236,543	265,989,430	\$4,828,295,080	\$18.15	{ }
11. 2004-2013 percent change				95%	{ }

1/ Based on QCS; column (4) ÷ column (3).
2/ See workpaper “BNSF Coal Statistics (2004-2013).xlsx”.

³⁷ See workpaper “BNSF Coal Statistics (2004-2013).xlsx” at level “BNSF Coal Statistics.” The percentage increase per ton for WFA/Basin’s Original, and larger, PRB cross-over traffic group is even smaller – { }. *Id.*

³⁸ “[M]ore than 90 percent of all BNSF Railway’s coal tons originat[e] from the Powder River Basin of Wyoming and Montana.” 2013 BNSF Form 10-K, p. 6.

If the Board retroactively applies Alternative ATC to the current record forecasts of BNSF's PRB revenues, it will result in inaccurate, and vastly understated, SARR revenues on cross-over traffic because the forecasted through revenues, to which Alternative ATC will be applied, are demonstrably inaccurate and vastly understated.

The principal reason why these cross-over SARR traffic revenues would be understated is that the forecasts used to project the cross-over SARR through revenues did not accurately predict either the large rate increases that BNSF imposed on legacy PRB coal transportation contract shippers³⁹ or the extent to which BNSF would implement its fuel surcharge program on its coal traffic base.

WFA/Basin's Revised SARR included approximately { } million tons⁴⁰ of cross-over traffic moving under legacy contracts in 2005 that were subject to re-pricing before 2014. According to publicly available materials, when BNSF's legacy contracts expired, BNSF frequently increased the expiring contract rates by 100% or more through a combination of higher base rates and new fuel surcharges.⁴¹ These huge increases simply are not captured in the forecasts in the current record.⁴²

2. Forecasted SAC

The Board's DCF model uses a series of indices to forecast SARR capital costs (including replacement costs of capital assets) and operating costs over the 20 year DCF

³⁹ Legacy contract shippers as used herein refers to cross-over traffic shippers with coal transportation contracts in effect during the forecast base period (4Q04 to 4Q05 for most traffic), most of which went into effect prior to 4Q04.

⁴⁰ See workpaper "STB LRR Traffic and Revenues BNSF 3-26-07 Reply_1.xls" at level "SARR Traffic_2005," column BN.

⁴¹ WFA/Basin's counsel discusses this re-pricing in detail in the Argument portion of WFA/Basin's Comments.

⁴² The same holds true for WFA/Basin's Original SARR. The Original SARR had { } million tons of cross-over traffic moving under legacy contracts that expired prior to 2014. See workpaper "BNSF Coal Contracts Repricing summary table.xlsx" at level "Repricing Summary," column F. The revenues on the issue traffic moves, and the interchange move, also should be updated, so all revenues are calculated using the most recent available actual data.

period. With one exception,⁴³ the Board used the same forecasts in the DCF model it used to calculate SAC for WFA/Basin's Original and Revised SARR's. Exhibit ___(TDC-5) compares the 2006 forecast values with the updated (actual through 2013) index values for each index used in the DCF model. As shown in Exhibit ___(TDC-5), the forecasted operating and capital recovery cost indices are lower than the corresponding now-historical and forecasted indices. Use of the updated indices in concert with updated volume and revenue data would increase SAC costs and produce more accurate SAC calculations. In addition, substitution of actual operating expense values, where available, for forecasted values, may produce more accurate SAC results.⁴⁴ If Alternative ATC is retroactively applied, SAC capital carrying and operating costs must be revised as well (along with updated volumes and per-unit revenues) to obtain accurate SAC results.

3. MMM Model

As discussed above, application of Alternative ATC to current record revenues will not produce accurate revenue allocations because BNSF's through revenues in the current record are materially understated. Thus, to obtain accurate revenue allocations, Alternative ATC must be applied to updated, accurate through revenues.

This updating will also require updating the MMM Model because SARR revenues are used to calculate MMM R/VC ratios.⁴⁵ In addition, to obtain correct MMM R/VC ratios, the forecasted variable costs in the MMM model must also be updated. The current record MMM Model uses 2004 base year variable costs that are indexed using a

⁴³ The Board updated its prior cost-of-capital forecast in the *2009 Rate Relief Orders*.

⁴⁴ WFA/Basin constructed its Original and Revised SARRs during a 30 month period (2Q02 to 3Q04). WFA/Basin would construct a third SARR using the same construction period, so construction unit costs previously developed should not change.

⁴⁵ This updating would also include updating the issue traffic and interchange movement R/VC ratios as well.

forecast of the RCAF-A developed in 2006. That forecast, however, has not come close to accurately tracking actual changes in BNSF's variable costs.

Table 4 below demonstrates the disconnect between projected variable costs and actual variable costs for a representative cross-over movement included in the 2009 SARR traffic group.

Time Period	URCS Phase III VC		Percent Increase (Actual vs. Forecast) 3/
	STB 2009 Workpapers 1/	Actual 2/	
(1)	(2)	(3)	(4)
1. 4Q04	{ }	{ }	{ }
2. 2005	{ }	{ }	{ }
3. 2006	{ }	{ }	{ }
4. 2007	{ }	{ }	{ }
5. 2008	{ }	{ }	{ }
6. 2009	{ }	{ }	{ }
7. 2010	{ }	{ }	{ }
8. 2011	{ }	{ }	{ }
9. 2012	{ }	{ }	{ }

1/ 2004 URCS costs escalated using forecasted RCAF-A index.
2/ Actual based on historical URCS data for each year.
3/ Column (3) ÷ Column (2) - 1.0.

As shown in Table 4 above, the actual variable costs for this movement are shown to have been up to { } higher than the projections included in the STB's 2009 MMM model through 2012. The results were similar for all SARR movements—the 2009 projections have proved to be dramatically understated.⁴⁶

⁴⁶ See workpapers in directory \TDC 062014 WP\Compare to Actual\URCS.

IV. IF ALTERNATIVE ATC IS RETROACTIVELY APPLIED IN THIS CASE, ACCURATE AND REASONABLE MAXIMUM RATES CAN BE DETERMINED ONLY IF WFA/BASIN IS GIVEN THE OPPORTUNITY TO REVISE ITS REVISED SARR AND UPDATE THE STALE RECORD

If Alternative ATC is applied, WFA/Basin must be given the opportunity to develop a revised SARR using Alternative ATC. Specifically, WFA/Basin must be given the opportunity to revise the SARR configuration and traffic group. In addition, an accurate result can only be obtained if other facets of the record are updated as well.

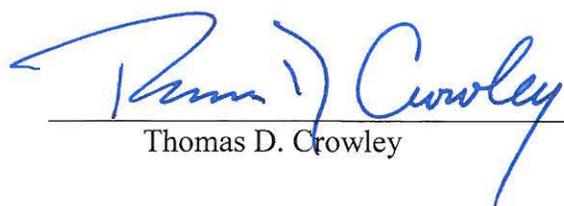
To make the required adjustments, the parties will need to update the record through discovery to include updates of BNSF's actual tonnage, revenue and coal contract information for PRB coal moves for periods from the close of initial discovery period in this case through mid-2014 (or latest available). WFA/Basin will also need to obtain discovery of updated operating cost information for the same time period.

BNSF should be able to respond to these discovery requests promptly. The tonnage and revenue information involves only one commodity – PRB coal – and is located in electronic databases BNSF maintains and regularly archives in the ordinary course of business. The contract requests would be limited to BNSF's PRB coal transportation contracts, and these contracts are readily accessible by BNSF. Most of the SARR operating cost information the Board relied upon in its *September 2007 Decision* and its *2009 Rate Relief Orders* to develop SARR operating costs comes from BNSF electronic databases as well, such as its crew wage and fuel supply databases.

If the Board permits WFA/Basin to revise its SARR using Alternative ATC, and to properly update the record, I expect that WFA/Basin will be able to prove its entitlement to substantial rate relief – for a third time.

VERIFICATION

I, Thomas D. Crowley, verify under penalty of perjury that I have read this Remand Verified Statement, that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.


Thomas D. Crowley

Executed on June 16, 2014

THOMAS D. CROWLEY
STATEMENT OF QUALIFICATIONS

My name is Thomas D. Crowley. I am an economist and President of the economic consulting firm of L. E. Peabody & Associates, Inc. The firm's offices are located at 1501 Duke Street, Suite 200, Alexandria, Virginia 22314, 760 E. Pusch View Lane, Suite 150, Tucson, Arizona 85737, and 7 Horicon Avenue, Glens Falls, New York 12801.

I am a graduate of the University of Maine from which I obtained a Bachelor of Science degree in Economics. I have also taken graduate courses in transportation at George Washington University in Washington, D.C. I spent three years in the United States Army and since February 1971 have been employed by L. E. Peabody & Associates, Inc.

I am a member of the American Economic Association, the Transportation Research Forum, and the American Railway Engineering and Maintenance-of-Way Association.

The firm of L. E. Peabody & Associates, Inc. specializes in analyzing matters related to the rail transportation of all commodities. As a result of my extensive economic consulting practice since 1971 and my participation in maximum-rate, rail merger, service disputes and rule-making proceedings before various government and private governing bodies, I have become thoroughly familiar with the rail carriers that move coal over the major coal routes in the United States. This familiarity extends to subjects of railroad service, costs and profitability, cost of capital, railroad capacity, railroad traffic prioritization and the structure and operation of the various contracts and tariffs that historically have governed the movement of traffic by rail.

THOMAS D. CROWLEY
STATEMENT OF QUALIFICATIONS

As an economic consultant, I have organized and directed economic studies and prepared reports for railroads, freight forwarders and other carriers, for shippers, for associations and for state governments and other public bodies dealing with transportation and related economic problems. Examples of studies I have participated in include organizing and directing traffic, operational and cost analyses in connection with multiple car movements, unit train operations for coal and other commodities, freight forwarder facilities, TOFC/COFC rail facilities, divisions of through rail rates, operating commuter passenger service, and other studies dealing with markets and the transportation by different modes of various commodities from both eastern and western origins to various destinations in the United States. The nature of these studies enabled me to become familiar with the operating practices and accounting procedures utilized by railroads in the normal course of business.

Additionally, I have inspected and studied both railroad terminal and line-haul facilities used in handling various commodities, including unit train coal movements from coal mine origins in the Powder River Basin and in Colorado to various utility destinations in the eastern, mid-western and western portions of the United States and from the Eastern coal fields to various destinations in the Mid-Atlantic, northeastern, southeastern and mid-western portions of the United States. These operational reviews and studies were used as a basis for the determination of the traffic and operating characteristics for specific movements of numerous commodities handled by rail.

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I have frequently been called upon to develop and coordinate economic and operational studies relative to the rail transportation of various commodities. My responsibilities in these undertakings included the analyses of rail routes, rail operations and an assessment of the relative efficiency and costs of railroad operations over those routes. I have also analyzed and made recommendations regarding the acquisition of railcars according to the specific needs of various shippers. The results of these analyses have been employed in order to assist shippers in the development and negotiation of rail transportation contracts which optimize operational efficiency and cost effectiveness.

I have developed property and business valuations of privately held freight and passenger railroads for use in regulatory, litigation and commercial settings. These valuation assignments required me to develop company and/or industry specific costs of debt, preferred equity and common equity, as well as target and actual capital structures. I am also well acquainted with and have used the commonly accepted models for determining a company's cost of common equity, including the Discounted Cash Flow Model ("DCF"), Capital Asset Pricing Model ("CAPM"), and the Farma-French Three Factor Model.

Moreover, I have developed numerous variable cost calculations utilizing the various formulas employed by the Interstate Commerce Commission ("ICC") and the Surface Transportation Board ("STB") for the development of variable costs for common carriers, with particular emphasis on the basis and use of the Uniform Railroad Costing System ("URCS") and its predecessor, Rail Form A. I have utilized URCS/Rail form A

THOMAS D. CROWLEY
STATEMENT OF QUALIFICATIONS

costing principles since the beginning of my career with L. E. Peabody & Associates Inc. in 1971.

I have frequently presented both oral and written testimony before the ICC, STB, Federal Energy Regulatory Commission, Railroad Accounting Principles Board, Postal Rate Commission and numerous state regulatory commissions, federal courts and state courts. This testimony was generally related to the development of variable cost of service calculations, rail traffic and operating patterns, fuel supply economics, contract interpretations, economic principles concerning the maximum level of rates, implementation of maximum rate principles, and calculation of reparations or damages, including interest. I presented testimony before the Congress of the United States, Committee on Transportation and Infrastructure on the status of rail competition in the western United States. I have also presented expert testimony in a number of court and arbitration proceedings concerning the level of rates, rate adjustment procedures, service, capacity, costing, rail operating procedures and other economic components of specific contracts.

Since the implementation of the *Staggers Rail Act of 1980*, which clarified that rail carriers could enter into transportation contracts with shippers, I have been actively involved in negotiating transportation contracts on behalf of shippers. Specifically, I have advised shippers concerning transportation rates based on market conditions and carrier competition, movement specific service commitments, specific cost-based rate adjustment provisions, contract reopeners that recognize changes in productivity and cost-based ancillary charges.

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I have been actively engaged in negotiating coal supply contracts for various users throughout the United States. In addition, I have analyzed the economic impact of buying out, brokering, and modifying existing coal supply agreements. My coal supply assignments have encompassed analyzing alternative coals to determine the impact on the delivered price of operating and maintenance costs, unloading costs, shrinkage factor and by-product savings.

I have developed different economic analyses regarding rail transportation matters for over sixty (60) electric utility companies located in all parts of the United States, and for major associations, including American Paper Institute, American Petroleum Institute, Chemical Manufacturers Association, Coal Exporters Association, Edison Electric Institute, Mail Order Association of America, National Coal Association, National Industrial Transportation League, North America Freight Car Association, the Fertilizer Institute and Western Coal Traffic League. In addition, I have assisted numerous government agencies, major industries and major railroad companies in solving various transportation-related problems.

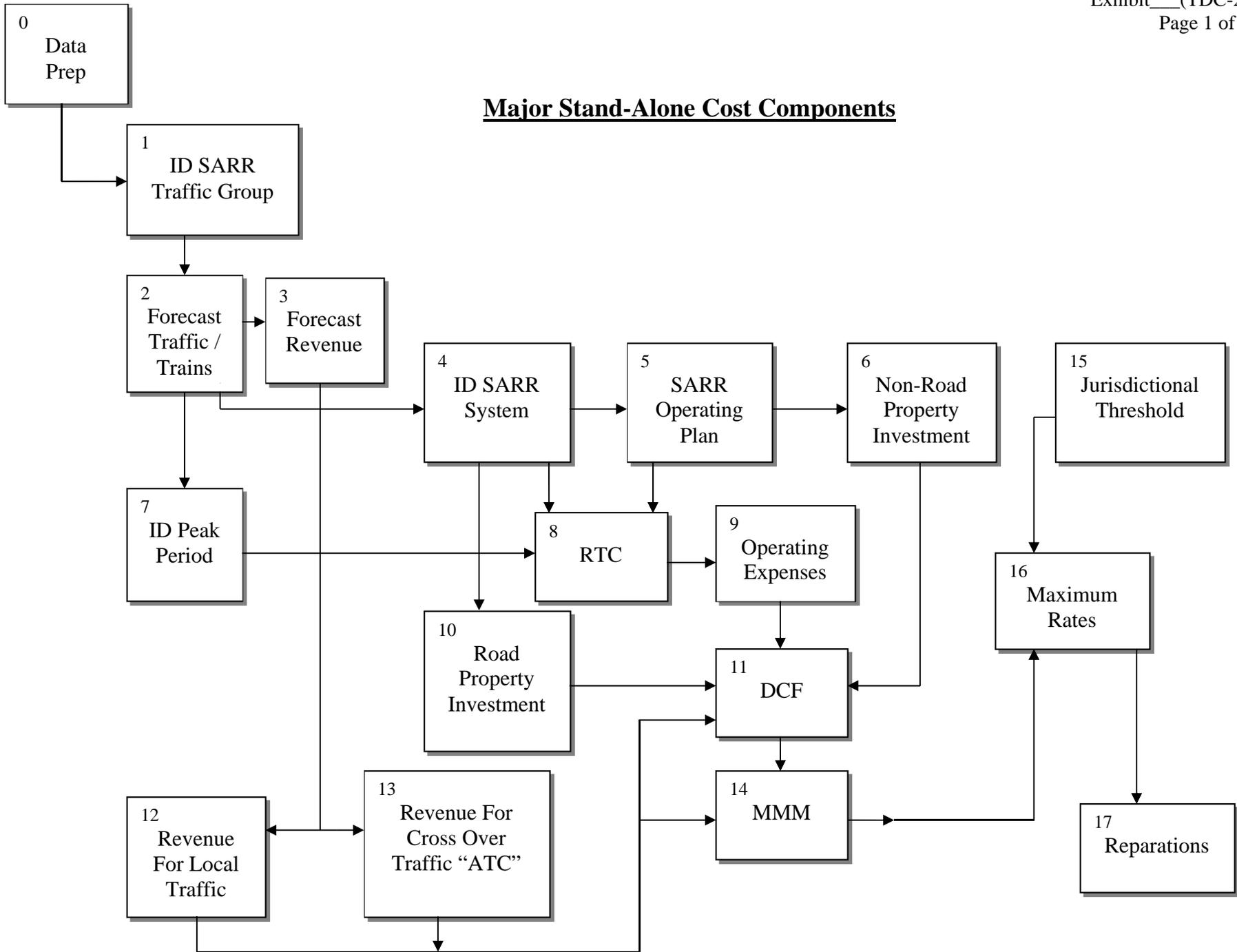
In the two Western rail mergers that resulted in the creation of the present BNSF Railway Company and Union Pacific Railroad Company and in the acquisition of Conrail by Norfolk Southern Railway Company and CSX Transportation, Inc., I reviewed the railroads' applications including their supporting traffic, cost and operating data and provided detailed evidence supporting requests for conditions designed to maintain the competitive rail environment that existed before the proposed mergers and acquisition.

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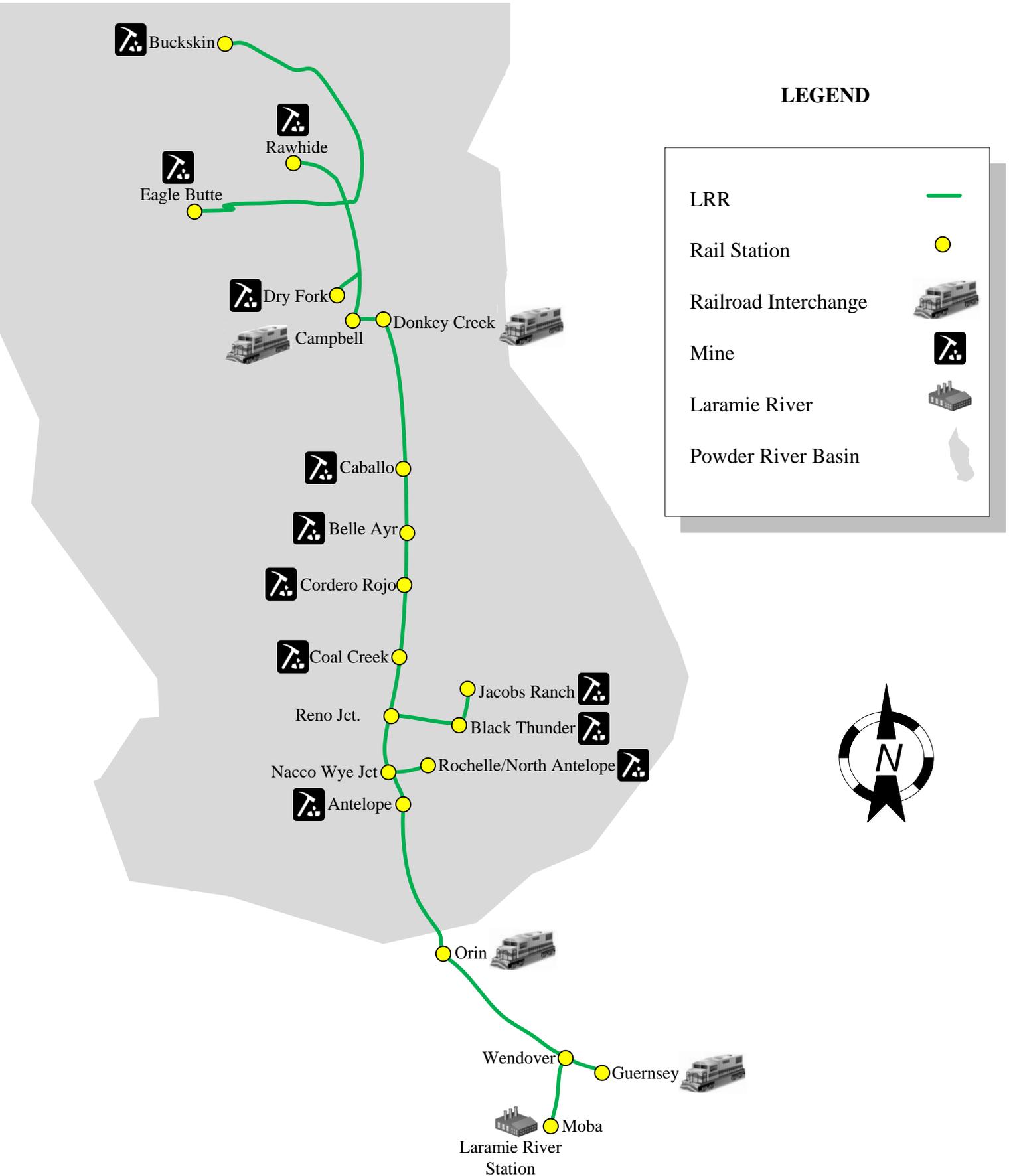
In these proceedings, I represented shipper interests, including plastic, chemical, coal, paper and steel shippers.

I have participated in various proceedings involved with the division of through rail rates. For example, I participated in ICC Docket No. 35585, *Akron, Canton & Youngstown Railroad Company, et al. v. Aberdeen and Rockfish Railroad Company, et al.* which was a complaint filed by the northern and mid-western rail lines to change the primary north-south divisions. I was personally involved in all traffic, operating and cost aspects of this proceeding on behalf of the northern and mid-western rail lines. I was the lead witness on behalf of the Long Island Rail Road in ICC Docket No. 36874, *Notice of Intent to File Division Complaint by the Long Island Rail Road Company.*

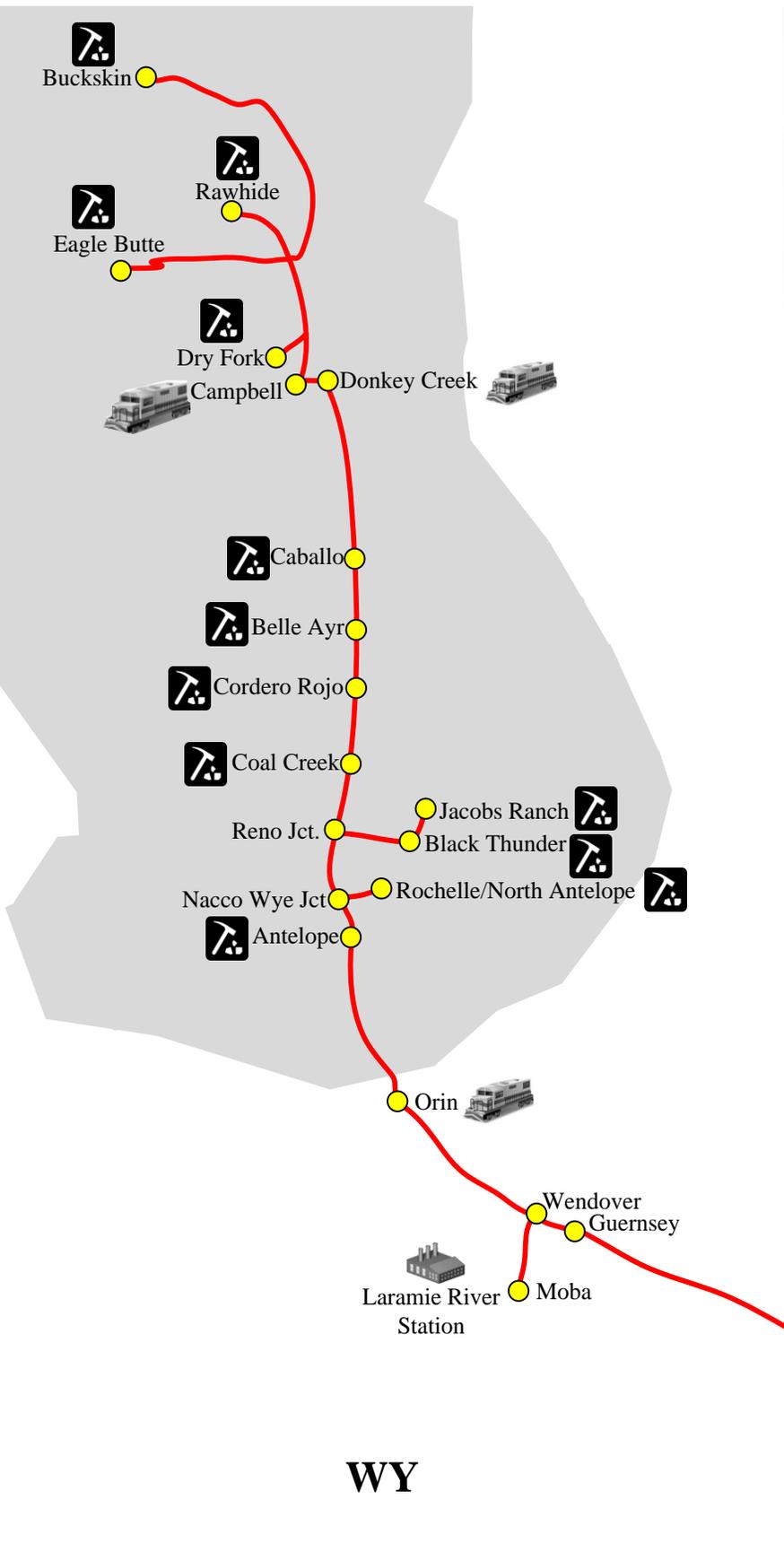
Major Stand-Alone Cost Components



Schematic of Original WFA SARR



Schematic of Revised WFA SARR



LEGEND

LRR	
Rail Station	
Railroad Interchange	
Mine	
Laramie River	
Powder River Basin	

SD

NE



WY

Northport

EXHIBIT_(TDC-5)
REDACTED