

STEPTOE & JOHNSON^{LLP}
ATTORNEYS AT LAW

David F. Rifkind
202.429.8094
drifkind@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

210730

April 29, 2004



via Hand Delivery

The Honorable Vernon A. Williams
Secretary
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

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**Re: *Otter Tail Power Company v. The Burlington Northern and
Santa Fe Railway Company, Docket No. 42071***

Dear Secretary Williams:

Enclosed for filing in the above-captioned matter are the original and ten copies of the Public version of the Rebuttal Evidence of The Burlington Northern and Santa Fe Railway Company ("BNSF"). The Public version of this Rebuttal Evidence consists of a single volume containing the Narrative and Exhibits. Also enclosed are three copies of a CD containing a PDF version of the Public Narrative.

BNSF is filing the Highly Confidential version of this Rebuttal Evidence today under a separate cover letter.

Please date stamp the extra copy of this cover letter and return it to the messenger who delivered this filing.

Sincerely,

David F. Rifkind
David F. Rifkind

DFR/jmm
Enclosures

cc: Counsel for Complainant

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**BEFORE THE
SURFACE TRANSPORTATION BOARD**

STB Docket No. 42071

**OTTER TAIL POWER COMPANY
v.
THE BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY**

**Rebuttal Evidence of
The Burlington Northern and Santa Fe Railway Company**

NARRATIVE AND EXHIBITS

Richard E. Weicher
Michael E. Roper
David M. Pryor
THE BURLINGTON NORTHERN AND
SANTA FE RAILWAY COMPANY
2500 Lou Menk Drive
Fort Worth, TX 76131
(817) 352-2353

Samuel M. Sipe, Jr.
Anthony J. LaRocca
Frederick J. Horne
David F. Rifkind
STEPTOE & JOHNSON LLP
1330 Connecticut Avenue, N.W.
Washington, DC 20036
(202) 429-3000

ATTORNEYS FOR
THE BURLINGTON NORTHERN AND
SANTA FE RAILWAY COMPANY

April 29, 2004

**II-A Quantitative Evidence – Variable Costs
PUBLIC VERSION**

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I. COUNSEL'S ARGUMENT AND SUMMARY OF EVIDENCE

This is the Rebuttal Evidence and Argument of defendant The Burlington Northern and Santa Fe Railway Company ("BNSF") in the rate reasonableness proceeding *Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company*, STB Docket No. 42071. The format of this Rebuttal Evidence and Argument complies with that prescribed in the Board's March 12, 2001 decision in STB Ex Parte No. 347 (Sub-No.3), *General Procedures for Presenting Evidence in Stand-Alone Rate Cases*.

This Rebuttal Evidence responds to Otter Tail's Reply Evidence, filed October 8, 2003. BNSF's Rebuttal Evidence was originally scheduled to be filed on November 24, 2003. *See* Order served July 24, 2003. However, prior to the filing of rebuttal evidence, Otter Tail sought permission to file supplemental opening evidence on SAC issues in light of recent Board decisions, and the Board granted that request on November 21, 2003. The filing of rebuttal evidence was rescheduled to occur after Otter Tail filed its supplemental SAC evidence and BNSF replied to that supplemental evidence. Otter Tail filed its supplemental opening SAC evidence on January 9, 2004, and BNSF replied to that supplemental opening evidence on March 22, 2004.

Otter Tail's October 8, 2003 Reply Evidence, to which this Rebuttal Evidence responds, addressed two issues: the calculation of the variable costs for the issue traffic movement and the legal and policy framework for addressing the SAC analyses submitted by the parties. The Narrative portion of this Rebuttal Evidence, Section II.A below, discusses BNSF's evidence relating to the variable costs of providing the issue traffic transportation. That variable cost evidence is also summarized briefly in Section I.A of this Argument. While BNSF does not contest the Board's jurisdiction on quantitative market dominance grounds, BNSF submits this

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variable cost evidence to correct several improper and inaccurate variable cost calculations sponsored by Otter Tail in its Reply Evidence. Section I.B of this Rebuttal Argument focuses on the legal and policy framework within which the Board is required to assess the evidence that has been submitted in this proceeding.

A. VARIABLE COST EVIDENCE

Section II.A.1 of this Narrative describes BNSF's analysis of the variable costs of providing service to Otter Tail's Big Stone Generating Station and its conclusion that the revenue to variable cost ("R/VC") ratio for this service exceeds the jurisdictional threshold. The R/VC ratios developed by BNSF for the rates at issue in this proceeding are set out below in Table I-1 and in Section II.A.2 of the Narrative.

Table I-1
R/VC Ratios

Belle Ayr	
1Q02	2.28
2Q02	2.26
3Q02	2.29
4Q02	2.23
1Q03	2.16
Eagle Butte	
1Q02	2.30
2Q02	2.27
3Q02	2.29
4Q02	2.26
1Q03	2.13

BNSF's rebuttal variable cost evidence is sponsored by two witnesses, Benton V. Fisher and Robert J. Plum, III, Directors at FTI Consulting, Inc. ("FTI").

The most significant difference between the parties in the calculation of the variable costs of providing the issue traffic transportation relates to the calculation of BNSF's road property

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costs. Because of shortcomings in BNSF's line-specific investment records and methodological difficulties in adjusting road property costs to account for traffic densities, BNSF relies on URCS system-average road ownership costs. By contrast, Otter Tail continues to advocate a flawed movement-specific adjustment. BNSF has explained in detail why its line-specific road property data cannot be used to develop a valid movement-specific adjustment to system-average costs. BNSF has also explained the numerous significant flaws in Otter Tail's proposed methodology, including its use of a variability factor that does not account for density. In this Rebuttal, BNSF further demonstrates why Otter Tail's proposed route-specific adjustments are flawed and must be rejected.

Other differences between the parties' variable cost evidence are described in detail in Section II.A.1 of the Narrative and are not addressed further here. The remainder of this Argument addresses the framework within which the evidence on variable costs and stand-alone costs in this proceeding should be considered.

B. THE CONTEXT FOR ASSESSING THE CHALLENGED RATES

On opening, BNSF described the policy framework in which the Board must carry out its evaluation of the reasonableness of the challenged rates. BNSF made four basic points:

- Congress, the ICC and the Board have all recognized that revenue adequacy can be achieved only by allowing railroads to charge relatively high rates to shippers with the most inelastic demand;
- Otter Tail is a shipper with highly inelastic demand;
- The Board's rate reasonableness standards must be applied in a manner that permits legitimate differential pricing; and
- The Board's RSAM calculations for BNSF provide a reference point indicating that Otter Tail's rates are clearly within the expected range of differential prices.

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Otter Tail's reply to these points is heavy on rhetoric and mischaracterization of BNSF's position. At bottom, however, Otter Tail's response reflects a fundamental disagreement with the principle of differential pricing. Otter Tail's basic complaint is that it is being charged rates that are above average. But a railroad charging differential prices will necessarily charge a range of prices, and shippers like Otter Tail with the highest demand elasticity will necessarily pay rates at the high end of that range.

Otter Tail does not dispute that BNSF is revenue inadequate under the standards applied by the Board. Otter Tail's Reply contains a lengthy discussion of BNSF's stock performance and analysts' views about BNSF's stock price which is neither responsive to any argument made by BNSF nor relevant to the issue of revenue adequacy. OTP Reply Nar. at II-A-52 to 61. The Board's revenue adequacy standard is the only legally relevant measure of financial health for purposes of the Board's rate regulation. So long as BNSF is revenue inadequate under this standard, the Board must ensure that its rate reasonableness standards are applied so as to give BNSF a meaningful opportunity to achieve revenue adequacy.¹ The revenue adequacy standard as defined by the Board is not whether BNSF is on the verge of bankruptcy or has any access to capital, but whether BNSF is earning a return on investment that meets or exceeds its cost of capital. The Board has found that BNSF has consistently failed to earn its cost of capital.²

¹ The statute plainly states that the Board is required to "recogniz[e] the policy . . . that rail carriers shall earn adequate revenues" in determining the reasonableness of rates in individual cases. 49 U.S.C. §10701(d)(2).

² The Board's most recent revenue adequacy determination is set out in *Railroad Revenue Adequacy -- 2002 Determination*, Ex Parte No. 552 (Sub-No. 7) (served July 2, 2003). The Board has never found that BNSF earned adequate revenues in any year. As the ICC explained in the *Coal Rate Guidelines*, if railroads cannot earn their cost of capital, "their ability both to retain existing investments and obtain new capital will be impaired, because both the

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Revenue adequacy can only be achieved if the rate reasonableness methodology applied by the Board permits railroads to charge relatively high rates to shippers with inelastic demand for transportation service. This principle is beyond serious dispute. As the Board explained upon its adoption of simplified procedures in cases where the *Coal Rate Guidelines* would be too cumbersome:

[T]he ICC adopted Ramsey pricing principles as the cornerstone of its rate reasonableness tenets for the railroad industry. Under Ramsey pricing principles, carriers are expected to price traffic in inverse proportion to demand elasticity, up to the point at which a reasonable, adequate profit level is attained. In other words, a railroad should price its traffic differentially so as to recover a greater percentage of its unattributable costs from the traffic with a greater dependency on its service (*i.e.*, less price sensitivity for that service).

Rate Guidelines – Non-Coal Proceedings, 1 S.T.B. 1004, 1007 (1996).

BNSF's witness Mr. Slater demonstrated that Otter Tail is a shipper with highly inelastic demand. On reply, Otter Tail "does not dispute Mr. Slater's conclusions that the Big Stone Station's demand for PRB coal transportation is highly inelastic" OTP Reply Nar. at II-A-75. It is therefore unnecessary to address Otter Tail's critique of Mr. Slater's analysis since the only point of Mr. Slater's testimony was to establish Otter Tail's demand inelasticity, a fact that Otter Tail admits.³

existing and prospective funds could be invested elsewhere at a more attractive rate of return." 1 I.C.C. 2d at 535.

³ One point in Otter Tail's reply evidence on the matter of its demand inelasticity needs to be addressed, however. While Otter Tail admits to having highly inelastic demand, it nevertheless challenges BNSF's claim that recent increases in the delivered cost of coal (caused principally by increases in the price of Otter Tail's coal) have not appreciably affected the amount of coal consumed at the Big Stone plant. *Id.* at II-A-72. Otter Tail presents an Exhibit, Exh. II-A-32, that purportedly shows a decrease in the Big Stone capacity factor in 2002

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Otter Tail's core claim and point of contention with BNSF is that BNSF should not be permitted to charge Otter Tail significantly more than it charges other shippers. This position is a complete repudiation of differential pricing. Since Otter Tail, by its own admission, has highly inelastic demand, it is reasonable to expect that BNSF's rates for the issue traffic will be higher than the rates BNSF charges on average. Otter Tail presents two comparisons of rates paid by Otter Tail to rates paid by other shippers. Neither comparison presents any basis for concluding that Otter Tail's rates are outside the range of permissible differential pricing.

Otter Tail's first comparison looks at the delivered cost of coal for 33 shippers in the Mid-continent Area Power Pool. *See* OTP Rep. Exh. II-A-31. Referring to Exhibit II-A-31, Otter Tail complains that the total delivered cost of its coal is 19 percent higher "on a mills per ton mile basis" than a group of supposedly "captive" shippers in that Pool. *See* OTP Rep. Nar. at II-A-65. But Otter Tail's delivered "mills per ton-mile" calculation says nothing meaningful about the level of its transportation rates. Otter Tail divided the *total* delivered cost – which includes the price paid to the mine for coal as well as transportation charges – by miles shipped. Otter Tail offers no explanation as to why it is meaningful to compare costs on a mills per ton-mile basis when those costs include mine charges that have nothing to do with transportation or the distance that coal is shipped. Moreover, as Mr. Slater pointed out on opening, Otter Tail's

corresponding to an increase in the cost of delivered coal. But Otter Tail completely ignores the evidence sponsored by Mr. Slater showing that the decline in coal utilization in 2002 is attributable to a maintenance outage in the fall of 2002. BNSF Opening Nar. at II-69 to 70. Mr. Slater showed that except for maintenance outages, the month-by-month capacity factors for all five years 1998-2002 follow similar patterns, notwithstanding changes in the delivered cost of coal. *Id.*

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delivered cost of coal appears to have increased significantly as a result of disadvantageous coal supply arrangements. *See* BNSF Opening Nar. at II-70 to 71.

Otter Tail's second comparison looks at the transportation rates paid by sole-served BNSF coal shippers on the SARR. OTP Reply Nar. at II-A-76 and Table II-A-18. Once again, there are problems with the calculations underlying Otter Tail's comparison. For example, Otter Tail claims that the R/VC ratio for the issue traffic is much higher than the average R/VC ratio for other sole-served shippers. But Otter Tail's variable costs for the issue traffic are based on erroneous movement-specific adjustments that distort the actual variable costs of the issue traffic movement, as BNSF explains in the variable cost evidence in this case. Otter Tail's calculation of the variable costs for other sole-served movements is also based on a convoluted manipulation of URCS system-average costs that suggests implausibly that sole-served shippers pay rates that are on average lower than the Board's jurisdictional threshold.

The more fundamental problem with both of Otter Tail's comparisons, however, is Otter Tail's premise that the rates for a shipper like Otter Tail, with highly inelastic demand, should reflect average rates paid by other shippers. This contention is flatly inconsistent with the policy of differential pricing and ignores the role of shipper demand in setting rail rates. In the *McCarty Farms* case, the U.S. Court of Appeals for the D.C. Circuit specifically ruled that the ICC's reliance on average rates paid by other shippers was inconsistent with the principles of Constrained Market Pricing and that any rate reasonableness methodology that focused on average rates would have an impermissible downward ratcheting effect on rate levels.⁴

⁴ *Burlington Northern R. Co. v. I.C.C.*, 985 F.2d 589, 596-97 (D.C. Cir. 1993).

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Moreover, the electronic workpaper underlying Otter Tail's comparison of rates paid by the SARR's sole-served shippers shows that BNSF actually charges a wide range of rates to individual shippers, expressed both on a mills-per-ton basis and as an R/VC ratio.⁵ This wide range is precisely what a differential pricing regime would be expected to produce since individual purchasers, even if they are sole-served, have varying degrees of demand elasticity. Numerous factors affect the demand elasticity of an individual shipper, and the relative importance of different factors varies from shipper to shipper even if the shipper has no alternative rail transportation to a given facility.

A shipper's rate will vary depending on the equipment ownership, volume commitments, and the term of the contract, among other factors. In addition, the mere fact that a shipper is served only by a single railroad says nothing about the extent of competitive pressure that affects the rates that can be charged to that shipper. The Board has excluded evidence of product and geographic competition from rate reasonableness litigation for practical reasons, but it has acknowledged that these competitive factors exist and constrain rates. Otter Tail's focus on averages ignores the important question of whether certain sole-served shippers are nevertheless able to obtain low rates by using other affiliated plants as competitive leverage in rate negotiations as well as other potent sources of product and geographic competition.

In a market where prices are based on shipper demand, shippers with less inelastic demand should be expected to pay less than shippers, like Otter Tail, with highly inelastic demand. The premise of Otter Tail's comparison is that all sole-served shippers have identical or nearly identical demand elasticities, and that assumption is clearly wrong. Otter Tail's electronic

⁵ See OTP Reply electronic workpaper "OTRR Captive.xls."

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workpaper shows that BNSF is charging a range of rates to shippers with varying degrees of demand elasticity, consistent with the policy of differential pricing that is the foundation of the Board's rate reasonableness methodology. The workpaper shows that Otter Tail's rate is among several rates that are above average, but that is fully consistent with Otter Tail's admission that its demand is highly inelastic.

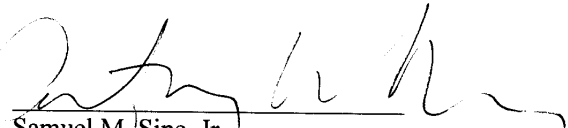
Finally, Otter Tail challenges the relevance of the Board's RSAM calculations as a reference point for assessing the Board's rate reasonableness conclusions. Once again, Otter Tail misrepresents BNSF's position on this issue. Contrary to Otter Tail's claim, BNSF is not urging "use of the Board's RSAM calculations under the *Non-Coal Guidelines* as purported justification for ignoring the stand-alone cost test in this case." OTP Reply Nar. at II-A-69. Rather, the RSAM calculation is a reference point – or "sanity test" – that the Board can use to see if its SAC determination produces an outcome that is consistent with differential pricing and the statutory revenue adequacy goal. Given Otter Tail's highly inelastic demand, it is a shipper that should be expected to pay rates at least as high as the RSAM level if BNSF is to have an opportunity to achieve revenue adequacy. If the Board's SAC determination were to diverge substantially from that suggested by the RSAM, one would have to question whether the SAC test is being applied consistently with the underlying goals of CMP.

At bottom, Otter Tail disagrees with the policy of differential pricing that is the foundation of the Board's rate reasonableness standards. Otter Tail clearly objects to paying more for coal transportation than some other shippers. But the congressional and Board policy to promote differential pricing requires that the Board permit railroads to charge shippers with inelastic demand, like Otter Tail, relatively high rates. Therefore, a properly conducted SAC test should not produce maximum reasonable rates for such shippers that are inconsistent with the

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Board's RSAM calculations. The rates at issue here are an example of the demand-based differential pricing that the *Guidelines* encourage and they are well within the range of differential pricing that should be expected if BNSF is to have an opportunity to achieve revenue adequacy.

Respectfully submitted,



Samuel M. Sipe, Jr.
Anthony J. LaRocca
Frederick J. Horne
David F. Rifkind
STEPTOE & JOHNSON LLP
1330 Connecticut Avenue, N.W.
Washington, D.C. 20036
(202) 429-3000

Richard E. Weicher
Michael E. Roper
David M. Pryor
THE BURLINGTON NORTHERN AND
SANTA FE RAILWAY COMPANY
2500 Lou Menk Drive
Fort Worth, TX 76131

ATTORNEYS FOR THE BURLINGTON
NORTHERN AND SANTA FE
RAILWAY COMPANY

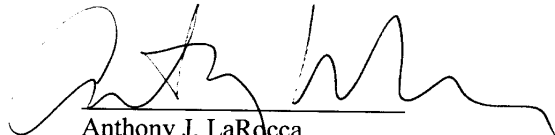
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CERTIFICATE OF SERVICE

I hereby certify that on April 29, 2004, I caused six copies of the foregoing Rebuttal Evidence of The Burlington Northern and Santa Fe Railway Company to be served by hand upon the following counsel for Otter Tail Power Company:

Nicholas J. DiMichael
Jeffrey O. Moreno
Michael H. Higgins
Thompson Hine LLP
1920 N Street, NW, Suite 800
Washington, DC 20036


Anthony J. LaRocca

II. MARKET DOMINANCE

A. QUANTITATIVE EVIDENCE

1. Variable Costs

BNSF filed opening and reply variable cost evidence in this proceeding on June 13, 2003 and October 8, 2003, respectively. BNSF presented the variable cost of service for moving coal from the two PRB mines, Eagle Butte and Belle Ayr, that originated the vast majority of coal destined to Otter Tail's Big Stone Generating Station near Big Stone City, South Dakota. In order to calculate variable costs, BNSF's principal variable cost witnesses, Benton V. Fisher and Robert J. Plum, III, relied upon 2002 BNSF URCS unit costs and, where appropriate, adjusted URCS system-average costs consistent with the results of movement-specific studies. BNSF's reply evidence showed First Quarter 2002 through First Quarter 2003 variable costs ranging between \$5.83 and \$6.46 per net ton, depending upon the origin mine, resulting in revenue-to-variable cost ("R/VC") ratios ranging between 2.13 and 2.32. In this rebuttal evidence, BNSF has made certain minor adjustments to its calculations and shows First Quarter 2002 through First Quarter 2003 variable costs ranging from \$5.86 to \$6.45 per net ton, resulting in R/VC ratios ranging from 2.13 to 2.30.

Otter Tail also filed opening and reply variable cost evidence on June 13, 2003 and October 8, 2003, respectively.¹ That evidence was sponsored by L.E. Peabody Vice President Joseph J. Plaistow. Otter Tail's variable cost evidence was also based on a 2002 BNSF URCS. Otter Tail's reply presented First Quarter 2002 through First Quarter 2003 variable costs for

¹ Otter Tail filed supplemental opening evidence on January 9, 2004, and BNSF replied to that supplemental opening evidence on March 22, 2004. Neither filing addressed variable cost issues.

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shipments from the Belle Ayr and Eagle Butte mines ranging between \$4.87 and \$5.39 per net ton, with R/VC ratios ranging between 2.55 and 2.77.

The principal difference between the parties' variable cost results is driven by the parties' respective development of road property ownership costs. Because of shortcomings in its line-specific investment records, irreconcilable differences between those records and BNSF's R-1, and methodological difficulties in adjusting road property costs to account for traffic densities, BNSF relies on URCS system-average road ownership costs. By contrast, Otter Tail continues to advocate a flawed movement-specific adjustment. BNSF has explained in detail why its line-specific road property data cannot be used to develop a valid movement-specific adjustment to system-average costs. BNSF has also explained the numerous significant flaws in Otter Tail's proposed methodology, including its use of a variability factor that does not account for density. In this rebuttal, BNSF further demonstrates why Otter Tail's proposed route-specific adjustments are flawed and must be rejected. These issues are addressed below in Section II.A.1.c.i.(b).

Like BNSF's opening and reply evidence, the organization of this Narrative is consistent with the Board's Decision on *General Procedures for Presenting Evidence in Stand-Alone Cost Rate Cases* ("General Procedures")² and is based on the format used by the Board in its rate reasonableness case decisions. Specifically, Section II.A.1.a. addresses differences in the general cost estimating procedures used by each party. Section II.A.1.b. describes the remaining differences in the traffic and operating characteristics used by each party and explains why BNSF's assumptions are superior to Otter Tail's. Section II.A.1.c. examines the differences in certain cost adjustments made by the parties. Finally, Section II.A.2 updates BNSF's calculation of the First Quarter 2002 through First Quarter 2003 variable costs for the Otter Tail traffic.

² See *Ex Parte No. 347 (Sub-No.3)* (STB served Mar. 12, 2001).

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Table II.A.1 below summarizes BNSF's variable costs for shipments originating at Belle Ayr and Eagle Butte that moved under the aluminum-car rate³ and compares these costs to Otter Tail's estimates from its reply evidence. Exhibit II.A-1 compares the parties' variable costs for shipments that originated at Belle Ayr and at Eagle Butte. Exhibit II.A-1 also presents these costs by individual cost components, Exhibit II.A-2 identifies the differences between the parties by specific cost category, and Exhibit II.A-3 shows the different inputs that the parties used to calculate variable costs for the Big Stone train.

Table II.A.1
Comparison of Variable Costs per Net Ton
For Big Stone Shipments in Aluminum Cars

Belle Ayr		
Period	BNSF Rebuttal	OTP Reply
1st Qtr 2002	\$5.93	\$5.00
2nd Qtr 2002	\$5.96	\$5.04
3rd Qtr 2002	\$5.88	\$5.04
4th Qtr 2002	\$6.06	\$5.14
1st Qtr 2003	\$6.38	\$5.39
Eagle Butte		
Period	BNSF Rebuttal	OTP Reply
1st Qtr 2002	\$5.86	\$4.87
2nd Qtr 2002	\$5.94	\$4.95
3rd Qtr 2002	\$5.89	\$4.98
4th Qtr 2002	\$5.97	\$5.00
1st Qtr 2003	\$6.45	\$5.39

³ As explained on opening, the Common Carrier Pricing Authority 90062 and its amendment 90062-A provide rates for movements in shipper-supplied aluminum cars and a separate rate for movements in shipper-supplied steel cars. Since the challenged rates went into effect, all shipments have moved under the aluminum-car rate. Accordingly, BNSF's evidence does not address the reasonableness of the steel-car rate. BNSF Opening Nar. at II-2.

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a. Differences in General Cost Estimating Procedures

i. General Overhead Ratio for Return on Investment

In the variable cost calculations contained in BNSF's opening evidence, Messrs. Fisher and Plum included Account 90 and excluded Account 76 in developing the General Overhead ratio for Return on Investment. BNSF Opening Nar. at II-29. This treatment is consistent with the STB's *TMPA* finding that "unless the construction projects included in Account 90 are long-term in nature," it is appropriate and consistent to include expenditures in Account 90.⁴ BNSF also presented affirmative evidence that its construction projects in Account 90 are of relatively short duration. BNSF Opening Exh. II.A-4. By contrast, in its opening evidence Otter Tail did not make the adjustment to include Account 90 and exclude Account 76, but did not offer any affirmative evidence to meet its burden of demonstrating that the projects included in Account 90 are long-term in nature. In its reply, Otter Tail merely asserted that its treatment is consistent with Board precedent, disregarding both BNSF's affirmative evidence and the *TMPA* decision entirely. OTP Reply Nar. II-A-46 to 47.

ii. Other Mine Origins

For each quarter costed, Otter Tail presents variable costs for shipments from the Belle Ayr and Eagle Butte mine origins to Big Stone. For Fourth Quarter 2002, Otter Tail also presents variable costs for shipments from the Cordero and Caballo Rojo mine origins based on a limited number of shipments that occurred in that quarter. In addition, for First Quarter 2003, Otter Tail estimates variable costs for all mines that are listed in CCPA-BNSF 90062, including

⁴ *Texas Municipal Power Agency v. The Burlington Northern and Santa Fe Ry. Co.*, STB Docket No. 42056, at 40 (STB served Mar. 24, 2003) ("*TMPA*").

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nine mines from which *no* shipments have even moved under the challenged rate and the Cordero and Caballo Rojo mines from which no shipments moved in that quarter.

As to those mines from which no shipments have moved under the challenged rate, the Board should reject the evidence, consistent with its decision in *TMPA*. In *TMPA*, the complainant also submitted variable cost evidence relating to mines from which no coal had moved under the challenged rate. The Board held that there was insufficient information to develop variable costs for such hypothetical movements.⁵ The Board should therefore reject Otter Tail's calculations for mine origins from which no movements have ever occurred. Similarly, the Board should reject Otter Tail's variable cost calculations for First Quarter 2003 for Cordero and Caballo Rojo mine origins, as no actual data for shipments from those mines are available for that period.

As to Otter Tail's calculation of variable costs for Fourth Quarter 2002 from the Cordero and Caballo Rojo mines, those costs are based on only one shipment from Cordero and only three shipments from Caballo Rojo. These anomalous movements do not provide enough information from which a reliable estimate of variable costs can be developed for service from these two mine origins. Accordingly, the Board should find that there is insufficient information to develop variable costs for those movements as well.

BNSF did not sponsor variable cost evidence on opening for movements from mines that have originated little or no coal, and BNSF did not reply to Otter Tail's evidence regarding such movements.⁶

⁵ *TMPA* at 38.

⁶ The parties did not address origin mines other than Belle Ayr and Eagle Butte at the Board-sponsored *Ex Parte No. 638* technical conference.

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b. Differences in the Traffic and Operating
Characteristics Developed By BNSF and Otter Tail

Exhibit II.A-3 compares by quarter and mine the traffic and operating characteristics for the issue traffic used by the parties to develop BNSF's variable costs for the issue movements from the Belle Ayr and Eagle Butte mines. A discussion of the differences between the parties' evidence on traffic and operating characteristics appears in BNSF's Reply Narrative at II-9 to 11.

c. Differences in Variable Costs Developed by BNSF
and Otter Tail

Table II.A.2 compares Otter Tail's Reply cost calculations with BNSF's Rebuttal calculations for shipments originating from Belle Ayr and moving under the aluminum-car rate in Fourth Quarter 2002. Exhibit II.A-3 presents similar comparisons for each issue movement from the Belle Ayr and Eagle Butte mines by origin mine, rate, and quarter. The differences between the parties' calculations of the individual cost components are discussed in detail below.

**Table II.A.2
Comparison of Variable Costs Per Carload and Ton
Belle Ayr Mine to Big Stone
Aluminum Car Rate, Fourth Quarter 2002**

Item	BNSF Rebuttal	OTP Reply	Difference
1. Carload O/T - Clerical Expense	{ }	{ }	\$0.00
2. Carload Handling - Other Expense	{ }	{ }	\$0.00
3. Switching Expense - Yard Locos	{ }	{ }	\$0.00
4. Loop Track Expense (GTM and LUM)	{ }	{ }	(\$0.09)
5. Switching Expense - Road Locos (Non-Yard Tracks)	{ }	{ }	\$0.00
6.A Switching Expense - Road Locos (Yard Tracks, excluding Crew Wages and Loco Ownership)	{ }	{ }	(\$0.11)
6.B Switching Expense - Road Locos (Yard Tracks, excluding Crew Wages)	{ }	{ }	(\$0.04)
6.C Switching Expense - Road Locos (Yard Tracks, including Crew Wages and Loco Ownership)	{ }	{ }	(\$0.02)
6.D Switching Expense – Road Locos (Total)	{ }	{ }	(\$0.17)

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Item	BNSF Rebuttal	OTP Reply	Difference
7. Gross Ton-Mile Expense (GTM)	{ }	{ }	(\$67.12)
8. Train-Mile Expense – Other Than Crew	{ }	{ }	\$0.00
9. Locomotive Unit-Mile Expense (excluding Ownership)	{ }	{ }	(\$9.15)
10. Train-Mile-Expense - T&E Crew	{ }	{ }	(\$14.26)
11. Helper Expense - LUM	{ }	{ }	(\$0.38)
12. Helper Expense - Crew	{ }	{ }	(\$2.80)
13. Freight Car Expense (RR-Owned Only)	{ }	{ }	\$0.00
14. User Responsibility for Freight Car Repairs	{ }	{ }	(\$0.03)
15. Loss & Damage Expense	{ }	{ }	(\$0.12)
16. Locomotive Ownership Expense	{ }	{ }	(\$16.58)
17. EOTD Ownership Expense	{ }	{ }	\$0.01
18. Third Party Loading Expense	{ }	{ }	\$0.00
19. Total Variable Cost per Carload (Lines 1-18)	\$727.92	\$617.22	(\$110.70)
20. RFA-URCS Linking Factor	0.9934	0.9934	--
21. Linked Variable Cost Per Carload	\$723.12	\$613.20	(\$109.92)
22. Net Tons Per Carload	119.3	119.3	--
23. Variable Cost Per Ton	\$6.06	\$5.14	(\$0.92)
24. Rate Per Ton	\$13.49	\$13.49	--
25. R/VC Ratio	2.23	2.62	0.40

i. Gross Ton-Mile Expenses

Gross ton-mile (“GTM”) expenses include the following components: maintenance-of-way, road property ownership, fuel, locomotive maintenance, and locomotive and train administrative expense. The parties generally agree on fuel and locomotive and train administrative expense costs for the Big Stone train. The remaining components are addressed separately below. As shown in Table II.A.2 above, the differences in the parties’ gross ton-mile calculations account for most of the total difference between the parties’ variable cost results.

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(a) Maintenance-of-Way Expense

On opening, Otter Tail proffered a 22-percent reduction to BNSF's URCS system-average maintenance-of-way ("MOW") costs. OTP Opening Nar. at II-A-25. Otter Tail offered no new evidence or argument on reply. OTP Reply Nar. at II-A-35.

In BNSF's reply evidence, Messrs. Fisher and Plum explained that Otter Tail's adjustment is based on BNSF engineering cost center records that do not include all MOW costs for the issue route or for any route. BNSF Reply Nar. at II-21 to 22. Messrs. Fisher and Plum explained in detail the problems with using the engineering cost center records to develop route-specific MOW costs -- problems that were disclosed to Otter Tail in discovery. *Id.* They also explained that the data were inconsistent with the MOW expenses reported in the R-1 and therefore cannot be used as a basis for adjusting BNSF's URCS system-average MOW costs. *Id.* at II-23 to 25. In addition, Otter Tail made a number of errors and improper reductions in developing its adjustment. *Id.* at II-19 to 26. When these errors are corrected and the improper reductions are removed, Otter Tail's methodology yields a 20-percent *increase* to BNSF's URCS MOW costs. *Id.*

BNSF did not sponsor a movement-specific adjustment to its system-average MOW costs to reflect these corrections because Otter Tail's methodology is fundamentally flawed due to its reliance on data that do not accurately reflect route-specific MOW costs, among other reasons discussed in BNSF's reply evidence. Therefore, on opening and reply, Messrs. Fisher and Plum used BNSF's URCS system-average MOW costs to calculate variable costs for the issue movement. BNSF Opening Nar. at II-44; BNSF Reply Nar. at II-17 to 18. Messrs. Fisher and Plum continue to rely on URCS system-average costs in this rebuttal.

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(b) Road Property Ownership

The calculation of road property ownership costs for the issue traffic represents the single largest difference between the parties' variable cost evidence -- nearly 40 percent of the total difference. BNSF submits road property costs based on URCS system-average costs. On opening, Otter Tail proposed an adjustment to URCS system-average costs that supposedly reflects the difference between the net investment in road property per GTM on the issue traffic route of movement and the system-wide net investment per GTM. BNSF presented evidence demonstrating that Otter Tail's route-specific adjustment is flawed and cannot be used:

1. BNSF's road property database -- the source of Otter Tail's adjustment -- does not accurately reflect the actual gross investment in individual line segments, which is the starting point for Otter Tail's movement-specific net investment to system-average net investment comparison;
2. Apart from the problems with the gross investment starting point, BNSF's road property depreciation calculator, which was used to identify supposed depreciation on the line segments at issue, significantly *overstates* line-specific accumulated depreciation, thereby *understating* net investment on particular line segments;
3. BNSF's road property depreciation calculator is inconsistent with the group-life methodology that BNSF uses to prepare its R-1 and therefore cannot legitimately be used to produce an adjustment to R-1 based costs; and
4. Otter Tail's proposed adjustment contains other significant methodological errors.⁷

While Otter Tail presented a new adjustment in its reply evidence, the new adjustment did not meaningfully address any of these problems with Otter Tail's opening evidence. BNSF addresses below Otter Tail's new adjustment and the arguments presented by Otter Tail in support of its proposed adjustment. For the reasons set out below, the Board should reject Otter Tail's proposal and apply URCS system-average road property ownership costs in this case.

⁷ BNSF Reply Nar. at II-26 to 36.

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- (i) BNSF's Segment-Specific
Data Cannot Be Used To
Produce A Reliable Estimate
Of Road Property Ownership
Cost That Is Consistent With
BNSF's R-1

BNSF has explained that it is not required for regulatory or financial reporting purposes to maintain road property investment data on a segment- or line-specific basis.⁸ It continues to maintain some gross investment road property data on a segment-specific basis, but the data are incomplete. Moreover, BNSF does not maintain any segment-specific depreciation data or data on the net investments in particular line segments. Instead, BNSF has a depreciation calculator (the “FADB⁹ calculator”) that estimates accumulated depreciation for particular line segments using a simplistic calculation that sums up annual depreciation amounts using historical depreciation rates.¹⁰ The FADB calculator is not used to produce net investment figures for BNSF's R-1, which are based on group-life accounting.¹¹ Accordingly, any segment-specific estimate of road property costs based on BNSF's data is a product of incomplete and unreliable data that are inconsistent with the R-1 data that the Board uses to assess variable costs.

Otter Tail has two responses to this evidence on the unreliability of BNSF's data. First, it argues that data of the type at issue here have been used in the past, specifically in the *WTU* case, so they must be reliable. OTP Reply Exh. II-A-24 at 3 to 4, 10 n.12, 13 and Exh. II-A-25 at 6 to 9. But many significant changes have occurred since the *WTU* case was litigated in the mid-

⁸ Verified Statement of Cami A. Elliott (“Elliott VS”), at 25-26 attached to BNSF's Reply to Otter Tail's First Motion to Compel Production of Documents (filed May 1, 2002). BNSF's Reply to Otter Tail's First Motion to Compel was incorporated by reference in BNSF's opening evidence at II-44 and, for the Board's convenience, reproduced in BNSF's Reply workpapers at BNSF.RP.WP.II.A-0003 to 0048.

⁹ “FADB” refers to BNSF's Fixed Asset Database.

¹⁰ *Id.* at 27-29.

¹¹ *Id.* at 27.

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1990s. Most important, the defendant in *WTU*, BN merged with the ATSF; the STB eliminated as obsolete the requirement that railroads account for assets on a segment-specific basis; and accounting standards changed.¹² Moreover, it is possible that the same problem with the segment-specific data that make BNSF's current data unreliable for calculating a movement-specific adjustment existed at the time of the *WTU* case. As BNSF has indicated previously, the distortions caused by use of BNSF's segment-specific data became apparent only in the course of preparing evidence in the *TMPA* case.

Otter Tail's second response is that the Board recently found in the *TMPA* case that BNSF's data could in fact be used to produce a segment-specific adjustment to system-average road property costs. In *TMPA*, the Board accepted an adjustment to BNSF's system-average road property costs because it found that it was possible to reconcile BNSF's system-wide FADB data on gross investment to BNSF's R-1 gross investment values.¹³ On reply, Otter Tail presented evidence showing that the same reconciliation of line-specific *gross* investment to R-1 *gross* investment can be made in this case.¹⁴ Its Exhibit II-A-26, page 7 of 13, shows that the sum of BNSF's FADB gross property investment by line segment, the Property In Service Not Unitized account ("PISNU"), unassigned investment and ATSF purchase accounting is within one percent of BNSF's R-1 gross investment.

BNSF does not challenge this reconciliation. On the level of *gross* investment, the FADB data are consistent with the R-1 data, so long as the investment data not recorded on a segment-specific basis (PISNU, unassigned investment and purchase accounting) are added to

¹² Elliott VS at 25-26.

¹³ *TMPA* at 57.

¹⁴ Otter Tail suggests that the reason that it presented the reconciliation and a new adjustment on reply is because BNSF previously withheld necessary system-wide road property data. In fact, Otter Tail did not request such information until after opening evidence was filed.

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the segment-specific amounts. But, if the unallocated investments are subtracted from the R-1 total investments, a comparison of the gross investment per GTM for the issue-traffic route (using only the route-specific FADB data) to the gross investment per GTM for BNSF's entire system, shows that the gross investment costs per GTM are five percent *greater* than the system-average.¹⁵ If any adjustment based on these data were valid, which BNSF does not believe, a gross investment comparison would warrant an *increase* to BNSF's system-average road property costs.¹⁶

Otter Tail, however, proposes a thirty-percent *decrease* to system-average costs.¹⁷ To arrive at this result, Otter Tail makes the comparison of costs per GTM on a *net* investment basis, rather than a *gross* investment basis. Since BNSF does not maintain segment-specific data on net investment, Otter Tail used the output of BNSF's FADB calculator to estimate the amount of accumulated depreciation on the segments at issue, and subtracted these amounts from the FADB gross investment for the route at issue. But while Otter Tail demonstrated that BNSF's *gross* investment data in the FADB reconcile to the R-1, it did not even attempt to show that the accumulated depreciation estimated by the FADB calculator reconcile with the depreciation amounts recorded in the R-1. If it is proper to make a segment-specific adjustment only after

¹⁵ BNSF Reply electronic workpaper "ROAD INV OTP OPEN Gross.123." Complainants in prior rail rate reasonableness proceedings have advocated gross investment-based adjustments. For example, in *FMC*, the complainant "developed an adjustment to system-average costs by comparing UP's actual gross investment for FMC routes (on a per-GTM basis) to a system-average investment (on a per-GTM basis)." *FMC Wyoming Corp. v. Union Pacific R.R.*, STB Docket No. 42022, at 79 (STB served May 12, 2000) ("*FMC*").

¹⁶ As BNSF has explained previously, the case law supports segment-specific adjustments only when the calculations are shown to be superior to system-average data. But even if the analysis were limited to gross investment, the problems with BNSF's data suggest that any estimate of segment-specific costs would be little more than a shot in the dark. There is no way of determining how the elimination of the unallocated investments affects the comparison.

¹⁷ AEP Texas Reply Exh. II-A-26.

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showing that the data used for the adjustment reconcile with the R-1 -- a proposition that seems beyond dispute -- then Otter Tail's adjustment based on net investment cannot be used because there is no evidence that the accumulated depreciation data used for the adjustment reconcile with the R-1 data used by the Board for regulatory costing purposes.

In fact, the accumulated depreciation data used by Otter Tail do not, and cannot, reconcile with BNSF's R-1 data. The two sets of BNSF depreciation data -- the accumulated depreciation estimated by the FADB calculator and the accumulated depreciation reported in the R-1 -- are irreconcilable because they are generated using totally different methodologies. As BNSF has explained, the R-1 depreciation is based on group-life accounting, while the FADB calculator simply adds up annual depreciation estimates that are based on application of annual depreciation rates to particular assets over the course of the assets' lives.¹⁸ The two approaches produce vastly different depreciation estimates. The FADB calculator data, which Otter Tail uses to produce its segment-specific adjustment, significantly *overstates* depreciation compared to group-life accounting used in the R-1 and therefore *understates* the net investment on which Otter Tail bases its variable costs.¹⁹ Indeed, the magnitude of the disconnect is enormous. The sum of segment-specific depreciation estimated by the FADB calculator is *62 percent* greater than the depreciation recorded in the R-1.²⁰

Given the large and irreconcilable differences between the depreciation data used by Otter Tail for its segment-specific adjustment and the regulatory data that the Board uses to calculate variable costs, Otter Tail's segment-specific road property costs should be rejected.

¹⁸ Elliott VS at 22, 27-31.

¹⁹ *Id.* at 22.

²⁰ *Id.*

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(ii) Otter Tail's Proposed
Adjustment Rests On
Unsupported Assumptions

On reply, BNSF explained that Otter Tail's comparison of the net investment per GTM on the issue-traffic route to the system-average net investment per GTM was an improper apples-to-oranges comparison. BNSF Reply Nar. at 33. Specifically, BNSF explained that Otter Tail determined the net investment in road property of the issue-traffic route using accumulated depreciation from the FADB calculator and determined the system-average net investment using depreciation from BNSF's R-1, which as noted earlier is based on group-life accounting. Since the FADB calculator vastly overstates accumulated depreciation compared to group-life accounting, this comparison obviously results in the appearance that the route-specific net investment in road property is low compared to the average. On reply, Otter Tail sought to address this error by determining the net investment of BNSF's system-wide assets using the total depreciation estimated by the FADB calculator, rather than the group-life accounting that is the basis for BNSF's R-1. This change does not produce a valid comparison of the road property costs for the line segments at issue to BNSF's system-average costs.

First, this change eliminates any consideration of the group-life accounting data that the Board uses for regulatory purposes.²¹ The Board bases its variable-cost calculations on amounts in the R-1, and BNSF's R-1 reports depreciation amounts based on group-life accounting. Therefore, any meaningful estimate of BNSF's net investment in road property assets must reflect group-life accounting. Use of any other depreciation methodology would produce amounts inconsistent with the R-1 that would not be proper to use to adjust BNSF's URCS costs,

²¹ This does not suggest that the apples-to-oranges comparison Otter Tail presented on opening is appropriate, but rather that no adjustment using the depreciation calculator could ever be deemed consistent with BNSF's R-1 or with URCS variable costs.

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as Otter Tail has done. But Otter Tail's proposed methodology eliminates entirely group-life accounting from the calculation of net investment in road property. The result is that Otter Tail's approach produces a comparison of net investments in the issue-traffic route to net investment in the system based on a depreciation formula used by the FADB calculator that the Board has not accepted for regulatory reporting. These calculations should have no place in the calculation of URCS variable costs.

The fact that on reply, Otter Tail is consistent in its use of a depreciation methodology other than group-life accounting does not address this concern. Because the FADB calculator uses a methodology other than BNSF's group-life accounting, there is no way of knowing whether the comparison of route-specific net figures to system-average net figures using the FADB calculator would produce the same result, or even a comparable result, as a comparison of route-specific net investment to system-average net investment using group-life accounting.

In effect, Otter Tail's use of FADB calculator data for both the segment-specific and system-average calculations assumes that the massive overstatement of depreciation by the FADB calculator has no impact on the resulting ratio Otter Tail uses to adjust BNSF's system-average road property investment. If this were the case, then a comparison of net investment per GTM for the route to net investment per GTM for the system would be the same using either the FADB calculator or group-life accounting. But there is no reason to believe that the adjustment ratio would be the same regardless of which depreciation methodology is used. Indeed, even if the ratio of route-specific depreciation under the group-life accounting method (a calculation that BNSF neither maintains nor calculates) to system-wide depreciation under the group-life accounting method were the same as the ratio using the FADB calculator, the use of the

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calculator's depreciation estimates would still suggest a reduction to the system-average cost that is not warranted.

Take the following example. Assume that a route has the following characteristics: gross investment of \$50, accumulated depreciation under the group-life accounting method of \$10, and gross ton-miles of 40. The route-specific net investment is \$40 (\$50-\$10), or \$1 per GTM (\$40 / 40 GTM). Assume that system-wide gross investment is \$1000, accumulated depreciation under the group-life accounting method is \$100, and gross ton-miles total 900. The system-wide net investment is \$900 (\$1000-\$100), or \$1 per GTM (\$900/900 GTM). Since the route-specific and system-wide net investment are the same, \$1 per GTM, no adjustment to the system-wide road property costs would be necessary.

Now assume that that depreciation calculator estimates accumulated depreciation of \$20 for the same route and \$200 for the system. While the depreciation calculator overstates the accumulated depreciation for both the route and the system, in this example the ratio of route-specific accumulated depreciation to system-wide accumulated depreciation is the same as under the group-life method ($10 / 100 = 20 / 200$). However, using the FADB calculator estimates in lieu of the group-life accounting figures results in route-specific net investment of \$30 (\$50-\$20), or \$0.75 per GTM (\$30 / 40 GTM) and results in system-wide net investment of \$800 (\$1000-\$200), or \$0.89 per GTM (\$800 / 900). Thus, use of the FADB calculator estimates would suggest a 16-percent reduction ($0.75 / 0.89 = 0.84$) when none is warranted.

Further, one of the primary differences between the FADB calculator and group-life accounting relates to the treatment of early retirements.²² The impact of early retirements on net

²² Elliott VS at 27-31.

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investment will be affected by numerous factors such as density and other line characteristics.²³ If some characteristic of the line segments at issue here caused the FADB calculator to overstate depreciation to a larger extent for these line segments than for other line segments on BNSF's system, then the resulting comparison of segment-specific net investment to system-average net investment would be distorted. The massive difference between the depreciation amounts generated using the FADB calculator and using the group-life methodology suggests that such distortions will improperly impact any resulting comparisons.

Otter Tail has not shown that the use of the FADB calculator depreciation estimates would produce results that approximate those that would be generated using group-life accounting; therefore, it would not be appropriate to accept any adjustment using the FADB calculator depreciation data.

(iii) Otter Tail's Arguments
About Economies of Density
Are Misplaced

Otter Tail argues that it would be unfair to apply system-average road property costs because those costs do not reflect the "[e]conomies of scale made possible by high volume coal traffic." OTP Exh. II-A-25 at 5. As BNSF has explained elsewhere, economies of scale certainly exist on BNSF's system, but those economies are realized on fixed, not variable costs. But it is not necessary to address this question in detail here, since it is clear that – contrary to Otter Tail's claims – the lines at issue are not particularly high-volume lines. A majority of the issue route is well below the BNSF system-average density.²⁴ If it were true, as Otter Tail

²³ *Id.*

²⁴ The 481-mile segment from Terry, Montana, to the Big Stone plant has densities of less than eight million gross tons, less than thirty percent of BNSF's system-average density of 27 million gross tons. BNSF Rebuttal electronic workpaper "BNSF System v. Segment Density.xls."

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claims, that road property variable costs are lower on high-density lines, then a significant increase to system-average road property costs might be warranted given the low-density line used in much of the Otter Tail route.

(iv) Otter Tail's Use Of The
Default Variability
Percentage Is Inappropriate

The proponent of a movement-specific adjustment to URCS system-average costs must demonstrate that the proposed adjustment is superior to the system-average values.²⁵ Otter Tail has failed in many ways to demonstrate the superiority of its proposed adjustment. In addition to the other flaws in Otter Tail's proposed adjustment, discussed previously, Otter Tail failed to justify the use of the 50-percent default variability in assessing variable road property costs over lines with varying levels of densities. Otter Tail claims that it is entitled to rely on the default variability because "[r]oad property variability is perhaps the longest standing 'settled issue' in rail cost accounting, inasmuch as the 50% variability has been applied since the 1940's." OTP Exh. II-A-24, at 16.

It is true that the use of a default variability factor of 50-percent is well established. BNSF does not challenge here the use of this variability factor when system-average calculations contemplated by URCS are made. But the question is whether it remains proper when a segment-specific calculation is proposed, particularly where some of the line segments at issue are significantly greater than system-average density. The ICC has acknowledged the relationship between changes in density and changes in the variability factor. During the development of URCS, the AAR recommended that road property ownership costs be linked to another cost component that increased with density. While the ICC did not adopt this

²⁵ *Wisconsin Power and Light v. Union Pacific RR Co.*, STB Docket No. 42051, at 2 (served May 14, 2002).

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recommendation, it did recognize that the AAR's argument "may have merit."²⁶ Because it lacked an "empirical foundation" on which to develop an alternative variability factor at the time, however, it incorporated the 50-percent variability as a default "pending further study."²⁷ Given the acknowledged relationship between density and variability, it must be the burden of the party proposing an adjustment to system-average road property costs to substantiate the proper variability factor to apply.

Otter Tail also argues that the use of the 50-percent variability factor is appropriate because it actually overstates variable road property costs. According to Otter Tail, the "variability of Road Property Costs is much closer to 0% than it is to 100%." OTP Exh. II-A-24 at 21. Otter Tail claims that road property investments are largely fixed because "once invested, the road property is capable of handling enormous traffic volume increases before the next capacity expanding road property investments have to be made." *Id.* at 20. This simplistic argument is not supported with any evidence or analysis and it misstates the nature of road property investments and the relationship between the level of those investments and changes in volume.

To take an example, a significant portion of railroad road property investment reflects capitalized maintenance costs. Before URCS was adopted, these maintenance expenses were not included in road property investment accounts, but rather were expensed. However, the shift from Retirement-Replacement-Betterment ("RRB") accounting to depreciation accounting for

²⁶ *Adoption of Uniform Railroad Costing System as a General Purpose Costing System for All Regulatory Costing Purposes*, Ex Parte No. 431 (Sub-No. 1), 5 I.C.C. 2d 894, 919 (1989).

²⁷ *Id.* at 920. Far from being inconsistent with URCS, as Otter Tail claims, the linkage between density and variability squares directly with the Westbrook linear model on which URCS variability factors generally are based. That model holds that as output per unit of capacity increases, "the variability ratio also increases indicating recognition of density." *Id.* at 921 n.81.

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track structures has required BNSF to capitalize many of the MOW expenditures that it had previously expensed. When these MOW expenditures are capitalized, they are reflected in road property accounts. However, these expenditures have always been recognized to be more than 50-percent variable. The high variability of those expenses has not changed just because they are capitalized and included in BNSF's road property accounts.

Indeed, when the ICC adopted the 50-percent variability factor, it likely understated the actual variability of roadway ownership costs (at average densities) for most railroads. The 50-percent variability factor was based on studies that showed variability of road property ownership costs of 50 percent or more.²⁸ The variability factor adopted in URCS therefore represented a floor for the variability of road property ownership costs.

In sum, the Board should apply system-average road property costs in estimating the variable costs of the issue traffic movements.

(c) Locomotive Maintenance

Because BNSF does not possess data from which locomotive maintenance costs for a specific locomotive, locomotive model, or series can be determined, Messrs. Fisher and Plum use BNSF's URCS system-average locomotive maintenance cost to calculate variable costs for the issue move.

Otter Tail, on the other hand, uses a combination of BNSF's maintenance contracts with third-party vendors and BNSF's URCS system-average locomotive maintenance cost to develop an adjustment to the system-average cost. OTP Reply Nar. at II-A-14 to 15. BNSF described on reply the errors in Otter Tail's approach. BNSF Reply Nar. at II-37 to 41. Those errors include,

²⁸ ICC, Bureau of Accounts, Explanation of Rail Cost Finding Procedures and Principles Relating to the Use of Costs, Statement No. 7-63, at 83 (1963).

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among other things, the use of maintenance contracts that the Board has already concluded do not account for all of BNSF's locomotive maintenance costs.²⁹ Moreover, Otter Tail misapplied the provisions of the maintenance contracts and used contrived and unrealistic operating data (rather than the actual operating data produced by BNSF) to develop BNSF's supposed maintenance costs under the contracts.³⁰ Specifically, Otter Tail grossly understated overhaul costs and used fictional locomotive utilization data to develop per-mile costs. BNSF Reply Nar. at II-38 to 41. As a result, Otter Tail calculated costs that are significantly lower than those that BNSF actually paid when the contract was in effect and are an implausible 60 percent lower than BNSF's URCS system-average locomotive maintenance costs. OTP Opening Exh. II-A-5.

In its reply, Otter Tail purports to have compensated for the fact that, as the Board found in *TMPA*, BNSF's contracts do not account for all BNSF locomotive maintenance costs.³¹ Specifically, Otter Tail claims that its "determination of locomotive maintenance costs addresses the Board's concerns by identifying the locomotive maintenance costs that reflect 'costs incurred due to wrecks, derailments, vandalism, abuse, or running out of fuel' and treating those costs on a system average basis." OTP Reply Nar. at II-A-15. What Otter Tail actually did was to assume that these costs were reflected in the URCS accounts Clearing Wrecks, Locomotive Equipment Damaged and Other Locomotive Casualties and included those costs at system-average. *Id.* at II-A-15, n.32. The problem with this approach is that the non-routine locomotive maintenance costs (*i.e.*, costs not covered by the maintenance contracts with the locomotive manufacturers)

²⁹ *TMPA* at 58.

³⁰ Otter Tail alleges that it was necessary to apply this methodology because of BNSF's "refusal to produce actual locomotive maintenance data." OTP Nar. at II-A-14. However, as the Board has previously acknowledged and as Otter Tail acknowledged in its opening narrative, BNSF does not maintain such data. Moreover, as explained on reply, Otter Tail's methodology ignores the data BNSF produced. BNSF Reply Nar. at II-38 to 41.

³¹ *TMPA* at 58.

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are often reported to the very accounts to which BNSF reports routine maintenance costs covered by its contracts with the locomotive manufacturers. Indeed, BNSF reports no locomotive repair costs to the “Clearing Wrecks” account. As its name suggests, that account reflects the cost of moving a wreck from a track, and not the cost of repairing the wrecked unit.³² Further, in its reply, BNSF identified various *routine* costs (*i.e.*, expenses in addition to and not associated with the wrecks, derailments, etc.) that were not covered by the contracts. BNSF Reply Nar. at II-26, n.55. Otter Tail did not account for these costs either.

Otter Tail claims that it is reasonable to expect the Big Stone train locomotives to experience below system-average maintenance costs because of their age, model type (*i.e.*, AC v. DC units), and utilization relative to the rest of BNSF’s fleet. OTP Reply Nar. at II-A-16. Apparently, Otter Tail hopes that such vague assertions will overcome the deficiencies in proof it offers on this cost item. Otter Tail made the same erroneous and conclusory arguments on opening. OTP Opening Nar. at II-A-29 to 30. BNSF addressed those arguments on reply and does not repeat them here. *See* BNSF Reply Nar. at II-42 to 43.

ii. Switching

The parties generally agree on the switching costs used to develop the variable cost of Big Stone service.³³ The remaining differences are minor and result from differences in the parties’ (1) treatment of Accounts 90 and 76 (discussed in Section II.A.1.a.i. above) and (2) development of locomotive maintenance costs (discussed in Section II.A.1.c.i.(c) above).

³² 49 C.F.R. Pt. 1201, Subpart A, Operating Expense Accounts, Section 3(c)(2)(63).

³³ In this rebuttal, Messrs. Fisher and Plum have corrected an error in their development of the Switch Engine Minute (SEM) unit cost that Otter Tail identified on reply. OTP Reply Nar. at II-A-42 and n.81; BNSF Rebuttal electronic workpaper “BNSF-02-SWITCH SPLIT - rebut.123;” BNSF.RB.WP.II.A-007 to 010.

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iii. Train-Mile Expense – Crew Wages

Differences between the parties' calculations of crew wages account for between 10 and 15 percent of the total difference between the parties' variable cost evidence, depending on the quarter. BNSF Rebuttal Exh. II.A-2. The differences result mainly from Otter Tail's failure to include productivity fund payments and from methodological differences in the parties' respective development of the mark-up ratios. The remaining differences result from Otter Tail's understatement of the number of BNSF loading crews and Aberdeen road switcher crews that work the Big Stone trains, and from Otter Tail's erroneous adjustments to BNSF's crew wage data. These differences are discussed below.

(a) Productivity Fund Payments

Under its contract with its train and engine crews, BNSF is required to pay { } into a productivity fund for each short shift worked, *i.e.*, a shift worked with less than an engineer and two brakemen.³⁴ BNSF Reply Nar. at II-45 to 46. Payments into the fund are distributed to train and engine crew persons annually based on the number of short shifts worked. Consistent with Board precedent, Messrs. Fisher and Plum properly include these payments in developing crew wage costs for the Big Stone train.³⁵ Otter Tail does not account for these payments.

(b) Mark-Up Ratios

Otter Tail's reply criticizes two items in BNSF's development of mark-up ratios to account for non-train related wages. First, Otter Tail criticizes BNSF's assignment of certain Constructive Allowance ("CA") codes to the Train Related or Non-Train Related categories.

³⁴ BNSF.RP.WP.II.A-0126 to 0128 and BNSF.RB.WP.II.A-013 to 020.

³⁵ See *West Texas Utils. Co. v. Burlington Northern R.R. Co.*, 1 S.T.B. 638, 726 (1996) ("*WTU*"); BNSF Rebuttal electronic workpaper "BNSF-02-T&E-ADJ-REBUT.123;" BNSF.RB.WP.II.A-012.

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OTP Reply Nar. at II-A-39. However, on reply, Otter Tail reduced the number of codes in dispute by accepting BNSF's position for three of them.³⁶ The eight codes remaining in dispute account for less than { } in wages, out of more than { } million that Otter Tail included in its mark-up calculation.³⁷ The amount in dispute -- less than one-fortieth of one percent of the total money included in the markup calculation -- is *de minimus* and has no effect on the calculation of BNSF's crew wage costs.³⁸

Second, BNSF determined separate mark-up ratios for road crews, PRB loading crews, Aberdeen road switcher crews, and helpers, and applied each service-specific mark-up ratio to the corresponding base wages.³⁹ Otter Tail claims that this approach results in a double-count of wages for crew members that split time between the services. This is not true. If a crew member splits time between the services, BNSF properly included the person's wages in the calculation of the mark-up for each service. This does not result in a double-count, however, because each calculation simply determines the relationship of non-train wages to direct wages for the crew members that worked each specific service.

By contrast, Otter Tail develops single mark-up ratios for each occupation (*i.e.*, engineers, conductors, and brakemen) that are not specific to the crew wages to which they are applied. This is because Otter Tail's mark-ups are developed based on a combination of non-train related wages for all crews, including loading, helper, road, and road switcher crews. By

³⁶ OTP Reply electronic workpaper "Reply-BN CACodes.xls," Tab "Dif."

³⁷ OTP Reply electronic work paper "Reply-Mark-ups, total data," work sheet "summary" and BNSF.RB.WP.II.A-021.

³⁸ Accepting Otter Tail's assignment of these codes would likely increase the mark-up ratios ever so slightly in BNSF's favor. This is because most of the { } of wages at issue are associated with CA Code "MG" – Merger Guarantee, which BNSF assigned to train related wages and Otter Tail assigned to non-train related wages.

³⁹ BNSF Reply electronic workpaper "ottertail.bnsf reply roadcrew wages.xls," sheet "wages summary."

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combining all of these crews, Otter Tail produces mark-ups that are inconsistent with the train-related wages to which they are applied. This inconsistency is illustrated in Table II.A.3, which compares the relative mix of each service’s wages that Otter Tail combines in its mark-up ratios to the direct wages to which Otter Tail applies the mark-up ratios. For example, although only one percent of Otter Tail’s direct train wages were associated with helper crews, as Table II.A.3 shows, helper crew wages comprise more than forty percent of Otter Tail’s aggregated mark-up ratios. And since, as BNSF’s crew specific mark-up ratios show, helper crews generally incur less non-train related wages than road crews, AEP Texas’ aggregate approach produces a mark-up ratio that understates the actual mark-up ratio applicable to road crews.⁴⁰

Table II.A.3
Comparison of Mark-Up Ratio Components to Train-Related Wages

	Total OTP Wages Used in Calculation of Mark-Up (2002)	Percent of Total Wages Used for Mark-Up	OTP Train-Related Wages to which Mark- Up is Applied (Eagle Butte 3Q02- per train)	Percent of Train-Related Wages
Road Crews	{ }	49%	{ }	93%
PRB Loading Crews	{ }	10%	{ }	6%
Helper Crews	{ }	41%	{ }	1%
Road Switcher Crews	{ }	0.4%	{ }	0.3%
Total	{ }	100%	{ }	100%

Sources: Otter Tail reply electronic workpaper “FullWages.mdb,” Tables “road,” “Spcl” and “yard;” “Reply-Wages Summary.xls;” and “Reply-Avg Helper Wages.xls.”

BNSF’s service-specific mark-up ratios are more appropriate, and Otter Tail’s mark-up ratios should be rejected.

Finally, Otter Tail improperly excludes guarantee and reserve payments in its calculation of the mark-up ratio for brakemen. BNSF records the guarantee and reserve payments that it makes to brakemen in occupation code 04 and straight time and other wages in occupation code

⁴⁰ BNSF.RB.WP.II.A-022.

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05.⁴¹ In order to calculate properly the mark-up ratio for brakemen, occupation codes 04 and 05 must be combined, which Otter Tail does not do.⁴²

(c) Loading Crews

On reply, Otter Tail correctly pointed out that BNSF's loading crew opening evidence was not consistent with BNSF's description of the move. Otter Tail Reply Nar. at II-A-41. BNSF corrected this error in its reply evidence. BNSF Reply Nar. at II-44 to 45. BNSF also explained that Otter Tail erred by including only 0.5 loading crews for shipments originating at Eagle Butte, although the Train Activity Reports show that operating the Big Stone train from Gillette to Eagle Butte and back to Gillette consumes a full shift. *Id.* Otter Tail failed to correct this error on reply.

Otter Tail also continues to exclude "reduced crew allowance" payments made by BNSF to its three-person loading crews that operate Big Stone trains between Gillette and the mine origins. Otter Tail wrongly claims that these payments were erroneous and should be excluded. OTP Opening Nar. at II-A-34. In addition to BNSF's payroll records, which establish that the allowance was paid to Big Stone crews, BNSF produced the relevant labor agreement, which

⁴¹ Ninety-four percent of the crew persons that reported wages to occupation code 04 also reported wages to occupation code 05. The vast majority reported to occupation code 04 only one Constructive Allowance code: CA Code 70 – "Guarantee." The remaining wages (*e.g.*, straight time, overtime, reduced crew allowance) are assigned to occupation code 05. BNSF Rebuttal electronic workpaper "OTP occupation code 04 and 05 total wages.xls" and BNSF.RB.WP.II.A-023 to 024.

⁴² This is similar to the calculation for engineers, for whom both parties agree that multiple occupation codes must be combined to capture guarantee payments. BNSF Rebuttal electronic workpaper "ottertail.bnsf markup 2002.xls" and Otter Tail Reply electronic workpaper "Reply-Mark-ups.total data.xls."

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makes clear that payment of the allowance to the three-person loading crews is proper.⁴³ BNSF Reply Nar. at II-51 to 52.

(d) Road Crews

In its opening evidence, Otter Tail made a number of adjustments to BNSF's crew wage records that have the effect of reducing crew wages and Otter Tail continues to make those same reductions in its reply evidence. OTP Opening Nar. at II-A-33 to 34. In its reply evidence, BNSF explained why Otter Tail's numerous reductions to road crew wages were, for the most part, inappropriate. BNSF Reply Nar. at II-46 to 52.

(e) Road Switcher Crews

In BNSF's opening evidence, Wilbert Kissner, BNSF Trainmaster at Aberdeen, South Dakota, explained that a three-person Aberdeen road switcher crew frequently performs switching of bad-order cars and fill cars on the empty Big Stone trains at Aberdeen. BNSF Opening Nar. at 9. He also explained that, on occasion, the switch crew will relieve an Aberdeen road crew that has reached its hours-of-service limit working the Big Stone train. *Id.* at 6. Based on Mr. Kissner's testimony, BNSF assigned ten percent of the Aberdeen road switcher's average wages per shift to each Big Stone train.⁴⁴ By contrast, Otter Tail included no costs associated

⁴³ BNSF provided the relevant excerpt of the crew wage agreement to Otter Tail prior to filing of reply evidence. BNSF.RB.WP.II.A-025 to 030.

⁴⁴ BNSF Opening electronic workpaper "BNSF-02-T&E-ADJ.123." Messrs. Fisher and Plum assigned ten percent of the average Aberdeen Road Switcher crew wages per shift to each Big Stone train based on Mr. Kissner's testimony that 70 percent of the time an Aberdeen road switcher crew works the empty train upon its arrival and that the road switcher crew's work on the Otter Tail train requires approximately 90 minutes. BNSF Opening Nar. at II-9 to 10. Using an average shift of 9 hours for the Aberdeen road switcher, Messrs. Fisher and Plum determined that 17 percent of the road switcher's time was assignable to Big Stone trains (1.5 hours / 9 hours = 0.17). They then applied this percentage to the frequency of Big Stone trains that were worked

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with the Aberdeen road switcher in its opening evidence. On reply, Otter Tail included less than three percent of the road switcher's average wages per shift, based on a flawed study of the road switch crew's Train Activity Reports ("TARs") that, according to Otter Tail, shows that the road switcher performs an average of just 13 minutes of work per Big Stone train.⁴⁵

Otter Tail's conclusion that the road switcher performs an average of 13 minutes of work per Big Stone train is inconsistent with its agreement at the Board sponsored *Ex Parte No. 638* conference that the road switcher performs at least 42 minutes of switching per Big Stone train in the Aberdeen Yard.⁴⁶ At the technical conference, the parties agreed to include 184.74 switching minutes per train. So that the appropriate SEM unit cost could be applied to calculate switching costs, the parties also agreed on the division of these minutes among the three categories of switching described in BNSF's opening evidence.⁴⁷ BNSF Opening at II-34 to 35. Of the 184.74 total switching minutes, 42.21 minutes were allocated to switching on yard track by "OTP road crews using other locomotives."⁴⁸ For the Big Stone trains, this category includes only the switching performed by the Aberdeen road switcher crews in the Aberdeen Yard. *See* BNSF Opening at II-34 to 35. Thus, while Otter Tail has agreed that the Aberdeen road switcher performs at least 42 minutes of switching work per Big Stone train, its crew wage evidence accounts for only 13 minutes of work in total (yard switching and other activities) per Big Stone

by the road switcher (*i.e.*, 70 percent) to produce the 10-percent allocation ($0.17 \times 0.70 = 0.12$, rounded to 0.1). BNSF.RB.WP.II.A-031 to 033.

⁴⁵ OTP Reply electronic workpapers "Reply-Avg Rd Sw Wages.xls" and "Reply-Train RTW Aberdeen Aberdeen.xls."

⁴⁶ BNSF and Otter Tail's Joint Letter to David M. Konschnik dated July 17, 2003 included as BNSF.RP.WP.II.A-0049 to 0052.

⁴⁷ BNSF.RP.WP.II.A-0052.

⁴⁸ The reference to "OTP road crews" indicates that the switcher crew's wages are accounted for in the crew wage study and, therefore, should be excluded from the modified SEM unit cost that is applied to the 42.21 minutes to calculate switching costs.

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train. At a minimum, crew wage calculations must account for the full stipulated 42 minutes of switching that the parties agree the Aberdeen road switcher performs for the Big Stone trains.

In fact, as Otter Tail's own study confirms, because the Aberdeen road switcher also performs work on the Big Stone train in addition to switching in the Aberdeen Yard (*e.g.*, it acts as a relief crew for a road crew that is nearing its hours-of-service limit⁴⁹ and attends to administrative duties),⁵⁰ calculation of crew wages should be based on an amount of time greater than the stipulated 42 minutes of switching in the Aberdeen Yard. Based on the testimony of Mr. Kissner, Messrs. Fisher and Plum use an average of 54 minutes of work by the road switcher per Big Stone train to calculate crew wages for the issue movement.⁵¹

In any event, Otter Tail's Aberdeen Road Switcher TAR study is fundamentally flawed. Among the problems with the study, Otter Tail wrongly assumes that the TARs identify the train(s) that the road switcher worked and the time spent working each train. For bad-order car switching at Aberdeen, the TARs typically indicate "switching" at Aberdeen, but do not identify either the trains on which the switching was performed or the time spent switching a particular train. As a result, Otter Tail's study identified primarily trains for which the TARs showed that the road switcher performed locomotive switching or acted as a relief crew for the Big Stone

⁴⁹ For example, the TARs included in Otter Tail's study show that the road switcher spent at least 325 minutes relieving road crews on the 31 sample trains, or an average of more than ten minutes per Big Stone train. OTP Reply workpapers 4948 and 4925.

⁵⁰ Administrative duties include safety briefings, paperwork, and other non-train related on-duty activities. A portion of this time is properly allocable to Big Stone service.

⁵¹ Messrs. Fisher and Plum's allocation of ten percent of the road switcher crew wages to Big Stone trains equates to 54 minutes of the road switcher's 9-hour shift. *Supra* n. 43.

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train. But it generally missed instances in which the road switcher performed bad-order car switching for the Big Stone train.⁵²

(f) Helper Crews

In its reply, Otter Tail identified an error in BNSF's calculations of helper crew wages that resulted from a failure to update a Pivot Table summary. OTP Reply Nar. at II-A-39 to 40. Messrs. Fisher and Plum correct this error in this rebuttal.⁵³

iv. Locomotive Ownership Expense

There are five areas of dispute in the calculation of locomotive ownership costs: (1) locomotives included in the calculation; (2) development of operating lease payments; (3) spare margin; (4) annual vs. quarterly calculation of locomotive investments; and (5) treatment of Accounts 76 and 90. The treatment of Accounts 76 and 90 is discussed above in section II.A.1.a.i. The remaining items are addressed below.

⁵² Using other data sources not referred to by Otter Tail in its study, Messrs. Fisher and Plum show that the road switcher worked *at least* 13 of the 31 sample trains, more than twice the number identified by Otter Tail. They first looked at the records of bad-ordered cars to determine when Big Stone cars were switched at Aberdeen. BNSF Opening electronic workpaper "2002-2003 Bad Orders.xls." They then looked at the road switcher's TARs, and the Aberdeen road crews' TARs to determine which crew performed the switching. The data showed that the road switcher was the only crew that could have performed the switching on ten Big Stone trains. The TARs also show that the road switcher assisted on another three Big Stone trains: the road switcher relieved the road crew on one Big Stone train, switched locomotives on another Big Stone train, and worked yet another Big Stone train in the loaded direction. For another six Big Stone trains, the data were inconclusive as to whether the road switcher worked the train. BNSF.RB.WP.II.A-034 to 074. BNSF Rebuttal electronic workpaper "TAR Arrivals and Departures.xls."

⁵³ BNSF Rebuttal electronic workpaper "ottertail.bnsf rebuttal helper crew wages.xls" and BNSF.RB.WP.II.A-075.

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(a) Locomotives Included In The
Calculation

Otter Tail criticizes BNSF's use of different groups of locomotives to develop the separate components of locomotive costs. OTP Reply Nar. at II-A-17 to 20. Specifically, Otter Tail argues that it is wrong for BNSF to base its locomotive ownership costs on the specific SD70MACs that powered the Big Stone trains, but then to base a locomotive spare margin on all SD70MACs in the Alliance Pool and to base locomotive maintenance costs on all units in the BNSF fleet. *Id.* BNSF's approach, however, was accepted in *WPL* and *TMPA*.⁵⁴ BNSF has used the most specific level of detail that is available for each item, and it has developed specific inputs that are applicable to the Big Stone trains. Otter Tail presented no evidence that the use of any of these three groups of locomotives is incorrect.⁵⁵

While the difference between the parties' locomotive ownership costs has narrowed as a result of the Board-sponsored *Ex Parte No. 638* Conference, BNSF and Otter Tail continue to develop those costs using different approaches. Otter Tail argues that such costs should be based on an average of *all* locomotives in the Alliance pool that are of the same model used in Otter Tail service. OTP Reply Nar. at II-A-17 to 20. Otter Tail criticizes BNSF for relying on the actual locomotives that powered the Big Stone train, even though BNSF's approach has been repeatedly accepted by the Board.⁵⁶ According to Otter Tail, because the former BN used the pool average in a rate case some two decades earlier, the Board should do so here. OTP Reply

⁵⁴ *Wisconsin Power & Light Co. v. Union Pacific R.R. Co.*, STB Docket No. 42051, at 58-59 (served Sept. 13, 2001) ("*WPL*"), *TMPA* at 61.

⁵⁵ Moreover, Otter Tail's criticism is disingenuous in light of the fact that Otter Tail's own locomotive maintenance costs are based on a hybrid of two different groups of locomotives. Otter Tail uses BNSF's system-average locomotive maintenance costs for locomotives not covered by a maintenance contract and uses BNSF's supposed contract maintenance costs for SD70MACs in the Alliance pool covered by a maintenance contract. OTP Opening Exh. II-A-5.

⁵⁶ *WPL* at 58-59, *TMPA* at 61.

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Nar. at II-A-64. That evidence, however, was likely driven by the level of detail that was then available. Advances in data reporting and computer processing over the last twenty years have greatly facilitated the identification and use of the specific units powering the issue trains in developing variable cost evidence. Otter Tail's reliance on ownership costs of locomotives that were not actually used in the issue service should be rejected.

Otter Tail further criticizes BNSF for not adopting its locomotive-hours assumptions in light of the parties' agreement at the *Ex Parte No. 638* Conference to use Otter Tail's locomotive consist-size assumptions. OTP Nar. at II-A-34. The parties' agreement on consist size assumptions, however, resulted from the fact that, although the parties used different approaches, they reached similar results. In calculating locomotive hours, Messrs. Fisher and Plum did not include 28 locomotives, only three of which are SD70MACs,⁵⁷ that appeared on the Big Stone train briefly, but they did adjust the train movement data to correct for incomplete reportings that show an SD70MAC disappearing from the train only to reappear on the train later in the cycle at a different location.⁵⁸ In these cases, the disappearing unit obviously remained on the train. Messrs. Fisher and Plum manually corrected for these missing data. Otter Tail did not make any such corrections, but it also did not eliminate the 28 locomotives. In determining the average units per train, the parties' differing approaches appear to have offset each other, producing similar locomotive consist sizes.⁵⁹ As the difference between the parties was negligible, BNSF

⁵⁷ BNSF.RB.WP.II.A-077.

⁵⁸ BNSF.RB.WP.II.A-078 to 086 and BNSF Opening electronic workpaper "Big Stone Trains 2002.xls."

⁵⁹ Had BNSF included these 28 locomotives in calculating the number of units per train, BNSF's units per train would have been higher than presented in opening evidence.

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simply agreed to Otter Tail's assumptions.⁶⁰ But the parties explicitly agreed that agreement at the Board-sponsored conference on the operating characteristics was not an agreement on the underlying methodologies.⁶¹ In other words, the fact that the parties agreed on the consist size did not mean that the parties agreed on the specific assumptions that Otter Tail used to calculate consist size, particularly to the extent those assumptions might be used to make other calculations.

BNSF objects to using Otter Tail's locomotive hours. Those hours include time for the 25 non-SD70MACs that BNSF did not include in its opening or reply evidence because they appeared only briefly on Otter Tail trains. Otter Tail's locomotive hours also improperly fail to include time where the data did not record an SD70MAC that was clearly on the train. As a result, Otter Tail's approach overstates the use of non-SD70MAC units and understates the use of SD70MACs which power the Big Stone trains nearly 100 percent of the time.⁶² Because the non-SD70MAC units tend to be older and less expensive than the SD70MACs that invariably power the Big Stone train, Otter Tail's inclusion of these 25 non-SD70MAC locomotives in developing locomotive ownership costs improperly dilutes BNSF's cost of ownership for the units that power the Big Stone trains.

⁶⁰ *E.g.*, for 2Q02, while BNSF's average consist size for Belle Ayr originations was greater than Otter Tail's, its figure for Eagle Butte trains was lower than Otter Tail's. BNSF Opening electronic workpaper "Big Stone Trains 2002.xls" and OTP Opening electronic workpaper "T&O Otter Tail Opening.123."

⁶¹ BNSF.RP.WP.II.A-0050.

⁶² BNSF Opening electronic workpaper "Big Stone Trains 2002.xls," Tab "total Locomotive Use."

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In any event, Otter Tail's approach produces ownership costs that are very close to costs produced using BNSF's approach.⁶³ Otter Tail's calculations produce average purchase prices for BNSF owned units that on an annual basis are within one half of one percent of BNSF's.⁶⁴ The Board should accept BNSF's locomotive ownership costs which are accurate and, consistent with Board precedent, are based on the actual units that powered the Big Stone trains.

(b) Development of Operating Lease Payments

Otter Tail also challenges BNSF's use of the average annual payment over the life of the lease for units acquired under operating leases. OTP Reply Nar. at II-A-75 to 76. Otter Tail argues that BNSF's approach is inconsistent with *WPL*. *Id.* In *WPL*, however, the Board was concerned that UP's locomotive leases might include an annual rent inflation factor and, as a result, use of a normalized lease cost might improperly increase lease costs by taking future inflation into account in assessing current lease costs.⁶⁵ This is not a concern here, as BNSF's locomotive leases for the units used in Otter Tail service do not include an inflation adjustment factor. BNSF's normalized lease cost calculations do not assume that future payments will increase with inflation. No rent inflation factor was used in developing BNSF's normalized

⁶³ Otter Tail's inclusion of the 28 locomotives effects less than three percent of the locomotive hours, as the parties agree that SD70MACs comprise at least 97 percent of the total locomotive hours for the Big Stone trains in 2002. *See* BNSF Rebuttal electronic workpaper "OTP Loco Ownership_Rebuttal.xls," OTP Reply Nar. at II-A-19.

⁶⁴ BNSF calculates a combined hulk and component locomotive cost of { } in its rebuttal electronic workpaper "OTP Loco Ownership_Rebuttal.xls." OTP calculates a combined hulk and component locomotive cost of { } in its reply electronic workpaper "Loco Cap Open (OTP).xls." { } = 0.43 percent.

⁶⁵ *WPL* at 58.

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lease costs. Rather, normalization of BNSF's lease costs simply addresses the uneven nature of BNSF's lease payment schedules.

In any event, as BNSF explained on opening, and again on reply, its approach is consistent with both relevant accounting standards and its R-1 reporting. FASB No. 13 requires that lease payments be accounted for on a normalized basis. BNSF Opening Nar. at II-50. For this reason, BNSF reports its locomotive lease costs on a normalized basis, the same way Messrs. Fisher and Plum calculate locomotive lease costs here. *Id.*

Otter Tail claims that BNSF's approach is unnecessary because "most leases have relatively even payment schedules." OTP Reply Nar. at II-A-76. In response to BNSF's demonstration of varying annual costs over the lives of the leases that Otter Tail used, Otter Tail called the illustrative lease "an extreme example" that was "the exception rather than the rule." *Id.* This claim does not stand up to scrutiny. If Otter Tail is correct, then normalization of the leases should have little or no impact on the costs. Review of Otter Tail's own workpapers, however, shows that Otter Tail is not correct. Despite arguing that the example of variances in annual payments was an exception, and that payment schedules were level, Otter Tail's workpapers show an average decrease from 2002 to 2003 (the only periods that Otter Tail costed) of fourteen percent for the average annual lease payment for the SD70MACs that power the Big Stone train.⁶⁶

⁶⁶ OTP Reply electronic workpaper "Loco Cap Open (OTP).xls." Otter Tail develops annual lease payments for the SD70MACs of { } for 2002 and { } for 2003. { } = -14 percent.

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Messrs. Fisher and Plum identified two technical errors in their development of BNSF's locomotive acquisition costs. First, for two units, the lease cost had been omitted entirely.⁶⁷ Second, for two other units, the component overhaul date reflected the wrong year.⁶⁸ These errors are corrected in this rebuttal.

(c) Spare Margin

The parties' different approaches to developing an appropriate spare margin represent the single largest source of differences in the calculation of locomotive ownership costs. As explained on opening, BNSF based its spare-margin calculations on records of BNSF's Alliance pool SD70MAC actual locomotive availability and utilization that BNSF provided to Otter Tail in discovery. BNSF Opening Nar. at II-54 to 57. BNSF calculated variable costs based on composite spare margins of { } percent.⁶⁹ On reply, Otter Tail criticizes BNSF's use of a spare margin based solely on the SD70MAC Alliance pool for all locomotives powering the Big Stone train. Otter Tail also claims that BNSF's approach fails to reflect "availability guarantees" in BNSF locomotive maintenance contracts, incorrectly defines spare margin to include non-utilized time, and contains other errors. OTP Reply Nar. at II-A-21 and II-A-26 to 29. Each of these criticisms is addressed below.

(i) BNSF's Locomotive Maintenance Contracts Are Not Relevant to the Proper

⁶⁷ Compare BNSF Rebuttal electronic workpaper "OTP Loco Ownership_Rebuttal.xls," sheet "Loco List Match 2002," cells D8 and D9 with BNSF Opening electronic workpaper "OTP Loco Ownership.xls," sheet "Loco List Match 2002," cells D8 and D9.

⁶⁸ Compare BNSF Rebuttal electronic workpaper "OTP Loco Ownership_Rebuttal.xls," sheet "Loco List Match 2002," cells H27 and H39 with BNSF Opening electronic workpaper "OTP Loco Ownership.xls," sheet "Loco List Match 2002," cells H27 and H39.

⁶⁹ BNSF.RB.WP.II.A-090.

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Calculation of BNSF's Spare
Margin

In its reply, BNSF explained that the locomotive availability guarantees previously found in BNSF's maintenance agreement with { } have not been in effect since the challenged rate went into effect. BNSF Reply Nar. at II-58 to 59. Although Otter Tail incorporated in its evidence the 1998 and 1999 Amendments (the Fourth and Fifth Amendments, respectively) to BNSF's agreement with { }, it ignored the January 2001 Sixth Amendment that BNSF provided in discovery.⁷⁰ In this amendment, BNSF and { } recognized that {

}, thus

terminating the very basis on which Otter Tail relies in calculating the spare margin for SD70MACs that are subject to the maintenance contracts. BNSF Reply Nar. at II-33.

Further, BNSF explained in its reply evidence why the availability guarantees would not be an appropriate measure of availability even if they were still in effect -- namely that the time that a locomotive would be deemed unavailable under the contract does not include all time that a locomotive is in fact unavailable. BNSF Reply Nar. at II-58. The same is true of the {

} OTP Reply Nar. at II-

A-24. Such events clearly would lead to periods of time that the locomotives are unavailable to the railroad in excess of the level guaranteed by the maintenance contractor. Otter Tail, however, asserts that its own records show "no occurrences of { }. *Id.* Otter Tail produced no such records supporting this claim. Moreover, the notion that Otter Tail

⁷⁰ OTP workpapers 0481-0483; BNSF RP.WP.II.A-0111 to 0113.

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would or could maintain useful records of BNSF's locomotive maintenance and operating events is implausible. Otter Tail also claims that the train event data and train movement data do not reflect such events. *Id.* But that is because such events are not recorded in those data.

(ii) BNSF's Definition of Spare
Margin Is Consistent with
Board Precedent

Otter Tail also argues that BNSF's use of unavailable *and* unutilized time for the Alliance pool SD70MACs would "redefine" spare margin. OTP Reply Nar. at 22. Otter Tail asserts that the Board has previously rejected the inclusion of non-utilized time in locomotive spare margin. This is not true. In the cases cited by Otter Tail, the ICC accepted the general proposition that a spare margin can include non-utilized time, but it rejected BN's studies quantifying that time.⁷¹ BN's studies, according to the ICC, were rejected because they failed to account for a number of factors that might influence spare-margin levels. The flaws in BN's studies that led the ICC to reject BN's spare-margin evidence in those cases do not exist in BNSF's evidence in this case. The excerpt from the *APL* decision quoted by Otter Tail indicates that the ICC was concerned about the impact of non-coal movements on the spare margins of a pool of locomotives used to provide service for coal and non-coal shippers.⁷² But the Alliance Pool's SD70MACs are almost entirely dedicated to serving PRB coal operations. The fact that the fleet is dedicated to coal insulates the Alliance pool SD70MACs from fluctuations in freight traffic levels that could otherwise produce spare-margin levels that vary widely throughout the year. As BNSF's

⁷¹ *Arkansas Power & Light Co. v. Burlington Northern R.R. Co., et al.*, ICC Docket No. 36719 (served May 13, 1987) ("*APL*"); *Omaha Public Power District v. Burlington Northern R.R. Co.*, 3 I.C.C.2d 123 (1986); *Central Louisiana Elec. Co. v. Burlington Northern R.R. Co. and Missouri Pac. R.R. Co.*, ICC Docket No. 37667S (served Feb. 25, 1983).

⁷² *APL* at 4-5.

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workpapers indicate, the spare margins calculated for each month range by less than five percent throughout 2002.⁷³

The ICC was also troubled by the methodology underlying the former BN's studies. To test the reasonableness of that methodology, the ICC applied it to compute spare margins for BN's non-coal locomotives but obtained anomalous results. That is not the case with BNSF's methodology in this case. Using the same methodology BNSF used to calculate the spare margin for the Otter Tail service, BNSF calculated a composite spare margin for BNSF's other road units (*i.e.*, excluding the Alliance pool SD70MACs) of { } percent.⁷⁴ This result is consistent with the relative efficiency of unit-train coal traffic and demonstrates that the methodological concerns that the ICC had do not exist here.

Non-utilized time must be included in order to comply with a fundamental principle of URCS, *i.e.*, that the URCS-based costs for all specific BNSF movements add up to the costs reported in the R-1. Obviously, BNSF's coal fleet must be sufficient to provide service to its coal customers, and BNSF makes every effort to maximize the utilization of its coal fleet. No railroad, however, can keep all of its locomotives in service all the time. There are times when a locomotive is cut out of a consist because the ruling grade of the remaining trip does not warrant the additional power, only to be added back to the consist on the return trip. At other times, locomotives are moved into a different service after they are repositioned close to their assigned shops, just prior to a scheduled maintenance, lowering the utilization of those locomotives. Nevertheless, BNSF incurs ownership costs during this non-utilized time. Those ownership costs are reported in the R-1 and are an input to URCS. URCS requires that a portion of these

⁷³ BNSF.RB.WP.II.A-091 and Rebuttal electronic workpaper "Spare Margin_Rebuttal.xls."

⁷⁴ BNSF Rebuttal electronic workpaper "System wide spare margin.xls."

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ownership costs be allocated to each move. Otherwise, a substantial portion of BNSF's locomotive ownership costs would never be recovered.

BNSF's evidence is based on its measure of the actual spare margin on which it evaluates the performance of its locomotive fleet. The availability and utilization report produced to Otter Tail in discovery is prepared by BNSF in the normal course of business. {

} Tactically, BNSF reviews the non-utilized margin to determine where power should be repositioned into alternative services in order to get better utilization out of its fleet. BNSF's calculations, based on actual records maintained by BNSF in the normal course of business, identify the appropriate amount of spare margin to be included in determining locomotive ownership costs.

(iii) Otter Tail's Claims of Errors
Are Wrong

Otter Tail claims that there are other potential errors in BNSF's methodology and in the data underlying BNSF's calculations. First, Otter Tail claims that BNSF's spare-margin calculation might result in a double-count of the time associated with overlapping events. OTP Reply at II-A-30. Otter Tail claims that the MERS-WOAS ("Shop Release to Work Order Assign") could account for the same time accounted for by MERS-TD ("Shop Release to Train Departure"). *Id.* However, a locomotive reports either the MERS-WOAS and then WOAS-TD ("Work Order Assign to Train Departure") sequence of events, or reports only MERS-TD, but not both. No double-count exists.

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Otter Tail also criticizes BNSF's spare-margin calculation as relying on flawed data. Specifically, Otter Tail identifies the fact that the January 2002 "hours utilized" exceed both the "hours available" and the "total measurable" hours.⁷⁵ This anomaly, which is unique to that month, occurred because locomotives that were transitioned from { }'s responsibility to BNSF's responsibility due to a contract expiration were captured under both accounts. However, BNSF's spare-margin calculation uses only the relationship between the "hours utilized" and the "hours non-utilized" (*i.e.*, the "available, but not utilized" component of spare margin) and the relationship between the "hours available" and the "total measurable" hours (*i.e.*, the "unavailable" component of spare margin). BNSF's calculation makes no comparison of "hours utilized" to "hours available" or "total measurable" hours that could be affected by the mis-reported totals. Thus, correcting the data does not change the spare margin.⁷⁶

In this rebuttal, Messrs. Fisher and Plum modify their calculation of spare margin to include the Board's standard 10-percent default spare margin for the less-than-three percent of non-SD70MACs that were used to power the Big Stone train.⁷⁷ As a result, they use a spare margin of { } percent to calculate variable costs for this rebuttal.⁷⁸

(d) Quarterly Locomotive Costs

Otter Tail notes that BNSF calculated average locomotive ownership costs for all of 2002 while Otter Tail calculated quarterly-specific values. OTP Reply Nar. at II-A-34 to 45. The

⁷⁵ OTP Reply at II-A-30, *citing* BNSF Opening electronic workpaper "Spare Margin.xls."

⁷⁶ BNSF Rebuttal electronic workpaper "Spare Margin_Rebuttal.xls."

⁷⁷ BNSF Rebuttal electronic workpaper "Spare Margin_Rebuttal.xls."

⁷⁸ BNSF.RB.WP.II.A-087 to 089, 091 and Rebuttal electronic workpaper "Spare Margin_Rebuttal.xls."

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impact of this difference in approach is that the parties' costs differ slightly on a quarterly basis.⁷⁹

To reduce the differences between the parties, in this rebuttal Messrs. Fisher and Plum use quarterly-specific locomotive ownership costs to develop variable costs for Big Stone service.

v. Third-Party Loading Expense

As explained in BNSF's opening evidence, BNSF pays a third-party to load Big Stone trains at Eagle Butte. BNSF Opening Nar. at II-58. Messrs. Fisher and Plum included the actual cost that BNSF incurs for Big Stone trains in their development of variable costs.

On opening, Otter Tail said nothing about these third-party loading costs. Then on reply, Otter Tail claimed that these loading costs are reported in BNSF's R-1 lines 402 and 403 as purchased services and therefore included in the crew wage mark-up ratio. Otter Tail Reply Nar. at II-A-41. According to Otter Tail, it excluded the direct costs to avoid a double count. *Id.*

Otter Tail is wrong that these costs are reported in lines 402 and 403 and included in the crew wage mark-up ratio. In fact, these costs are reported as "Other" operating expenses in the R-1.⁸⁰ Since URCS spreads these costs across all of BNSF's service units (*e.g.*, train-miles) system-wide, only a small fraction of these expenses are accounted for in the URCS calculation of variable costs for the issue move. Accordingly, it is appropriate to include third-party loading expense on a direct basis in calculating variable costs for the issue move, as any potential double-count will be *de minimus*.

⁷⁹ BNSF's costs are higher than Otter Tail's in two quarters in 2002 and lower in the other two quarters. For the year, however, the parties' costs are approximately the same. BNSF.RB.WP.II.A-092, Rebuttal electronic workpaper "OTP Loco Ownership_Rebuttal.xls" and OTP Opening electronic workpaper "Loco Cap Open (OTP).xls."

⁸⁰ BNSF.RB.WP.II.A-094.

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vi. EOTD Ownership Expense

The parties generally agree on the EOTD unit costs. Minor differences result from the parties' treatment of Accounts 76 and 90 (discussed above in section II.A.1.a.i.) and the different spare margins applied by the parties. Otter Tail applies its incorrect locomotive spare margin based on the availability guarantees from BNSF's locomotive maintenance contracts. Even if those availability guarantees could be used to develop the spare margin for locomotives – and BNSF explained in Section II.A.1.c.iv.(c)(i) above that they cannot – they have no relevance to EOTDs that are not covered by such guarantees. BNSF's application of the standard 10-percent spare margin to EOTDs is appropriate.

vii. Indexing

On reply, BNSF identified an error in Otter Tail's development of its indices. Specifically, Otter Tail had used the wrong base year to develop its fuel index. BNSF Reply Nar. at II-62 to 63. BNSF also explained that minor differences resulted from Otter Tail's rounding of its calculations. *Id.* at II-63. In its reply evidence, Otter Tail corrected the error in its base year of its fuel index. In this rebuttal, Messrs. Fisher and Plum adopt Otter Tail's rounding convention.⁸¹ The quarterly indices are set forth below in Table II.A.4.

**Table II.A.4
Quarterly Indices**

Period	Non-Fuel	Fuel
1Q 02	0.99358	0.89587
2Q 02	0.99868	1.00751
3Q 02	1.00323	1.01854
4Q 02	1.00486	1.07091
1Q 03	1.01870	1.29281

Source: BNSF-02-IE3-INDEX-REBUT.123.

⁸¹ BNSF.RB.WP.II.A-096 to 099.

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The parties continue to disagree on the composite wage and wage supplements index used to index crew wage expenses to First Quarter 2003 levels. Messrs. Fisher and Plum developed the First Quarter 2003 index based on the annual index for 2002. Otter Tail uses the average of the four quarterly indices from 2002, which produces a higher 1Q03 index than BNSF's.

viii. Joint Facilities

BNSF addressed this issue in its reply evidence (BNSF Reply Nar. at II-11). Otter Tail did not present any new evidence or argument.

ix. Loss and Damage

BNSF addressed this issue in its reply evidence (BNSF Reply Nar. at II-56 to 57). Otter Tail did not present any new evidence or argument.

2. Restatement of Variable Costs and Summary

As described above, BNSF updated the variable costs for First Quarter 2002 through First Quarter 2003. Table II.A.5 below shows the results. Exhibit II.A-1 presents the variable costs for each component by origin mine, rate, and quarter for movements under the challenged rates. BNSF's electronic workpapers contain the detailed calculations.⁸²

⁸² BNSF rebuttal electronic workpaper "BNSF OTP REBUTTAL PRG.123."

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**Table II.A.5
Summary of Variable Costs and R/VC Ratios
For Big Stone Traffic Moving in Aluminum Cars**

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		BNSF Rebuttal		OTP Reply	
Period	Rate/Ton	Variable Cost/Ton	Revenue to Variable Cost Ratio	Variable Cost/Ton	Revenue to Variable Cost Ratio
1st Qtr 2002	\$13.49	\$5.93	2.28	\$5.00	2.70
2nd Qtr 2002	\$13.49	\$5.96	2.26	\$5.04	2.68
3rd Qtr 2002	\$13.49	\$5.88	2.29	\$5.04	2.68
4th Qtr 2002	\$13.49	\$6.06	2.23	\$5.14	2.62
1st Qtr 2003	\$13.76	\$6.38	2.16	\$5.39	2.55

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		BNSF Rebuttal		OTP Reply	
Period	Rate/Ton	Variable Cost/Ton	Revenue to Variable Cost Ratio	Variable Cost/Ton	Revenue to Variable Cost Ratio
1st Qtr 2002	\$13.49	\$5.86	2.30	\$4.87	2.77
2nd Qtr 2002	\$13.49	\$5.94	2.27	\$4.95	2.73
3rd Qtr 2002	\$13.49	\$5.89	2.29	\$4.98	2.71
4th Qtr 2002	\$13.49	\$5.97	2.26	\$5.00	2.70
1st Qtr 2003	\$13.76	\$6.45	2.13	\$5.39	2.55

Benton V. Fisher

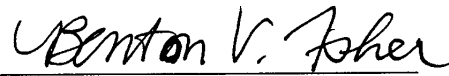
Benton V. Fisher is a Managing Director at FTI Consulting, Inc., an economic and financial consulting firm with offices located at 1201 Eye Street, N.W., Suite 400, Washington, DC, 20005. Since 1991, Mr. Fisher has been involved in various aspects of transportation consulting including economic studies involving costs and revenues, traffic and operating analyses, and work with performance measurement and financial reporting systems.

Mr. Fisher holds a Bachelor of Science in Engineering degree from Princeton University. In 1990, he served as the Deputy Controller for the Bill Bradley for U.S. Senate Campaign. In 1991, he joined Klick, Kent & Allen, Inc., which was acquired by FTI Consulting, Inc. in 1998. While with the firm Mr. Fisher has performed numerous analyses for and assisted in the preparation of expert testimony related to merger applications, rate reasonableness proceedings, contract disputes, and other regulatory costing issues before the Interstate Commerce Commission, Surface Transportation Board, Federal Energy Regulatory Commission, Postal Rate Commission, Federal Court, and State Utility Commissions.

Mr. Fisher is sponsoring evidence relating to BNSF's variable costs for the issue movement. His evidence is incorporated in Section II.A. of the Narrative. A copy of Mr. Fisher's verification is attached hereto.

I declare under penalty of perjury that I have read the Rebuttal Evidence that I have sponsored, as described in the foregoing Statement of Qualifications, and that the contents thereof are true and correct. Further, I certify that I am qualified and authorized to sponsor this testimony.

Executed on April 28 , 2004

A handwritten signature in cursive script, reading "Benton V. Fisher". The signature is written in dark ink and is positioned above a horizontal line.

Benton V. Fisher

Robert J. Plum, III

Robert J. Plum, III, is a Director at FTI Consulting, Inc., an economic and financial consulting firm with offices located at 1201 Eye Street, N.W., Suite 400, Washington, DC, 20005.

Mr. Plum holds a Bachelor's Degree in Accounting and an M.B.A. degree with a concentration in finance. He began his career in 1979 with Wyer Dick & Company, a consulting firm that specialized in railroad costing issues. Since that time he has been involved continuously in analyzing accounting, cost, financial and engineering issues associated with railroad operations and pricing. He has conducted numerous variable and stand-alone cost studies, conducted and evaluated railroad contract provisions, field studies of railroad operations, and developed computer models to evaluate railroad engineering and operating requirements.

Mr. Plum is sponsoring evidence of BNSF's switching activities for the issue movement. His evidence is incorporated in Section II.A. of the Narrative. A copy of Mr. Plum's verification is attached hereto.

I declare under penalty of perjury that I have read the Rebuttal Evidence that I have sponsored, as described in the foregoing Statement of Qualifications, and that the contents thereof are true and correct. Further, I certify that I am qualified and authorized to sponsor this testimony.

Executed on April 28, 2004


Robert J. Plum, III

**BNSF REBUTTAL EXHIBIT II.A-1
HAS BEEN REDACTED**

**BNSF REBUTTAL EXHIBIT II.A-2
HAS BEEN REDACTED**

**BNSF REBUTTAL EXHIBIT ILA-3
HAS BEEN REDACTED**