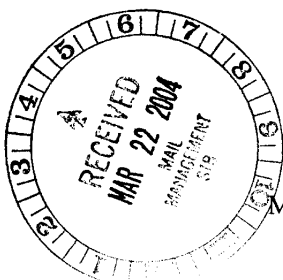


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March 22, 2004

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Via HAND DELIVERY

The Honorable Vernon A. Williams
Secretary
Surface Transportation Board
1925 K Street, NW
Washington, DC 20423

ENTERED
Office of Proceedings

PUBLIC VERSION

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

Dear Secretary Williams:

Enclosed for filing in the above-captioned matter are the original and ten copies of the Public Version of the Supplemental Reply Evidence and Argument of The Burlington Northern and Santa Fe Railway Company. The Public version of this Supplemental Reply Evidence and Argument consists of a single volume containing the Narrative and Exhibits. This volume contains color and oversized documents. 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 Supplemental Reply Evidence and Argument 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,

Samuel M. Sipe, Jr.

Enclosures

cc: Counsel for Complainant

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Public Version

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

STB Docket No. 42071

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

**Supplemental Reply Evidence of
The Burlington Northern and Santa Fe Railway Company**

NARRATIVE and EXHIBITS

Volume I of I

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ABBREVIATIONS

Terms:

AVP	Assistant Vice President
BNSF	The Burlington Northern and Santa Fe Railway Company
CTC	Centralized Traffic Control System
DARA	Density Adjusted Revenue Allocation
DCF	Discounted Cash Flow
FED	Failed Equipment Detector
FTI	FTI Consulting, Inc.
G&A	General and Administrative
HR	Human Resources
LMR	Land Mobile Radio
LUM	Locomotive Unit-Mile
MMP	Modified Mileage Prorate
MOW	Maintenance of Way
MSP	Modified Straight-Mileage Prorate
NS	Norfolk Southern Railway Co.
OTP	Otter Tail Power Company
OTRR	Otter Tail Railroad
PRB	Powder River Basin
RRVW	Red River Valley and Western Railroad
RTC	Rail Traffic Controller
SAC	Stand-Alone Cost
SARR	Stand-Alone Railroad
T&E	Train and Engine Crew
TMPA	Texas Municipal Power Agency
UP	Union Pacific Railway Company
URCS	Uniform Railroad Costing System

CASE NAMES

<i>AEPCO</i>	<i>Arizona Electric Power Cooperative, Inc. v The Burlington Northern and Santa Fe Railway Company</i> , STB Docket No. 42058 (STB served August 20, 2002)
<i>Coal Rate Guidelines</i>	<i>Coal Rate Guidelines, Nationwide</i> , 1 I.C.C.2d 520 (1985)
<i>CP&L or CP&L/NS</i>	<i>Carolina Power & Light Company v. Norfolk Southern Railway Company</i> , STB Docket No. 42072 (STB served December 23, 2003)
<i>Duke v. CSX or Duke/CSX</i>	<i>Duke Energy Corporation v. CSX Transportation, Inc.</i> , STB Docket No. 42070 (STB served February 4, 2004)
<i>Duke v. NS or Duke/NS</i>	<i>Duke Energy Corporation v. Norfolk Southern Railway Company</i> , STB Docket No. 42069 (STB served November 6, 2003)
<i>General Procedures</i>	<i>General Procedures for Presenting Evidence in Stand-Alone Cost Rate Cases</i> , STB Ex Parte No. 347 (Sub-No.3) (served March 12, 2001)
<i>Nevada Power II</i>	<i>Bituminous Coal-Hiawatha Utah, to Moapa, Nevada</i> , 10 I.C.C.2d 253 (1994)
<i>PPL I</i>	<i>PPL Montana LLC v. The Burlington Northern and Santa Fe Railway Company</i> , STB Docket No. 42054 (STB served August 19, 2002)
<i>PPL II</i>	<i>PPL Montana, LLC v. The Burlington Northern and Santa Fe Railway Company</i> , STB Docket No. 42054 (STB served March 24, 2003)
<i>TMPA</i>	<i>Texas Municipal Power Agency v. The Burlington Northern and Santa Fe Railway Company</i> , STB Docket No. 42056 (served March 24, 2003)

**I: Counsel's Argument
and Summary of Evidence**

I. COUNSEL’S ARGUMENT AND SUMMARY OF EVIDENCE

This is the Supplemental Reply Evidence and Argument of defendant The Burlington Northern and Santa Fe Railway Company (“BNSF”) in STB Docket No. 42071, *Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company*. This Supplemental Reply is being submitted pursuant to the Board’s November 21, 2003, December 12, 2003, and February 19, 2004 orders in this proceeding. BNSF’s Supplemental Reply is in large part a response to Supplemental Opening Evidence filed by Complainant Otter Tail Power Company (“Otter Tail”) on January 9, 2004. This Supplemental Reply also contains revised revenue and cost evidence reflecting BNSF’s exclusion of certain rerouted traffic that Otter Tail proposed to include in its stand-traffic group. BNSF excludes this traffic based on recent Board decisions. The format of BNSF’s Supplemental Reply complies with 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*.

A. INTRODUCTION

Otter Tail’s January 9, 2004 Opening Supplemental Evidence contains the third SAC case that Otter Tail has tendered in this proceeding. Otter Tail’s first SAC case was set out in its June 13, 2003 Opening Evidence. A month later, Otter Tail concluded that its original SAC presentation was fundamentally flawed and it filed a new SAC case under the guise of an errata filing.¹ Now, Otter Tail purports to present in its January 9, 2004 Opening Supplemental Evidence yet another SAC case, which Otter Tail claims is an alternative to its original SAC presentation. Otter Tail still claims to rely primarily on its July 14, 2003 SAC presentation,

¹ Errata to Complainant Otter Tail Power Company’s Opening Evidence, STB Docket No. 42071 (filed July 14, 2003).

which Otter Tail characterizes as the “primary case” on which it asserts its claim for relief. OTP Opening Supp. Ev. at I-3.

BNSF addressed the flaws in Otter Tail’s primary case in its October 8, 2003 Reply Evidence and Argument. Otter Tail’s primary case continued the trend in recent SAC litigation of complainants’ aggressive manipulation of traffic grouping and cross-over traffic. A prominent feature of Otter Tail’s case was the abuse of short-haul cross-over traffic. The traffic group in Otter Tail’s primary case included a vast amount of coal traffic that traveled only a short distance on the SARR. Some of this traffic shared no facilities whatsoever with the issue traffic. Other traffic violated Otter Tail’s own decision to exclude cross-over movements that traveled on the SARR for less than 1.1 percent of the length of the through movement. Using an extraordinarily aggressive revenue divisions methodology, Otter Tail claimed a minimum of 25 percent of the through revenue on those short-haul coal movements, even though the SARR’s portion of the haul was only a few miles.

Otter Tail also used a stratagem that is increasingly common in SAC cases, namely the rerouting of the incumbent’s traffic to increase the apparent density of traffic on SARR lines. Thus, Otter Tail improperly assumed that a large volume of high-priority intermodal traffic would be rerouted from BNSF’s northernmost transcontinental line to the longer, more congested SARR route.²

After BNSF filed its Reply Evidence, the Board issued a decision in *Duke Energy Corp. v. Norfolk Southern Ry. Co.*, STB Docket No. 42069 (served November 6, 2003) (“*Duke/NS*”). Among other things, the Board’s *Duke/NS* decision clarified that the allocation of revenues on cross-over traffic between the SARR and the residual incumbent should not turn on a market-

² See BNSF’s Counsel’s Argument at pages I-9 to I-12 and Section III.A of the October 8, 2003 Reply Narrative.

based inquiry but rather on an assessment of the relative costs of providing service over the two segments of the cross-over movement.³ The Board also presented a new mileage-based methodology for allocating cross-over revenues which, according to the Board, reduced the incentives for complainants to game the SAC results through the use of cross-over traffic.⁴

In response to the *Duke/NS* decision, Otter Tail sought permission to supplement its Opening Evidence. Specifically, Otter Tail claimed that it had excluded from its original SAC presentation some 31 million tons of short-haul coal traffic to which it had not been able to apply its market-based revenue divisions methodology. Since the Board had now made it clear that revenues would not be allocated on cross-over traffic using market-based divisions, Otter Tail argued that it should be allowed to supplement the record to include the short-haul traffic that it originally had excluded from its SARR network.⁵ Otter Tail also sought permission to present new calculations relating to the allocation of revenues on cross-over traffic under the Modified Straight-Mileage Prorate (“MSP”) methodology set out by the Board in *Duke/NS*.⁶ Over BNSF’s objection, the Board gave Otter Tail “permission to submit supplemental evidence that will adjust its data to conform with the Board’s methodology for allocating cross-over traffic revenues in [*Duke/NS*].”⁷

³ *Duke/NS*, slip op. at 17-20.

⁴ *Id.* at 22-25.

⁵ See Otter Tail Power Company Motion to Modify Procedural Schedule and Petition to Supplement the Evidentiary Record, STB Docket No. 42071, at 6-8 (filed November 10, 2003).

⁶ *Id.*

⁷ *Otter Tail Power Co. v. Burlington Northern and Santa Fe Ry. Co.*, STB Docket No. 42071, at 1 (served November 21, 2003).

Otter Tail filed its Opening Supplemental Evidence on January 9, 2004. In that Supplemental Evidence, Otter Tail purports to “present an alternative SARR, rather than a substitute SARR, to Otter Tail’s primary case.” OTP Opening Supp. Ev. at I-3. Otter Tail continues to rely primarily on its original opening SAC presentation, as modified by its Errata filing, which calculates revenues for cross-over traffic using a supposed market-based approach. Its alternate case, presented in the Opening Supplemental Evidence, uses the MSP approach for allocating revenues on cross-over traffic. The alternate case also contains an additional 31.7 million tons of coal in the base year, which is assumed to move on average fewer than 9 miles on the SARR.

Although Otter Tail asserts that its “Supplemental Evidence presents an alternative SARR . . . to Otter Tail’s primary case,” it does not in fact present a self-contained alternative SAC case. *Id.* Otter Tail’s Opening Supplemental Evidence does not contain alternative cost calculations. Indeed, Otter Tail does not even bother to present a revised DCF analysis or any evidence on the relationship of SAC costs to SAC revenue in its so-called alternative case. Instead, Otter Tail’s Supplemental Evidence consists of little more than suggestions as to how the Board might determine what Otter Tail describes as the “incremental” costs associated with the additional traffic that Otter Tail includes in its alternative SARR traffic group, “if the Board desires to do so.” *Id.* at I-4. But if the Board were to make such “incremental” cost calculations, they would not be meaningful. Otter Tail makes clear that it will tender revised cost calculations on rebuttal. *Id.* at I-5.

Subsequent to the filing of Otter Tail’s Supplemental Opening on January 9, 2004, the Board issued its decision in *Duke Energy Corp. v. CSX Transportation, Inc.*, STB Docket No. 42070 (served January 24, 2003) (“*Duke/CSX*”). Among other things, the *Duke/CSX* decision

elaborated on the principles that the Board will apply in determining whether non-issue traffic that has been re-routed from its real world route may be included in the stand-alone shipper group. On February 6, 2004, BNSF requested from the Board a four week extension of the procedural schedule so that it might present in its supplemental reply additional evidence regarding rerouted traffic in light of the Board's decision in *Duke/CSX*.⁸ The Board granted BNSF's motion on February 19, 2004.⁹

As a consequence of the foregoing developments, BNSF's Supplemental Reply Evidence has the following principal features. First, BNSF addresses Otter Tail's intent to include an additional 31.7 million tons of short-haul coal traffic in its stand-alone traffic group. Second, BNSF identifies additional rerouted traffic that should be eliminated from Otter's Tail's stand-alone traffic group in light of Board decisions served since the filing of BNSF's original Reply Evidence in October 2003, including the recent *Duke/CSX* decision. Third, BNSF addresses the proper allocation of revenues on cross-over traffic under a cost-based allocation methodology in light of Otter Tail's use of the MSP approach in its Opening Supplemental Evidence. Fourth, BNSF addresses the modified SAC costs associated with the revised traffic group that BNSF presents in this Supplemental Reply.¹⁰ BNSF demonstrates that Otter Tail's alternative SAC case, like its primary case, does not support its claim that the challenged rates are unreasonable.

⁸ Defendant's Motion to Modify Procedural Schedule, STB Docket No. 42071 (filed Feb. 6, 2004).

⁹ *Otter Tail Power Co. v. BNSF*, Docket No. 42071 (served February 19, 2004).

¹⁰ This Supplemental Reply includes new exhibits and exhibits that replace exhibits included in BNSF's October 8, 2003 Reply. Several exhibits from BNSF's October 8, 2003 Reply remain applicable but they are not reproduced in this Supplemental Reply. A guide to the applicability of the exhibits in the October 8, 2003 Reply to BNSF's Supplemental Reply is included as an index to the Supplemental Reply Exhibits contained in this filing. A complete set of electronic workpapers is included in this filing.

B. OTTER TAIL'S ALTERNATE TRAFFIC CONFIGURATION IS FLAWED

Otter Tail's supplemental traffic group takes the gaming of SAC results through the use of short-haul traffic to a new extreme. All of the 31.7 million tons of coal that Otter Tail seeks to add to its SARR are cross-over movements and the additional cross-over traffic moves on average fewer than 9 miles on the SARR. While the SARR handles this traffic for a negligible portion of the through route, Otter Tail assumes that the SARR receives a substantial percentage of the through revenue that is grossly disproportionate to the revenues allocated to the residual incumbent.¹¹

Most of the new short-haul traffic in Otter Tail's alternate case should be excluded from the SAC analysis because it shares no facilities whatsoever with the issue traffic. Of the new 31.7 million tons, 30.75 million tons originate at three PRB mines south of the Cordero mine and then travel south to Converse Junction where they are interchanged with the residual BNSF. The southernmost mine used by Otter Tail is the Cordero mine and all of the issue traffic originated at this mine travels north. Accordingly, none of these new 30.75 million tons shares any facilities with the issue traffic. As BNSF explained in its October 8, 2003 Reply, Otter Tail also included in its opening SAC presentation 54 million tons of coal that had these same characteristics – i.e., they originated at southern PRB mines and traveled south over lines that are never used by the issue traffic.¹² Thus, Otter Tail's alternate case now contains 84 million tons of coal in the base year that never even touch facilities that are used by the issue traffic.

As BNSF explained in its October 8, 2003 Reply, all of this traffic should be excluded from the SAC analysis. The Board has expressly stated that “[a] shipper should not seek to have

¹¹ See BNSF Supp. Reply Exh. III.A-2.

¹² See BNSF Reply Exh. III.A-4.

its rate reduced by shifting any part of the costs of the lines or facilities that it needs onto traffic that does not use those lines or facilities.”¹³ This rule is rooted in the *Coal Rate Guidelines*, which permits a complainant to include non-issue traffic in a SAC presentation so that the issue traffic can benefit from the sharing of costs among shippers that share facilities.¹⁴ But cost sharing only occurs if there is a sharing of facilities. Therefore, the sharing of facilities used by the issue traffic is a prerequisite to the grouping of non-issue traffic with the issue traffic in a SAC analysis. *See* BNSF Supp. Reply below, at Section III.A.1.a.

None of the 84 million tons of southbound traffic shares any facilities with the issue traffic, so none of the revenue from this traffic should be used to cover the cost of facilities used by the issue traffic. The potential for distortion of SAC results through the use of traffic that does not share facilities with the issue traffic is clear in this case, where 40 percent of Otter Tail’s coal traffic shares no facilities with the issue traffic. Moreover, by eliminating cross-over traffic that shares no facilities with the issue traffic, the Board would avoid the need to undertake a cross-subsidy analysis that would otherwise be required to ensure that the traffic is not being asked to contribute revenues to facilities that it does not use. These issues are discussed further in Section III.A.1.a below.

In addition to the 84 million tons discussed above, Otter Tail seeks to add to its alternate case 966,000 tons of coal that originate at PRB mines north of Campbell, WY. This traffic is assumed to move only a few miles on the SARR to Donkey Creek, where it is interchanged with the residual BNSF. Unlike the southbound movements described above, this traffic does share

¹³ *PPL Montana, LLC v. BNSF*, STB Docket No. 42054, at 7 (served March 24, 2003) (“*PPL II*”).

¹⁴ *Coal Rate Guidelines, Nationwide*, 1 I.C.C.2d 520, 528 (1985) (“*Coal Rate Guidelines*”).

some facilities with the issue traffic, most of which originates at the Eagle Butte mine on the Campbell Subdivision. Otter Tail nevertheless excluded this traffic from its original SAC presentation because it traveled less than 1.1% of the through route on the SARR. Otter Tail supposedly chose this limitation on short-haul traffic on grounds that its market-based revenue allocation algorithm could not properly estimate revenue divisions on traffic that moved such a short distance on the SARR. *See* BNSF Reply Nar. at III.A-25.

In fact, Otter Tail did not consistently apply its criterion for the exclusion of short-haul traffic in its opening SAC presentation. As BNSF explained at Section III.A.1.b of its October 8, 2003 Reply Narrative, Otter Tail included over 14 million tons of coal in the base year that violated its own 1.1% rule. BNSF excluded this traffic in preparing its original Reply Evidence to be consistent with Otter Tail's own stated criteria. Now, however, Otter Tail claims that it is abandoning the 1.1% rule for purposes of its alternate case because it is no longer relying on a market-based revenue division methodology and therefore has no need to limit the amount of short-haul traffic. OTP Opening Supp. Ev. at I-2 to I-4. While BNSF continues to believe that the use of any cross-over traffic in a SAC test, particularly short-haul traffic, creates an unacceptable distortion, BNSF nevertheless includes in this Supplemental Reply Evidence the traffic that would otherwise be excluded because it violates Otter Tail's disavowed 1.1% rule. Therefore, BNSF adds back to the SARR network for purposes of this Supplemental Reply the 14 million tons that it excluded in its October 8, 2003 Reply and it includes the 966,000 tons of additional Campbell Subdivision originations that are addressed in Otter Tail's Opening Supplemental Evidence.

The inclusion of this short-haul traffic makes it critically important that the Board adopt a fair and principled method of allocating revenue on cross-over traffic. If the Board permits the

complaining shipper to overstate the revenue credit that is provided to an originating SARR carrier, it will create an incentive for complainants to continue to game the SAC results, as Otter Tail has done here, by stacking up on short-haul traffic. The proper allocation of revenue on cross-over traffic is addressed in Sections I.D and I.E below.

C. OTTER TAIL SHOULD NOT BE PERMITTED TO REROUTE CROSS-OVER TRAFFIC FROM AN EFFICIENT REAL WORLD ROUTE TO A LONGER SARR ROUTE

Otter Tail's preferred and alternate SAC cases include about 25 million tons of non-coal traffic in the base year that has been rerouted from BNSF's northern line through Minot, ND, onto the SARR's line through Glendive, ND. This reroute adds over 100 miles to the real world route for this traffic. In BNSF's October 8, 2003 Reply, BNSF excluded a portion of this traffic from the SAC analysis, namely BNSF's highest priority Z trains that handle highly competitive traffic. BNSF explained that the longer route on the SARR's overhead portion of the Z train movements would produce inferior service that would jeopardize the residual incumbent's ability to retain the traffic. *See* BNSF Reply Nar. at Section III.A.1.c. Since October 8, 2003, the Board has issued two decisions that clarify and refine SAC principles regarding the routing of non-issue cross-over traffic. In light of those decisions and the principles on which they are based, it is clear that none of the rerouted traffic belongs in Otter Tail's SAC traffic group.

In *Duke/NS*, the Board explained that "[t]he starting point for the Board's analysis of rerouted traffic will be length of haul."¹⁵ In *Duke/CSX*, the Board further clarified that "for routings that would result in a longer overall haul, the rebuttable presumption is that the longer route is less efficient; and the greater the disparity in distance, the stronger the presumption."¹⁶

¹⁵ *Duke/NS*, slip op. at 26.

¹⁶ *Duke/CSX*, slip op. at 16.

There is no question that the rerouted non-coal traffic that Otter Tail includes in the OTRR moves over a substantially longer route. Otter Tail has not sought to rebut the presumption that the longer route is less efficient, and it could not do so in light of its own evidence on transit times for the rerouted traffic. As explained in Section III.A.1.d below, Otter Tail's string program transit times for the rerouted traffic show that nearly all rerouted trains take a longer time to traverse the longer route. Moreover, the string program analysis clearly understates the real transit times because Otter Tail has ignored time associated with switching that would need to occur on the rerouted trains.

The rerouted traffic must also be excluded under the sharing of facilities rationale discussed by the Board in *Duke/CSX*. In *Duke/CSX*, the Board stated that "where traffic does not already utilize lines replicated by the SARR, the traffic may not be included in the SAC analysis absent a compelling justification that the defendant carrier should itself be routing the traffic in this manner and that it is inefficient for it not to do so."¹⁷ This rule is based directly on the *Coal Rate Guidelines*, which explain that the SAC test is designed "to compute the rate a competitor in the market-place would need to charge in serving a captive shipper or group of shippers who benefit from sharing joint and common facilities."¹⁸ The shippers on an existing route obviously share facilities on that route, and the *Guidelines* contemplate that the complainant in a SAC case may select among defendant's existing routes to maximize economies of density for the SARR. But the complainant cannot create artificial densities for the SARR by rerouting traffic that does not share facilities with traffic on the selected route unless it can show that the defendant's routing of the rerouted traffic is inefficient.

¹⁷ *Id.* at 16-17.

¹⁸ *Coal Rate Guidelines*, 1 I.C.C.2d at 528.

Otter Tail has not shown here and cannot show that BNSF's maintenance of two routes for traffic moving over the northern tier is inefficient. BNSF's Minot line is a shorter and more direct route for transcontinental traffic moving between the Pacific Northwest and the Upper Midwest, and BNSF's Glendive line is a shorter and more direct route for BNSF's PRB coal traffic destined for the Upper Midwest. Moreover, BNSF's maintenance of the two lines avoids the operating complexities that would result from combining all traffic groups over a single route.

The fact that the two routes share a few miles of track at one end does not justify what would otherwise be an impermissible rerouting of the traffic. The Board has clearly stated that "it is not appropriate to divert traffic from other parts of the defendant carrier's system to help defray costs of the portion of the system used by complainant."¹⁹ If there is a minimal sharing of facilities, the complainant would be entitled at most to revenues from the rerouted traffic to contribute to the coverage of the costs of the shared facilities. The complainant should not be permitted to divert traffic to obtain revenues to cover the costs of facilities that are not shared. Moreover, if the Board adhered to a rule disallowing rerouting if *no* facilities are shared but allowing rerouting where a *minimal* sharing exists, complainants would be encouraged to further game the SAC test in establishing the configuration of the SARR. The Board should exclude all of the rerouted non-coal traffic and focus the SAC analysis on the costs and revenues for the traffic using the Glendive route that Otter Tail chose as the basis for its SARR.

¹⁹ *Duke/CSX*, slip op. at 16.

D. OTTER TAIL'S ATTACK ON THE BOARD'S ADOPTION OF A COST-BASED APPROACH FOR ALLOCATING REVENUE ON CROSS-OVER TRAFFIC IS BASELESS

The predicate for Otter Tail's supplementation of the record is its contention that the Board in its *Duke/NS* decision abandoned precedent that had endorsed a market-based approach to allocating revenues on cross-over traffic. Otter Tail asserts that "[t]he Board's abrupt and unexplained departure from a decade of precedent expressing a preference for actual, market-based divisions caused Otter Tail substantial prejudice." OTP Opening Supp. Ev. at I-2. Otter Tail mischaracterizes the prior state of the law regarding revenue divisions. Prior to the *Duke/NS* decision, there was no well defined standard regarding the method to be used to allocate cross-over traffic revenues. Although the Board and its predecessor had accepted revenue allocations based on MMP in some prior SAC cases, the two Board SAC cases decided immediately prior to *Duke/NS* both noted that "we have not adopted a single, preferred procedure for developing revenue divisions on cross-over traffic."²⁰

Indeed, in *TMPA*, the last case decided by the Board prior to *Duke/NS*, the Board framed the revenue allocation issue in terms of cost coverage: "The revenue each carrier receives should cover the attributable costs of the service it provides and make some contribution to its unattributable costs."²¹ Although *TMPA* was decided in March 2003, several months before Otter Tail submitted its Opening Evidence in this proceeding in June 2003, Otter Tail chose to ignore the Board's focus on cost coverage.

²⁰ *Texas Municipal Power Agency v. BNSF*, STB Docket No. 42056, slip op. at 31 n. 74 (served March 24, 2003) ("*TMPA*"); *PPL Montana LLC*, STB Docket No. 42054, at 7, n. 14 (served Aug. 19, 2002) ("*PPL I*").

²¹ *TMPA*, slip op. at 31, n. 73.

The Board's conclusion in *Duke/NS* that "the revenue allocation issue should reflect, to the extent practicable, the defendant carrier's relative costs of providing service over the two segments" of the cross-over movement is the correct conclusion for both economic and equitable reasons.²² BNSF addressed in some detail the rationale for a cost-based as opposed to a market-based approach to revenue allocation in its initial reply evidence in this proceeding. BNSF's witness Janusz Ordoover explained that

[t]he focus on long-run cost recovery is the proper one because the regulatory problem created by the cross-over traffic is the inability to make a stand-alone comparison between revenues and forward looking costs if the requisite facilities have not been built. A cost based revenue allocation is a proxy (albeit an imperfect one) for the comparison of revenue and cost that is the essence of the SAC test.

BNSF Reply Nar. at III.A-60. A market-based approach to revenue allocation eliminates consideration of cost coverage for a major component of what is supposed to be a stand-alone *cost* analysis. Simply to assume, as Otter Tail's market-based approach does, that the residual incumbent will receive sufficient revenue from a market-based revenue allocation "would be to presuppose the very matter to be determined through the SAC analysis, i.e., how total revenues compare to total costs for the group of shipments selected for the traffic group."²³

Otter Tail offered no affirmative rationale in either its Opening Evidence or its Opening Supplemental Evidence as to how a market-based approach to revenue allocation comports with the economic principles underlying the SAC test. As BNSF explained in its initial Reply Evidence, there is no such rationale. The supposed comparability between real world divisions negotiations and hypothetical revenue divisions in the stand-alone world is nonexistent. As

²² *Duke/NS*, slip op. at 20.

²³ *Id.* at 29.

Professor Ordoover explained, the real world divisions negotiation occurs in the context of creating something new that did not exist, and both carriers are typically better off as a result of negotiating the divisions arrangement. In the world of hypothetical cross-over movements, nothing new is being created. Instead there is fragmentation of a preexisting whole. “The only way this contrived arrangement could produce a mutually beneficial (Pareto superior) outcome would be if the incumbent were able to retain its contribution on the through movement and the more efficient SARR were willing to accept a division equal to the incumbent’s avoided costs of handling the cross-over movement over the SARR portions of the haul.” BNSF Reply Nar. at III.A-62. However, as Professor Ordoover pointed out, the Board has ruled that this outcome constitutes an impermissible post-entry competitive response by the incumbent.²⁴ Particularly in light of this ruling, there is no comparability between real world divisions negotiations and the allocation of revenues between the SARR and the residual incumbent.

Finally, as BNSF also showed in its Reply Evidence, reliance on a market-based approach to revenue allocation like that employed by Otter Tail in its Opening Evidence in this case would be a recipe for severe distortion in the outcome of SAC cases. Otter Tail’s manipulation of real world divisions data resulted in extreme distortions in the allocation of revenues, with the short-haul coal movements that dominate Otter Tail’s shipper group claiming a minimum of 25 percent of the through revenue for providing essentially none of the transportation service. See BNSF Reply Nar. at III.A-65. By disproportionately rewarding short-haul movements, Otter Tail’s divisions methodology represents a more extreme incentive to manipulate the configuration of the SARR than the MMP, which the Board rejected in

²⁴ See *Bituminous Coal—Hiawatha, Utah, to Moapa, Nevada*, 10 I.C.C.2d 253, 266-7 (1994) (“*Nevada Power II*”); see also *Duke/NS*, slip op. at 18-19.

Duke/NS. (“The lumpy nature of the [MMP] Block Methodology could artificially drive the selection of the SARR’s configuration.” *Duke/NS*, slip op. at 23.)

In sum, the Board has never expressed a clear preference for market-based allocation of revenue on cross-over traffic and there is no reason that it should have. A cost-based approach is the proper way to minimize the distortions that use of cross-over traffic entails.

E. BNSF’S DARA METHODOLOGY IS THE BEST EVIDENCE OF RECORD FOR ALLOCATING REVENUE ON CROSS-OVER TRAFFIC

While the Board clarified in *Duke/NS* that revenues on cross-over traffic should be based on the relative costs to provide service over the two segments of the through movement, it also rejected the cost-based allocation methodology proposed by NS because “NS has not shown how its proposed formula would account for differences in fixed costs per mile.”²⁵ The Board was concerned that NS’s allocation of revenue in inverse proportion to density embodied an implicit assumption that fixed costs per route mile (by which the Board appeared to refer to below-the-wheel roadway investment costs) were the same regardless of the density of traffic moving over the lines.²⁶ The Board reached the same conclusion regarding NS’s revenue allocation approach in *Carolina Power & Light Company v. Norfolk Southern Railway Company*, STB Docket No. 42072, at 20-21 (served December 23, 2003) (“*CP&L/NS*”) and in *Duke/CSX*.

BNSF explains in Section III.A.3.c. of this Supplemental Narrative that the problem the Board perceived with NS’s revenue allocation methodology does not in fact exist with the DARA approach presented by BNSF in its October 8, 2003 Reply. BNSF demonstrates that its revenue allocation methodology does not incorporate the assumption that fixed (or below-the-wheel) costs per mile are the same on low and high density lines. On the contrary, the revenue

²⁵ *Duke/NS*, slip op. at 22.

²⁶ *Id.* at 21-22.

allocated to cover directly attributable costs in the first step of the two-step DARA procedure includes the portion of road property investment and depreciation that the Board's URCS costing procedure assumes to vary with changes in traffic volume. The first step of the DARA procedure therefore allocates substantially more revenue for coverage of road property investment per route mile to the heavy density on-SARR segments than to the light density off-SARR segments, consistent with the Board's belief that the costs of fixed (i.e. below the wheel) investments are higher on heavily used lines. *See Duke/NS*, slip op. at 22.

In the second step of the DARA procedure, the remaining revenue – contribution net of attributable costs – is allocated for the coverage of costs that, by definition, are unattributable to any particular movement. Recognizing that average total costs per unit of traffic will be higher on less dense segments of cross-over movements than on more dense segments, the remaining revenue is allocated in direct proportion to miles but in inverse proportion to density. This second step of the DARA procedure is designed to provide comparable opportunities for coverage of costs on segments of cross-over movements with differing traffic densities.

As the foregoing description of the DARA procedure indicates, the Board's basic criticism of the defendant's proposed revenue allocation procedure in *Duke/NS* – the assumption of identical fixed costs per mile – was in fact unfounded. A second, related criticism of the defendant's procedure was that "NS has provided no evidence that its per-mile capital investments in the Central Appalachian region are identical to its per-mile capital investments along its lower-density delivery network."²⁷ This suggestion that NS had an affirmative obligation to make a showing of comparative costs for different segments of its system to justify the use of its revenue allocation method is wrong.

²⁷ *Id.* at 22.

The Board has stated that it “has not foreclosed an approach that would incorporate relative densities, as densities could affect the defendant carrier’s relative costs of providing service over the relevant segments.”²⁸ The DARA approach incorporates relative densities. The fact that DARA does not look at specific costs associated with particular segments of a defendant’s network could not be a rational basis for rejecting DARA in favor of MSP in this case. The Board has permitted shippers to use cross-over traffic to simplify their presentation in SAC cases, specifically to allow them to avoid the cost and effort of building out the SARR to handle through movements that share facilities with issue traffic. It would both defeat the stated objective of simplification and be inequitable to require defendants to conduct a detailed, costly and burdensome analysis of off-line costs to justify their proposed revenue division. Moreover, the Board has had no apparent qualms in the recently decided eastern cases about using MSP, even though MSP does not distinguish in any way between the relative costs of different segments of the defendant’s network.

Most importantly, even if a segment-specific cost analysis were theoretically preferable to the simplifying assumptions incorporated in DARA (which draws its simplifying assumptions from the Board’s own URCS costing procedure), that could not be the basis for selecting MSP in favor of DARA. In deciding what revenue allocation procedure to adopt in a SAC case, the Board must make a decision as to what is the best evidence of record on the revenue allocation issue. DARA is a superior revenue allocation procedure to MSP for three distinct reasons.

First, DARA explicitly distinguishes between attributable and unattributable costs to implement the Board’s instruction in *TMPA* that “[t]he revenue each carrier receives should

²⁸ *Duke/CSX*, slip op. at 21.

cover the attributable costs of the service it provides and make some contribution to its unattributable costs.”²⁹ MSP does not explicitly ensure coverage of attributable costs.

Second, DARA allocates revenue sufficient to cover directly attributable costs by calculating URCS-based variable costs, which is a more precise way of accounting for the costs of originating and terminating unit coal train traffic than the 100-mile origination and termination block credit used in MSP. The use of 100-mile origination blocks in MSP substantially overcompensates the SARR for the costs of originating unit coal train movements and therefore gives complainants the incentive to load up the SARR with short-haul coal traffic, as Otter Tail has done here. By developing origination and termination costs in accordance with URCS, DARA eliminates the gaming incentive created by the use of 100-mile blocks.³⁰

Third, DARA takes account of economies of density by allocating the revenue available to cover unattributable costs in inverse proportion to relative densities on the on-SARR and off-SARR segments. The failure of MSP to account for density means that it does not fairly reflect the relative costs of on-SARR and off-SARR segments. The only factor considered by MSP, other than origination and termination costs, is mileage. MSP therefore assumes that the average

²⁹ *TPMA*, slip op. at 31, n. 73.

³⁰ BNSF shows in Supplemental Reply Exh. III.A-9 that it is possible to develop mileage block credits that reflect more accurately the costs to originate and terminate various categories of traffic (e.g., unit train coal traffic) than the system average 100-mile block. Using URCS, BNSF shows that a 25-mile origination and termination credit would be more appropriate for unit coal train service in shipper-owned cars, the predominant traffic type on Otter Tail’s SARR. BNSF also shows that MSP’s 100-mile blocks *understate* the credit that should be given to the originating and terminating carrier for non-coal traffic, where the origination and termination costs are significantly *above* average.

BNSF urges the Board to apply DARA in the event it accepts the use of any cross-over traffic in this case. However, if the Board were to apply MSP, it would be critically important that the Board adopt revised origination and termination block credits to reflect more accurately the relative costs of those activities for the traffic included in the stand-alone traffic group.

costs of on-SARR and off-SARR segments of cross-over movements are the same regardless of the density of the on-SARR and off-SARR line segments. But this assumption is contrary to established principles of railroad economics. Economies of density exist precisely because average costs per unit of traffic decline with increasing use of fixed plant. Thus, average costs per unit of traffic are lower on high density line segments than on lower density segments. A fair division of revenues must take account of this fact, as DARA does.

DARA is the best approach to allocating revenues on cross-over traffic that has been presented in the evidence submitted to the Board in this case.

F. BNSF HAS MODIFIED ITS CALCULATION OF SAC COSTS TO ACCOUNT FOR ITS REVISIONS TO THE OTRR TRAFFIC GROUP

As discussed above, BNSF does not accept the addition of new traffic in Otter Tail's alternate case that originates at southern PRB mines and moves south to Converse Junction because that traffic does not share any facilities with the issue traffic and therefore does not belong in a SAC presentation. However, BNSF does include for purposes of this Supplemental Reply the additional 966,000 tons of coal that Otter Tail proposes to add to the Campbell Subdivision. In addition, because Otter Tail's alternate case abandons the 1.1% limitation on short-haul traffic, BNSF also adds to the SARR the 14 million tons of coal traffic that BNSF excluded in its October 8, 2003 Reply because it violated Otter Tail's 1.1% rule. As discussed below, these changes to the OTRR's coal traffic have only a modest impact on SAC costs.

BNSF also modified the OTRR non-coal traffic group for purposes of this Supplemental Reply to exclude all traffic that Otter Tail purported to reroute from BNSF's Minot line to the SARR's Glendive line. These changes in the non-coal traffic group had a more pronounced impact on SAC costs, as discussed below. BNSF explains in detail in the Narrative of this

Supplemental Reply the specific changes in SAC costs that it has made to accommodate the changes in OTRR traffic. Those changes are summarized below.³¹

1. OTRR Capacity

The only changes in the physical configuration of the OTRR presented by Otter Tail in its Opening Supplemental Evidence involved the addition of 8.23 miles of track and associated turnouts on OTRR lines south of the Cordero mine. These track changes appear to be attributable only to the addition of the southbound traffic that BNSF believes should be excluded from the SAC analysis. Since BNSF does not accept the addition of that traffic, it is unnecessary to address the merits of Otter Tail's proposed capacity changes except to note that they are based on a string program analysis that is unreliable and unverifiable. BNSF addressed the flaws in Otter Tail's use of the string program to determine OTRR capacity in BNSF's October 8, 2003 Reply Narrative at Section III.B.2.a(10), and that issue is further discussed in this Supplemental Reply at Section III.B.2 below.

Otter Tail did not assume any capacity changes resulting from the addition of 966,000 tons on the Campbell Subdivision. However, BNSF has added back to the SARR for purposes of this Supplemental Reply an additional 14 million tons that BNSF excluded in its October 8, 2003 Reply. BNSF therefore conducted a new analysis of the PRB portion of the SARR to determine whether any capacity changes would be required by this expansion of the SARR traffic group. As explained in Section III.B.2 below, BNSF's witness Mr. Wheeler used the RTC model that BNSF used in its original Reply, revised the traffic assumptions in the model to include the

³¹ BNSF is filing today an Errata to its October 8, 2003 Reply Evidence and Argument to correct errors contained in that filing. The Errata filing modifies BNSF's October 8, 2003 Reply. The corrections contained in that Errata have been applied in making the cost calculations in this Supplemental Reply.

added traffic, and determined that no additional capacity was needed and no additional facilities were required to handle the additional coal traffic.

The exclusion of the rerouted non-coal traffic from the OTRR's Glendive line did require some changes in yard and mainline capacity and some changes in the facilities required in OTRR yards. First, the elimination of the rerouted traffic would obviate the need for the OTRR to construct a line between Snowden and Glendive, MT, and BNSF has eliminated that section of OTRR track. Second, the reduced traffic volumes traveling through Glendive to Fargo would allow the OTRR to reduce the amount of double track on that line segment. BNSF's witness Mr. Wheeler used the RTC model described in BNSF's October 8, 2003 Reply to determine the amount of double track that could be eliminated. Mr. Wheeler's analysis and conclusions are explained in detail at Section III.B.2 below. Third, the elimination of the rerouted traffic would allow the OTRR to avoid constructing the portion of the Glendive Yard that would otherwise be required to handle the intra-train switching that occurs on the rerouted trains. *See* Section III.B.3.b(1) below. Other relatively modest changes in capacity and facilities in OTRR yards to account for the reduced non-coal traffic are discussed in Section III.B.3 below.

2. OTRR Operating Costs

BNSF's revisions to the OTRR traffic group required BNSF to generate new operating statistics. To determine revised equipment requirements – locomotives and cars – BNSF's witness Mr. Wheeler used the same RTC model analysis that was used to assess capacity on the PRB and Glendive line segments of the OTRR to generate new transit times on those line segments. BNSF then used the new transit time assumptions to produce new equipment requirements using the same methodology and unit costs that were used in BNSF's October 8, 2003 Reply. *See* BNSF Supp. Reply Sections III.D.1 and III.D.2. To calculate other operating costs, including locomotive servicing and fuel, BNSF also applied the same methodology in its

October 8, 2003 Reply to the revised traffic group. *Id.* at III.D.1 and III.D.4. BNSF revised its analysis of OTRR crews and used the same methodology set out in the October 8, 2003 Reply to determine a revised crew count for the OTRR. *Id.* at III.D.3. Modest changes were made to the OTRR G&A requirements to account for the elimination of a substantial volume of non-coal traffic. *Id.* Finally, BNSF's MOW witness Mr. Albin carried out a detailed review of the OTRR's MOW requirements and modified MOW personnel and equipment requirements to account for the changes in traffic volumes over different portions of the OTRR. *Id.* at III.D.4.

3. OTRR Construction Costs

As noted previously, the changes BNSF has made to the coal traffic in the PRB do not require any changes in track or yard capacity. Therefore, there are no changes in the construction cost estimate attributable to BNSF's modifications to the OTRR coal traffic in the PRB. The elimination of rerouted non-coal traffic moving over the Glendive line did require significant changes in capacity and facilities, and BNSF's construction cost witnesses carried out a detailed review of the necessary facility changes and the reduced costs that would result from those changes. Those changes are addressed in detail in Section III.F of this Supplemental Reply Narrative. The revised total costs are set out in Supplemental Reply Exhibit III.F-1.

G. SAC COSTS FOR OTTER TAIL'S ALTERNATE CASE EXCEED SAC REVENUES

BNSF modified the DCF analysis it presented in its October 8, 2003 Reply to reflect the traffic, revenue and cost changes described above. BNSF's modified DCF analysis is set out in BNSF Supplemental Reply Exhibit III.H-1. As shown in Table I-1 below, SAC costs for Otter Tail's alternate case exceed SAC revenues by \$341 million in the base year 2002. Otter Tail's complaint should therefore be dismissed, whether the Board considers Otter Tail's primary or alternate SAC case.

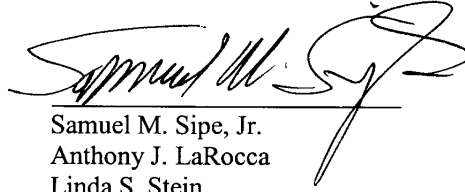
Table I-1
Summary of Stand-Alone Cost Results
(All Figures in Millions of Dollars)

Year	Annual Revenue	Stand-Alone Cost	Difference
2002	\$430.4	\$771.8	(\$341.4)
2003	\$430.4	\$764.4	(\$334.1)
2004	\$431.9	\$783.0	(\$351.0)
2005	\$432.0	\$803.6	(\$371.5)
2006	\$447.3	\$830.0	(\$382.6)
2007	\$442.8	\$849.1	(\$406.3)
2008	\$458.4	\$865.4	(\$407.0)
2009	\$472.1	\$880.4	(\$408.3)
2010	\$489.5	\$897.8	(\$408.3)
2011	\$501.2	\$913.3	(\$412.1)
2012	\$506.7	\$928.0	(\$421.3)
2013	\$515.4	\$942.9	(\$427.5)
2014	\$519.8	\$958.4	(\$438.6)
2015	\$528.9	\$974.2	(\$445.2)
2016	\$538.4	\$990.4	(\$452.0)
2017	\$548.1	\$1,007.1	(\$459.1)
2018	\$557.6	\$1,024.0	(\$466.4)
2019	\$567.4	\$1,041.3	(\$473.9)
2020	\$577.4	\$1,059.0	(\$481.5)
2021	\$586.5	\$1,076.7	(\$490.2)

H. CONCLUSION

For the reasons explained above and in more detail in the Narrative of this Supplemental Reply, the Board should find that SAC costs exceed SAC revenues for Otter Tail's alternate SAC case as well as its preferred SAC case presented in Otter Tail's original Opening Evidence. Therefore, the Board should dismiss Otter Tail's complaint.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Samuel M. Sipe, Jr.", written over a horizontal line.

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March 22, 2004

CERTIFICATE OF SERVICE

I hereby certify that on March 22, 2004, I caused six copies of the foregoing
Supplemental Reply Evidence and Argument of The Burlington Northern and Santa Fe Railway
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III.A: Traffic Group

III. STAND-ALONE COST

A. TRAFFIC GROUP

Otter Tail submitted its opening evidence on June 13, 2003. In that opening evidence as modified by its July 2003 errata, Otter Tail develops a SARR carrier called the Otter Tail Railroad (“OTRR”) that is hypothesized to transport over 205 million tons of coal and non-coal traffic in base year 2002.¹ As BNSF explained in its October 8, 2003 Reply Evidence, the vast majority of the traffic handled by the OTRR – about 99 percent of Otter Tail’s estimated volume in the base year – is cross-over traffic. BNSF Reply Nar. at III.A-1.²

In its Opening Supplemental Evidence submitted in January 2004, Otter Tail adds an additional 31.7 million tons of coal to its base-year 2002 traffic group, thereby increasing the total base-year volumes transported by the hypothetical OTRR to approximately 237 million tons.³ All of the supplemental 31.7 million tons of coal is cross-over traffic that is transported by the SARR for only a very short distance (an average of 8.9 miles on the OTRR,⁴ comprising less than 1.1 percent of the total movement miles in the real world). OTP Supp. Op. Nar. at I-2.

Otter Tail has made it clear that its supplemental case is not its preferred case. *Id.* at I-3 to I-4. Instead, Otter Tail explains that its preferred case is presented in its original opening evidence as modified by its July 2003 errata, in which it relies upon a revenue-allocation

¹ OTP Opening Exh. III-A-5 at 1, column 5, rows 101 and 107, respectively.

² BNSF hereby incorporates its October 8, 2003 Reply Evidence into this supplemental reply filing.

³ OTP Supp. Opening electronic workpaper “Otter Tail Railroad Coal Traffic Forecast – Supplemental.xls,” worksheet “2002-2021 Tonnage.”

⁴ BNSF Supp. Reply electronic workpaper “OTRR Supp Coal Traffic Forecast_BNSF Calc.xls,” worksheet “2002 Non-SAC Moves.”

methodology for cross-over coal traffic that is derived from its analysis of market-based divisions. *Id.* For the reasons set forth in BNSF's October 2003 reply evidence, Otter Tail's regression-based "market-based" divisions methodology has serious deficiencies and must be rejected.⁵ As shown in BNSF's reply evidence, when more appropriate assumptions are made regarding the revenue divisions for cross-over traffic, and when more realistic stand-alone cost ("SAC") assumptions are made, it is clear that Otter Tail's preferred case fails to demonstrate that revenues exceed stand-alone costs.

Otter Tail's supplemental evidence also fails to demonstrate that rates are unreasonable. With respect to its supplemental traffic assumptions, the overwhelming majority of the 31.7 million additional coal tons included in the supplemental case originates at PRB mines south of Cordero, WY, and exits the OTRR at Converse, WY.⁶ As a result, most of the additional traffic shares no facilities with the issue traffic. In its original reply evidence, BNSF excluded traffic with these characteristics from the stand-alone traffic group, consistent with SAC traffic grouping principles and recent Board precedent. For the same reasons, the supplemental coal tons that exit the OTRR at Converse should be excluded from the OTRR traffic group.

A small portion of the 31.7 million additional coal tons in Otter Tail's supplemental case -- approximately 966,000 tons -- are coal movements that originate in the northern PRB and travel a short distance to Donkey Creek for interchange to the residual incumbent. BNSF includes this short-haul traffic in its supplemental reply evidence, even though the inclusion of

⁵ See BNSF Reply Nar. at III.A-6 to III.A-19; III.A-57 to III.A-100.

⁶ Specifically, approximately 97% (or 30.75 million tons) of this additional traffic originates at PRB mines south of Cordero and exits the SARR at Converse. See OTP Supp. Opening electronic workpaper "Otter Tail Railroad Coal Traffic Forecast – Supplemental.xls," worksheet "2002 Non-SAC Moves."

such short-haul traffic has the potential to distort substantially the outcome of the SAC analysis. This issue is discussed further below. Any inclusion of such short-haul traffic in a SARR makes it critically important to develop a revenue allocation methodology that eliminates the incentive for complainants to game the SAC test by taking advantage of unduly large origination credits on unit train coal movements.

BNSF also includes in this supplemental reply an additional 14 million tons of coal that originates in the northern PRB and exits the SARR after traveling only a few miles to Donkey Creek. This traffic was in Otter Tail's original SAC presentation but BNSF excluded it in the October 8, 2003 reply because the traffic moved on the SARR less than 1.1 percent of the total movement miles, thus violating one of Otter Tail's original traffic selection criteria. *See* BNSF Reply Nar. at III.A-24 to III.A-32. However, Otter Tail has eliminated this mileage threshold as a traffic selection criteria in its supplemental case. *See* OTP Supp. Op. Nar. at I-2 to I-3. Consequently, for purposes of its supplemental reply evidence, BNSF adds back into the SARR traffic group the 14 million tons of coal that exited the SARR at Donkey Creek but traveled less than 1.1 percent of the total movement miles on the SARR. *See* section III.A.1.b below.

In this supplemental reply evidence, BNSF continues to exclude certain coal volumes moving to Xcel's Riverside and Highbridge plants and some volumes destined for Superior, Wisconsin as well as the non-coal volumes excluded in its reply evidence for the reasons set forth in BNSF's reply evidence. *See* BNSF Reply Nar. at III.A-32 to III.A-51.

Finally, BNSF is excluding one other category of traffic for the first time in its supplemental reply evidence. Specifically, it is excluding { } million tons of cross-over non-coal traffic that moves in the real world via Minot, North Dakota but that Otter Tail reroutes over a much longer rail line from Snowden, Montana through Glendive, Montana, and Fargo,

North Dakota. In its October 8, 2003 reply, BNSF excluded some rerouted, non-coal traffic -- namely the rerouted Z trains -- because it was clear that the SARR would provide inferior service for this highly competitive, high priority traffic. BNSF is excluding all of the rerouted traffic in this supplemental reply based upon recent decisions issued by the Board since BNSF filed its October 8, 2003 reply. Those decisions clarify the conditions under which rerouted traffic will be considered in a SAC test. Those decisions make it clear that the rerouting of cross-over traffic over a substantially longer route than the real world route is presumed to be improper.⁷ The Board has also made it clear that complainants should not be permitted to reroute traffic to obtain revenues from movements that do not in the real world use the SARR route unless the complainant shows that the real world routing of the rerouted traffic is inefficient.⁸

Under these standards, all of the rerouted traffic moving in the real world over BNSF's northern line through Minot should be excluded. Otter Tail has not met its burden of showing that the longer routing for this non-coal traffic results in service that is at least as efficient as the real-world BNSF service. Indeed, Otter Tail cannot meet this burden since Otter Tail's longer routing results in longer transit times than BNSF provides in the real world for this traffic. Moreover, if this non-coal traffic took its customary route, it would only share minimal facilities with the issue traffic on the SARR; namely, it would share 23 miles of track from Fargo, North Dakota to Surrey Junction, North Dakota. As explained below, rerouted traffic should not be allowed to contribute substantial revenue to the coverage of the costs of facilities used by the

⁷ *Duke/NS* at 26.

⁸ *Duke/CSX* at 18 - 19.

issue traffic when it does not share those facilities in the real world or shares them only to a minimal extent.

Like the traffic assumptions, the revenue assumptions in Otter Tail's supplemental case are inappropriate. If the Board permits the use of cross-over traffic, the Board should adopt BNSF's density adjusted revenue allocation ("DARA") procedure rather than the modified straight mileage prorate ("MSP") methodology utilized by Otter Tail in its supplemental case. As explained in section III.A.3.c below, DARA is a superior methodology for allocating revenues on cross-over traffic than MSP for three reasons. First, DARA explicitly distinguishes between attributable and unattributable costs to implement the Board's instruction in *TMPA* that "[t]he revenue each carrier receives should cover the attributable costs of the service it provides and make some contribution to its unattributable costs."⁹ MSP does not explicitly ensure coverage of attributable costs. Second, DARA allocates revenue sufficient to cover directly attributable costs by calculating URCS based variable costs, which is a more precise way of accounting for the costs of originating and terminating unit coal train traffic than the 100 mile origination and termination block credit used in MSP. Third, DARA takes account of economies of density (which MSP ignores) by allocating the revenue available to cover unattributable costs in inverse proportion to relative densities on the on-SARR and off-SARR segments.

BNSF's evidence in section III.A. of its supplemental reply evidence is supported by four witnesses. John C. Klick, a Senior Managing Director, Benton V. Fisher, a Managing Director, and Julie Murphy, a Director, in FTI's Economic Consulting Division; and William K. Berry,

⁹ *TMPA*, at 31n. 73.

former Vice President-Intermodal for Canadian National Railway. The qualifications and verifications for these witnesses appear in Section IV.

1. OTRR Traffic Volumes

This section discusses the traffic group assumptions in Otter Tail's supplemental case. As explained above, in the supplemental case Otter Tail added 31.7 million tons of coal to its traffic group in base year 2002 but otherwise left its traffic group unchanged. The vast majority of this additional coal traffic -- 30.75 million tons¹⁰ -- originates at PRB mines south of Cordero, travels south and exits the SARR at Converse.¹¹ Since this 30.75 million tons of coal *shares no facilities* with the issue traffic, BNSF excludes it from the SARR's traffic group consistent with recent Board rulings on this issue (*see* Section III.A.1.a below).

The remaining 966,000 tons of Otter Tail's supplemental coal traffic exit the OTRR at Donkey Creek but do move over a segment of the SARR used by the issue traffic.¹² Since Otter Tail eliminated its 1.1 percent mileage threshold as a traffic selection criterion in its supplemental case, BNSF's supplemental reply evidence includes this very short-haul traffic in the OTRR traffic group and adds back 14 million tons of short-haul traffic that exits the OTRR at Donkey Creek that BNSF had excluded (in its original reply evidence) because it did not exceed Otter Tail's 1.1-percent mileage threshold. *See* Section III.A.1.b below.

¹⁰ BNSF Supp. Reply electronic workpaper "Otter Tail Railroad Coal Traffic Forecast_BNSF Revised.xls," worksheet "2003 Coal O-D Pair."

¹¹ These southern PRB mines are: North Rochelle, Rochelle/North Antelope and Antelope. They are shown on OTP Opening Exh. III-A-1 at 2.

¹² BNSF Supp. Reply electronic workpaper "Otter Tail Railroad Coal Traffic Forecast_BNSF Revised.xls," worksheet "2003 Coal O-D Pair."

Finally, as noted above, BNSF has made one additional change to the traffic group that it relied upon in its original reply evidence -- it excludes an additional 13.7 million tons of rerouted, cross-over non-coal traffic in accordance with principles set forth in Board SAC decisions issued subsequent to the filing of BNSF's October 8, 2003 reply evidence. Each of BNSF's changes to Otter Tail's traffic group is discussed in detail below.

a. Exclusion of Coal Traffic From Southern PRB Mines Moving South Through Converse

Several recent Board decisions have addressed the limits to a complainant's ability to group traffic in a SAC case. The starting point for any traffic grouping analysis is the *Coal Rate Guidelines*, which explains that the SAC test seeks "to compute the rate a competitor in the market-place would need to charge in serving a captive shipper or a group of shippers who benefit from sharing joint and common costs."¹³ Sharing of joint and common costs occurs when traffic shares facilities. The sharing of facilities used by the issue traffic must be a prerequisite to the grouping of non-issue traffic with issue traffic in a SAC analysis.

The Board has further explained that "[i]t is essential . . . to distinguish between cost-sharing (the grouping of traffic to share joint and common -- i.e., attributable -- costs), which is permissible under our SAC test, and cross-subsidization (the recovery of any shipper's attributable costs from other shippers), which is not."¹⁴ To ensure against an impermissible cross-subsidy through inappropriate traffic grouping, "revenues from non-issue traffic should not be relied upon to contribute to the costs of line segments or facilities that the non-issue traffic

¹³ *Coal Rate Guidelines*, 1 I.C.C.2d at 528.

¹⁴ *AEPCO* at 3.

would not use.”¹⁵ If non-issue traffic shares no facilities with the issue traffic, then no revenues from that traffic should be included in the SAC analysis. As the Board has explained, the *Coal Rate Guidelines* “do not envision that a captive shipper may shift responsibility for paying for facilities it uses to other shippers who do not benefit from those facilities.”¹⁶ The Board has expressly cautioned that “[a] shipper should not seek to have its rate reduced by shifting any part of the costs of lines or facilities that it needs onto traffic that does not use those lines.”¹⁷

Otter Tail’s supplemental case contains 84 million tons of coal that do not use any portion of the SARR used by the issue traffic.¹⁸ This coal traffic originates at southern PRB mines from Cordero to Antelope and then travels south on the SARR until it interchanges with the residual railroad at Converse Junction. As explained in BNSF’s reply evidence, the Otter Tail issue traffic primarily originates from northern PRB mines; most of the issue traffic comes from the Eagle Butte and Belle Ayr mines, while only a few shipments in the fourth quarter 2002 originated from the Caballo Rojo and Cordero mines. BNSF Reply Nar. at III.A-20.¹⁹ Since the 84 million tons of southbound coal do not share any facilities with the northbound issue traffic, none of that traffic should be expected to share joint and common costs with the issue traffic.

¹⁵ *Id.*

¹⁶ *PPL II*, at 6.

¹⁷ *PPL II*, at 7.

¹⁸ This 84 million tons of coal consists of 54 million tons of coal included in Otter Tail’s opening evidence (*see* BNSF Reply Nar. at III.A-24) and 30.75 million tons of coal in Otter Tail’s supplemental opening evidence. BNSF Supp. Opening electronic workpaper “Otter Tail Railroad Coal Traffic Forecast_BNSF Revised.xls,” worksheet “2003 Coal O-D Pair.”

¹⁹ A diagram showing the route of the issue traffic and the route of this southern PRB coal traffic exiting the SARR at Converse appears at BNSF Supp. Reply Exh. III.A-1.

Thus, the southbound traffic should contribute no revenue to the SARR and should be excluded from the SAC analysis.

Exclusion of this traffic is required for consistency with SAC principles and Board precedent. It is also required to discourage complainants' incentive to game the SAC analysis by manipulation of cross-over traffic. The Board should adhere to a bright-line rule in this case that precludes a complainant's use of non-issue traffic in a SAC analysis if that traffic shares no facilities with the issue traffic. The potential for gaming SAC results through the use of such traffic is enormous, as is apparent in this case where 40 percent of the coal traffic selected by Otter Tail -- 84 of the 212 million coal tons in base year 2002 -- is this southbound southern PRB traffic that only travels on the SARR a very short distance²⁰ and shares no facilities with the issue traffic.

The 84 million southbound tons of coal *do* share a few miles of the SARR mainline with a small amount of *other non-issue traffic* that originates in the southern PRB and travels north.²¹ This northbound non-issue traffic is itself cross-over traffic. The southbound traffic that BNSF would exclude can be thought of as "second order cross-over traffic" or "cross-over on cross-over traffic." There is no basis in SAC principles for a complainant to extend the cross-over stratagem so as to include in the SAC shipper group traffic that has no direct nexus with issue

²⁰ See BNSF Supp. Reply Exh. III.A-2. On average this southbound southern PRB traffic traverses the SARR for only 24 miles. Moreover, approximately one-third of this traffic traverses the SARR for 8 miles or less, on average less than one percent of the length of its entire haul.

²¹ This northbound non-issue PRB traffic from southern PRB mines accounts for less than 7 percent (or 15 million tons) of the coal traffic included in Otter Tail's supplemental evidence. See BNSF Supp. Reply electronic workpaper "Otter Tail Railroad Coal Traffic Forecast_BNSF Revised.xls," worksheet "Detail Summary."

traffic facilities. Regardless of its sharing of some facilities with the northbound cross-over traffic, the southbound traffic cannot properly be asked to contribute to the cost of issue traffic facilities that it does not use, but that is obviously why Otter Tail has included this southbound traffic. The sharing of facilities with other cross-over traffic does not justify the inclusion of traffic that does not share the cost of the issue traffic facilities.

Nor does the Board's treatment of certain steel movements in *Duke/CSX* provide a basis for departing from the rule against the inclusion in a SARR of non-issue traffic that does not share facilities with issue traffic.²² The movements at issue there were outbound movements of steel from a steel mill located on the SARR. The steel mill also received *inbound* coal shipments that were properly included in the SARR's traffic group because those inbound coal shipments traversed rail lines used by the issue traffic.²³ The Board concluded that since the SARR in that proceeding properly served the *inbound* needs of the steel plant, it would be appropriate for the shipper to use the SARR for its *outbound* needs. As the Board explained, it is "not persuaded that it is necessary or appropriate to differentiate between the inbound (coal) and outbound (steel) traffic of the steel plant for purposes of what should be properly included in the traffic group in this case." *Id.* at 22. This inbound/outbound rationale does not exist in the case of the southbound coal movements that Otter Tail has sought to include in its traffic group here.

In addition, the volume of steel traffic at issue in the *Duke/CSX* case was modest -- comprising about 2 million tons per year in a traffic group that totaled more than 104 million

²² See *Duke/CSX*, at 21-23.

²³ *Duke/CSX*, at 22.

tons in the base year.²⁴ In contrast, the southbound coal traffic at issue here that shares no facilities with the issue traffic represents 40 percent of the coal traffic in Otter Tail's traffic group. This traffic contributes more than 16 percent of the OTRR's base year coal revenues as calculated by Otter Tail using the MSP methodology.²⁵

More important, the Board accepted the steel traffic in *Duke/CSX* after concluding that "it does not appear that the steel movement would pay for facilities it does not use."²⁶ The *Duke/CSX* decision does not reflect the cross-subsidy analysis undertaken by the Board that led to this conclusion, but a similar finding of no cross-subsidy would not be warranted in the case of Otter Tail's SARR. The sheer volume of the southbound traffic at issue here -- 40 percent of the SARR's coal traffic -- coupled with the fact that it is extremely short haul traffic should raise a real concern about a potential cross subsidy.

The Board is not in a position to know the magnitude of the subsidy created by the inclusion of this southbound traffic until costs are determined. But if this traffic were included in the SARR traffic group, a cross-subsidy analysis would have to be undertaken at some point. There is no need for the Board to invite this further complication of the SAC analysis. It should adhere to a bright-line rule that precludes the use of non-issue traffic in a SAC analysis that does not share facilities with the issue traffic.

²⁴ *Duke/CSX*, at 21, 43. In fact, inclusion of this steel traffic had no impact on the outcome of the Board's SAC analysis in *Duke/CSX* since the Board concluded that costs exceeded revenues by a large margin, notwithstanding the inclusion of revenue from the steel traffic in the SAC analysis.

²⁵ BNSF Supp. Reply electronic workpaper "OTRR Supp Coal Traffic Forecast_ BNSF Calc.xls" worksheet "2003 Coal O-D Pair."

²⁶ *Duke/CSX*, at 22.

Under this rule, the Board should exclude the coal traffic originating at southern PRB mines from Cordero to Antelope that exits the OTRR at Converse because that traffic does not share any facilities with the issue traffic. Exclusion of this southbound southern PRB coal traffic reduces the traffic values shown in Otter Tail's supplemental evidence by the following amounts annually:

Table III.A-1
Southern PRB Mine Coal Traffic in
Otter Tail's Supplemental Case
Excluded By BNSF From OTRR Network

Year	Southern PRB Mine Coal Traffic in Supplemental Case Removed from OTRR Network (millions of tons)²⁷
2002	84.5
2003	86.5
2004	87.2
2005	87.9
2006	89.1
2007	90.4
2008	91.5
2009	92.3
2010	93.7
2011	94.1
2012	94.3
2013	94.5
2014	95.9
2015	96.0
2016	96.2
2017	96.4
2018	96.5
2019	96.6
2020	96.7
2021	96.8

²⁷ The detailed list of the tonnages, by individual movement and southern PRB mine origin, excluded by BNSF from the traffic group in base year 2002 in response to Otter Tail's supplemental case appears in BNSF Supp. Reply Exh. III.A-3. *See also* BNSF Supp. Reply electronic workpaper "OTRR Supp Coal Traffic Forecast T&R Tables.xls." As explained in BNSF's October 2003 reply evidence, there is an additional reason to exclude the approximately { } tons of coal moving annually to Omaha Public Power District's North Omaha and Arbor plants. As of 2004, BNSF will no longer transport coal to these competitively-served plants. *See* BNSF.RP.WP.III.A-0150 to III.A-0153.

b. Inclusion of Coal Traffic Transported by the OTRR Less than 1.1 Percent of Total Movement Miles for Purposes of Supplemental Case

In its original case, Otter Tail said it would exclude a coal movement that in the real world was more than 200 miles long if the SARR would transport the coal for less than 1.1 percent of the real world BNSF movement. BNSF applied this 1.1 percent mileage threshold consistently in its reply to Otter Tail's opening evidence and, as a result, excluded about 14 million tons of coal that failed to meet Otter Tail's mileage threshold in base year 2002. *See* BNSF Reply Nar. at III.A-24 to III.A-32.

In its supplemental case, Otter Tail abandons its regression-based divisions methodology for cross-over traffic in favor of the MSP. As a result, it does not employ the 1.1-percent mileage threshold and includes coal traffic in its traffic group even though that coal traffic is transported by the OTRR less than 1.1 percent of total movement miles. Otter Tail's elimination of this mileage threshold resulted in its addition of 31.7 million tons to the SARR traffic group. Most of this new traffic involved movements originating at the southern PRB mines and moving south to Converse. BNSF explained above why that traffic should not be included in the SAC analysis. A small portion of that traffic - 966,000 tons - involves coal originating in the northern PRB that exits the SARR at Donkey Creek after moving only a short distance on the SARR.²⁸ This traffic does share facilities with the issue traffic, unlike the southern PRB traffic discussed above, so BNSF includes the 966,000 tons of northern PRB traffic in this supplemental reply.

²⁸ Specifically, this traffic travels on the OTRR for an average haul of less than 12.65 miles. *See* BNSF Supp. Reply electronic workpaper "Otter Tail Railroad Coal Traffic Forecast_BNSF Revised.xls," worksheets "2003 Coal O-D Pair" and "Mile Summary."

In addition, Otter Tail's change in its traffic selection criteria required BNSF to reconsider its treatment of certain coal traffic in its October 8, 2003 reply. In that reply, BNSF excluded approximately 14 million tons of coal originating in the northern PRB that exited the SARR at Donkey Creek because this traffic violated Otter Tail's own traffic selection criteria that each cross-over movement had to travel at least 1.1 percent of its movement on the SARR. Since Otter Tail does not adhere to this criterion in its supplemental case, BNSF adds back into the traffic group the 14 million tons of coal that exited the OTRR at Donkey Creek after moving less than 1.1 percent of through movement miles on the OTRR and also includes the 966,000 tons of additional coal from Otter Tail's supplemental case that exits the OTRR at Donkey Creek.²⁹

The short haul traffic exiting the OTRR at Donkey Creek satisfies the sharing facilities requirement for inclusion in the traffic group, but the disproportionate revenue that Otter Tail claims on these cross-over movements distorts the SAC analysis. Under Otter Tail's supposed market-based revenue allocation methodology, Otter Tail claims approximately 26 percent of the revenue associated with this Donkey Creek coal traffic even though it transports this traffic, on average, less than 3 percent of the total movement miles.³⁰ Even under the MSP methodology, Otter Tail claims over 10 percent of the total revenue generated by these movements even though the SARR carries the movements for less than 3 percent of the total movement miles.³¹ As

²⁹ BNSF Supp. Reply electronic workpaper "Otter Tail Railroad Coal Traffic Forecast_BNSF Revised.xls," worksheet "2003 Coal O-D Pair."

³⁰ See OTP Opening Exh. III.A-3, at 7, row titled "Subtotal Off at Donkey Creek," columns 18, 22.

³¹ See BNSF Supp. Reply Exh. III.A-2; BNSF Supp. Reply electronic workpaper "Otter Tail Railroad Coal Traffic Forecast – Cordero South.xls."

shown in BNSF Supp. Reply Exh. III.A-9, origination costs for unit coal train traffic does not justify such disproportionately highly revenues. Consequently, assuming the Board accepts inclusion of this short haul traffic in the SARR traffic group, it will be necessary to allocate revenues based on a more accurate assessment of the costs of originating and terminating coal unit train traffic. Those issues are discussed in section III.A.3.c below.

The amount of coal traffic that exits the SARR at Donkey Creek after travelling on the SARR less than 1.1 percent of total movement miles is set forth annually in Table III.A-2, below.

at III.A-32 to III.A-39. On March 8, 2004, subsequent to the filing of BNSF's reply evidence, the Minnesota Public Utility Commission approved Xcel's proposed plan to convert the Riverside and Highbridge plants to gas fired units.³³ Further, updated public information from Superior Dock indicates that the *actual* tonnage levels delivered to the dock in 2003 were approximately 1 million tons less than 2002 levels, indicating that Otter Tail's *forecasted* volume increase in 2003, equal to { } tons, overstates the *actual* volumes delivered to the dock by approximately { } tons (and { } in SAC revenues).³⁴

d. Non-Coal Traffic Exclusions

Both Otter Tail's original and supplemental SAC presentations include substantial volumes of grain, intermodal, manifest and auto trains "moving in overhead service" in its traffic group. OTP Op. Nar. at III-A-2. In base year 2002, this non-coal traffic accounted for approximately 25 million tons of traffic, just over 10 percent of the net tonnage transported by the OTRR in Otter Tail's original SAC case, and it generated nearly 26 percent of OTRR revenue.³⁵ As explained in BNSF's reply evidence, Otter Tail declined to build BNSF's northern rail line that traverses Minot, North Dakota over which most of its non-coal traffic actually moves in the real world, and instead elected to reroute this traffic over a line from Snowden, Montana, south through Glendive, Montana, and then east via Mandan, North Dakota to Fargo,

³³ The Minnesota Public Utility Commission order approving Xcel's plan appears at BNSF Supp. Reply electronic workpaper "Order 3-8-04.pdf."

³⁴ See BNSF Supp. Reply electronic workpapers at "Superior dock traffic.pdf" and "Otter Tail Railroad Coal Traffic Forecast_BNSF Revised.xls" at worksheet "2002-2021 Tonnage."

³⁵ OTP Opening Exh. III-A-5, at 1, 5.

North Dakota.³⁶ As Otter Tail itself acknowledges, Otter Tail's proposed routing adds 101.1 miles, or approximately 26 percent, to the more efficient real-world routing via Minot.³⁷

(1) Non-Coal Traffic Excluded in BNSF's Original Reply Evidence

In its original reply evidence, BNSF excluded some of this non-coal traffic from the OTRR traffic group. Specifically, BNSF excluded the rerouted Z train traffic because the longer and less efficient SARR route would result in inferior service to the highly competitive, service-sensitive Z train shippers. *See* BNSF Reply Nar. at III.A-41 to III.A-49. As evidence of the inferior service that would be provided by the SARR to Z train shippers, BNSF showed that Otter Tail's own string program produced longer transit times for the rerouted Z trains than they experience in the real world. As discussed in sections III.B and III.C of this supplemental reply, Otter Tail has revised the string program that it uses in both its opening and supplemental opening evidence. BNSF has reviewed the transit times for the rerouted Z trains generated by the revised string program and has confirmed that those transit times are still longer than the real world transit times.³⁸ Consequently, even using Otter Tail's revised string program, it is apparent that Otter Tail cannot provide the same or superior level of service for the rerouted Z trains.

³⁶ A map showing the Minot Line over which this non-coal traffic moves in the real world and the OTRR line over which Otter Tail has rerouted this traffic appears at BNSF Reply Exhibit III.A-5 in BNSF's October 2003 reply evidence.

³⁷ *See* OTP Op. Nar. at III-C-6.

³⁸ *See* BNSF Supp. Reply electronic workpaper "Non Coal Transit Time Comparison (Snowden - Fargo) for Supplemental Final.xls." worksheet "Summary."

In its original reply evidence, BNSF also excluded local grain trains, coal car blocks, and local carloads that do not meet Otter Tail's stated intention to include only overhead traffic. *See* BNSF Reply Nar. at III.A-49 to III.A-51. BNSF continues to exclude this non-coal traffic in response to Otter Tail's supplemental case for the reasons set forth in BNSF's original reply. *Id.*

(2) Rerouted Non-Coal Traffic

BNSF is excluding substantially more of the rerouted non-coal traffic in this supplemental reply based upon the Board's recent stand-alone cost decisions. In its *Duke/NS* and *Duke/CSX* decisions, both issued subsequent to October 8, 2003, the date that BNSF filed its reply evidence in this case, the Board has refined and clarified SAC principles regarding the rerouting of non-issue cross-over traffic. Significantly, the Board recently stated that where the rerouting results in a longer haul -- as it does with the majority of this non-coal traffic -- the "rebuttable presumption" is that the longer route is less efficient than the real world route.³⁹ In this case, Otter Tail has made no effort to overcome this "rebuttable presumption" and, indeed, it cannot do so. As explained below, Otter Tail's own evidence shows that transit times for this rerouted traffic on the SARR will be longer than transit times have been for this traffic in the real world. There is another reason for excluding the rerouted non-coal traffic -- to prevent the obvious gaming of SAC results. This non-coal traffic would share only minimal facilities (only 23 miles) with the issue traffic on the SARR if it were transported along its customary route.⁴⁰ The Board has already recognized that if there is no sharing of facilities between the customary routing of rerouted traffic and the SARR, the rerouted traffic should not be included in the SARR

³⁹ *Duke/CSX* at 15.

⁴⁰ *See* Otter Tail's Reply in Opposition to Defendant's Motion to Modify Procedural Schedule dated 2/13/04 (hereafter "OTP Opp.") at 13; Otter Tail Op. Nar. at III-A-1.

traffic group absent “a compelling justification that the defendant carrier should itself be routing the traffic in this manner and that it is inefficient for it not to do so.”⁴¹ The existence of a minimal sharing of facilities, as here, should not change the analysis. In this circumstance, the Board should still require the complainant to provide a “compelling justification” that the real world route is inefficient in order to prevent gaming.

In sum, based upon the recent principles established by the Board regarding rerouted cross-over traffic, it is clear that the vast majority of Otter Tail’s rerouted non-coal traffic should be excluded from the traffic group. The scope of these exclusions is summarized in Table III.A-3 below.

⁴¹ *Duke/CSX* at 15-16.

**Table III.A-3
Summary of Excluded Non-Coal
Traffic in Base Year 2002**

Filing	Net Tons
OTP Opening Evidence	{ }
Exclusions in BNSF's Original Reply Evidence ⁴²	{ }
Exclusions in BNSF's Supplemental Reply Evidence ⁴³	{ }
BNSF Supplemental Reply Evidence ⁴⁴	{ }
Percent Decrease from Otter Tail	70%

(a) Rerouted Non-Coal Traffic Has Longer Haul and Longer Transit Times

As the Board recently explained, “[t]he starting point for the Board’s analysis for rerouted traffic will be length of haul.”⁴⁵ In *Duke/CSX*, the Board further clarified that “for reroutings that would result in a longer overall haul, the rebuttable presumption is that the longer route is less efficient; and the greater the disparity in distance, the stronger that presumption.”⁴⁶ The Board did not limit the application of this rule to situations where the SARR interchanges

⁴² Source: BNSF Reply electronic workpaper “non coal drop traffic.xls.” As this workpaper shows, of the excluded revenues, 93.3 percent is attributable to exclusion of the Z trains.

⁴³ A breakdown of the non-coal traffic by the type of traffic that was excluded in BNSF’s supplemental reply evidence appears in BNSF Supp. Reply electronic workpaper “non coal_supp.xls.”

⁴⁴ BNSF Supp. Reply electronic workpaper “non coal_supp.xls.”

⁴⁵ *Duke/NS* at 18.

⁴⁶ *Duke/CSX* at 15; *see also CPL/NS* at 21.

the rerouted traffic with the residual railroad at a location that is not along the customary route for the traffic and, indeed, it should not do so. The rationale for the rule applies equally to a situation where, as here, the SARR interchanges the rerouted traffic with the residual railroad at a location on the real world route of movement.

There is no question that Otter Tail's rerouting of the non-coal cross-over traffic that is transported over BNSF's Minot line in the real world results in a substantially longer haul for this non-coal traffic. Otter Tail admits that its proposed routing adds 101.1 miles, or 26 percent in length, to the customary 383-mile route via Minot.⁴⁷ Given the great disparity in mileage between the real-world routing via Minot and Otter Tail's proposed reroute, there is a strong presumption that the rerouting is inefficient. Under recent Board precedent, Otter Tail must present substantial evidence to overcome that presumption. Otter Tail has not done so here. In fact, it has presented no evidence to overcome this presumption. Otter Tail merely makes the unsupported assertion that "the OTRR will provide at least the same level of service for this non-coal traffic as BNSF at reduced cost." OTP Op. Nar. at I-18.

However, Otter Tail's own evidence demonstrates that the OTRR will not provide the same level of service for this non-coal traffic. To the contrary, its service will be inferior to the service of the real-world BNSF. The new string program output included in Otter Tail's supplemental opening electronic workpapers⁴⁸ confirms that the rerouted non-coal traffic does not meet real world BNSF service levels. BNSF compared Otter Tail's string program transit times for rerouted non-coal traffic during the Otter Tail peak period of October 11 to October 18

⁴⁷ See OTP Op. Nar. at III-C-6.

⁴⁸ See OTP Supp. Opening electronic workpapers "timese.DBF" and "timesl.DBF" contained in "OTTER_TAIL_SUPPLEMENTAL.zip."

to the real world transit times for those same trains on those same days between Snowden and Fargo in 2002.⁴⁹ That comparison revealed that 94% of the rerouted trains moving in the eastbound direction and 89% of the rerouted trains moving in the westbound direction took longer on the OTRR than on the real-world BNSF. *Id.* Those few trains that appeared to move faster on the OTRR were “M” (both directions) and “P” (westbound only) trains. In reality, however, OTRR did not improve transit times for even these train classes. Instead, Otter Tail declined to perform the switching that occurs on these trains in the real world and included no time for switching in its string program output. The real world trains engage in substantial switching – intratrain switching for P trains and switching to add and remove local traffic for M trains – that is included in the real world BNSF transit times.⁵⁰ The “switching” time included in the BNSF actuals more than offsets the apparent difference in transit times for these train types.⁵¹ Hence, all of the rerouted non-coal traffic moves farther and takes longer on the OTRR than in the real world.

Since the rerouted non-coal traffic involves a substantially longer route as well as longer transit times, Otter Tail certainly has not overcome the rebuttable presumption that the real world movement is more efficient. Under the rerouting principles recently established by the Board in *Duke/NS* and *Duke/CSX*, the Board should exclude this rerouted non-coal traffic.

⁴⁹ See BNSF Supp. Reply electronic workpaper “Non Coal Transit Time Comparison (Snowden - Fargo) for Supplemental Final.xls,” worksheet “Summary.”

⁵⁰ See Section III.C.2.d in BNSF’s October 2003 Reply.

⁵¹ See BNSF Supp. Reply electronic workpaper “Non Coal Transit Time Comparison (Snowden - Fargo) for Supplemental Final.xls,” worksheet “Summary.”

(b) Rerouted Non-Coal Cross-Over Traffic Shares
Minimal Facilities with Issue Traffic

There is another rationale for excluding this rerouted non-coal traffic from the OTRR's traffic group -- the fact that it shares minimal facilities with the issue traffic on the SARR under its customary routing. Under its real world routing via Minot, this non-coal traffic would share facilities only over 23 miles of the 1,287-mile SARR from Surry Junction, North Dakota to Fargo, North Dakota.⁵²

The concept that non-issue traffic included in the SARR traffic group must "share facilities" with the issue traffic is an important SAC principle established in the Coal Rate Guidelines. As explained in those Guidelines, the SAC test is designed "to compute the rate a competitor in the market-place would need to charge in serving a captive shipper or a group of shippers who benefit from *sharing joint and common facilities*."⁵³ The Board reinforced this concept in a recent decision explaining that "[a] shipper should not seek to have its rate reduced by shifting any part of the costs of the lines or facilities that it needs onto traffic that does not use those lines or facilities."⁵⁴

The issue of sharing of facilities is an important factor to consider in determining whether it is appropriate to reroute traffic in an effort to include it in the SARR shipper group. When addressing the issue of the route selected for the SARR, the *Coal Rate Guidelines* provide that "the stand-alone railroad may not represent the shortest route for the captive shipper, but the

⁵² See OTP Opp. at 13. A diagram showing the minimal sharing between the real world non-coal route of movement and the OTRR railroad appears at BNSF Supp. Reply Exh. III.A-4.

⁵³ *Coal Rate Guidelines*, 1 I.C.C.2d at 528 (emphasis added).

⁵⁴ *PPL II* at 7.

contributes { } million in SARR revenues (nearly { } percent of the total) under Otter Tail's calculations.⁵⁷ While it could be appropriate for this non-coal traffic to share the costs of the limited SARR facilities it does use, that is not the revenue that Otter Tail has claimed. It has claimed revenue for the full movement between Snowden and Fargo, which is inappropriate.

Otter Tail has not presented a "compelling justification that the defendant carrier should itself be routing the traffic in this manner and that it is inefficient for it not to do so."⁵⁸ Indeed, Otter Tail could not do so since the real-world routing of this non-coal traffic via Minot is efficient. The configuration of BNSF's two rail lines that pass through Fargo, North Dakota is efficient. In the real world, BNSF's rail line through Minot is used primarily for non-coal traffic and BNSF's rail line through Mandan is used primarily for coal traffic. This is efficient because the Minot line provides a shorter route for non-coal traffic moving from the Pacific Northwest to the midwest and the Mandan line provides a shorter route for PRB coal traffic moving to the upper midwest.⁵⁹ In addition, the existence of both rail lines prevents the non-coal traffic from being slowed down by the presence of slower moving unit coal trains. Since Otter Tail cannot demonstrate that the real-world routing of the non-coal traffic is inefficient, the Board should exclude this traffic from the OTRR traffic group.

2. OTRR Volumes (Historical And Projected)

In its supplemental case, Otter Tail includes both coal and non-coal volumes in its traffic network. BNSF addresses coal and non-coal volumes separately.

⁵⁷ See OTP Supp. Opening electronic workpaper "ottertailsac02x-MSP.xls."

⁵⁸ *Duke/CSX* at 16.

⁵⁹ These two routes are shown on BNSF Supp. Reply Exh. III.A-4.

a. Historical Volumes (i.e. 2002 Volumes)

In its supplemental case, Otter Tail assumes that the OTRR would begin operations on January 1, 2002. BNSF accepts that starting date.

(1) Coal Traffic

In its supplemental case, Otter Tail continues to develop coal volumes for the 2002 base year from the traffic tapes produced by BNSF which show the actual volumes transported to particular destinations by BNSF. *See* OTP Supp. Opening Nar. at III-A-2. BNSF accepts use of the traffic tapes to establish the 2002 base year volumes but modifies those coal volumes to exclude the tonnages described in section III.A.1 above, and in sections III.A.1.a.(1), III.A.1.a.(3) and III.A.1.a.(4) of BNSF's October 8, 2003 Reply, for the reasons set forth in those sections.

(2) Non-Coal Traffic

In its supplemental case, Otter Tail continues to develop non-coal volumes for the 2002 base year from the traffic tapes produced by BNSF which show the actual volumes transported to particular destinations by BNSF. *See* OTP Opening Nar. at III-A-4. BNSF accepts use of the traffic tapes to establish the 2002 base year volumes but modifies those non-coal volumes to exclude the tonnages described in Section III.A.1.b of BNSF's October 8, 2003 reply evidence and section III.A.1.(d)(2) for the reasons set forth in those sections.

b. Projected Volumes

BNSF addresses Otter Tail's volume projections in Otter Tail's supplemental case for coal and non-coal traffic separately below.

(1) Projected Coal Volumes

Otter Tail uses the same methodology to project volumes for the 31.7 million tons of supplemental coal that it used to project coal volumes in its original case. *See* OTP Supp.

Opening Nar. at III-A-2. BNSF accepts Otter Tail's methodology for projecting coal volumes but has reduced projected coal volumes in the SARR network for the reasons set forth in section III.A.1 above and in Section III.A.1 of BNSF's October 2003 reply evidence.

(2) Projected Non-Coal Volumes

In its supplemental case, Otter Tail continues to maintain non-coal traffic volumes at the 2002 level of 25.2 million net tons throughout the DCF period. OTP Op. Nar. at III-A-10. BNSF continues to accept Otter Tail's assumption of level volumes throughout the DCF period, but has adjusted net tonnages downward to 7.48 million tons to reflect the excluded non-coal traffic for the reasons set forth in section III.A.1.b of BNSF's October 2003 reply evidence and in section III.A.1.(d)(2) above.

c. Summary

The following Table III.A-4 compares the total OTRR volumes developed by BNSF in response to Otter Tail's supplemental case with those developed by Otter Tail in its supplemental case. The total volumes projected by BNSF are lower than those projected by Otter Tail due to BNSF's exclusion of certain coal and non-coal traffic as described in section III.A.1 of this supplemental reply evidence and section III.A.1 of BNSF's original reply evidence.

Table III.A-4
OTRR Supplemental Case Tonnages
Comparison Of Otter Tail And BNSF⁶⁰
(Tonnages in Millions)

Year	OTP	BNSF	Difference
2002	237.33	135.11	(102.22)
2003	236.60	132.34	(104.26)
2004	238.54	133.55	(104.99)
2005	240.47	133.97	(106.50)
2006	244.53	136.73	(107.80)
2007	249.26	138.51	(110.75)
2008	252.68	140.82	(111.87)
2009	255.23	142.39	(112.84)
2010	259.19	144.80	(114.39)
2011	261.13	145.85	(115.28)
2012	262.45	146.31	(116.14)
2013	263.24	146.55	(116.69)
2014	263.66	146.79	(116.87)
2015	264.05	147.02	(117.03)
2016	264.61	147.34	(117.28)
2017	265.25	147.67	(117.58)
2018	265.62	147.85	(117.77)
2019	266.04	148.09	(117.95)
2020	266.45	148.31	(118.14)
2021	266.55	148.36	(118.19)

BNSF compares its supplemental case coal traffic volumes with Otter Tail’s supplemental case coal traffic volumes by year in BNSF Supp. Reply Exhibit III.A-5. BNSF compares its supplemental case non-coal traffic volumes with the supplemental case non-coal volumes developed by Otter Tail by year in BNSF Supp. Reply Exhibit III.A-6.

⁶⁰ See BNSF Supp. Reply electronic workpaper, “Otter Tail Railroad Coal Traffic Forecast_BNSF Revised.xls” worksheet “Summary.”

3. OTRR Revenues (Historical And Projected)

a. Single-Line Revenues

As Otter Tail explains, it does not modify OTRR single-line revenues in its supplemental case. *See* OTP Supp. Opening Nar. at III-A-3. Consequently, BNSF continues to accept Otter Tail's escalation of revenues for the issue traffic over the life of the OTRR. *See* BNSF Reply Nar. at III.A-55.

b. Divisions Of Revenue -- Existing Interchanges

Otter Tail does not modify the OTRR's divisions of revenue at existing interchanges in its supplemental case. *See* OTP Supp. Op. Nar. at III-A-3. Consequently, in response to Otter Tail's supplemental case, BNSF incorporates its evidence challenging Otter Tail's divisions of revenues at existing interchanges set forth in BNSF's October 2003 reply evidence. *See* BNSF Reply Nar. at III.A-56- III.A-57.

c. Divisions of Revenue -- Cross-Over Traffic

In its Opening Evidence filed in June 2003, Otter Tail relied on different revenue allocation procedures for different categories of traffic. For coal movements, the predominant traffic on its SARR, Otter Tail developed divisions algorithms based on regression analyses of BNSF divisions on coal movements. Otter Tail developed divisions algorithms for certain non-coal movements as well, but for most non-coal movements it used the MMP revenue allocation approach. Otter Tail continues to view its opening evidence as its "base" or preferred case. OTP Supp. Op. Nar. at I-2.

In its alternative Supplemental Opening Evidence, Otter Tail substitutes the MSP revenue allocation procedure adopted by the Board in *Duke/NS* for the revenue allocation procedures it used in its original Opening.

BNSF's October 2003 Reply Evidence fully addressed the deficiencies in the revenue allocation procedures that Otter Tail used in its original Opening Evidence, and BNSF stands on that Reply Evidence here for purposes of addressing Otter Tail's base case. BNSF's Supplemental Reply Evidence on revenue allocation addresses the MSP revenue allocation procedure and sets forth alternatives to that procedure.⁶¹

For the reasons stated in BNSF's original Reply Evidence, the Board was correct to conclude in *Duke/NS* that a cost-based approach is the proper means to allocate revenue on cross-over traffic. See BNSF Reply Nar. at III.A-59 to III.A-65. The Board identified MSP as a cost-based approach that is preferable to MMP because it eliminates the lumpiness associated with the mileage blocks used in MMP and therefore reduces the incentives that parties would have "to design SARRs to take advantage of" the MMP revenue allocation procedure. *Duke/NS*, slip op. at 22.

BNSF agrees that MSP is superior to MMP for the reasons stated by the Board in *Duke/NS*. However, there are certain shortcomings with MSP as currently formulated that keep

⁶¹ In its supplemental opening evidence, OTP modified the mileages used to perform its revenue-division calculations. Although not described in its narrative, the changes can be identified from investigation of the workpapers. Compare OTP Opening electronic workpaper "Otter Tail Railroad Coal Traffic Forecast.xls," worksheet "sacmiles" and OTP Supp. electronic workpaper "Otter Tail Railroad Coal Traffic Forecast - Supplemental.xls," worksheet "sacmiles." While the differences are generally minor, review of the underlying calculations indicates that many of OTP's changes are improper. For example, OTP increased by four miles the on-SARR mileages for shipments from Orin Line mines to Donkey Creek by including the distance between West Donkey Creek and East Donkey Creek. Unlike shipments from the Campbell or Dutch Subs, however, Orin Line traffic delivered to the BNSF at Donkey Creek does not traverse this segment, but enters the OTRR east-west mainline at East Donkey Creek from the east leg of the wye track from the Orin Line for which OTP already included the miles. BNSF does, however, accept certain of OTP's mileage changes, and identifies all of its adjustments in BNSF Supp. Reply electronic workpaper "Miles Comparison.xls," worksheet "OTRR."

it from producing the fairest division of revenues between the carriers. First, the 100 mile block of credit for originating or terminating traffic is a system average number that is not a good proxy for the costs incurred in originating or terminating particular categories of traffic. The 100 mile block substantially overstates the costs of originating and terminating unit coal train traffic. It substantially understates the costs of originating or terminating intermodal and other non-coal unit train traffic. Thus, on the short-haul coal movements that dominate Otter Tail's SARR, the 100 mile block of credit unfairly overcompensates the SARR by implicitly attributing more costs to originate those short-haul movements than are actually incurred.

A second shortcoming with MSP is that it takes no account of how traffic density affects the recovery of costs. MSP assumes that costs are not affected by traffic density. As the Board and its predecessor have repeatedly recognized, that is not the case. In the railroad industry, average total costs per unit of traffic decline as traffic density increases.⁶² The procedures used to allocate revenue on cross-over traffic should reflect this fact.

Finally, MSP does not distinguish between attributable and unattributable costs. The allocation of revenues according to the MSP procedure does not entail an explicit demonstration that the revenue allocated will cover the attributable costs of both on-SARR and off-SARR portions of cross-over movements.

BNSF's density adjusted revenue allocation procedure ("DARA") addresses all the shortcomings of the MSP procedure. It takes account of length of haul, as does MSP, and it also

⁶² BNSF Reply Exhibit III.A-11 and 12 were maps showing the average densities on the OTRR and residual BNSF routes used by the cross-over coal and non-coal traffic, respectively. BNSF has revised these exhibits to reflect the traffic in its supplemental reply filing. See BNSF Supp. Reply Exh. III.A-7 and III.A-8 for the revised maps for the coal and non-coal traffic, respectively.

takes account of density. It distinguishes between attributable and unattributable costs. It is the fairest procedure available for allocating revenue on cross-over traffic.

(1) The 100-Mile Credit for Originating and Terminating Traffic in MSP

As noted above, the 100 mile credit that MSP applies for the origination and termination of a coal unit train substantially overcompensates the originating and terminating carrier on unit coal trains for the costs actually incurred to provide those services. The use of a 100-mile block in a SAC case involving PRB coal transportation therefore continues to provide a gaming incentive to the complainant to load the SARR with short-haul movements that do little more than originate traffic and hand it off to the residual incumbent. At the same time, use of a 100-mile origin/termination credit for merchandise and intermodal traffic substantially undercompensates the originating and terminating carrier for the costs that are incurred to originate and terminate those types of traffic. If the MSP methodology were to be used to allocate revenue on cross-over traffic, the gaming incentives associated with the use of cross-over traffic would need to be reduced by revising the 100-mile credit to reflect more accurately the costs to originate and terminate the different types of traffic included in a SARR. Although BNSF advocates DARA as the preferred revenue allocation procedure in this case, it has for illustrative purposes developed more appropriate mileage block credits for originating and terminating coal, merchandise and intermodal traffic. The development of those alternative mileage block credits is described in BNSF Supp. Reply Exhibit III.A-9.⁶³

⁶³ A comparison of the revenues allocated under the 100-mile block credit and alternative mileage block MSP approaches using BNSF's revised OTRR traffic group is shown in BNSF Supp. Reply Exh. III.A-10.

BNSF's DARA procedure obviates the need to use mileage block credits as a surrogate for origination and termination costs. As discussed further below, the first step of the DARA procedures allocates sufficient revenue to cover directly attributable costs as calculated according to the Board's Ex Parte No. 399 URCS costing procedures. URCS costs include the costs associated with originating and terminating cross-over movements.⁶⁴

(2) The Need to Account for Traffic Density

The MSP approach used by the Board in *Duke/NS* and adopted by Otter Tail in its Supplemental Opening Evidence does not take account of traffic density. It implicitly assumes that the need for and ability of cross-over traffic movements to cover costs is the same on relatively high-density and relatively low-density portions of cross-over movements. In fact, the railroad cost structure is affected by economies of density, which result in the widely observed phenomenon that average total costs per unit of traffic decrease as traffic densities increase. By ignoring economies of density, MSP over-allocates revenues to those portions of cross-over movements on high-density segments relative to movements over less dense segments of cross-over routes. This is contrary to the Board's objective that the revenue allocation on cross-over traffic "produce the fairest division between the carriers." *Duke/NS*, slip op. at 22.

It is beyond dispute that the railroad industry cost structure – and hence the ability of rail traffic to cover costs – is affected by economies of density. The existence of economies of

⁶⁴ URCS understates the costs of originating and terminating intermodal traffic. See *Review of the General Purpose Costing System*, 2 S.T.B. 659, 662 - 663 (1997). In this case, the limited amount of intermodal traffic that remains after excluding rerouted intermodal traffic is all traffic that the SARR handles in bridge service; *i.e.*, the SARR neither originates or terminates this traffic. Thus, the use of URCS costs in the DARA allocation procedures tends to understate the share of revenue on cross-over movements that should be allocated to the residual incumbent.

density was a key feature of the railroad industry cost structure addressed by the ICC in its *Coal*

Rate Guidelines:

Railroads exhibit significant economies of scope and density. . . . Economy of *density* refers to the fact that greater use of the fixed plant results in declining average cost. Thus, the marginal cost of rail service is less than the average cost, because the fixed plant is used in a progressively more efficient manner.

The differential between marginal costs and average costs cannot be assigned directly to specific movements by any conventional accounting methodology. Hence, we refer to it as the “unattributable costs.”

Coal Rate Guidelines, 1 I.C.C.2d at 526. More recently, the Board took note of how economies of density affect cost recovery in its *PPL I* decision:

[I]t is preferable to allocate the capital carrying charges on a level annual basis *to reflect the declining capital investment needed per unit of output as the rail system is used more intensively. This pattern of capital recovery reflects the production economies that characterize the economic structure of the rail industry.*

PPL I, at 12 n.21 (emphasis added).

The existence of different traffic densities on different portions of cross-over routes affects the ability of the SARR and the residual incumbent to cover costs on those segments because “[g]reater use of fixed plant results in a declining average cost.” Thus, all else being equal, the more traffic that moves over a given line segment, the lower the amount of cost that needs to be recovered on average from each individual ton-mile to recover the total costs of the segment.

(3) BNSF’s DARA Procedure

BNSF’s DARA procedure is a method of allocating revenue that takes account of all relevant factors that affect the ability to cover costs on both the on-SARR and off-SARR

segments of cross-over movements. DARA takes account of both length of haul and traffic density.

BNSF's DARA procedure addresses the Board's statement in its *TMPA* decision regarding the objective of revenue allocation on cross-over traffic: "The revenue each carrier receives should cover the attributable costs of the service it provides and make some contribution to its unattributable costs."⁶⁵ In its October 2003 Reply Evidence, BNSF summarized how DARA addresses both attributable and unattributable costs in the following terms:

[T]he DARA procedure separates the revenue on a cross-over movement into two components: (1) the component that would be available to cover attributable costs of the cross-over movements, and (2) the portion of the revenue representing contribution in excess of attributable costs that would be available to cover unattributable costs on the SARR and the residual incumbent. Under DARA, BNSF witness John Klick first calculates the attributable cost component according to the Ex Parte 399 variable costing procedures, and allocates sufficient revenue to each of the two carriers to cover their respective attributable costs on cross-over movements. In the second step under DARA, the contribution component of each cross-over movement (i.e. total end-to-end revenue minus the two carriers' attributable costs) is allocated to the SARR and the residual incumbent in direct proportion to relative length of haul and in inverse proportion to the traffic densities on each carrier.

BNSF Reply Nar. at III.A-58; *see also id.* at III.A-87 to III.A.-89.

To determine attributable costs for each portion of cross-over movements in the first step of DARA, Mr. Klick calculated URCS variable costs (based on a 2001 URCS for BNSF), using the Ex Parte No. 399 costing assumptions employed by the Board in preparing its costed waybill. *Id.* at III.A-87 to III.A-88. This approach captures the costs associated with originating and

⁶⁵ *TMPA* at 31 n.74.

terminating the cross-over movements. The attributable costs also include those portions of road property ownership costs that URCS assumes to be variable.

There is no density adjustment made in calculating attributable costs in the first step of the DARA procedure. The on-SARR and off-SARR segments of all cross-over movements are costed. The more traffic that travels over a particular line segment, the more revenue (including revenue associated with the variable portion of road property costs) will be allocated to the traffic using those line segments -- in direct proportion to the volume of traffic.

The density adjustment aspect of DARA comes into play in the second step of the DARA procedure, which involves the allocation of contribution net of attributable costs that is available to defray unattributable costs. The revenue being allocated in the second stage of the DARA procedure is revenue that is available to defray costs that, by definition, are not caused by any particular movement of traffic. The logic of the inverse density adjustment is that because average total costs per unit of traffic are lower on dense lines than on less dense lines, the units of traffic on denser segments will need less revenue on average to cover attributable costs than traffic on less dense segments.

In sum, DARA represents a refinement and an improvement over the MSP method used by the Board in *Duke/NS* and adopted by Otter Tail in its supplemental opening evidence. Through the Ex Parte No. 399 development of URCS variable costs, DARA is more precise in estimating costs of originating and terminating traffic than MSP, which incorporates a one-size-fits-all 100-mile credit as a proxy for those costs. DARA implements the Board's prescription in *TMPA* that "the revenue each carrier receives should cover the attributable costs of the service it

provides and make some contribution to its unattributable costs.”⁶⁶ And, unlike MSP, DARA addresses traffic density in allocating that portion of revenue that is available for coverage of unattributable costs, thereby taking account of the fact that “[g]reater use of fixed plant results in a declining average cost.”

(4) DARA Does Not Assume that Road Property Investment Costs Are the Same for Light-Density Lines as for Heavy Density Lines

In its *Duke/NS* decision, the Board rejected the revenue allocation procedure proposed by NS which was functionally the same as DARA. The Board found that “NS’s proposed formula contains the critical assumption that light-density lines have the same fixed costs per mile as heavy-density lines – an assumption that Duke challenges here. If the fixed costs per mile are not roughly the same, then NS’s methodology could allocate too much revenue to the light density lines.” *Duke/NS* at 21. It appears that the Board was using the term “fixed costs” in this discussion to refer to road property costs, *i.e.*, “investments in land, tunnels, track and bridges.” *Id.* at 22.

The DARA procedure implemented by BNSF *does not* assume that the fixed costs (*i.e.*, costs of road property investment) are the same per mile for light-density lines as for heavy-density lines. The first step of the DARA procedure allocates revenues sufficient to cover directly attributable costs for movements over on-SARR and off-SARR segments by calculating URCS variable costs. The Board’s own URCS costing procedure assumes that a certain portion of road property costs vary with density; accordingly, the variable portion of road property investment and depreciation are included in URCS-based variable costs for which revenue is

⁶⁶ *TMPA* at 31 n.74.

allocated in the first step of the DARA procedure. On average, there is more cross-over traffic (and more traffic overall) moving over the relatively dense on-SARR segments than on less dense off-SARR segments; thus more variable costs per route mile are allocated for the recovery of road property investments to the denser on-SARR segments.

In the DARA calculations made for this Supplemental Reply evidence, the variable road property costs per route mile allocated to the higher density SARR under the first stage of the DARA procedure is \$54,000, which is more than three and one-half times the variable road property costs per route mile of \$14,000 allocated to the lower-density off-SARR segments.⁶⁷

The reason why the higher density on-SARR segments receive more revenues per route mile for coverage of the variable portion of road property investment under the first stage of the DARA procedure is straightforward, as illustrated on page 1 of BNSF Supp. Reply Exh. III.A-11, which is a simplified schematic of two cross over-traffic movements. Movement AC and movement AD are both 10 million gross tons and both travel over the same 100-mile segment of the SARR from point A to point B. At point B, each movement crosses over to a separate line of the residual incumbent for an additional 100-mile journey to the destination over segments BC and BD respectively. Roadway investment costs (and the associated revenue assigned through the first step of the DARA procedure) are calculated by multiplying the total gross ton miles on each segment by the URCS variable unit cost of \$1,157 per million gross ton miles.⁶⁸ Investment per route mile is determined by dividing this dollar amount by the number of route miles per segment. In the example, the denser SARR segment receives twice as much revenue

⁶⁷ See BNSF Supp. Reply Exh. III.A-11.

⁶⁸ BNSF Supp. Reply electronic workpaper "Calculation of Variable Road Property Costs.xls" which is contained within "DARA Illustration.zip."

for the coverage of variable roadway investment cost, because it carries precisely twice as much cross-over traffic as either of the two less dense off-SARR segments.

Page 3 of BNSF's Supp. Reply Exhibit III.A-11 illustrates the allocation of revenues for the route between Dutch, Wyoming and Superior, Wisconsin used by cross-over traffic, based on BNSF's Supplemental Reply Evidence. For this route, DARA allocates more than twice the revenue per route-mile for the recovery of road property costs to the higher-density OTRR segment between Dutch and Fargo than to the relatively lower-density residual BNSF segment between Fargo and Superior.

Thus, DARA allocates more revenue per route mile for the recovery of road property costs on line segments that have a high density of cross-over movements than on segments that have a low density of cross-over movements. The Board's discussion of NS's revenue allocation procedure in *Duke/NS* did not include any reference to or consideration of the URCS road property investment costs that are allocated through the first step of the DARA procedure. Instead, the Board's discussion focused upon the aspect of the allocation formula that allocates contribution in excess of attributable cost in inverse proportion to density. This is the aspect of the DARA procedure that BNSF described in its reply evidence as involving the allocation of revenue available for the coverage of unattributable costs. In BNSF's Supplemental Reply Evidence, 76 percent of the total revenue that BNSF allocates through the DARA procedure is for coverage of the variable costs developed in step 1 of DARA.⁶⁹

The Board is correct that the formula used in the second step of DARA can be characterized by the assumption that unattributable costs, as distinct from attributable costs, are

⁶⁹ BNSF Supp. Reply Exh. III.A-11.

the same per route mile on the less dense as well as more dense segments of cross-over movements. The assumption is valid in the second step of DARA precisely because the costs to be covered, being unattributable, do not vary with the volume of traffic. The logic of URCS is that unattributable costs – costs that are not variable as determined by the URCS variable costing procedure – are independent of the level of traffic on a particular line segment, and therefore would be the same per route mile on more dense and less dense segments of cross-over movements.

(5) Results of BNSF's Supplemental DARA Calculations

Mr. Klick updated the results of the DARA calculations to reflect the traffic group as revised by BNSF in response to Otter Tail's supplemental case. Mr. Klick then compared the results of the cross-over revenue allocations derived using DARA with those derived by Otter Tail using the MSP approach. The results of that comparison are shown below in Table III.A-5. The same patterns resulting from the DARA/Otter Tail revenue allocation comparison that were discussed in BNSF's original reply evidence also appear here. However, the disparity of the results of the parties' differing coal revenue allocation procedures, while still substantial, is not as great as it was in the original analysis. This stems from the fact that Otter Tail is now using the MSP approach rather than the regressions employed in its so-called market-based allocation methodology to allocate coal revenues.

Table III.A-5
Comparison Of Cross-Over Traffic Revenue Allocations
To OTRR And Residual BNSF Under Otter Tail's MSP Approach And DARA⁷⁰

	Net Ton-Miles (Billions)	Average Length of Haul	Revenue (Millions)		Mills per Ton-Mile		
			MSP (OTP)	DARA (BNSF)	MSP (OTP)	DARA (BNSF)	
Coal Traffic							
Via Donkey Creek							
	OTRR	{ }	{ }	{ }	{ }	{ }	{ }
	Residual BNSF	{ }	{ }	{ }	{ }	{ }	{ }
Via Converse							
	OTRR	{ }	{ }	{ }	{ }	{ }	{ }
	Residual BNSF	{ }	{ }	{ }	{ }	{ }	{ }
Other Interchanges							
	OTRR	{ }	{ }	{ }	{ }	{ }	{ }
	Residual BNSF	{ }	{ }	{ }	{ }	{ }	{ }
Non-Coal Traffic							
Manifest							
	OTRR	{ }	{ }	{ }	{ }	{ }	{ }
	Residual BNSF	{ }	{ }	{ }	{ }	{ }	{ }
Intermodal							
	OTRR	{ }	{ }	{ }	{ }	{ }	{ }
	Residual BNSF	{ }	{ }	{ }	{ }	{ }	{ }
Auto							
	OTRR	{ }	{ }	{ }	{ }	{ }	{ }
	Residual BNSF	{ }	{ }	{ }	{ }	{ }	{ }
Grain							
	OTRR	{ }	{ }	{ }	{ }	{ }	{ }
	Residual BNSF	{ }	{ }	{ }	{ }	{ }	{ }

⁷⁰ See BNSF Supp. Reply electronic workpapers "coal move_supp_reply.xls" and "non-coal_revenues_supp.xls." All figures in this table are based on BNSF's revised OTRR traffic group.

d. Other -- Projected Revenues For Non-Issue Traffic

Otter Tail's methodologies for projecting coal revenues and non-coal revenues are the same in its original and supplemental cases.⁷¹ Consequently, in response to Otter Tail's supplemental case, BNSF incorporates its evidence relating to Otter Tail's revenue projections as set forth in BNSF's October 2003 reply evidence. *See* BNSF Reply Nar. at III.A-100 to III.A-135.

(1) Total Traffic Summary

The following table presents a summary of the differences in the total traffic revenues assumed by Otter Tail in its supplemental case and the total revenues assumed by BNSF in response to Otter Tail's supplemental case.

⁷¹ However, there are a few circumstances where Otter Tail improperly changed the rate escalation assumption. For example, in its supplemental reply evidence, Otter Tail erroneously modified its treatment of the rate escalation for the { } plants. As BNSF explained in its reply (*see* BNSF Reply at III-A-105 to 106), Otter Tail failed to reflect a {

} *See* BNSF.RP.WP.III.A-0342 and BNSF Reply electronic workpaper "Otter Tail Railroad Coal Traffic Forecast_BNSF Revised.xls" at worksheet "2002 rev contracts.") Otter Tail's supplemental filing revised the rate but rather than incorporating a { } reduction, its change actually increases the rate by 1 percent. *See* OTP Supp. Opening electronic workpaper "Otter Tail Coal Traffic Forecast - Supplemental.xls," worksheets "2002 rev contracts," "index," and "2002-2021 Tonnage." In addition, Otter Tail fails to reflect the appropriate rate for this traffic and uses the *higher rate* associated with the { } million tonnage level instead of the *lower rate* for the { } million tonnage level applicable for { } *See* OTP Supp. Opening electronic workpaper "Otter Tail Coal Traffic Forecast - Supplemental.xls," worksheets "2002 rev contracts," "index" and "2002-2021 Tonnage."

Table III.A-6
OTRR Total Traffic Revenues
Comparison of Otter Tail and BNSF
Estimates in Supplemental Case⁷²
(\$Millions)

	Otter Tail	BNSF	Difference
2002	\$724.7	\$430.4	\$294.3
2003	\$724.3	\$430.4	\$294.0
2004	\$727.7	\$431.9	\$295.8
2005	\$742.5	\$432.0	\$310.5
2006	\$766.5	\$447.3	\$319.1
2007	\$792.5	\$442.8	\$349.7
2008	\$815.5	\$458.4	\$357.1
2009	\$836.0	\$472.1	\$364.0
2010	\$860.7	\$489.5	\$371.1
2011	\$881.7	\$501.2	\$380.5
2012	\$901.1	\$506.7	\$394.4
2013	\$918.7	\$515.4	\$403.3
2014	\$934.9	\$519.8	\$415.1
2015	\$951.2	\$528.9	\$422.3
2016	\$968.5	\$538.4	\$430.1
2017	\$986.3	\$548.1	\$438.2
2018	\$1,003.6	\$557.6	\$446.0
2019	\$1,021.6	\$567.4	\$454.2
2020	\$1,040.0	\$577.4	\$462.6
2021	\$1,057.6	\$586.5	\$471.1

BNSF compares its coal revenues with Otter Tail’s coal revenues in the supplemental case by year in BNSF Supp. Reply Exh. III.A-12. BNSF compares its non-coal revenues to Otter Tail’s non-coal revenues in the supplemental case by year in BNSF Supp. Reply Exh. III.A-13.

With respect to total volumes and revenues for the OTRR under the supplemental case, BNSF Supp. Reply Exh. III.A-14 compares BNSF’s tonnages and revenues for the OTRR with those presented by Otter Tail. BNSF Supp. Reply Exh. III.A-15 shows BNSF's traffic and

⁷² See BNSF Supp. Reply electronic workpaper “Exhibit III.A - T&R Comparison.xls.”

revenue forecast for all Otter Tail customers by year from 2002 through 2021 under the supplemental case.

4. Other

BNSF hereby incorporates its analyses of the PPL cross-subsidy issue and revenue allocation to the residual incumbent with respect to cross-over traffic set forth in Sections III.A.4.a and III.A.4.b of BNSF's reply evidence.

**III.B: Stand-Alone
Railroad System**

B. STAND-ALONE RAILROAD SYSTEM

1. Route And Mileage

In BNSF's October 8, 2003 reply evidence, BNSF accepted the basic route proposed by Otter Tail for the OTRR but determined that Otter Tail had made several errors in its calculation of route miles. BNSF corrected those errors. BNSF Reply Nar. at III.B-1 to 2. Otter Tail's supplemental opening evidence presents an alternate SAC analysis based on a larger traffic group than its original OTRR, but Otter Tail did not change the route or the route miles of the OTRR. Therefore, the criticisms presented by BNSF in its October 8, 2003 reply continue to apply to Otter Tail's alternate SAC presentation.

However, in this supplemental reply, BNSF is modifying the OTRR traffic group in two significant ways: (1) BNSF is adding certain short-haul coal movements that it excluded in the October 8, 2003 reply; and (2) BNSF is excluding certain rerouted non-coal traffic from the OTRR's northern Glendive line. The first of these traffic group changes has no effect on the OTRR's configuration, therefore it does not affect the OTRR route or route miles. The second traffic group changes does affect the OTRR route and route miles. Specifically, in Otter Tail's opening and supplemental opening SAC presentations, the OTRR line between Snowden, Montana and Glendive, Montana is used exclusively to handle rerouted non-coal traffic (and a single movement of rerouted coal traffic). If the rerouted non-coal traffic is excluded from the OTRR, this Snowden-Glendive line is no longer necessary, and BNSF has eliminated it from the OTRR in this supplemental reply. (As a result, the rerouted coal traffic using this line is interchanged to the BNSF at Glendive.) The elimination of this line decreases the OTRR route miles from 1285.84 in BNSF's reply evidence to 1206.74 in this supplemental reply. BNSF Supplemental Reply electronic workbooker "III F OTRR Construction_Supplemental Reply.xls."

2. Track Miles And Weight Of Track

The number of track miles required by the OTRR is a function of the parties' assessment of the OTRR's capacity requirements. BNSF discussed the problems with the approach used by Otter Tail to assess OTRR capacity requirements at pages III.B-8 to 17 of BNSF's October 8, 2003 reply narrative. As discussed in the October 8, 2003 reply, BNSF's witnesses determined that Otter Tail's approach to assessing OTRR capacity was flawed, primarily due to Otter Tail's reliance on a flawed string program analysis, and that an independent capacity analysis was required. BNSF's witness, Mr. Wheeler, performed that analysis for the OTRR traffic group using the Rail Traffic Controller ("RTC") model.

The revisions proposed by Otter Tail and BNSF in these supplemental opening and reply filings to the OTRR traffic group require a new capacity analysis. The traffic group revisions can be examined in two distinct groups for purposes of this capacity analysis: the revisions to coal originations in the PRB and the revisions to the traffic handled over the OTRR's Glendive line. As discussed below, BNSF has concluded that changes to the traffic group using the OTRR's PRB lines do not require any changes to OTRR capacity in the PRB. Significant reductions to capacity, however, are required as a result of the elimination of the rerouted traffic on the Glendive line. These issues are discussed below.

a. PRB Capacity Assessment

In its supplemental opening evidence, Otter Tail proposed to add over 30 million tons of coal that would originate in southern PRB mines and move a short distance south to interchange with the residual BNSF at Converse. To handle this additional traffic, Otter Tail claimed that eight (8) miles of additional double track are needed on the Orin Line. Otter Tail Supp. Nar. at III-B-1. As in its original opening evidence, Otter Tail relied on a string program analysis to

evaluate the capacity requirements of its alternate OTRR. However, Otter Tail used what it refers to as its “rebuttal” string program to test OTRR capacity in the supplemental opening.

This is the third version of the string program used by Otter Tail in this proceeding (the first version was presented in Otter Tail’s opening evidence and the second version in its July 14, 2003 errata filing). Otter Tail asserts that the rebuttal string program has been adjusted to address the defects identified by BNSF in its reply evidence. Otter Tail Supp. Nar. at I-5. Otter Tail elected, however, to withhold any explanation of the changes made to the program, asserting that it “will address those changes in its submission of rebuttal evidence.” *Id.* at I-6.¹ Nevertheless, Otter Tail agreed to make its consultants available to BNSF for a limited evaluation of the new string program to the extent it related to the capacity changes in the PRB that Otter Tail presented in its supplemental opening evidence. The parties met on January 30, 2004. BNSF confirmed at that meeting that the string program analysis is unreliable and cannot be used to make accurate assessments of capacity required on a complex rail network like the OTRR.

Otter Tail’s consultants admitted that for purposes of determining capacity, the string program does little more than generate a preliminary timetable of train movements. The string program itself does not determine whether the SARR has sufficient capacity since the model runs to completion even when there are overloadings at sidings and yards. Otter Tail’s consultants revealed that the capacity analysis is essentially a manual exercise that uses the string program

¹ Otter Tail’s decision to withhold its explanation of changes in the string program until rebuttal is a clear example of the complainant’s use of rebuttal to deprive a defendant of a meaningful opportunity to address the complainant’s evidence. That decision has made it impossible for BNSF to carry out a full examination of the new string program or to evaluate the effect of the new program on the multitude of costs and operating statistics that the string program is used to develop. BNSF reserves the right to address Otter Tail’s rebuttal evidence relating to the string program when Otter Tail presents its explanation of those changes.

analysis only as the starting point. Otter Tail's consultants must manually check the output from the string program in an effort to detect all instances where too many trains occupy sidings or yards. When overloadings are identified, Otter Tail's consultants manually adjust trains in an effort to eliminate the problem.

There are three problems with this unwieldy process. First, the complexity of the OTRR network and the magnitude of overloads makes this effort extremely prone to error. In the October 8, 2003 reply, BNSF's consultants identified 142 examples of overloaded sidings in one week of the OTRR's operations modeled by Otter Tail. BNSF Reply Nar. at III.B-13. If the manual adjustments were straightforward, as Otter Tail would have the Board believe, then there is no excuse for the presence of these errors in Otter Tail's opening evidence. In fact, the process is anything but straightforward. To audit Otter Tail's work involves a laborious and time-consuming effort that the Board cannot be expected to perform. As a result, the evidence submitted by Otter Tail on capacity is effectively unverifiable and it should be rejected out of hand.

Second, after Otter Tail makes the manual adjustments, it never reruns the string program. Otter Tail's consultants simply produce new string graphs that have been manually adjusted. They then add a block of time to the operating statistics as a substitute for new string program statistics. But the use of manual adjustments after the model has been run means that it is not possible to reliably assess whether these manual adjustments have other impacts on the network. Indeed, the peak-day string chart generated by Otter Tail's consultants to reflect the manual adjustments shows that the manual adjustments induced head-on collisions on the peak day. BNSF Supplemental Reply electronic workpaper "STRING_47M (Manual Induced Head-on Collisions).xls."

Third, to make the manual adjustments, Otter Tail's consultants review the "timese.dbf" and "timesl.dbf" files (the "times files") as well as the string program charts based on data contained in the times files. But BNSF discovered that there is a disconnect between the data in the times files and the operating statistics that are contained in the service units output of the string program -- the "svcunits.dbf" file (the "service units file"). That problem is further addressed in Section III.C.2 of this supplemental reply. It appears that part of the problem lies in the aggregation of statistics from the times files. Given the disconnect between the times and service units files, there may also be a problem in the way the string program produces the data in the times files, rendering those data suspect and incapable of being used for any purpose, including an assessment of the movement of individual trains and any manual adjustment of those movements.

Otter Tail's new capacity evidence on changes needed to the PRB lines of the OTRR should therefore be rejected. That evidence is based on an unreliable and unverifiable string program analysis. Moreover, Otter Tail itself associates the proposed capacity changes directly with changes in the traffic group using the southern PRB lines that, as BNSF explains elsewhere, should be rejected.

However, BNSF has also proposed for purposes of this supplemental reply evidence the addition of 14 million tons of coal traffic using the northern PRB lines of the OTRR that were excluded from BNSF's October 8, 2003 reply evidence. It was therefore necessary for BNSF to determine whether any additional capacity was required to handle this traffic. BNSF's witness Mr. Wheeler carried out this reevaluation of OTRR capacity using the RTC model, which he also used in preparing BNSF's reply evidence. As described in BNSF's October 8, 2003 reply, Mr. Wheeler modeled two portions of the OTRR in BNSF's reply evidence: the Snowden-Glendive-

Fargo line segment, and the Converse-Gillette segment. BNSF Reply Nar. at III.B-17 to 34. Since Otter Tail's incremental coal traffic traverses only the Converse-Gillette portion of the OTRR, Mr. Wheeler analyzed only that portion of the OTRR to determine whether capacity changes are needed to accommodate the incremental coal traffic. Mr. Wheeler's capacity analysis is based on (1) revised traffic levels discussed in Section III.A and (2) operating parameters previously discussed in BNSF's reply evidence.²

BNSF's witness Mr. Leopold provided Mr. Wheeler with information about the additional trains to be modeled.³ Mr. Leopold identified specific incremental trains for Mr. Wheeler to add to the simulation during a specified week of the modeling period. Mr. Wheeler slotted these trains around the OTRR's existing trains in order to reduce the congestion caused by the additional coal traffic.⁴ When Mr. Wheeler ran the simulation, he found that the RTC model was able to run to completion and that the OTRR would be able to provide an acceptable level of service for the OTRR traffic group.⁵ This confirms that the track configuration posited by BNSF in its reply evidence for the Converse-Gillette portion of the OTRR has sufficient capacity to accommodate the incremental coal traffic discussed in Section III.A.

² BNSF Reply Nar. at III.B-31 to 34. In addition to traffic changes, Mr. Wheeler made one change to the RTC Model to correct a speed limit error. In BNSF's reply evidence, all trains traversing the segment between Donkey Creek and Gillette were inadvertently limited to a maximum track speed of 45 mph. Mr. Wheeler corrected this error for BNSF's supplemental reply evidence, allowing loaded coal trains to travel at a maximum speed of 50 mph and all other trains to travel at a maximum speed of 60 mph. Mr. Wheeler determined that the effect of this change on transit times was minimal.

³ BNSF Supplemental Reply electronic workpaper "Additional Loaded Coal Trains Analysis v1 (Supplemental).xls."

⁴ BNSF Supplemental Reply electronic workpaper "Orin_Line_Train_List_v1_Supplemental_Trains.xls."

⁵ BNSF Supplemental Reply electronic workpapers "Orin Supplemental Scenario.zip" and "Orin Supplemental Transits.zip." Revised transit times are discussed in Section III.C.2.

b. Glendive-Fargo Line Capacity Assessment

The elimination of Otter Tail's rerouted non-coal traffic required that BNSF reevaluate the capacity on the OTRR's Glendive-Fargo line. BNSF's witness Mr. Wheeler used the RTC model to determine the appropriate capacity changes for the mainline track and yards on this section of the OTRR. Mr. Wheeler's capacity analysis is based on (1) revised traffic levels discussed in Section III.A and (2) operating parameters previously discussed in BNSF's reply evidence. BNSF Reply Nar. at III.B-21 to 29. Once again, Mr. Wheeler obtained from Mr. Leopold a list of the trains that needed to be eliminated from the traffic group for purposes of this new capacity assessment.⁶

First, Mr. Wheeler removed the Snowden-Glendive line from the model he used in BNSF's October 8, 2003 reply evidence. Removal of the rerouted traffic makes this line unnecessary. In addition, Mr. Wheeler eliminated yard tracks at the Glendive and Fargo Yards that were no longer necessary as a result of the elimination of the rerouted traffic. Yard capacity is discussed in more detail below in Section III.B.3 of this supplemental reply narrative.

Mr. Wheeler then focused on the mainline capacity between Glendive and Fargo. To determine the proper amount of capacity on this line segment, Mr. Wheeler made successive RTC runs, removing incremental amounts of capacity until he found an acceptable capacity that balanced the need to achieve transit times at least as fast as the real world incumbent's without overbuilding capacity. First, Mr. Wheeler determined that the reduced traffic volumes would allow the OTRR to eliminate some of the large double-track segments that were part of the OTRR as originally presented. Mr. Wheeler therefore prepared his first iteration of the model by eliminating approximately 115 miles of double track to create a primarily single-track railroad

⁶ BNSF Supplemental Reply electronic workpaper "BNSF SARR Non Coal Train List (Alternative Case).xls."

with evenly spaced passing sidings. The mainline and yard track reductions for Mr. Wheeler's first simulation are shown in Exhibit III.B-1 in green.

Mr. Wheeler ran the simulation with these reductions. In order to determine if the new track configuration was appropriate, Mr. Wheeler generated transit times for this simulation⁷ and compared them to the real world transit times as shown in BNSF's October 8, 2003 reply evidence. As shown in Exhibit III.B-2, Mr. Wheeler concluded that the transit times were significantly faster than they needed to be, leading him to conclude that the OTRR probably had too much capacity.

For his second iteration, Mr. Wheeler therefore eliminated additional yard track at Glendive Yard and approximately 37 miles of double track and passing sidings, as shown in red in Exhibit III.B-1. Mr. Wheeler ran a second simulation and generated transit times shown in Exhibit III.B-2.⁸ Once again, the transit times were faster than necessary, so Mr. Wheeler prepared a third simulation, eliminating approximately 14 miles of additional double track and passing sidings, shown in blue in Exhibit III.B-1.⁹ He concluded that the fast transit times in Exhibit III.B-2 indicated that some additional track could be eliminated. Mr. Wheeler removed two additional passing sidings, added back a passing siding in between those two, and ran a fourth and final simulation using the capacity shown in black in Exhibit III.B-1.¹⁰ The results of

⁷ BNSF Supplemental Reply electronic workpapers "Glen-Fargo Supplemental 1.zip" and "Glen-Far Supp 1 Transits.xls."

⁸ BNSF Supplemental Reply electronic workpapers "Glen-Fargo Supplemental 2.zip" and "Glen-Far Supp 2 Transits.xls."

⁹ BNSF Supplemental Reply electronic workpapers "Glen-Fargo Supplemental 3.zip" and "Glen-Far Supp 3 Transits.xls."

¹⁰ BNSF Supplemental Reply electronic workpapers "Glen-Fargo Supplemental 4.zip" and "Glen-Far Supp 4 Transits.xls."

the fourth simulation in Exhibit III.B-2 demonstrate that the OTRR is able to achieve transit times comparable to those presented by BNSF in its October 8, 2003 reply evidence and, therefore, Mr. Wheeler concluded that the OTRR was optimally sized for the needs of the OTRR's customers.

The revised track configuration for the OTRR is shown in track charts labeled BNSF Supplemental Reply Exhibit III.B-3. Table III.B-1 below compares the OTRR's track miles from Otter Tail's supplemental opening and BNSF's supplemental reply evidence.

Table III.B-1
Comparison Of Otter Tail's Calculation Of Miles
With BNSF's Calculation Of Miles Of OTRR Track

Type of Track	OTP¹¹	BNSF¹²	Difference
Mainline Track	1,684.6	1,380.5	-304.1
Mine Spurs	4.8	6.9	2.1
Set-Out Track	10.7	20.6	9.9
Yards ¹³	79.5	60.5	-19.0
Total	1,779.6	1,468.5	-311.1

3. Yards

BNSF discussed the 11 yard/interchange locations proposed by Otter Tail for the OTRR in Section III.B.3 of its October 8, 2003 reply narrative. BNSF Reply Nar. at III.B-35 to 53.

BNSF accepted the facilities proposed by Otter Tail for the Campbell, Moran Junction, Terry,

¹¹ OTP Errata electronic workpaper "OTRR CONSTRUCTION.xls" at worksheet "Quantities" and OTP Supp. Exh. III-B-1.

¹² BNSF Supplemental Reply electronic workpaper "III F OTRR Construction_Supplemental Reply.xls" at worksheet "Quantities."

¹³ BNSF categorized all of the track in the Terry Yard, which is made up of an 8,000-foot track and two 600-foot set-out tracks, as yard miles. Otter Tail included the 8,000-foot yard track in its mainline track miles, and the two 600-foot set-out tracks in its set-out track miles. To facilitate an apples-to-apples comparison, BNSF moved Otter Tail's total miles for the Terry Yard (9,200 feet) to yard track miles.

Fargo and Benson Yards as adequate for the level of traffic that would be available to OTRR. BNSF made changes to certain of the facilities at the other yards, and added interchange connections at Casselton, North Dakota and the JY Connector near West Fargo, North Dakota. *Id.* at III.B-35 to 36. The changes in traffic assumptions used for purposes of this supplemental reply required BNSF to revisit its capacity assumptions for the OTRR yards. BNSF's conclusions are set out below.

a. Incremental Coal Traffic

Otter Tail claims that the addition of 31.7 million tons of coal traffic to the OTRR requires no changes to the yards as configured by Otter Tail in its opening evidence. Otter Tail Supp. Nar. at III-B-1 to 2. While BNSF does not accept the methodology used by Otter Tail to reach this conclusion, since Otter Tail relied on its flawed string program analysis, BNSF independently concluded that no changes to yard size in the PRB yards are needed to accommodate the changes in coal traffic in the PRB. As discussed above, BNSF does not accept any of the incremental coal traffic that Otter Tail proposes to add to the southern PRB lines of the OTRR. Therefore no changes to yards on that portion of the OTRR are needed. BNSF did add about 14 million tons of coal on the northern PRB lines, and Mr. Wheeler used the RTC Model to test the capacity of the Converse-Gillette segment to determine whether additional capacity would be needed at the OTRR's Donkey Creek yard. He determined that no additional yard capacity was needed to handle the added coal trains.¹⁴

¹⁴ BNSF Supplemental Reply electronic workpaper "Orin Supplemental Scenario.zip." As discussed below, some changes to the facilities at Donkey Creek result from the elimination of traffic over the Glendive line.

b. Elimination Of Rerouted Non-Coal Traffic

As discussed in Section III.A.1 above, BNSF's supplemental reply evidence eliminates a significant volume of traffic from the OTRR's northern lines from Snowden to Glendive to Fargo. These changes did require revisions to both the size and the facilities included in several OTRR yards, as summarized below:

- Glendive Yard -- The eight tracks BNSF added to this yard in its reply evidence to perform intra-/inter-train switching on overhead freight traffic rerouted by Otter Tail are no longer required in light of the elimination of this traffic; four of the 10 inspection/receiving tracks and one of the two mainline tracks proposed by Otter Tail for this yard also can be eliminated in light of the reduction of traffic passing through the yard.
- Donkey Creek Yard -- The locomotive shop can be reduced from the size provided by BNSF in its reply evidence because of the reduced size of OTRR's locomotive fleet.
- Fargo Yard -- Two of the four receiving/interchange tracks provided by Otter Tail at this yard can be eliminated in light of the reduction of traffic passing through the yard.
- Snowden Yard -- This yard has been eliminated because of the elimination of the portion of the OTRR line between Glendive and Snowden, as discussed in Section III.B.1 above.
- Casselton, North Dakota -- The interchange connection for OTRR provided by BNSF at this location in its reply evidence can be eliminated because of the elimination from OTRR's traffic group of the grain traffic originated on the Red River Valley and Western Railroad ("RRVW") that would have used this interconnection, as discussed in Section III.A.1 above. It has been changed to a crossing to allow this traffic to continue to be interchanged by the RRVW to BNSF.

The OTRR yards at Converse, Campbell and Dutch, Wyoming; Moran Junction and Terry, Montana; Mandan, North Dakota; and Benson, Minnesota, and the interchange connection added at the JY Connector remain the same as provided by BNSF in its reply evidence.

The changes to the Glendive, Donkey Creek and Fargo Yards are discussed in more detail below.

(1) Glendive Yard

BNSF discussed the facilities for OTRR's Glendive Yard in Section III.B.3.a.(3) of its October 8, 2003 reply evidence. BNSF Reply Nar. at III.B-42 to 48. BNSF's witnesses Mueller and Wheeler determined that two changes to the inspection/receiving tracks provided by BNSF at this yard in its reply evidence are required in light of the revised level of traffic that will be passing through this yard.¹⁵ First, BNSF provided eight tracks for intra-/inter-train switching operations that it determined must be performed at Glendive Yard on intermodal and vehicle trains Otter Tail rerouted from BNSF's northern Minot line to the OTRR's Glendive line. *Id.* at III.B-44 to 45. Since this traffic has been eliminated, the eight tracks added by BNSF for the switching operations on this traffic are no longer required and have been eliminated.

Second, in its October 8, 2003 reply evidence, BNSF accepted the yard capacity proposed by Otter Tail (10 yard tracks and two mainline tracks) for Glendive Yard as adequate for all operations other than the intra-/inter-train switching. However, given the reduced volume of traffic on this line in BNSF's supplemental reply evidence, BNSF's witness Mr. Wheeler reassessed the Glendive Yard, as part of his modeling of the segment between Glendive and Fargo using the RTC model, to determine whether further reductions in yard capacity could be made. Mr. Wheeler started with the yard capacity assumed by Otter Tail (10 yard tracks and two mainline tracks) and revised Otter Tail's dwell time assumptions to conform with the more realistic assumptions sponsored by Mr. Mueller (and discussed in Section III.C.2.b of BNSF's reply evidence).¹⁶ Mr. Wheeler's modeling showed that six yard tracks and one mainline track

¹⁵ No changes are required to the locomotive fueling and servicing facilities, car repair facility, and spare railcar storage tracks at Glendive Yard provided by BNSF in its reply evidence. BNSF Reply Nar. at III.B-46 to 48.

¹⁶ Mr. Mueller modified the list of yard dwell times in BNSF Reply Exhibit III.C-6 to reflect the elimination and changes of certain interchanges, and the elimination from OTRR's

were adequate for the reduced traffic volumes BNSF assumes will be handled by the OTRR at Glendive Yard.¹⁷ Thus, he concluded that four of the 10 yard tracks and one of the mainline tracks Otter Tail proposed for this yard could be eliminated. Mr. Mueller reviewed Mr. Wheeler's analysis and agreed with his conclusions.

(2) Donkey Creek Yard

BNSF discussed the facilities required at OTRR's Donkey Creek Yard in Section III.B.3.a.(2) of its October 8, 2003 reply evidence. BNSF Reply Nar. at III.B-37 to 41. Otter Tail included a locomotive shop at Donkey Creek Yard to perform maintenance and repair on all OTRR locomotives. In BNSF's reply evidence, Mr. Mueller determined that OTRR could expect approximately { } percent of its locomotive fleet, or approximately 23 locomotives, to be in the shop for repair or scheduled maintenance every day. BNSF Reply Nar. at III.B-40. Mr. Mueller based the approximately { } percent figure on historical BNSF data for SD70MAC and Dash 9 locomotives and the OTRR's mix of such locomotives. *Id.* at III.B-40, n.84. To accommodate 23 locomotives per day, Mr. Mueller advised BNSF's engineering witness to design the locomotive maintenance shop to handle 12 locomotives at a time (allowing for two or three shifts a day in the locomotive maintenance shop to process locomotives as necessary). *Id.* at III.B-40.

Mr. Mueller concluded that the size of the locomotive shop at the Donkey Creek Yard can be reduced to reflect the reduced number of locomotives in OTRR's fleet and the change in

traffic of the intermodal and vehicle trains Otter Tail rerouted from BNSF's northern Minot line to the OTRR's Glendive line in this supplemental reply evidence. The modified list of yard dwell times is set forth in BNSF Supplemental Reply Exhibit III.C-1. Mr. Wheeler used these yard dwell times in his modeling.

¹⁷ BNSF Supplemental Reply electronic workpaper "Glen-Fargo Supplemental 4.zip."

the mix between SD70MAC and Dash 9 locomotives in that fleet that result from the traffic changes that BNSF is proposing in this supplemental reply evidence. Specifically, Mr. Mueller determined that OTRR could expect approximately { } percent of its locomotive fleet, or approximately 16 locomotives to be in the shop for repair or scheduled maintenance every day.¹⁸ To accommodate this number of locomotives, Mr. Mueller advised BNSF's engineering witness, Mr. Primm, to design the locomotive maintenance shop to handle eight locomotives at a time (again allowing for two or three shifts a day to process locomotives as necessary). Mr. Mueller reviewed the final design of the locomotive maintenance shop prepared by Mr. Primm and agrees that it is appropriate.¹⁹

(3) Fargo Yard

Otter Tail provided four yard tracks in addition to the single mainline track at OTRR's Fargo Yard. In its October 8, 2003 reply evidence, BNSF accepted these facilities because Mr. Wheeler's modeling confirmed they were adequate for the level of traffic at this yard assumed by BNSF in its reply evidence. BNSF Reply Nar. at III.B-36 to 37.

Mr. Wheeler included Fargo Yard in his revised model of the Glendive to Fargo line to determine whether the capacity of this yard could be reduced in light of the reduced volume of

¹⁸ BNSF Supplemental Reply electronic workpaper "Combined Bad Order Margin Analysis sup.xls," worksheet "Summary." The revised approximately { } percent figure is based on the same historical BNSF data for SD70MAC and Dash 9 locomotives used in BNSF's reply evidence but adjusted to reflect the change in the mix of SD70MAC and Dash 9 locomotives in OTRR's fleet. As explained in BNSF's reply evidence, this is a conservative figure because an occasional locomotive owned by other railroads will experience failure while operating on the OTRR in run-through service and need to be repaired at the OTRR's Donkey Creek locomotive facility.

¹⁹ No change is necessary in the inspection/interchange tracks, car repair facility, and spare railcar storage tracks at Donkey Creek Yard provided by BNSF in its reply evidence. BNSF Reply Nar. at III.B-38 to 39, 40 to 41.

traffic traveling over that line. He concluded that two yard tracks and the single mainline track would be adequate for these reduced traffic volumes.²⁰ Therefore, he concluded that two of the four yard tracks provided by Otter Tail at OTRR's Fargo Yard could be eliminated. Mr. Mueller reviewed and agreed with Mr. Wheeler's conclusion.

4. Other

In this section of its October 8, 2003 reply evidence, BNSF discussed track parameters and topography, signal/communications systems, and the OTRR's use of RRVW trackage rights in Minnesota. The revised OTRR traffic group discussed in Section III.A does not require any changes to this section of BNSF's reply evidence.

²⁰ BNSF Supplemental Reply electronic workpaper "Glen-Fargo Supplemental 4.zip."

III.C: Operating Plan

C. OPERATING PLAN

1. General Parameters

a. Traffic Flow And Interchange Points

(1) Traffic Flow

(a) Coal Traffic

Otter Tail's opening evidence assumed that OTRR would transport approximately 180.4 million tons in coal traffic in the 2002 base year. Otter Tail Opening Nar. at III-C-2. In its supplemental opening evidence, Otter Tail purports to include approximately 31.7 million tons of additional coal traffic in the 2002 base year. Otter Tail Opening Supplemental Evidence at III-C-1. This "incremental" coal traffic, which Otter Tail expects to grow on average by 0.7 percent per year between 2002 and 2021, is assumed to originate at five PRB mines that are served by OTRR. *Id.* Otter Tail assumes that this additional coal traffic will move to existing interchange points with BNSF at Converse and Donkey Creek. *Id.* As noted above, the vast majority of this traffic moves south for interchange with the residual BNSF at Converse. The addition of this "incremental" coal traffic to the traffic included in Otter Tail's opening SAC presentation constitutes Otter Tail's alternate SAC traffic group.

In its reply evidence, BNSF modified OTRR's coal traffic for the base year (2002) to be approximately 112.32 million net tons. BNSF Reply Nar. at III.C-2. As discussed in Section III.A.1 above, most of the additional coal traffic that Otter Tail seeks to add in its supplemental opening evidence should not be included in the SAC analysis, and BNSF excludes it for purposes of this supplemental reply. Also as discussed above, in light of Otter Tail's modification of one of its traffic selection criteria, BNSF includes in this supplemental reply about 14 million tons of coal that it excluded in its October 8, 2003 reply. These adjustments to Otter Tail's coal traffic group result in an addition of about 15 million tons to OTRR's coal traffic in the base year,

increasing OTRR's total base year coal traffic to 127.63 million tons. BNSF Supplemental Reply Exhibit III.A-9.

(b) Non-Coal Traffic

In addition to unit coal train shipments, Otter Tail's opening evidence included 25.2 million net tons per year of various commodities in unit train and trainload shipments in overhead, run-through service in OTRR's traffic group. Otter Tail Opening Nar. at III-C-3. In its October 8, 2003 reply, BNSF excluded over four million tons of this non-coal traffic (the Z trains and other non-coal trains that were not overhead movements), leaving approximately 21.17 tons annually of non-coal traffic in OTRR's traffic group. BNSF Reply Nar. at III.A-41.

Otter Tail did not make any changes to its non-coal traffic in its supplemental opening evidence. However, as discussed above in Section III.A.1, BNSF has excluded in this supplemental reply all of the non-coal traffic rerouted by Otter Tail from BNSF's Minot line to OTRR's Fargo-Glendive-Snowden line. BNSF has also excluded the rerouted grain traffic interchanged to OTRR by the Red River Valley and Western Railroad ("RRVW"). This results in a further reduction of 13.69 million net tons per year in OTRR's non-coal traffic, leaving a total of 7.48 million net tons of non-coal traffic annually. BNSF Supplemental Reply Exhibit III.A-10.

(2) Rerouted Traffic

(a) Rerouted Coal Traffic

Otter Tail's rerouting of BNSF traffic primarily involved non-coal traffic. However, BNSF pointed out in the October 8, 2003 reply that Otter Tail rerouted one coal movement, namely the coal traffic destined for the Brandon power plant in Brandon, Manitoba. BNSF Reply Nar. at III.C-5. BNSF routes this traffic through Glendive, MT east to the JY Connector near West Fargo, ND, then north to Minot, ND, where it is interchanged to Canadian Pacific

Railway, which delivers the traffic to the plant. Otter Tail rerouted this traffic by moving it north from Glendive to Snowden, MT where the SARR supposedly interchanges it to the residual BNSF for movement east to Minot for interchange to Canadian Pacific Railway. However, as discussed in Section III.B.1 above, as a result of BNSF's elimination of rerouted non-coal traffic in this supplemental reply evidence, BNSF has eliminated OTRR's line from Glendive to Snowden for purposes of this supplemental reply evidence. BNSF therefore assumes that this coal traffic would travel to Glendive on the SARR, where it would be interchanged with the residual BNSF.

(b) Rerouted Non-Coal Traffic

Otter Tail's traffic group involves a substantial volume of rerouted non-coal traffic. As noted above, BNSF's October 8, 2003 reply excluded the rerouted Z trains as well as certain rerouted grain traffic. In this supplemental reply evidence, BNSF excludes all rerouted traffic that Otter Tail assumed would move over the SARR lines through Glendive that moves today over the shorter Minot route. BNSF's revised operating plan in this supplemental reply takes account of the fact that special operations are no longer needed to handle this rerouted traffic.¹

(3) Interchanges

Due to the prevalence of cross-over traffic in the OTRR network, Otter Tail established several interchanges between the OTRR and the residual BNSF for coal and/or non-coal traffic at Converse, Donkey Creek, Moran Junction, Mandan, Snowden, Fargo, and Benson. As discussed

¹ For example, BNSF did not make provision for the intra-/inter-train switching at Glendive Yard for traffic rerouted by Otter Tail from the Minot line, as discussed at pages III.C-7 to 9 of BNSF's reply narrative, or for the time required to shuttle locomotives to Casselton to pick up cars interchanged from the RRVW, as discussed at page III.C-67 of BNSF's reply narrative. Similarly, in calculating OTRR's cycle times in this supplemental reply evidence, BNSF did not include any of the time for intra-/inter-train switching of rerouted overhead traffic at Glendive Yard, as discussed on pages III.C-40 to 42 of BNSF's reply evidence.

in Section III.B.1 above, BNSF eliminated OTRR's proposed line between Glendive and Snowden. Therefore, BNSF eliminated the interchange of traffic between OTRR and BNSF at Snowden. Also as noted above, BNSF moved the interchange of the Brandon coal traffic with OTRR from Snowden to Glendive. BNSF's exclusion of the grain traffic Otter Tail proposed to interchange with RRVW also eliminates the need for the interchange BNSF added at Casselton for this traffic in its reply evidence.² BNSF Reply Nar. at III.C-10.

b. Trains And Equipment

(1) Train Sizes

OTRR train sizes are unaffected by the inclusion of any additional coal traffic in the alternate case. Nor are train sizes affected by the exclusion of non-coal traffic by BNSF in this supplemental reply. In addition, the type of equipment used by the OTRR remains the same, although the number of equipment units must be adjusted to account for the revised level of traffic. The derivation of adjusted equipment requirements is addressed below.

(2) Train Frequency

Otter Tail states that the coal traffic it added in its supplemental opening evidence would result in 12 incremental loaded coal trains on the peak incremental traffic day that would be interchanged with BNSF at Converse and one incremental loaded coal train on the peak incremental traffic day that would be interchanged to BNSF at Donkey Creek. Otter Tail Opening Supplemental Evidence at III-C-1. Otter Tail further states that it built its facilities and developed its operating plan in its supplemental opening evidence to accommodate the 92 trains

² BNSF's witness Mr. Mueller modified the list of yard dwell times provided in BNSF Reply Exhibit III.C-6 to reflect the elimination and changes of certain interchanges, and the elimination from OTRR's traffic of the intermodal and vehicle trains Otter Tail rerouted from BNSF's northern Minot line to the OTRR's Glendive line in this supplemental reply evidence. The modified list of yard dwell times is set forth in BNSF Supplemental Reply Exhibit III.C-1.

identified in its opening evidence on the peak operating day of October 18, 2021, plus the additional 13 loaded coal trains associated with the peak incremental coal traffic, for a total of 105 loaded trains entering the OTRR system on the peak day in its alternate case. *Id.* at III-C-1 to 2.

BNSF's modifications to the OTRR traffic group changed the number of trains that would operate on the OTRR during the peak period. Mr. Wheeler's RTC model analyses of the OTRR's PRB and Glendive lines depicts the operations of OTRR trains during the peak period.³

(3) Switch Locomotives And Crews

BNSF's exclusion of non-coal overhead traffic rerouted by Otter Tail from BNSF's Minot line to OTRR's Fargo-Glendive-Snowden lines reduces the number of crews required for switch locomotives at Glendive Yard. Otter Tail provided a total of four SD-40-2 switch locomotives, two stationed at Donkey Creek and two at Glendive, and one switch crew on duty 24 hours per day 365 days per year at each of these locations. Otter Tail Opening Nar. at III-C-16. In its October 8, 2003 reply, BNSF stationed an additional switch crew at Glendive Yard on a 24-hour basis to staff the second switch locomotive at the yard to perform intra-/inter-train switching of overhead freight trains rerouted by Otter Tail from BNSF's Minot line to OTRR's Fargo-Glendive-Snowden lines. BNSF Reply Nar. at III.C-17. As a consequence of BNSF's exclusion of this rerouted traffic from OTRR's traffic group, there is no longer a need to perform intra-/inter-train switching for traffic at Glendive Yard. Therefore, the additional switch crew provided by BNSF at Glendive Yard in its reply evidence can be eliminated. The number of switch locomotives and crews should be as proposed by Otter Tail in its opening evidence.

³ BNSF Supplemental Reply electronic workpapers "Glen-Fargo Supplemental 4.zip" and "Orin Supplemental Scenario.zip."

2. Cycle Time

As BNSF explained in its October 8, 2003 reply narrative, the calculation of reliable cycle times for SARR trains is important because the equipment needs of the SARR are based on the amount of time SARR trains are the responsibility of the SARR. BNSF Rep. Nar. at III.C-19 to 20, III.C-58 to 63, and III.C-69 to 70. In addition, Otter Tail claims to rely on its cycle time calculations to demonstrate that the OTRR would provide equal or better service to the rerouted traffic included in its traffic group. However, Otter Tail's cycle time calculations are derived from its flawed and unreliable string program analysis. The errors in that string program and the cycle time analyses that derive from it are described in detail in BNSF's October 8, 2003 reply. *Id.* at III.C-19 to 27.

For purposes of its supplemental opening evidence, Otter Tail presented cycle time evidence for the "incremental" coal traffic based on the third string program that it has presented in this case. Otter Tail acknowledges that this third program was produced because the prior string program analyses were flawed. Otter Tail purports to correct those flaws in its new string program.⁴ However, Otter Tail specifically declined to describe in its supplemental opening evidence the reasons for any changes in this string program and the corrections that were made. Indeed, Otter Tail limited its supplemental opening evidence to the supposed impact of the additional coal traffic without examining or explaining the changes produced by the new string program in other parts of the OTRR. As a result, BNSF's discussion of Otter Tail's third string program is necessarily limited.

⁴ The public record in recent SAC cases is clear that complainants using the L.E. Peabody & Associates string program have constantly been required to modify that program to address flaws and errors identified by the defendants.

Nevertheless, BNSF evaluated Otter Tail's use of the new string program to produce statistics for the incremental coal traffic and identified a number of areas in which the new string program continues to produce anomalous and unreliable results. BNSF reserves the right to address other aspects of the new string program when Otter Tail provides its explanation of the supposed corrections made to the program and how those corrections affected its original operating statistics.

a. Otter Tail's Use Of Its Rebuttal String Program

In Section III.B.2 above, BNSF explained the problems with Otter Tail's use of the string program to test for capacity. As discussed below, BNSF also identified anomalies in the string program generation of operating statistics in the course of evaluating Otter Tail's operating statistics for the incremental traffic. BNSF asked Otter Tail's consultants about these issues at the January 30, 2004 meeting, at which members of the Board staff were present. During the meeting, BNSF confirmed that the string program simultaneously generates various output files, including the "svcunits.dbf" file (the "service units file") which contains the OTRR's operating statistics and the "timese.dbf" and "timesl.dbf" files (the "times files") which contain train-specific movement data for parts of the OTRR. The service units file purportedly contains aggregated data, such as car miles and locomotive unit hours, for all trains operating on the OTRR's peak day, including the incremental coal traffic.

BNSF inquired about the ability to relate the various output files in order to confirm that the service units as generated by the string program conform to the specific operations of the modeled trains. It was important to establish such a linkage because the string program does not produce an intermediate file showing complete transit times and dwell times for each train which would allow the user to confirm that the service units file has been aggregated properly. Otter Tail's consultants confirmed that no such intermediate or summary file exists.

As a starting point for understanding the linkage between the times files and the summary operating statistics, BNSF asked about mine loading time or spur transit times for the OTRR trains. The string program does not model trains as they enter, load and depart the mines, so BNSF sought to determine how (or whether) statistics for these operations became incorporated into the service units file. BNSF therefore asked Otter Tail to show where the service units file reflected mine loading time for the OTRR's incremental coal trains. Otter Tail was unable to respond and promised to follow up with written responses. Otter Tail's consultants were unable to answer this and a few other questions at the meeting and Otter Tail's counsel asked BNSF to follow up with a letter identifying the unresolved questions. BNSF's letter is Supplemental Reply Exhibit III.C-2.

Otter Tail's consultants responded to these questions in a letter from Mr. Crowley, included as Supplemental Reply Exhibit III.C-3. In response to BNSF's questions about mine loading time, Mr. Crowley explained that the mine loading time is contained in the "ospur" column in the "route.dbf" file, and that the "ospur" variable is used in only two lines of code in the string program. Mr. Crowley failed to disclose, however, that the relevant lines of code do not apply to *loaded* coal trains but apply only to a subset of *empty* trains. More precisely, the string program accumulates mine loading time only for empty coal trains traveling in the non-prevailing direction (*i.e.*, the direction opposite to that traveled by the issue traffic). However, on the OTRR's peak day, only 12 empty coal trains traveling in the non-prevailing direction arrived at the mines, and the string program accumulated mine loading time for only 9 of those trains. (Another error in the "route.dbf" file causes the program to ignore mine loading time for empty trains traveling to the Black Thunder and Jacobs Ranch mines.) As a result of this clever sleight of hand, the string program service units file ignores mine loading time for 86% of the loaded

coal trains dispatched on the OTRR's peak day. In short, the string program does not accumulate mine loading time for *any* of the 64 loaded coal trains dispatched on the OTRR's peak day.⁵

BNSF also asked at the January 30 meeting about an apparent anomaly in the transit times captured by the times files and the service units file. In Otter Tail's written response to this question, Mr. Crowley addressed the four examples shown in a handout distributed by BNSF at the January 30 meeting. This handout is included as Supplemental Reply Exhibit III.C-4. Mr. Crowley's response to the first two examples confirms that the string program calculates transit times for certain segments of the OTRR that are *never* reported in the times files or in an intermediate output file from which they can be independently reviewed and verified. Mr. Crowley's response to the second two examples confirms yet another defect in the string program: the program is not aggregating the time associated with certain train delays. In other words, there is a disconnect between the operating statistics reported in the service units file and the train movement data reported in the times files.

The string program defects identified by BNSF's witnesses in this filing confirm that the string program is both unreliable and unverifiable. Otter Tail has failed to meet its burden of showing that the string program generates accurate transit times and operating statistics for the OTRR's incremental coal traffic.

b. BNSF's Development Of Cycle Times

(1) Converse-Gillette Segment

As discussed above in Section III.B.2, BNSF's witness Mr. Wheeler used the RTC Model to evaluate the impact of additional coal traffic on OTRR capacity between Converse and Gillette. Mr. Wheeler used this same RTC analysis to generate new transit times for traffic on

⁵ BNSF's Supplemental Reply electronic workpaper "List of Trains by direction and type.xls" identifies all of the loaded and empty coal trains on the OTRR on the peak day.

the Converse-Gillette segment of the SARR. BNSF Supp. Reply electronic workpaper “RTC Mine Transit Time - Supplemental Scenario.xls.” Mr. Wheeler provided the new transit time data to BNSF’s witness Mr. Plum, who used the data to adjust the OTRR equipment requirements, as discussed below.

(2) Glendive-Fargo Segment

Mr. Wheeler also used the RTC Model to evaluate the impact of removing rerouted non-coal traffic operating on the Glendive-Fargo section of the OTRR. Mr. Wheeler used the RTC analysis to generate new transit times for all traffic traversing the Glendive-Fargo section. BNSF Supp. Reply electronic workpaper “Glen-Far Supp 4 Transits.xls.” Mr. Wheeler also provided this data to BNSF’s witness Mr. Plum, who used the data to adjust the OTRR equipment requirements, discussed in more detail below.

(3) Remaining Segments Of The OTRR

The changes to the OTRR traffic group do not require any changes to the transit times for the remaining segments of the OTRR, Gillette-Glendive and Fargo-Big Stone. The transit times for these sections are discussed in BNSF’s reply narrative at III.C-55 to 56.

c. Locomotives

The revisions to OTRR’s coal and non-coal traffic made by BNSF in this supplemental reply require recalculation of the number of locomotives required to serve that traffic. The OTRR’s requirements for coal locomotives and non-coal locomotives are discussed separately below.

(1) Coal Locomotive Count

In the errata to its opening evidence, Otter Tail stated OTRR required 92 SD-70MAC road locomotives to handle its 2002 coal traffic.⁶ In its October 8, 2003 reply, BNSF recalculated the number of road locomotives required to serve OTRR's coal traffic, as adjusted by BNSF, and to correct flaws in Otter Tail's methodology. BNSF Reply Nar. at III.C-57 to 66. Using a methodology accepted by the Board in previous cases, BNSF determined OTRR would require 158 SD-70MACs as road locomotives for coal trains in 2002. *Id.* at III.C-66.

Otter Tail asserts that OTRR will need just three (3) additional SD-70MAC's to handle the peak-day, incremental coal traffic volume added by its supplemental opening evidence, based on the string-diagram analysis discussed above. Otter Tail Opening Supplemental Evidence at III-C-3. This supposedly includes helper units as well as a five (5) percent spare margin.⁷ For several reasons, it is not necessary to address Otter Tail's revised coal locomotive count. First, Otter Tail only identifies the incremental number of road locomotives it asserts are required for the incremental coal traffic it added in its supplemental opening evidence. But the changes that Otter Tail made to its string program can be expected to produce significant changes in the overall coal locomotive count. Otter Tail has not explained the changes to its string program in its supplemental opening evidence, making it impossible for BNSF to carry out a more detailed analysis of the OTRR's overall locomotive requirements. Second, Otter Tail's methodology for

⁶ Otter Tail Opening Errata electronic workpaper "Exhibit_III-C-1.123"

⁷ Otter Tail asserts that the OTRR will not require any additional Dash 9 or SD-40-2 locomotives to handle the incremental coal traffic. Otter Tail Opening Supplemental Evidence at III-C-3. In its October 8, 2003 reply evidence, BNSF determined that OTRR would require 8 SD-40-2 locomotives to serve its traffic. BNSF Reply Nar. at III.C-18. BNSF agrees that no additional SD-40-2 locomotives will be required to serve the revised level of coal traffic for OTRR, as adjusted by BNSF in this supplemental reply evidence. As discussed below, BNSF's exclusion of additional non-coal traffic in this supplemental reply evidence substantially reduces the number of Dash 9 locomotives OTRR requires.

determining OTRR's locomotive count is flawed, but the flaws have been addressed in BNSF's October 8, 2003 reply and do not need to be repeated here. Third, BNSF does not accept most of the traffic changes Otter Tail made in its supplemental opening evidence and BNSF has made further changes in the traffic group, thus requiring an alternative analysis of OTRR equipment requirements.

To determine locomotive requirements for the OTRR based on the revised traffic levels in this supplemental reply, BNSF used the modified cycle time data produced by Mr. Wheeler's RTC analysis. Mr. Wheeler's transit time data were provided to BNSF witness Rob Plum, who applied the same methodology BNSF used in its reply evidence to determine coal locomotive requirements. That methodology is described in detail on pages III.C-63 through III.C-66 of BNSF's October 8, 2003 reply narrative. Mr. Plum used the same peaking factor developed in BNSF's October 8, 2003 reply for purposes of its supplemental reply calculations of equipment requirements. BNSF's updated analysis determined OTRR would require a total of 167 SD-70MAC road locomotives to serve the OTRR's coal traffic on its peak day.⁸ This represents an increase of 9 SD-70MAC road locomotives over the 158 SD-70MAC road locomotives BNSF determined were required to serve the coal traffic in Otter Tail's opening evidence. BNSF Reply Nar. at III.C-66.

⁸ The derivation of base year coal locomotives from the peak year requirement is set out in BNSF Supplemental Reply electronic workpaper "LUMs and Carmiles (OTP-BNSF) v3 (Supplemental).xls," worksheet "2002 SUMMARY." In its reply evidence, BNSF also determined that OTRR would require 14 additional SD-70MAC's as helper locomotives. BNSF Reply Nar. at III.C-15 to 17. The incremental coal traffic does not affect the number of helper locomotives required.

(2) Non-Coal Locomotive Count

In the errata to its opening evidence, Otter Tail stated that OTRR would require 45 Dash 9 locomotives as road locomotives for its non-coal traffic.⁹ In its October 8, 2003 reply evidence, BNSF recalculated OTRR's requirement for non-coal locomotives to reflect its adjustments to Otter Tail's non-coal traffic and to correct certain deficiencies in Otter Tail's methodology. BNSF Reply Nar. at III.C-66 to 69. BNSF determined that OTRR would require 70 Dash 9s as road locomotives. *Id.* at III.C-69.

BNSF recalculated OTRR's requirement for Dash 9s as road locomotives to reflect the impact of the exclusions of non-coal traffic by BNSF in this supplemental reply evidence. Once again, BNSF used the modified cycle time data produced by Mr. Wheeler's RTC analysis. Mr. Wheeler's transit time data were provided to BNSF witness Mr. Plum who applied the same methodology BNSF used in its reply evidence, but adjusted it to reflect the impact of the excluded non-coal traffic.¹⁰ That methodology is described in detail on pages III.C-66 through III.C-69 of BNSF's October 8, 2003 reply narrative. BNSF determined that OTRR would require 27 Dash 9s as road locomotives to serve its reduced level of non-coal traffic.¹¹ This is a reduction of 43 Dash 9 locomotives from the 70 Dash 9 locomotives BNSF determined were required to serve Otter Tail's non-coal traffic in BNSF's October 8, 2003 reply. BNSF Reply Nar. at III.C-69.

⁹ Otter Tail Opening Errata electronic workpaper "Exhibit_III-C-1.123"

¹⁰ For example, as discussed above, BNSF did not make any provision for shuttling locomotives to Casselton to pick up cars interchanged from the RRWW because BNSF excluded this traffic in this supplemental reply evidence.

¹¹ See BNSF Supplemental Reply electronic workpaper "LUMs and Carmiles (OTP-BNSF) v3 (Supplemental).xls," worksheet "2002 SUMMARY."

d. Railcars

The revisions to OTRR's coal and non-coal traffic also require recalculation of OTRR's requirements for coal cars and non-coal cars. These are discussed separately below.

(1) Recalculated Coal Railcar Requirements

In the errata to its opening evidence, Otter Tail stated that OTRR would require 500 coal cars to serve its coal traffic in its base year (2002).¹² In its October 8, 2003 reply evidence, BNSF recalculated OTRR's coal car requirement to reflect BNSF's adjustments to OTRR's coal traffic and to correct errors in Otter Tail's methodology. BNSF Reply Nar. at III.C-69 to 73. BNSF determined OTRR would require 1,692 coal cars in its base year (2002) and 1,890 coal cars in 2021. *Id.* at III.C-73.

Otter Tail asserts that OTRR will need only one additional coal car to transport the incremental coal traffic it added in its supplemental opening evidence.¹³ Otter Tail Opening Supplemental Evidence at III-C-3. As in the case of Otter Tail's locomotive requirements, it is not necessary to review here the specific errors in Otter Tail's methodology for determining OTRR car requirements. BNSF recalculated car requirements using the same methodology used in the October 8, 2003 reply to reflect the traffic changes in this supplemental reply. That methodology is explained on pages III.C-71 through 73 of BNSF's October 8, 2003 Reply narrative. BNSF determined that OTRR will require 1,723 coal cars to serve this level of traffic

¹² Otter Tail Errata electronic workpaper "OTRR Car Costs.123," tab "Coal Cars."

¹³ Otter Tail used a five (5) percent spare margin in calculating car requirements. Otter Tail Opening Supplemental Evidence at III-C-3. *See also* Otter Tail Supplemental Opening electronic workpaper "Supplemental Exhibit III-C-1.xls."

in OTRR's base year (2002), an increase of 31 coal cars over the 1,692 coal cars identified by BNSF in its reply evidence.¹⁴

Table III.C-1 compares the number of coal cars for OTRR calculated by BNSF in its reply evidence and in this supplemental reply evidence.

**Table III.C-1
Comparison Of Coal Railcar Requirements For
OTRR As Determined By BNSF In Reply
Evidence And Supplemental Reply Evidence**

Type of Car	BNSF Reply ¹⁵		BNSF Supplemental Reply	
	2002	2021	2002 ¹⁶	2021 ¹⁷
J – Plain gondola	1,447	1,617	1,470	1,623
G – Plain gondola	7	8	7	8
H – Open top hopper, General	123	137	125	137
K – Open top hopper, Special	115	128	121	134
Total	1,692	1,890	1,723	1,902

(2) Recalculated Non-Coal Car Requirements

In the errata to its opening evidence, Otter Tail calculated the number of car hours and car miles for each of the four different categories of non-coal cars (determined on the basis of

¹⁴ Compare BNSF Supplemental Reply electronic workpaper “LUMs and Carmiles (OTP-BNSF) v3 (Supplemental).xls,” worksheet “2002 SUMMARY” with BNSF Reply electronic workpaper “LUMs and Carmiles (OTP-BNSF) v2.xls,” worksheet “Equipment Counts.”

¹⁵ BNSF Reply Nar. at III.C-73.

¹⁶ BNSF Supplemental Reply electronic workpaper “LUMs and Carmiles (OTP-BNSF) v3 (Supplemental).xls”, worksheet “2002 SUMMARY.”

¹⁷ BNSF Supplemental Reply electronic workpaper “LUMs and Carmiles (OTP-BNSF) v3 (Supplemental).xls”, worksheet “2021 SUMMARY.”

ownership) for OTRR's non-coal traffic.¹⁸ BNSF generally accepted Otter Tail's approach regarding non-coal car requirements, but refined it to exclude the cars associated with the Z trains. BNSF Reply Nar. at III.C-74. BNSF also adjusted Otter Tail's methodology to obtain a more accurate distribution of car miles across car types, and to apply the peaking factor as calculated by BNSF and a 10 percent spare margin to system requirements. *Id.* at III.C-74 to 75.

For purposes of this supplemental reply, BNSF recalculated the car hours and car miles for OTRR's non-coal traffic to reflect the additional exclusions of non-coal traffic made by BNSF in this supplemental reply evidence. BNSF used the modified cycle time data produced by Mr. Wheeler's RTC analysis. Mr. Wheeler's transit time data were provided to BNSF witness Mr. Plum, who applied the same methodology used by BNSF in its reply evidence. That methodology is described in detail on page III.C-73 through 75 of BNSF's October 8, 2003 reply narrative.

Table III.C-2 below compares the total number of car miles and car hours for OTRR's non-coal car requirements determined by BNSF in its reply evidence and in this supplemental reply evidence.

¹⁸ Otter Tail Opening Errata electronic workpaper "OTRR Car Costs.123," worksheet "General Freight."

Table III.C-2
Comparison Of Car Hours And Car Miles Used In
OTRR Non-Coal Service Determined By BNSF
In Reply Evidence And Supplemental Reply Evidence
(In Millions)

Car Supplier	BNSF Reply ¹⁹		BNSF Supplemental Reply ²⁰	
	Car Hours	Car Miles	Car Hours	Car Miles
System	2.85	78.67	1.51	33.83
Foreign	1.46	40.31	0.79	17.65
Private	0.76	21.05	0.61	13.73
TTX	2.91	80.09	1.03	23.13
Total	7.99	220.12	3.93	88.34

¹⁹ BNSF Reply Nar. at III.C-75.

²⁰ BNSF Supplemental Reply electronic workpaper "Railcar Costs_supplemental.xls," worksheet "Summary Non-Coal."

III.D: Operating Costs

D. OPERATING EXPENSES

1. Locomotives

BNSF's Supplemental Reply evidence calculates locomotive expenses based on the number of locomotives that BNSF has determined would be required for the revised BNSF-specified traffic group described in Section III.A above. As described there, the BNSF Supplemental Reply traffic group contains more coal traffic and less general freight traffic than the traffic group that was the basis for BNSF's October 8, 2003, Reply evidence. As a result, the number of SD70MAC locomotives used for coal transportation has increased by 9 and the number of C44-9 locomotives used in general freight service has decreased by 43.¹ The effect of these changes in locomotive count on the OTRR's operating costs is discussed below.

a. Leasing

BNSF's development of annual lease costs for each locomotive type is addressed in Section III.D.1.a of its October 8, 2003, Reply evidence. The unit lease costs that BNSF uses to assess locomotive costs do not change due to either the additional coal traffic or the deletion of rerouted general freight traffic. Table III.D.1-1 shows total locomotive lease costs for the OTTR based on the number of locomotives required for the revised BNSF Supplemental Reply traffic group.

¹ See BNSF Supplemental Reply electronic workpaper "LUMs and Carmiles (OTP-BNSF) v3 (Supplemental).xls," worksheet "2002 Summary."

Table III.D.1-1²
BNSF Supplemental Reply Locomotive Costs – 2002

1. Number of SD70MAC Locomotives	181
2. Annual SD70MAC Unit Lease Cost	{ }
3. Number of C44-9 Locomotives	27
4. Annual C44-9 Unit Lease Cost	{ }
5. Number of SD40-2 Locomotives	8
6. Annual SD40-2 Unit Lease Cost	{ }
7. Total Locomotive Lease Cost	{ }

b. Maintenance

BNSF addressed the flaws in Otter Tail’s locomotive maintenance costs in Section III.D.1.b of BNSF’s October 8, 2003, Reply evidence. BNSF also addressed Otter Tail’s flawed derivation of LUMs in Section III.D.1.d of BNSF’s Reply evidence. Otter Tail’s calculation of locomotive maintenance costs clearly remains erroneous due to the underlying unreliability of its calculation of LUMs.³

BNSF’s Supplemental Reply evidence recalculates locomotive maintenance costs based on a revised number of LUMs for locomotives required to transport the BNSF Supplemental Reply traffic group. LUMs for SD70MACs used to transport coal increase,

² Otter Tail does not sponsor new operating statistics in its Supplemental Opening evidence. Therefore, in most cases, comparison tables with BNSF Supplemental Reply operating statistics are not possible.

³ Consistent with Otter Tail’s decision to reserve any explanation of modifications in its string program until rebuttal, BNSF does not address in this pleading changes in LUMs that appear to stem from changes in the string program rather than from the addition of new coal traffic. Coal locomotive LUMs increased by 1,632,366 – from 20,888,221 to 22,520,587 – between Otter Tail’s errata submission and its Supplemental Opening evidence even before any coal traffic was added. *Compare* OTP Errata Opening electronic workpaper “Exhibit_III-C-1.123,” with Supplemental Exhibit III-C-1. General freight locomotive LUMS *decrease* by 463,172, about four percent, even though there is no change in general freight traffic between the two filings. *Id.* These discrepancies raise serious questions as to the scope of changes Otter Tail proposes to submit at the rebuttal stage. They also confirm the basic unreliability of any proffer of operating statistics that is based on the string program.

while LUMs for C44-9s used to transport general freight decrease. The unit costs developed in BNSF's Reply evidence are applied to the new number of LUMs.⁴

Table III.D.1-2 shows BNSF's Supplemental Reply costs for locomotive maintenance.

**Table III.D.1-2
BNSF Supplemental Reply Locomotive Maintenance – 2002**

SD70MACs	
1. Locomotive Unit-Miles	18,887,685
2. Cost/LUM	{ }
3. Annual Maintenance	{ }
4. Annual Overhaul Charge/Unit	{ }
5. Total Number of Units	181
6. Total Overhauls	{ }
C44-9s	
7. Locomotive Unit-Miles	3,563,851
8. Cost/LUM	{ }
9. Annual Maintenance	{ }
10. Annual Overhaul Charge/Unit	{ }
11. Total Number of Units	27
12. Total Overhauls	{ }
SD40-2s	
13. Locomotive Unit-Miles	272,880
14. Cost/LUM	{ }
15. Annual Maintenance	{ }
16. Annual Overhaul Charge/Unit	{ }
17. Total Number of Units	8
18. Total Overhauls	{ }
19. Total Annual Maintenance	\$ 20,572,110

c. Locomotive Servicing

BNSF critiqued Otter Tail's computation of locomotive servicing costs in Section III.D.1.c of BNSF's October 8, 2003, Reply evidence. There is no need to repeat or

⁴ See BNSF Supplemental Reply electronic workpaper "LUMs and Carmiles (OTP-BNSF) v3 (Supplemental).xls," worksheet "2002 Summary." The overhaul cost for C44-9s now reflects an overhaul every six years instead of every seven. The SD40-2 cost/LUM is that used in BNSF's Reply errata filing.

modify that discussion here. BNSF's Supplemental Reply locomotive servicing costs are calculated in the manner described in the BNSF Reply filing, but reflect the costs for the modified number of locomotives specified in this Supplemental Reply.⁵

d. Fuel

BNSF addressed the flaws in Otter Tail's methodology for calculating fuel costs in Section III.D.1.d of BNSF's October 8, 2003, Reply evidence and that discussion is not repeated here. BNSF's Supplemental Reply evidence calculates fuel costs in the same method described in the Reply evidence, but does so for the locomotives required to transport BNSF Supplemental Reply traffic group.⁶ The following table shows BNSF's Supplemental Reply fuel costs.

**Table III.D.1-4
BNSF Supplemental Reply Fuel Costs**

SD70MACs	
1. Locomotive Unit Miles	18,887,685
2. Gallons/Locomotive Unit Mile	3.60
3. Total Gallons	67,945,451
4. Price/Gallon	\$0.7243
C44-9s	
6. Locomotive Unit Miles	3,563,851
7. Gallons/Locomotive Unit Mile	2.89
8. Total Gallons	10,405,835
9. Price/Gallon	\$0.7243
SD40-2s	
11. Locomotive Unit Miles	272,880
12. Gallons/Locomotive Unit Mile	3.26
13. Total Gallons	889,203
14. Price/Gallon	\$0.7243
Total Fuel Costs	\$57,396,013

⁵ *Id.*

⁶ *Id.* Gallons/LUM for C44-9 locomotives is slightly different from that calculated in BNSF's October 8, 2003, Supplemental Reply because of the exclusion of rerouted trains from the Supplemental Reply traffic group.

e. Other

This section intentionally left blank.

2. Railcars

a. Leasing And Maintenance

BNSF addressed flaws in Otter Tail's analysis of railcar leasing and maintenance costs in Section III.D.2.a of BNSF's October 8, 2003, Reply evidence. BNSF's Supplemental Reply evidence calculates railcar leasing and maintenance costs in the manner described in BNSF's Reply evidence, but includes the costs for the revised number of railcars required to transport the BNSF Supplemental Reply traffic group.⁷ BNSF's revised railcar count is addressed in Section III.C.2.d above. The following table sets forth BNSF's Supplemental Reply railcar leasing and maintenance costs.

Table III.D.2-1
BNSF Supplemental Reply Railcar Lease and Maintenance Costs

Car Type	
Coal	
Count of Gondolas	1,477
Annual Cost per Gondola	{ }
Cost of Gondolas	{ }
Count of Open Top Hoppers	246
Annual Cost per Hopper	{ }
Cost of Hoppers	{ }
Total Coal Cars	{ }
General Freight	
A – Equipped Box	{ }
B – Unequipped Box	{ }
C – Covered Hopper	{ }
E – Equipped Gondola	{ }
F – Flat	{ }
G – Unequipped Gondola	{ }
H – Unequipped Open Hopper	{ }
J – Gondola	{ }

⁷ *Id.*

Car Type	
K – Equipped Hopper	{ }
L – Specialty	{ }
P – Conventional Intermodal	{ }
Q – Lighter Weight, Low Profile	{ }
R - Refrigerator	{ }
S – Stack Car	{ }
T – Tank	{ }
U - Containers	{ }
V – Vehicular Flat	{ }
Z – Trailers	{ }
Total Railcar Costs	{ }

b. Private Car Allowance

Treatment of private car allowances does not change as a result of changes in the BNSF Supplemental Reply traffic group.

c. Other

This section intentionally left blank.

3. Personnel

a. Operating Personnel

(1) Staffing Requirements

BNSF's general criticisms of OTRR staffing levels and methodologies are contained in Section III.D.3.a of BNSF's October 8, 2003, Reply evidence. For BNSF's Supplemental Reply, modifications have been made to both T&E personnel and other operating personnel to reflect the modified traffic volume.

BNSF discussed OTRR transportation personnel, other than train crew personnel, in Sections III.D.3.a.(1)(a) and (b) of its Reply Evidence (pages III.D-32 to 37). BNSF accepted the staffing proposed by Otter Tail with a few modifications – elimination of one Manager-Train and Locomotive Operations, a net increase of one Assistant Manager-

Train and Locomotive Operations, the addition of one full-time yardmaster at each of the Donkey Creek and Glendive Yards, and the addition of one full-time crew hauler/utility clerk position at each of the Converse, Donkey Creek, Dutch, Fargo, Benson, Snowden, Moran Junction, Glendive, and Mandan Yards. As discussed in Section III.B above, BNSF has eliminated the proposed OTRR line from Glendive to Snowden, and the Snowden Yard. Therefore, there is no longer a need for any transportation department staffing at Snowden Yard. Accordingly, BNSF has eliminated the one Assistant Manager of Train and Locomotive Operations proposed by Otter Tail for the Snowden Yard, leaving a total number of 10 Assistant Manager – Train and Locomotive Operations employees. Similarly, BNSF has eliminated the full-time crew hauler/utility clerk position it had added at Snowden Yard, leaving a total of 36 crew hauler/utility clerk employees.⁸

The only additional staffing called for by Otter Tail in its Supplemental Opening is crew personnel. As with its other operating statistics, where Otter Tail purports to focus only on the so-called “incremental” changes, Otter Tail does not appear to have intended to sponsor a new number for total crew personnel in its Supplemental Opening evidence. Otter Tail reflects both “base” and “incremental” crew numbers in its Supplemental Exhibit III-C-1, but it does not incorporate those numbers into any new operating cost spreadsheets or into a new DCF analysis. Neither the “base” nor the “incremental” number corresponds to the crew number Otter Tail submitted on either Opening or in its Opening Errata. Moreover, while Otter Tail submits two new

⁸ Despite the elimination of the intra-/inter-train switching on overhead freight trains at Glendive Yard, the yard continues to have a high level of activity that warrants the full-time yardmaster position added by BNSF, as explained on pages III.D-35 to 36 of BNSF’s Reply Narrative.

calculations of crew requirements for its “peak” day, it does not indicate which, if either, would be used to support a new crew number.⁹ Otter Tail’s intentions matter little, however, since its new crew evidence continues to suffer from defects described in Section III.D.3.a.(1)(c) of BNSF’s October 8, 2003, Reply evidence, including the unexplained downward adjustment from peak day requirements for both coal and non-coal crews. Otter Tail’s continuing errors render its new crew evidence as invalid as its Opening and Opening Errata evidence.

BNSF calculated the crew requirements for the BNSF Supplemental Reply traffic group in the same manner described in Section III.D.3.a.(1)(c) of BNSF’s October 8, 2003, Reply. To count road crew, BNSF used the new train movement data included in Otter Tail’s Supplemental Opening, but deleted the trains not included in the BNSF Supplemental Reply traffic group.¹⁰ As discussed in Section III.C. above, BNSF has eliminated the additional full-time switch crew it stationed at Glendive Yard in its Reply Evidence to handle the intra-/inter-train switching at that yard. This reduces OTRR’s required switch crew personnel from 24 employees to 16 employees. Helper and work train crew numbers are not affected by the change in traffic group. The new crew requirement for the BNSF Supplemental Reply traffic is 515, which includes 411 road crew personnel. Five of the road crew personnel are the result of the added coal traffic contained in the BNSF Supplemental Reply traffic group.

⁹ See Otter Tail Supplemental Opening electronic workpapers “Crew Calculation - Base.xls” and “Crew calculation - Incremental.xls.”

¹⁰ The road crew calculations for BNSF’s Supplemental Reply are contained in BNSF Supplemental Reply electronic workpaper “BNSF Crew Count (Supplemental).xls.” The timetable data used in the analysis is from Otter Tail Supplemental Opening electronic workpapers contained in “OTTER_TAIL_SUPPLEMENTAL.zip.”

The table below summarizes BNSF's Supplemental Reply operating personnel.

**Table III.D.3-1
BNSF Supplemental Reply Transportation Department Employees**

	Position	BNSF Number of Employees
1.	Vice President - Transportation	1
2.	Administrative Assistant	1
3.	Director - Safety Rules and Training	1
4.	Manager - Safety Rules and Training	2
5.	Director - Operations Control	1
6.	Manager - Operations Control	5
7.	Dispatchers	14
8.	Crew Management	10
9.	Director - Customer Service	1
10.	Manager - Customer Service	5
11.	Director - Train and Locomotive Operations	1
12.	Manager - Train and Locomotive Operations	5
13.	Assistant Manager - Train and Locomotive Operations	10
14.	Yardmasters	10
15.	Crew Haulers	36
16.	Train Crew Personnel	515
17.	Total Transportation Department Personnel	618

(2) Compensation

BNSF addressed operating personnel compensation in Section III.D.3.a.(2) of its October 8, 2003, Reply evidence. Compensation levels do not change because the modifications to the traffic group. The table below summarizes salary costs for the BNSF Supplemental Reply.

Table III.D.3-2
BNSF Supplemental Reply Operating Personnel Salary Costs

Position	Personnel	Salary	Total
Vice President - Transportation	1	{ }	{ }
Administrative Assistant	1	{ }	{ }
Director Safety, Rules and Training	1	{ }	{ }
Manager-Safety, Rules and Training	2	{ }	{ }
Director-Operations Control	1	{ }	{ }
Manager-Operations Control	5	{ }	{ }
Dispatchers	14	{ }	{ }
Manager Crew Calling	1	{ }	{ }
Crew Caller	9	{ }	{ }
Yard Masters	10	{ }	{ }
Director-Train and Locomotive Operations	1	{ }	{ }
Manager Train Operations	5	{ }	{ }
Asst. Manager-Train and Locomotive Ops	10	{ }	{ }
Director - Customer Service	1	{ }	{ }
Manager - Customer Service	5	{ }	{ }

Crew Haulers	36	{ }	{ }
Train Crew Personnel	515	{ }	{ }
Total Transportation Department Personnel	618		\$50,237,726

(3) Materials, Supplies And Equipment

BNSF addressed materials, supplies and equipment for operating personnel in Section III.D.3.a.(3) of its October 8, 2003, Reply evidence. BNSF's Supplemental Reply evidence includes a revised number that reflects equipment required for the reduced number of T&E personnel.

b. Non-Operating Personnel

(1) Staffing Requirements

BNSF addressed staffing requirements for non-operating mechanical personnel in Section III.D.3.b.(1) of its October 8, 2003, Reply evidence. BNSF accepted the mechanical staffing proposed by Otter Tail with two modifications – the addition of an administrative assistant, and the addition of a second mechanical inspector position on a full-time basis at Converse Yard in light of the inspection of empty coal trains at the yard. BNSF Reply Nar. at III.D-52 to 53.

As discussed in Section III.A above, BNSF eliminated the non-coal traffic rerouted by Otter Tail from BNSF's Minot line to OTRR's Fargo-Glendive line. This reduction in traffic reduces the number of train inspections, and the number of mechanical inspectors, required at Glendive Yard. Therefore, BNSF reduced the mechanical inspector positions at Glendive Yard from one foreman and five carmen on a full-time basis as provided by Otter Tail to one foreman and three carmen on a full-time basis. This reduces the number of employees required to staff mechanical inspector

positions at Glendive Yard from the 27 provided by Otter Tail to 18. With this reduction, BNSF provides a total of 45 employees to staff mechanical inspector positions at Glendive, Donkey Creek and Converse Yards.

The table below summarizes BNSF's Supplemental Reply mechanical staffing.

TABLE III.D.3-3
BNSF Supplemental Reply Mechanical Department Employees

Position	BNSF Number of Employees
Vice President Engineering and Mechanical	1
Administrative Assistant	1
Director - Safety, Rules and Training	1
Manager - Safety, Rules and Training	2
Director - Mechanical Operations	1
Manager - Mechanical Operations	2
Mechanical Inspectors	45
Total	53

(2) Compensation

BNSF addressed non-operating compensation in Section III.D.3.b.(2) of its October 8, 2003, Reply evidence. Per employee compensation costs for non-operating personnel do not change as a result of modifications to the traffic group.

(3) Materials, Supplies And Equipment

Materials, equipment and supplies for mechanical non-operating personnel are included in the consideration of materials, equipment and supplies for operating personnel in Section III.D.3.a.(3) above.¹¹

(4) Other

This section intentionally left blank.

¹¹ BNSF Supplemental Reply electronic workpaper "OPR_EXP_supplemental.xls," worksheets "Safety Gear" and "Summary."

c. General and Administrative Expense

(1) Staffing Levels

BNSF addressed G&A expenses in Section III.D.3.c of its October 8, 2003, Reply evidence. No changes to G&A expenses are necessary to reflect the additional coal traffic the OTRR would carry, as revised by BNSF, due to Otter Tail's modifications to its Opening evidence. While the additional coal traffic included in the BNSF-specified traffic group would likely justify additional marketing personnel, BNSF has been conservative and left its marketing department staffing at the levels specified in its Reply evidence.

However, BNSF's Supplemental Reply evidence also revises the traffic group as described in Section III.A above to eliminate rerouted general freight traffic, which results in traffic volumes that are lower than those assumed by BNSF in its October 8, 2003, Reply. Mr. McCarren, BNSF's G&A witness, reviewed the revised traffic grouping and traffic volumes and concluded that the decrease in traffic would necessitate reductions to G&A staffing levels by a total of 18 employees, as discussed below.

In the Finance and Accounting Department, the lower level of revenue, the less complex revenue sources, and the smaller size of OTRR's operations would require seven fewer staff: one fewer revenue manager, two fewer revenue accounting clerks, one fewer revenue analyst, one fewer senior financial analyst, one fewer cash manager and one fewer disbursement clerk. The Marketing Department would require nine fewer personnel to account for the reduction in non-coal traffic. The Assistant Vice President for Merchandise Marketing would be retained because of the substantial complexity that would remain in the non-coal area, however, five lower level supervisors (the Directors of Intermodal/Automotive, Forest Products, Industrial Products, Agricultural/Food

Products and Marketing Administration) would be eliminated because of reductions in the size of the accounts they would handle and the staff they would supervise. Below the Director level, the number of Marketing Managers would be reduced from eight to five and the tariff administrator position would be eliminated. In addition, the Information Technology and Human Resources Departments would reduce its staff by one IT specialist and one Human Resources Coordinator to account for the reductions in G&A and operations staffing. A summary of BNSF's Supplemental Reply G&A personnel requirements follow in Table III.D.3-4.

Table III.D.3-4

General & Administrative Department/Position	Otter Tail's Employee Count	BNSF's Revised Employee Count	Difference
1. President's Office			
a. President	1	1	0
b. Administrative Assistant	1	1	0
c. Corporate Secretary	0	1	1
Subtotal – President's Office	2	3	1
2. Finance and Administration			
a. Vice President – Finance	1	1	0
i) Secretary	1	1	0
b. Vice President – Treasurer	1	1	0
i) Assistant Treasurer	0	1	1
ii) Cash Manager	1	1	0
c. Controller	1	1	0
i) Assistant Controller - Revenue	1	1	0
ii) Manager - Revenue	0	1	1
iii) Director - Taxes	1	1	0
iv) Director – Financial Reporting	0	1	1
a) Manger Financial Reporting	1	1	0
b) Property Accounting Analyst	0	1	1
c) Sr. Financial Analyst	0	2	2
d) Manager – Accounting	0	1	1
e) Staff Accountant	1	0	(1)
f) Revenue Accounting Clerk	3	6	3

General & Administrative Department/Position	Otter Tail's Employee Count	BNSF's Revised Employee Count	Difference
v) Assistant Controller – Disbursements	1	1	0
a) Manager – Accounts Payable	0	1	1
b) Manager - Payroll	0	1	1
vi) Director Revenue Accountants	0	1	1
vii) Manager Revenue Analysis	0	1	1
a. Revenue Analysts	0	1	1
viii) Manager Car Hire	1	1	0
ix) Disbursement Clerks	2	1	(1)
x) Payroll Clerks	2	1	(1)
xi) Manager Misc. Billing	0	1	1
xii) Costs and Budget Clerk	1	1	0
xiii) Secretary	1	0	(1)
xiv) Director – Internal Audit	0	1	1
Subtotal – Finance and Accounting	20	33	13
4. Information Technology			
a. AVP – Information Technology	0	1	1
i) Director	1	1	0
a) IT Specialists	8	9	1
Subtotal – Information Technology	9	11	2
5. Legal Affairs Department			
a. General Counsel	1	1	0
i) Staff Attorney	1	1	0
ii) Secretary/Paralegal	1	1	0
Subtotal – Legal Affairs Department	3	3	0
6. Human Resources Department			
a. Vice President – HR	1	1	0
b. AVP – Safety & Claims	0	1	1
c. Director – Safety & Loss Control	0	1	1
i) Manager - Security	0	1	1
d. Director – Recruitment	1	1	0
e. Director – Personnel	1	1	0
i) Human Resources Coordinator	0	2	2
f. Director – Compensation & Benefits	0	1	1
g. Analyst	1	1	0

General & Administrative Department/Position	Otter Tail's Employee Count	BNSF's Revised Employee Count	Difference
h. Claims Manager	1	1	0
i. Secretary/Administrative Assistant	1	1	0
Subtotal – Human Resources	6	12	6
6. Marketing Department			
a. Vice President - Marketing	1	1	0
i) Secretary	0	1	1
b. AVP – Coal Marketing	0	1	1
i) Director – Coal Marketing	0	1	1
a) Manager – Coal Marketing	0	3	3
1) Marketing Analyst (Coal)	2	1	(1)
c. AVP – Merchandise Marketing	0	1	1
i) Director Forest Products	0	0	0
a) Market Mgr. – Forest Products	0	1	1
ii) Director Industrial Products	0	0	0
a) Market Mgr. – Industrial Products	0	2	2
iii) Director Agricultural/Food Products	0	0	0
a) Market Mgr. – Ag/Food Products	0	1	1
iv) Director Intermodal/Automotive	0	0	0
a) Market Mgr – Intermodal/Auto.	0	1	1
v) Director of Marketing Adm.	0	0	0
a) Tariff Administrator	0	0	0
Subtotal – Marketing	3	14	11
7. Materials and Purchasing Department			
a. Director of Purchasing	0	1	1
i) Manager of Purchasing	0	2	2
Subtotal – Purchasing	0	3	3
8. Real Estate Department			
a. Director of Real Estate	0	1	1
i) Manager of Real Estate	0	1	1
Subtotal – Real Estate	0	2	2

General & Administrative Department/Position	Otter Tail's Employee Count	BNSF's Revised Employee Count	Difference
Total – G&A	43	81	38

(2) Compensation

BNSF has not changed its compensation assumptions for G&A personnel from the amounts described in BNSF's October 8, 2003 Reply, but applies those same assumptions to the smaller G&A staff. Compensation for the revised list of G&A employees follows in Table III.D.3-5:

Table III.D.3-5
Comparison of Otter Tail and BNSF G&A Personnel Compensation

Position	Otter Tail			BNSF			Total Difference
	Personnel	Salary	Total	Personnel	Salary	Total	
President and CEO	1	{ }	{ }	1	{ }	{ }	\$323,019
Administrative Assistant	1	{ }	{ }	1	{ }	{ }	\$27,226
Director Corporate Relations			{ }	1	{ }	{ }	\$94,462
Vice President Finance & Accounting	1	{ }	{ }	1	{ }	{ }	\$57,546
Administrative Assistant	1	{ }	{ }	1	{ }	{ }	\$25,838
Vice President Treasurer	1	{ }	{ }	1	{ }	{ }	\$48,070
Assistant Treasurer			{ }	1	{ }	{ }	\$94,462
Cash Manager	1	{ }	{ }	1	{ }	{ }	(\$2,482)
Controller	1	{ }	{ }	1	{ }	{ }	48,070
Assistant Controller Revenue	1	{ }	{ }	1	{ }	{ }	13,984
Manager - Revenue			{ }	1	{ }	{ }	\$77,996
Director Tax	1	{ }	{ }	1	{ }	{ }	(\$1,712)
Director Financial Reporting			{ }	1	{ }	{ }	\$94,462
Manager Financial Reporting	1	{ }	{ }	1	{ }	{ }	(\$2,482)
Property Accounting Analyst		{ }	{ }	1	{ }	{ }	\$77,996
Sr. Financial Analyst			{ }	2	{ }	{ }	\$155,992
Manager Accounting	1		{ }	1	{ }	{ }	\$77,996
Revenue Accounting Clerk	3	{ }	{ }	6	{ }	{ }	\$293,056
Assistant Controller	1	{ }	{ }	1	{ }	{ }	(\$2,482)

	Otter Tail			BNSF			
Position	Personnel	Salary	Total	Personnel	Salary	Total	Total Difference
Disbursements							
Manager Accounts Payable			{ }	1	{ }	{ }	\$77,996
Manager Payroll			{ }	1	{ }	{ }	\$77,996
Director Revenue Accountants			{ }	1	{ }	{ }	\$94,462
Manager Revenue Analysis			{ }	1	{ }	{ }	\$77,996
Revenue Analysts			{ }	1	{ }	{ }	\$77,996
Manager Car Hire	1	{ }	{ }	1	{ }	{ }	(\$2,482)
Disbursement Clerks	4	{ }	{ }	1	{ }	{ }	(\$109,967)
Payroll Clerks			{ }	1	{ }	{ }	\$70,459
Manager Miscellaneous Billing			{ }	1	{ }	{ }	\$77,996
Costs and Budget Clerk	1	{ }	{ }	1	{ }	{ }	\$25,352
Director Internal Audit			{ }	1	{ }	{ }	\$94,462
AVP Information Technology			{ }	1	{ }	{ }	\$199,070
Director of Information Technology	1	{ }	{ }	1	{ }	{ }	\$16,048
IT Specialists	8	{ }	{ }	9	{ }	{ }	\$67,433
General Counsel	1	{ }	{ }	1	{ }	{ }	\$48,070
Staff Attorney	1	{ }	{ }	1	{ }	{ }	\$17,246
Secretary/Paralegal	1	{ }	{ }	1	{ }	{ }	(\$378)
Vice President HR	1	{ }	{ }	1	{ }	{ }	\$48,070
AVP Safety & Claims			{ }	1	{ }	{ }	\$199,070
Director Safety & Loss Control			{ }	1	{ }	{ }	\$94,462
Manager Security			{ }	1	{ }	{ }	\$77,996
Director Recruitment	1	{ }	{ }	1	{ }	{ }	(\$1,712)
Director Personnel	1	{ }	{ }	1	{ }	{ }	(\$1,712)
Human Resources Coordinator			{ }	2	{ }	{ }	\$155,992
Director Compensation & Benefits			{ }	1	{ }	{ }	\$94,462
Analyst	1	{ }	{ }	1	{ }	{ }	(\$378)
Claims Manager	1	{ }	{ }	1	{ }	{ }	(\$6,125)
Secretary/Administrative Assistant	1	{ }	{ }	1	{ }	{ }	\$25,838
Vice President Marketing	1	{ }	{ }	1	{ }	{ }	\$97,740
Secretary	1	{ }	{ }	1	{ }	{ }	\$25,838
AVP Coal Marketing			{ }	1	{ }	{ }	\$199,070
Director Coal Marketing			{ }	1	{ }	{ }	\$94,462
Manager Coal Marketing			{ }	3	{ }	{ }	\$278,625
Marketing Analyst Coal	2	{ }	{ }	1	{ }	{ }	(\$71,216)
AVP Merchandise Marketing			{ }	1	{ }	{ }	\$199,070
Market Manager Forest Products			{ }	1	{ }	{ }	\$92,875

	Otter Tail			BNSF			
Position	Personnel	Salary	Total	Personnel	Salary	Total	Total Difference
Market Manager Industrial Products			{ }	2	{ }	{ }	\$185,750
Market Manager Agricultural/Food Products			{ }	1	{ }	{ }	\$92,875
Market Manager Intermodal/Automotive			{ }	1	{ }	{ }	\$92,875
Director of Purchasing			{ }	1	{ }	{ }	\$94,462
Manager of Purchasing			{ }	2	{ }	{ }	\$155,991
Director of Real Estate			{ }	1	{ }	{ }	\$94,462
Manager of Real Estate			{ }	1	{ }	{ }	\$77,996
Total	43		\$3,924,315	81		\$8,731,925	\$4,807,610

(3) Materials, Supplies And Equipment

Materials, equipment and supply costs for G&A are adjusted to reflect changes in personnel.

(4) Other General and Administrative Expense

(a) Professional and Outside Services

BNSF has only made adjustments to the costs of these services based on the changes to headcount in its Supplemental Reply.

(b) Start-Up and Training

Training expenses for T&E employees, which were addressed in BNSF's Reply evidence, at III.D-112 to 113, decrease due to the smaller number of crew personnel required to handle the BNSF Supplemental Reply traffic group. These reduced costs are reflected in BNSF's Supplemental Reply evidence.¹² Similar adjustments are necessary for hiring costs based on having fewer employees. These reduced costs are also reflected in BNSF's Supplemental Reply evidence.¹³

¹² See BNSF Supplemental Reply electronic workpaper "OPR_EXP_supplemental.xls."

¹³ *Id.*

BNSF's training expenses are reasonable given the difficulty in hiring trained crew. The Otter Tail approach assumes that a portion of the T&E personnel it hires are already trained engineers (25%), a portion are already trained conductors (50%) and only 25% are novices to the railroad T&E world. This weight averaged approach is unreasonable. There is a great deal of data to contradict Otter Tail's assumption about its ability to hire trained crew. For example, in the February 16, 2004 issue of *Rail Business* (Vol. 10, No. 7), a front page article entitled "UP Hiring To Address Crew Shortages" discusses the problems railroads are encountering in filling train service positions. UP spokesman John Bromley is quoted as saying that the railroad plans to "hire about 3,000 people this year and continue hiring for the next five years at the rate of 2,000 plus each year . . . nearly everywhere on [the] system, with emphasis on the West." The article goes on to state that "[c]rew shortages and service problems are not just limited to UP . . . North Dakota and Montana have been especially critical of rail car shortages on BNSF lines." Finally, the article specifically notes the fact that simply hiring personnel does not directly ease manpower shortage problems because of the lengthy training periods involved (four months). Clearly, significant training expenses are being incurred by the railroads. In fact, railroads are having difficulty even finding people to train. Thus, it stands to reason that railroads would incur significant recruiting *and* training costs for the same rank-and-file employees. It cannot credibly be argued that the OTRR, as a new railroad, would be able to leverage employees from incumbent railroads, as Otter Tail is suggesting by including reduced training costs for experienced engineers and conductors.

This conclusion is also supported by recent decisions by the Board. "[A]s the Board has previously explained (*see, TMPA* at 84), it is inconsistent with the purpose of

the SAC test to assume that the existence of the defendant railroad would limit the costs the [SARR] would incur.” *Duke Energy v. CST*, slip opin. at 65; *see also*, *CP&L v. NS*, slip opin. at 66 and *Duke v. NS*, slip opin. at 79. Otter Tail has presented absolutely no evidence to support its assertion that it could hire T&E personnel that are already trained.

In addition to understating training and recruiting costs through its approach of weight averaging experience levels, Otter Tail failed to include any classroom training costs for the few novice conductors it included. *See* Opening Errata electronic workpaper “OTRR Training and Recruitment.123.” Further, Otter Tail underestimated the time required to train the few employees it does train (four months, as discussed in the article mentioned above). BNSF corrects these errors in its Supplemental Reply electronic workpapers,¹⁴ using publicly available information from one of the conductor training programs through which it gets conductors.¹⁵

d. Other — IT Requirements

OTRR’s capital and operating IT unit expenses have also been adjusted to reflect the fewer personnel required.

4. Maintenance-of-Way

a. Operating Expenses

As explained above, BNSF’s Supplemental Reply evidence is based on two significant changes in traffic grouping and traffic levels: (a) an increase in coal traffic primarily on the Campbell Subdivision (*i.e.*, to the north of Donkey Creek); and (b) a decrease in general freight traffic on the OTRR’s Glendive-Fargo line. Mr. Albin,

¹⁴ “T&E_Training_supplemental.xls” and “OPR_EXP_supplemental.xls.”

¹⁵ *See* website <http://web.jccc.net/academic/nars/condfact.html> and BNSF Supplemental Reply workpaper BNSF.SUPPRP.III.D-001-04.

BNSF's MOW expert, reviewed these traffic changes to determine their impact on MOW costs.

As to the first change, the addition of coal traffic traversing a very short distance on the OTRR and exiting the OTRR at Donkey Creek has little impact on MOW costs, increasing costs slightly. By contrast, the reduction of general freight traffic that Otter Tail improperly rerouted has a more significant impact on MOW costs. The impact of each modification on MOW costs is discussed separately below. Mr. Albin's restatement of OTRR's MOW operating expense is presented in BNSF Supplemental Reply Exhibit III.D.4-1. That Exhibit incorporates the corrections to BNSF's Reply Evidence that are described in BNSF's Errata which accompanies this Supplemental Reply Evidence.

(1) Changes in MOW Operating Costs Resulting From Inclusion of Additional 22 MGT on Campbell Sub

The additional 22 MGT on the Campbell Sub increases the tonnage on that line from 43 MGT to 65 MGT. As discussed above, BNSF's witnesses concluded that this change would not necessitate material changes to sidings, bridges, culverts, signals or other changes to OTRR's physical facilities. Since no new facilities are being added, MOW operating expenses that are based primarily on the size and/or number of facilities do not change.

However, MOW costs that are primarily based on tonnage are affected. Tonnage-based operating costs that are affected are ultrasonic rail testing, rail grinding, and track geometry testing. Mr. Albin used the standards and the unit costs that he relied upon in BNSF's October 8, 2003 Reply Evidence to recalculate the MOW operating expenses for the OTRR to include these additional costs. Those standards are discussed in detail in BNSF's October 8, 2003 Reply Evidence and are not repeated here.

OTRR's MOW personnel requirements are based on both tonnage and capacity, among other factors. Mr. Albin concluded, for the reasons discussed below, that the MOW personnel requirements are not affected by the increase in coal tonnage moving the short distance over the OTRR. As explained in BNSF's October 8, 2003 Reply, Mr. Albin divided OTRR's MOW workforce into six departments: Track, Bridges and Buildings (B&B), Signals, Communications, Electrical and Stores. Five of these six departments would not be impacted at all by the change in tonnage. The number of B&B, Signals, Communications, and Electrical MOW workers necessary to maintain adequately the buildings, bridges, culverts, signals units, and communications systems on the OTRR is generally determined by the number of such facilities on the OTRR. Since no changes are being made to the physical facilities on the Campbell Sub as a result of the additional tonnage, no additional B&B, Signals, Communications, or Electrical workers are necessary. The additional tonnage also will not have a significant impact on the amount of materials required to maintain OTRR. Accordingly, no additional Stores workers are necessary.

The Track MOW Department workforce requirements are more sensitive to changes in tonnage than other departments. Nevertheless, Mr. Albin concluded that the amount of additional tonnage did not warrant increasing the number of track workers. As explained in BNSF's Reply evidence, Mr. Albin divided the Track Department into eight Roadmaster Districts and assigned crews to each District, taking into account tonnage, as well as the number of miles, track conditions, number of road crossings, turnouts, accessibility and weather conditions which are not affected by the additional tonnage. The Roadmaster District that encompasses the Campbell Sub is based at Donkey Creek.

It covers 161 route miles and includes the high density PRB lines south of Donkey Creek. Because the additional 22 MGT travel on the OTRR for only eleven miles, the additional tonnage has a minor impact on the overall tonnage levels that traverse the Donkey Creek Roadmaster District. In fact, on a ton-mile basis, the additional 22 MGT represents a mere three percent increase in density for the Roadmaster District. This small increase in ton miles requires no additional track MOW workers on the OTRR.

(2) Changes in MOW Operating Costs Resulting From Elimination of Improperly Rerouted Traffic

BNSF's removal of improperly rerouted merchandise traffic has a more significant impact on MOW costs. As described above, these traffic changes result in the elimination of the line from Glendive to Snowden, Montana and a portion of the second main track between Glendive and Fargo, as well as the reduction in capacity of the Glendive yard. Changes to the OTRR capacity and physical facilities are discussed in Section III-F. As a result of these changes, nearly all MOW operating costs are affected as they relate to OTRR's northern lines. Mr. Albin has recalculated MOW operating expenses by applying the same standards and unit costs that he used to develop MOW costs in BNSF's October 8, 2003 Reply to the modified track confirmation and tonnages. Mr. Albin's restatement of OTRR's MOW operating expense to reflect the exclusion of improperly rerouted traffic on the OTRR, as well as the additional tonnage on the Campbell Sub, is presented in BNSF Supplemental Reply Exhibit III.D.4-2 and the supporting calculations are included in his workpapers. The bases for his restatement of MOW workforce and equipment needs are set out below.

(a) Personnel

(i) Track

In BNSF's October 8, 2003 Reply, Mr. Albin included a four-person track crew based at Sidney, Montana that was responsible for maintaining track on the Glendive to Snowden line. As that line has been eliminated, the Sidney-based track crew is no longer needed.

Mr. Albin also included in BNSF's October 8, 2003 Reply, two four-person track crews that were based at Glendive. One crew was responsible for maintaining the Glendive Yard and a portion of the Glendive to Snowden line while the other crew was responsible for a portion of the main line going east from Glendive. Because there are now fewer yard tracks at Glendive, no Snowden line, and fewer tracks east of Glendive, Mr. Albin concluded that OTRR requires only one four-person track crew at Glendive.

Mr. Albin included seasonal crews to perform work that the full year MOW track crews are unable to perform because of their busy workloads. Specifically, in BNSF's October 8, 2003 Reply, he included 26 seasonal crew workers on the Glendive to Fargo, North Dakota line of OTRR. Removal of a portion of the second main track between Glendive and Fargo results in an approximately twenty percent reduction in turnouts. Moreover, there is a nearly thirty percent reduction in tonnage. Mr. Albin concluded that these changes would decrease the workload of the track section crews assigned to that line by about one quarter. This means that the section crews are better able to keep up with their work and do not require as much support from the seasonal crews as previously estimated. Accordingly, to reflect the reduced workload, Mr. Albin reduced the number of seasonal employees on the Glendive to Fargo line by about one quarter, from 26 to 20, which reduced the total number of seasonal crew employees from 48 to 42.

(ii) Bridges and Buildings

The number of B&B workers required to maintain the OTRR is primarily a function of the number and size of buildings and bridge structures and the tonnage on the line. In BNSF's October 8, 2003 Reply, Mr. Albin determined that OTRR needed six carpenter/helpers at Glendive to maintain the buildings at Glendive and to maintain the buildings and bridge structures on the line north to Snowden and on a portion of the line east toward Fargo. Elimination of the Snowden line decreases the number of bridge structures by 42, including most notably the bridge over the Missouri River at Snowden, and eliminates a building at Sidney, Montana. Less traffic passing through the Glendive Yard also means that there is less wear and tear on the facilities at Glendive Yard and, consequently, less work for B&B workers to perform. Mr. Albin concluded that modifications to OTRR reduce the Glendive based carpenter/helper's workload by nearly half, and he reduced the number of these positions at Glendive accordingly, from six to three.

(iii) Signals

Mr. Albin also reduced the signal maintainers necessary to maintain the AAR signals on the OTRR. As explained in BNSF's Reply Evidence, Mr. Albin used the standard of one maintainer for every 900 AAR units. BNSF Reply Nar. at III.D-168 to 169. The number of AAR units on the OTRR, however, has been reduced to approximately 34,500 as a result of the elimination of the Snowden line and a portion of the second main track between Glendive and Fargo. This reduces the total number of signal maintainers that the OTRR requires from 41 to 38. Accordingly, Mr. Albin reduced the number of signal maintainers based at Glendive from nine to seven, and reduced the number of maintainers based at Mandan from six to five.

To respond to problems on OTRR that individual signal maintainers are unable to handle, Mr. Albin included 18 roving signal maintenance crew persons in BNSF's October 8, 2003 Reply. A significant amount of the work performed by roving signal maintenance crews involves turnout signals and circuitry. Modifications to OTRR reduce the number of turnouts by approximately twenty percent. Since the roving crews split their time between turnouts and other signal work, Mr. Albin estimated that this reduction in turnouts would result in a reduction in the roving crew workload of about one tenth. To reflect this decrease in workload, he reduced the number of roving signal maintenance crew persons from 18 to 16.

(iv) Communications

Capacity reductions also decrease OTRR's need for communications maintenance workers. As explained in BNSF's October 8, 2003 Reply, communications workers are responsible for maintaining the microwave systems, telephones, the infrastructure of the data networks, the Automated Equipment Identification sites and the identification video equipment located at those sites, and all other train yard cameras and scanning equipment. BNSF Reply Nar. at III.D-171. A significant amount of a communication crew's time is spent maintaining communication systems at turnouts. Mr. Albin included at Glendive a four-person communication crew -- consisting of a foreman, a technician, and two maintainers -- to maintain the communications systems at Glendive, on the line north to Snowden, and on a portion of the line east toward Fargo. Mr. Albin also included a four-person crew at Mandan to maintain the communications systems on a portion of the line east and west of Mandan. He concluded that the elimination of the Snowden line and reduction in capacity on the line east toward Fargo, which, among other reductions, reduces the number of turnouts in the territories covered by the

Glendive and Mandan crews by approximately twenty percent, would result in an overall reduction in these communication crews' workloads of between twenty and thirty percent. Mr. Albin has reflected this workload reduction by eliminating one of the two communication maintainers at Glendive and at Mandan, thereby reducing the crew size at each of these locations from four to three persons.

(v) Workforce Summary

No other MOW staffing levels are affected by the decrease in tonnage and route/track miles on the OTRR. The restated MOW field worker (*i.e.*, non-management) requirements for the OTRR by department are as follows:

Track	270
Bridge and Building	43
Signal	69
Telecommunications	37
Electrical	10
Purchasing and Stores	<u>8</u>
Total	437

OTRR's total MOW workforce requirements are presented in BNSF Supplemental Reply Exhibit III.D.4-1

(b) Equipment

Reduction of maintenance of way staff results in a corresponding reduction to the equipment needed by OTRR's MOW workforce to perform maintenance. Thus, where Mr. Albin eliminated an individual position or an entire crew, he also eliminated the tools and equipment, including vehicles, that were originally included for use by that position or crew. His restatement of the equipment needs for OTRR MOW forces are included in

his workpapers and his restatement of equipment costs are presented in BNSF Supplemental Reply Exhibit III.D.4-1.¹⁶

b. Capital Costs

The additional tonnage on the Campbell Sub has a minor impact on OTRR's capital MOW costs since it traverses OTRR's lines for a short distance only. The more substantial changes in tonnage, route miles, and track miles that result from the elimination of the rerouted non-coal traffic affect nearly all capital MOW expenses.

As to program maintenance personnel, Mr. Albin determined that the modifications to OTRR would change the number of rail gang employees required to perform normalized maintenance on OTRR. In BNSF's October 8, 2003 Reply, Mr. Albin included three rail gangs of forty persons each to perform rail relay. The reduction in mileage, however, results in less rail on OTRR, as well as less territory that the rail gangs must cover. The reduction in tonnage means that the rail on the Glendive to Fargo line will need to be relaid less frequently. Mr. Albin concluded that two forty-person rail gangs are adequate to relay rail on OTRR.

As to other normalized maintenance costs, in preparing BNSF's October 8, 2003 Reply, Mr. Albin developed a spreadsheet that incorporates the unit costs and algorithms used to calculate OTRR's capital costs. The spreadsheet automatically generates OTRR's capital costs based on the tonnage, route miles, track miles, and track curvature inputs. Mr. Albin updated the inputs to this spreadsheet to reflect the modifications to OTRR. His restated MOW capital costs are presented in Exhibit III.D.4-1.

¹⁶ BNSF.SUPPRP.WP.III.D.4-002 to 009.

Total MOW costs for the modified OTRR are \$138.2 million, of which \$67.1 million or 48.6 percent are operating expense. This proportion is comparable to the BNSF and other real world railroads. *See* BNSF Reply Table III.D.4-7.

5. Leased Facilities

This section intentionally left blank.

6. Loss and Damage

Loss and Damage costs have been decreased to reflect the lower traffic volume contained in the BNSF Supplemental Reply traffic group.¹⁷

7. Insurance

The OTRR will have lower freight operating expenses due to the modified BNSF Supplemental Reply group. Insurance is calculated as a percentage of total freight operating expenses, so BNSF's Supplemental Reply evidence reflects a lower insurance cost.¹⁸

8. Ad Valorem Taxes

BNSF's calculation of ad valorem taxes has been adjusted to reflect the traffic included in the BNSF Supplemental Reply traffic group.¹⁹

9. Other

This section intentionally left blank.

¹⁷ *See* BNSF Supplemental Reply electronic workpaper "OPR_EXP_supplemental.xls."

¹⁸ *Id.* *See also* BNSF Supplemental Reply electronic workpaper "Insurance.xls."

¹⁹ *See* BNSF Supplemental Reply electronic workpaper "OPR_EXP_supplemental.xls."

**III.E: Non-Road Property
Investment**

E. NON-ROAD PROPERTY INVESTMENT

All changes made to non-road property investment have been addressed in previous sections.

**III.F: Road Property
Investment**

F. ROAD PROPERTY INVESTMENT

As discussed above, BNSF's Supplemental Reply Evidence is based on substantial changes in traffic volumes on two discreet segments of the OTRR—the OTRR lines located in the PRB and the OTRR northern line from Snowden to Glendive to Fargo. Also, as discussed above, BNSF has determined that the traffic changes affecting the PRB line do not require any changes to the physical plant of the OTRR, i.e., the OTRR's lines, yards, buildings or facilities. Accordingly, BNSF's changes to OTRR traffic in the PRB segment do not have any effect on the costs of constructing the OTRR. However, the changes to the traffic along the Snowden to Glendive to Fargo segment do have a significant effect on the capacity requirements and configuration of the OTRR. Three basic changes to the OTRR result from the exclusion of the re-routed traffic: (1) the removal of the Glendive to Snowden line; (2) the removal of double track and sidings along the Glendive to Fargo line; and (3) the reduction in the size of yards and facilities at Glendive, Fargo, and Donkey Creek. As a result of these changes, the OTRR now covers a total of 1,207 route miles and 1,469 track miles.¹

These changes in capacity and facilities have a corresponding impact on the final OTRR construction and engineering costs. Accordingly, BNSF's Engineering Consultants have reviewed the evidence submitted in BNSF's October 8, 2003 Reply (as modified by BNSF's March 22, 2004 Errata filing) and adjusted the total OTRR construction costs to account for the required capacity and facility changes. BNSF's Engineering Consultants have not changed the methodology by which they assessed investment levels or determined the unit costs contained in the Reply Evidence—only the quantities of the various components of the OTRR have been reduced. These adjustments are discussed below. Additionally, the location factor that is

¹ Section III.B.1 and Table III.B-1 above set out the revised breakdown of track miles and route miles for the reconfigured OTRR.

applied to all unit costs derived from RS Means has been adjusted to reflect the removal of the Glendive to Snowden line.² BNSF's adjusted total costs for road property investment are contained in BNSF's statement of total construction costs in Supplemental Reply electronic workpaper "III F OTRR Construction_Supplemental Reply.xls" and Supplemental Reply Exhibit III.F-1.

While BNSF usually provides the Board with a comparison of BNSF's and Otter Tail's construction cost totals (as it did in its October 8, 2003 Reply in Exhibits III.F-1 and III.F-2), Otter Tail did not provided aggregate construction costs corresponding to its alternative SAC case, so no comparisons could be based to Otter Tail's alternative case construction costs. As a result, BNSF Supplemental Reply Exhibits III.F-1 and III.F-2 and the corresponding electronic workpapers contain only BNSF's total construction costs for its Supplemental Reply.

1. Land

OTRR acreage requirements are addressed by BNSF in its October 8, 2003 Reply Narrative at pages III.F-3 to 41. BNSF's Reply Narrative sets out both the methodology used by BNSF's expert witness to determine the quantity and value of land required for the OTRR's right-of-way, yards, and microwave towers, as well as an assessment of the inadequacies of Otter Tail's land investment statement in its Opening Evidence. That discussion is not repeated here.

As a result of the exclusion of the re-routed traffic along the Glendive to Fargo line, BNSF has reduced the total acreage required to construct the OTRR. First, the right-of-way acreage quantity has been reduced to reflect the elimination of the Glendive to Snowden line. Second, the total yard acreage has been adjusted to reflect the reduction in size of the Glendive yard and the elimination of the yard at Snowden. Finally, the total acreage required for

² The calculation of the RS Means location factor is contained in electronic workpaper "IIIF2 OTRR GRADING_Supplemental Reply.xls" worksheet "Location."

microwave tower placement has been reduced to account for the reduction in the number of towers resulting from the removal of the Glendive to Snowden line.

BNSF's restatement of land requirements is contained in electronic workpaper, "OTRR Land Conclusions_Supplemental Reply.xls," and is reflected in BNSF's restated total OTRR construction costs.

2. Roadbed Preparation

BNSF discusses the multiple grading activities involved in preparing a roadbed for the placement of track at pages III.F-46 to 125 of the October 8, 2003 Reply Narrative. BNSF's Engineering Consultants have restated roadbed expenses to reflect the changed operating requirements of the OTRR due to the exclusion of the re-routed traffic. Specifically, roadbed investment has been restated to reflect the elimination of the Snowden to Glendive line, reductions in double tracking and sidings along the Glendive to Fargo line, and changes made to OTRR yards (including the elimination of the Snowden yard).³

BNSF Supplemental Reply electronic workpaper "IIIF2 OTRR GRADING_Supplemental Reply.xls" contains the restatement of the total quantities and costs for roadbed preparation (including clearing, grubbing, stripping, foundation conditioning, and undercutting), earthworks (including excavation and fine grading), and other small roadbed items (including rip rap, access roads, land for waste quantities, and detours). Restated culvert quantities are contained in electronic workpaper "III F OTRR Construction_Supplemental Reply.xls." worksheet "Culvert List." All roadbed changes are reflected in BNSF's restatement of total construction investment, "III F OTRR Construction_Supplemental Reply.xls" worksheet "Total Cost."

³ BNSF.SUPPRP.WP.III.F-001.

3. Track Construction

The various materials that comprise the track structure of the OTRR, as well as Otter Tail's understatement of track construction costs, are discussed in detail in BNSF's October 8, 2003 Reply Evidence at pages III.F-126 to 162. Because the necessary quantity of components such as ballast, subballast, ties, rail, welds, tie plates, clips, spikes, and anchors depends on the total number of track miles, the removal of double tracking and sidings along the Glendive to Fargo line, the elimination of the Snowden to Glendive line, and the reduction in yard size all have a impact on the final quantities of these track materials. These OTRR changes also have an effect on the final count of turnouts, switch heaters, rail lubricators, and yards of geotextile fabric needed to construct the OTRR, as well as the costs associated with transportation and installation. A description of the necessary changes is set out below. BNSF's restated total cost for track materials, transportation, and installation is \$918 million.

BNSF Engineering Consultants have determined that, despite the reductions made to traffic volumes, the track specifications contained in BNSF's Reply Evidence (e.g., weight of rail, depth of ballast and subballast) are still appropriate for the weight and quantity of traffic along the OTRR. However, as described in Section III.D.4, BNSF has accounted for the reduced MOW costs that would result from running lower traffic volumes over these tracks.

The adjusted quantities of OTRR track are developed in BNSF Supplemental Reply electronic workpapers "III F track count_Supplemental Reply.xls" and "III F OTRR Construction_Supplemental Reply.xls" worksheet "Quantities." Electronic workpaper "III F OTRR Construction_Supplemental Reply.xls" worksheet "Total Cost" states revised total construction costs reflecting the reductions in all aspects of track construction, as described below.

a. Geotextile Fabric

BNSF's discussion of geotextile fabric placement along the OTRR is contained in BNSF's October 8, 2003 Reply Narrative at pages III.F-129 to 133. The reduction in the number of turnouts, grade crossings and bridges means a corresponding reduction in the amount of geotextiles to be used in OTRR construction. Additionally, the removal of double track and sidings and the elimination of the Glendive to Snowden line means a reduction in the quantities of geotextiles that BNSF Engineering Consultants had provided for stabilization purposes along the OTRR.

b. Ballast and Subballast

OTRR ballast and subballast requirements are discussed at pages III.F-133 to 139 of BNSF's October 8, 2003 Reply Narrative. The amount of ballast and subballast required in yards and along the mainline is based on track miles and, therefore, is directly affected by the removal of mainline and yard track, as well the elimination of the Glendive to Snowden line.

c. Ties

BNSF's Engineering Consultants discuss specifications and costs for standard ties and transition ties at pages III.F-140 to 142 of the October 8, 2003 Reply Narrative. Due to the reduction in total track miles, the total number of Grade 5 mainline ties, Grade 3 ties placed in yards, and transition ties required for construction of the OTRR has been decreased.

d. Rail

BNSF's discussion of rail specifications and costs appears at pages III.F-142 to 150 of the October 8, 2003 Reply Narrative. The total quantity of rail required for the OTRR mainline has been adjusted based on the restatement of track miles to reflect the removal of the Glendive to Snowden line, and the removal of double track and sidings along the Glendive to Fargo line. Similarly, the quantities of rail for OTRR yards has been reduced to account for the elimination

of the Snowden yard and changes made to remaining yards. As described in Section III.B.3 and Section III.F.7 below, BNSF's Engineering Consultants have determined that 13 tracks at Glendive, two tracks at Fargo, and a single track running through the locomotive shop at Donkey Creek are no longer required.

e. Welds

BNSF's Engineering Consultants discuss the placement and cost of plant welds, field welds and compromise joints at pages III.F-150 to 152 of the BNSF October 8, 2003 Reply Narrative. The reduction in total track miles allows for a corresponding reduction in the BNSF's total quantity of both types of welds, as well as compromise joints.

f. Switches/Turnouts

BNSF's discussion of the OTRR specifications and investment in turnouts occurs at pages III.F-153 to 157 of the October 8, 2003 Reply Narrative. BNSF's Engineering Consultants have reduced the number of turnouts and turnout components (including switch heaters, insulated joints and switch stands) corresponding to the eliminated track miles. Additionally, two turnouts have been added at Casselton to allow the RR/VW to cross the OTRR, as discussed in Section III.B.3 above.

g. Other Track Materials (OTM)

The OTRR requirements for additional track materials, including rail lubricators, tie plates, anchors, spikes, derails and wheel stops, are discussed at pages III.F-157 to 162 of the BNSF October 8, 2003 Reply Narrative. The final quantities of all these components are reduced to account for the restatement of track miles.

h. Materials Transportation

The transportation of materials from suppliers to the OTRR railheads is discussed at pages III.F-162 to 166 of the October 8, 2003 Reply Narrative. BNSF's Engineering Consultants

have determined that the removal of the Snowden to Glendive line does not require the relocation of railheads for off-line delivery. The adjusted costs for transportation due to the reduction in track quantities appear in electronic workpaper "III F OTRR Construction_Supplemental Reply.xls" worksheet "Transportation."

i. Track Labor and Equipment

Track labor requirements and cost are discussed at pages III.F-166 to 168 of BNSF's October 8, 2003 Reply Narrative. Because the cost of basic installation is a per mile cost, the reduction in total track miles due to the exclusion of the re-routed traffic means a corresponding reduction in total labor costs, which has been accounted for in BNSF's total construction investment.

4. Tunnels

There are no tunnels on the OTRR.

5. Bridges

BNSF's Engineering Consultants address bridge investment requirements, as well as the shortcomings of Otter Tail's bridge evidence, at pages III.F-169 to 200 of the October 8, 2003 BNSF Reply Narrative. Because of the elimination of the Snowden branch, 40 bridges that were located along that line are no longer required for the OTRR, and the corresponding quantities of components have been removed from the bridge inventory totals in BNSF Supplemental Reply electronic workpaper "III F 5 Bridge_Supplemental Reply.xls." Similarly, the removal of double tracking along the Glendive to Fargo line means that several multi-track bridges have been redesigned with fewer tracks.

In developing bridge costs for the OTRR for BNSF's October 8, 2003 Reply Evidence, BNSF's Engineering Consultants determined separate weighted averages for span length, for pier height, and for abutment height. The removal of multiple tracking or, in some cases, whole

bridges had an impact on the design of these average bridge components. As stated in the Reply Evidence, the superstructure design could accommodate up to a two-foot change in span length and piers could accommodate up to a ten-foot change in height without requiring a redesign. After the changes described above, all revised average span lengths and pier heights still fall within the established ranges, with the exception of the Class 3 average span length, which has been reduced by 9.43 feet to a total length of 94.97 feet.⁴ In order to remain consistent with the specified limitations, the Class 3 through plate girder has been redesigned.⁵

Additionally, the removal of the double tracking on the Class 2 Special and Class 3 Special bridges means that these bridges, as presented by BNSF Engineering Consultants in the October 8, 2003 Reply Evidence, are now over-designed. Accordingly, the piers for both these bridges have been reduced in size and redesigned to accommodate one track instead of two.⁶ Additionally, the Class 3 Special abutment has been redesigned to accommodate the single track that crosses it now.⁷

BNSF Supplemental Reply electronic workpaper “III F OTRR Construction_Supplemental Reply.xls” worksheet “Bridge” contains the total bridge investment for the OTRR and has been restated to reflect these redesigns and reductions in quantities.⁸

⁴ This change is reflected in electronic workpaper “III F 5 Bridge Superstructure_Supplemental Reply.xls.”

⁵ *Id.* BNSF.SUPPRP.WP.III.F-003 to 016.

⁶ Electronic workpaper “III F 5 Bridge Substructure_Supplemental Reply.xls”; BNSF.SUPPRP.WP.III.F-017 to 036.

⁷ *Id.* BNSF.SUPPRP.WP.III.F-037 to 055.

⁸ Schematics for the redesigned bridge components are included at BNSF.SUPPRP.WP.III.F-056 to 064.

6. Signals and Communications

BNSF discusses the components of a system needed to provide essential communications along the OTRR at pages III.F-201 to 221 of the October 8, 2003 Reply Narrative. These components include the Centralized Traffic Control (CTC) system, Failed Equipment Detectors (FEDs), and the Microwave and Land Mobile Radio (LMR) systems.

The reduction in total traffic outlined above has an impact on BNSF final quantities for all these components. Because there is no longer a need to provide service to the Snowden line, the number of microwave towers has been reduced from 58 to 54, and the number of control points in the microwave system have been reduced by 13, from 219 to 206. BNSF Supplemental Reply electronic workpaper “III F 6 Microwave Tower Locations_Supplemental Reply.xls” shows where specific towers have been removed. Second, the total cost for the CTC system, which is based on a per mile unit cost, has been reduced to reflect the number of total OTRR track miles to be covered. BNSF Supplemental Reply electronic workpaper “III F OTRR Construction_Supplemental Reply.xls.” worksheet “CTC” restates the investment level for the OTRR CTC system. Finally, the quantities of several smaller components of the microwave system have been reduced to reflect the decrease in the number of trains, crew members and MOW personnel, as shown in electronic workpaper “III F 6 Microwave System_Supplemental Reply.xls.”

The restated quantities for all components of the OTRR signal and communications systems are included in BNSF’s restatement of construction costs, contained in electronic workpaper “III F OTRR Construction_Supplemental Reply.xls” worksheet “Total Cost.”

7. Buildings and Facilities

BNSF discusses buildings (including headquarters, office, MOW, crew and yard buildings) and facilities (including fueling facilities, and locomotive and car repair shops) at

pages III.F-221 to 244 of the October 8, 2003 Reply Narrative. BNSF Engineering Consultants have determined that the reduction of total OTRR traffic due to the elimination of the improperly re-routed traffic has an impact on the buildings and facilities required to serve the OTRR. These revisions are set out in detail in Section III.B.3, and are summarized below.

First, the removal of the entire Glendive to Snowden line allows for the elimination of the Snowden yard, the crew facility at Snowden, and the MOW building at Sidney, Montana. Second, BNSF Operating Witnesses have determined that 13 of the yard tracks at Glendive can be eliminated in light of the reduction of traffic utilizing the yard and its facilities. The eight tracks that BNSF had added in its Reply Evidence to service the overhead freight traffic Otter Tail had re-routed are no longer necessary. Four inspection/receiving tracks and one of the two mainline tracks at Glendive can also be removed. Additionally, the crew change building at Glendive has been downsized from 4,920 to 4,651 square feet due to the elimination of 30 crew positions, as described in Section III.D.3.a. The Glendive MOW facility has also been downsized to accommodate the reduction of personnel from 100 to 82, as described in Section III.D.4.

In the Fargo yard, two receiving/interchange tracks are no longer necessary to serve the reduced traffic flowing through the yard. Additionally, the crew change building at Fargo has been decreased from 4,044 to 3,324 square feet due to the elimination of 30 crew positions. At Donkey Creek, BNSF witnesses have determined that one of the tracks inside the locomotive repair shop located there is no longer required to serve the reduced fleet of locomotives. The 9,000 square foot reduction in size corresponds to the removal of the single running track, and the equipment associated with it (including a 3-ton crane, drop table pit tunnel length,

maintenance fluid dispensing stations, and plumbing and utilities). All other facilities and buildings presented in BNSF's Reply Evidence remain unchanged.

An explanation of the reductions in buildings and facilities appears in BNSF Supplemental Reply electronic workpaper "III F 7 Facilities_Supplemental Reply.xls."⁹

8. Public Improvements

BNSF discusses public improvements, including fences, signs, and crossings, at pages III.F-244 to 251 of the October 8, 2003 Reply Narrative. The total quantity of fences has been reduced to reflect the removal of the Snowden line, as shown in BNSF Supplemental Reply electronic workpaper "III F 8 Total Fencing_Supplemental Reply.xls." The number of signs has been restated to account for the removal of the Snowden line and the reduction in double track and sidings. The restated quantity is developed in BNSF Supplemental Reply electronic workpaper "III F OTRR Construction_Supplemental Reply.xls" worksheet "Segment Data." The level of investment required for OTRR crossings is similarly reduced as a result of the elimination of the Glendive to Snowden line and the removal of double tracking and siding along the Glendive to Fargo line. A restatement of that investment can be found in Supplemental Reply electronic workpaper "III F 8 Crossings_Supplemental Reply.xls."

These reductions in public improvement quantities are reflected in BNSF's restatement of the total costs for OTRR construction, contained in electronic workpaper "III F OTRR Construction_Supplemental Reply.xls" worksheet "Total Cost."

9. Mobilization

BNSF's discussion of the costs for mobilizing and demobilizing laborers and equipment involved in the construction of the OTRR occurs at pages III.F-251 to 252 of the October 8, 2003

⁹ The schematic for the redesigned locomotive shop at Donkey Creek is included in the Supplemental Reply Workpapers at BNSF.SUPP.RP.WP.III.F-065.

Reply Narrative. There, BNSF applied a 3.5 percent additive to the total construction costs (excluding land and track materials). BNSF applies this same percentage to the restated construction costs to determine mobilization and demobilization costs for the OTRR. The revised total costs are contained in electronic workpaper “III F OTRR Construction_Supplemental Reply.xls” worksheet “Total Cost.”

10. Engineering

BNSF discusses the level of engineering services required to plan, design and oversee construction of the OTRR at pages III.F-252 to 269 of the October 8, 2003 Reply Narrative. The cost of engineering services for the OTRR are in part determined by applying a percentage to the total construction costs. Accordingly, BNSF applies this same percentage to the restated OTRR construction costs.¹⁰ However, certain engineering costs, such as design, staking, material testing and geotechnical investigation, are not covered by that percentage, and instead are developed as a single cost. Because those engineering costs reflects certain assumptions about the size of the OTRR construction project (e.g., route miles, the number of bridges, culverts and excavation quantities), they have been adjusted to compensate for the removal of the Glendive to Snowden line, and the reductions made to yards, double track and sidings along the Glendive to Fargo line. All engineering cost adjustments are contained in electronic workpaper “III F 10 Engineering_Supplemental Reply.xls.”

¹⁰ In the October 8, 2003 Reply, BNSF applied a 4.3 percent additive for construction management costs, after determining that this additive was more conservative than an estimate developed from unit cost data. BNSF Reply Nar. at III.F-262 to 265. BNSF Engineering Consultants have redeveloped that itemized estimate based on the changes made to the OTRR, and have determined that the 4.3 percent additive remains the more conservative approach for determining OTRR construction management costs. BNSF.SUPPRP.WP.III.F-066 to 069.

11. Contingencies

BNSF's discussion of its ten percent contingency additive to construction costs to address unplanned occurrences during the construction of the OTRR occurs at pages III.F-267 to 269 of the October 8, 2003 Reply Narrative. No adjustments are necessary to this percentage, which is applied to the restated construction costs and included in BNSF Supplemental Reply electronic workpaper "III F OTRR Construction_Supplemental Reply.xls" worksheet "Total Cost."

**III.G: Discounted Cash
Flow Analysis**

G. DISCOUNTED CASH FLOW ANALYSIS

BNSF described its discounted cash flow methodologies in Section III.G of its October 8, 2003 Reply evidence. There is no change to this section as a result of the changes to the traffic group presented in this Supplemental Reply.

**III.H: Results of SAC
Analysis**

H. RESULTS OF SAC ANALYSIS

BNSF has restated the DCF results to reflect the revisions in costs and revenues described above. The new results are set forth in Supplemental Reply Exhibit III.H-1. The methodologies used remain the same as those described in Section III.H of BNSF's October 8, 2003 Reply evidence. The Table below summarizes the DCF results for BNSF's Supplemental Reply evidence.

Table III.H-1
Summary Of Stand-Alone Cost Results
(All Figures In Millions Of Dollars)

Year	Annual Revenue	Stand-Alone Cost	Difference
2002	\$430.4	\$771.8	(\$341.4)
2003	\$430.4	\$764.4	(\$334.1)
2004	\$431.9	\$783.0	(\$351.0)
2005	\$432.0	\$803.6	(\$371.5)
2006	\$447.3	\$830.0	(\$382.6)
2007	\$442.8	\$849.1	(\$406.3)
2008	\$458.4	\$865.4	(\$407.0)
2009	\$472.1	\$880.4	(\$408.3)
2010	\$489.5	\$897.8	(\$408.3)
2011	\$501.2	\$913.3	(\$412.1)
2012	\$506.7	\$928.0	(\$421.3)
2013	\$515.4	\$942.9	(\$427.5)
2014	\$519.8	\$958.4	(\$438.6)
2015	\$528.9	\$974.2	(\$445.2)
2016	\$538.4	\$990.4	(\$452.0)
2017	\$548.1	\$1,007.1	(\$459.1)
2018	\$557.6	\$1,024.0	(\$466.4)
2019	\$567.4	\$1,041.3	(\$473.9)
2020	\$577.4	\$1,059.0	(\$481.5)
2021	\$586.5	\$1,076.7	(\$490.2)

**IV: Witness Qualifications
and Verifications**

IV. WITNESS VERIFICATIONS

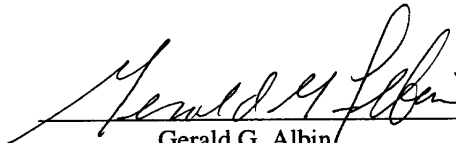
1. Gerald G. Albin

Gerald G. Albin is a Principal and Vice President of TranSystems Corporation, a civil engineering company located in Denver, Colorado. His business address is 4949 S. Syracuse, Suite 620, Denver, CO 80237. Mr. Albin is a registered professional civil engineer in five states including Wyoming, Colorado, Idaho, Montana and Minnesota. He has been involved in railroad engineering since 1962. He has had more than thirty years experience working for BNSF and its predecessors. Between 1970 and 1980, he held the positions of Assistant Maintenance Engineer, Regional Engineer, and Maintenance Engineer for The Burlington Northern Railroad Company ("BN") (predecessor to BNSF). From 1980 to 1988, he held various staff positions (Director & Assistant Director of Maintenance planning) in St. Paul and Kansas City, as well as working for four years as Chief Engineer of the BN Springfield Region. From 1988 to 1995, he held the positions of Director of Engineering, Chief Engineer of Field Operations, Superintendent of Roadway Engineering, and Assistant Chief Engineer of Design/Construction for the Southern Region of BN, including much of the route of the proposed stand-alone railroad in this case – *i.e.*, Wyoming, Montana and Minnesota. His responsibilities included project management, design and construction of rail lines, including numerous projects on the lines involved in this proceeding. In addition, he has had responsibility for the direct supervision of construction, design and maintenance of way activities in various departments, including track, bridge, signal and telecommunications.

Mr. Albin sponsors evidence relating to maintenance-of-way costs set forth in Section III.D.4 in the Supplemental Reply Evidence. Mr. Albin has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 17, 2004


Gerald G. Albin

2. Michael R. Baranowski

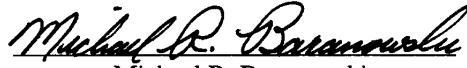
Michael R. Baranowski is a Senior Managing Director at FTI Consulting, Inc., an economic and financial consulting firm. His business address is 1201 Eye Street, N.W., Suite 400, Washington, DC 20005. Since 1980, Mr. Baranowski has been involved in many aspects of transportation consulting including operational analyses, terminal switching studies, facility and equipment valuation, liquidation studies, merger studies as well as a variety of cost studies including the development of both short and long run marginal cost, variable cost and stand-alone costs. He has been responsible for developing costs and working with the Board's discounted cash flow model in stand-alone cost proceedings since 1987 and has sponsored testimony in a number of those proceedings including the *APS, Potomac Elec. Power Co. v. CSX Transp., Inc.*, *WPL, Duke Energy Co. v. CSX Transp. Co.*, *Duke Energy Co. v. Norfolk Southern Ry. Co.*, and *Carolina Power & Light v. Norfolk Southern Ry. Co.* cases.

Mr. Baranowski received his Bachelor of Science in Accounting degree from Fairfield University in 1980. In 1988, he joined Klick, Kent & Allen, Inc. ("KK&A"), which was acquired by FTI Consulting in 1998. While with KK&A and FTI, Mr. Baranowski has conducted a wide range of studies in both the transportation and telecommunications industries and testified in proceedings before the Interstate Commerce Commission, Surface Transportation Board, Federal Communications Commission, and various State Utility Commissions.

In BNSF's October 8, 2003 Reply Evidence, Mr. Baranowski sponsored evidence relating to Section III.F.2 Roadbed Preparation, III.F.8 Public Improvements, and the Board's DCF model and SAC calculations contained in Sections III.G and III.H. To the extent that changes have been made to the evidence presented in those Sections in the Supplemental Reply Evidence, Mr. Baranowski sponsors those changes. Mr. Baranowski has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 19th, 2004


Michael R. Baranowski

3. Robert H. Baughman, P.E.

Robert H. Baughman is a Vice President and Project Manager in the Rail Division at Ralph Whitehead Associates, an engineering consulting firm. His business address is 1000 West Morehead St., Charlotte, NC 28208. Mr. Baughman oversees and directs all of Ralph Whitehead Associates' services to the railway industry. As Project Manager, Mr. Baughman has coordinated and/or supervised the preparation of computations, plans, and specifications on many large projects. These have included: the planning and design services for a two-mile trolley line along an abandoned railway corridor, the bridge structure for a 42-inch water line with cast-in-place retaining walls in a \$24 million project, fifteen highway bridges in North Carolina, South Carolina and Georgia, four railway bridges in North Carolina, South Carolina, and Georgia, and retaining walls for the widening of I-75, among many others.

Mr. Baughman is a 23 year veteran of the railroad industry. Mr. Baughman received his Bachelor of Science degree in Civil Engineering from Ohio Northern University in 1979. He then graduated with a Masters in Business Administration from the University of North Carolina at Charlotte in 1984. He holds licenses as a Registered Professional Engineer in Alabama, North Carolina, Ohio, and Kansas. He is also a member of the North Carolina Consulting Engineers Council, the American Society of Civil Engineers, and the National Society of Professional Engineers.

In BNSF's October 8, 2003 Reply Evidence, Mr. Baughman sponsored evidence relating to Sections III.F.9 Mobilization, III.F.10 Engineering/Construction Management and III.F.11 Contingencies. To the extent that changes have been made to the evidence presented in those Sections in the Supplemental Reply Evidence, Mr. Baughman sponsors those changes. Mr. Baughman has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Reply 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 March____, 2004

Robert H. Baughman
Robert H. Baughman, P.E.

4. William K. Berry

William K. Berry is a former Vice President -- Intermodal and Vice President -- IMX Development and Implementation for the Canadian National Railway. His address is 1836 Afshin Court, Port Orange, Florida, 32128. Mr. Berry has been extensively involved in intermodal marketing, sales and operations for several railroads. From 1989 to 1992, he held the positions of Assistant Vice President, Domestic Container System and then Senior Assistant Vice President, Intermodal with the Burlington Northern Railroad Company. From 1992 to 1996, he was the Vice President -- Intermodal/Automotive Operations and then Managing Director -- Coal Marketing/Sales with the Southern Pacific Lines. From 1996 to 1996, he worked for the Union Pacific Railroad as the Business Director -- Deregulated Opportunities. From 1999 to 2003, he worked for the Canadian National Railway as Vice President -- Intermodal and then Vice President -- IMX Development and Implementation. In addition, Mr. Berry has held leadership positions in many intermodal associations. He has been an officer and member of the Board of directors of the National Railroad Intermodal Association; Chairman and Vice Chairman of the AAR Intermodal Steering Committee; President and First Vice President of the Intermodal Transportation Association; and Vice Chairman of the Intermodal Association of North America.

Mr. Berry received his Bachelor of Science degree in Agriculture and Marketing from S.W. Missouri State University. He also attended a Masters Program in Marketing at S.W. Missouri State University.

Mr. Berry is sponsoring evidence relating to the cost of intermodal rail operations. His evidence is incorporated in Section III.A.3.c of the Narrative. Mr. Berry has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 20, 2004

William K. Berry
William K. Berry

5. 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.

In BNSF's October 8, 2003 Reply Evidence, Mr. Fisher sponsored evidence relating to BNSF's variable costs for the issue movement as well as evidence relating to excluded non-coal traffic, revenue divisions and T&E salaries for the OTRR. His evidence is incorporated in Sections II.A, III.A. and III.D.3 of the Narrative. To the extent that changes have been made to the evidence presented in those Sections in the Supplemental Reply Evidence, Mr. Fisher sponsors those changes. Mr. Fisher has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 19, 2004

Benton V. Fisher
Benton V. Fisher

6. Christopher D. Kent

Christopher D. Kent is Senior Managing Director of FTI Consulting, Inc., an economic and financial consulting firm. His business address is 1201 Eye Street, N.W., Suite 400, Washington, DC 20005. He holds a Bachelor of Arts degree from the University of Virginia. In 1970, he joined Western Electric, Inc. as a Management Trainee in its "High Risk-High Reward" program. During the next six years, he was promoted through various levels in the production, production scheduling, and costs and forecasting departments.

Since 1977, Mr. Kent has been involved in various aspects of transportation including traffic analyses, economic studies including costs and revenue analyses, railroad valuations, and the development of railroad operating plans, railroad facility plans and rolling stock requirements.

In 1977, Mr. Kent joined Conrail as Project Manager and worked primarily in assisting the Operating Department in optimizing fleet availability.

In 1978, Mr. Kent was employed by the United States Railway Association as Manager of Equipment and Facilities. He was subsequently appointed Chief, Equipment and Facilities, Rail Asset Valuation, in the Office of General Counsel. In this capacity, he supervised a staff of in-house professionals and outside consultants in developing the equipment, maintenance of way, and operating evidence submitted by the U.S. government in the valuation proceedings before the Special Court created under Sections 303(c) and 306 of the Regional Rail Reorganization Act.

In 1980, Mr. Kent formed Kent Associates, a consulting firm dealing with operating, transportation and marketing issues for various clients. Kent Associates was affiliated with the Washington Management Group, and Mr. Kent served as Vice President of that firm.

In 1984, Mr. Kent joined the economic consulting firm of Snavelly, King & Associates, Inc. as a Senior Consultant. While with that firm, he participated in numerous studies related to Section 229 proceedings and anti-trust litigation.

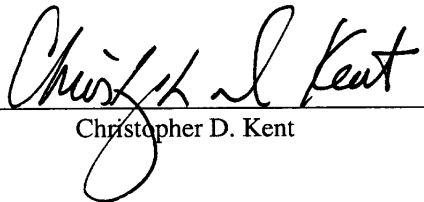
In 1987, Mr. Kent founded Klick, Kent & Allen, Inc. ("KK&A"), an economic and financial consulting firm. He served as a Principal of KK&A until its acquisition by FTI Consulting, Inc. in June 1998.

Mr. Kent has presented testimony in the valuation proceedings before the Special Court, the House of Courts of Justice Committee of the Virginia General Assembly, various state courts and federal courts and the Interstate Commerce Commission and Surface Transportation Board.

In BNSF's October 8, 2003 Reply Evidence, Mr. Kent sponsored evidence relating to the calculation of operating costs contained in Section III.D. To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Mr. Kent sponsors those changes. Mr. Kent has signed a verification of the truth of the statements contained therein. A copy of Mr. Kent's verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 19, 2004


Christopher D. Kent

7. John C. Klick

John C. Klick is the Executive Vice President of the economic and financial consulting firm of FTI Consulting, Inc. The firm's offices are located at 1201 Eye Street, N.W., Suite 400, Washington, DC 20005.

Mr. Klick graduated in 1970 from Bates College with a Bachelor of Science degree in Mathematics. He also has taken graduate courses in finance, accounting, and operations research. Since 1970, he has been involved continuously in cost-based economic and financial studies for a variety of industries.

Throughout Mr. Klick's career, he has organized and directed cost and economic studies for service providers, state governments, and other public bodies dealing with railroads, pipelines and other network industries. Examples of past studies that he has participated in include (1) organizing and directing traffic, operational, and cost analyses in connection with the valuation of northeastern rail property transferred to the Consolidated Rail Corporation, (2) calculation of stand-alone and long-run incremental costs for major segments of the nation's railroad industry, (3) estimation of the long-run incremental costs of providing various aspects of local telecommunications services, and (4) calculation of marginal, incremental and stand-alone costs for services performed by a major petroleum products pipeline company. Virtually all of these studies have involved the development and/or use of complex, computerized cost models that make extensive use of detailed engineering and operating input and incorporate sophisticated discounted cash flow techniques.

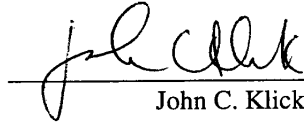
In addition, Mr. Klick has undertaken studies related to economic issues and analysis such as the effects of productivity and inflation on the costs of operations, forecasts of traffic volumes and corresponding resource requirements, and valuations of services and facilities.

The results of these studies frequently have been presented in both oral and written testimony before the Surface Transportation Board (and its predecessor, the Interstate Commerce Commission), the Federal Energy Regulatory Commission, state public utility commissions, arbitration panels, and the federal and state courts. This testimony has related to subjects such as the development of variable cost of service, marginal costs, incremental costs, stand-alone costs, economic principles related to the maximum and minimum level of rates, and procedures for implementing these maximum and minimum rate principles.

In BNSF's October 8, 2003 Reply Evidence, Mr. Klick sponsored evidence regarding flaws in Otter Tail's volume and revenue assumptions, Otter Tail's cross-over revenue divisions methodologies and revenue forecasts. He also sponsored evidence regarding BNSF's modified volume and revenue assumptions, including testimony regarding the development and implementation of BNSF's proposed density adjusted revenue allocation ("DARA") procedure and interpreted the results of his DARA calculations. That evidence was incorporated in Section III.A of the Narrative. To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Mr. Klick sponsors those changes. Mr. Klick has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 19, 2004


John C. Klick

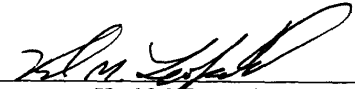
8. Karl M. Leopold

Karl M. Leopold is an independent contractor working for FTI Consulting, Inc., an economic and financial consulting firm. FTI's business address is 1201 Eye Street, N.W., Suite 400, Washington, DC 20005. Mr. Leopold holds a Bachelor's Degree in Government and Politics. In 1997, he joined Klick, Kent & Allen, Inc., which was acquired by FTI Consulting, Inc. in 1998. 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 stand-alone cost studies, conducted and evaluated railroad contract provisions, and developed computer models to evaluate railroad engineering and operating requirements.

In BNSF's October 8, 2003 Reply Evidence, Mr. Leopold sponsored evidence relating to Otter Tail's string program, the number of crew personnel required by the OTRR, and the number of locomotives and railcars required by the OTRR. His evidence was contained in Sections III.B.2.a, III.C.2 and III.D.3.a of the Narrative. To the extent that changes have been made to BNSF's Supplemental Reply Evidence related to the string program, Mr. Leopold, along with Mr. Monks, sponsor those changes. Mr. Leopold has signed a verification of the truth of the statements contained therein. A copy of Mr. Leopold's verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 18, 2004


Karl M. Leopold

9. J. Reilly McCarren

J. Reilly McCarren is a railroad executive and engineer. His business address is 330 Abbotsford Road Kenilworth, Illinois 60043-1105. Mr. McCarren holds Bachelors and Masters Degrees in Civil Engineering from the Massachusetts Institute of Technology. Mr. McCarren is currently the Chairman of the Arkansas & Missouri Railroad Company ("A&M"), a transportation company that provides local railroad, trucking and logistics services in Northwest Arkansas and Southwest Missouri. Prior to his chairmanship at A&M, Mr. McCarren served as an executive at several railroads, including a term as President and Chief Executive Officer of the Wisconsin Central System, the largest integrated regional rail carrier in North America, with a 2,800 mile network in both the United States and Canada, and as President of the Gateway Western Railway and the Wheeling and Lake Erie Railway.

In BNSF's October 8, 2003 Reply Evidence, Mr. McCarren sponsored evidence relating to factors affecting General and Administrative expenses. His evidence was contained in Section III.D.3.c. of the Narrative. To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Mr. McCarren sponsors those changes. Mr. McCarren has signed a verification of the truth of the statements contained therein. A copy of Mr. McCarren's verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 16, 2004


J. Reilly McCarren

10. Rick A. Meredith

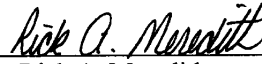
Rick A. Meredith is a Design Engineer with Ralph Whitehead Associates, an engineering consulting firm. His corporate business address is 1000 West Morehead St., Charlotte, NC 28208. As a Design Engineer at RWA, Mr. Meredith is responsible for the design and plan preparation of a variety of highway and railway projects, including span bridge replacements. He is also a qualified On-Track Worker Training instructor conducting courses for CSXT and Norfolk Southern contractors. His major project experience for RWA includes work on over a dozen bridge projects such as: the final engineering design of a dual track two simple deck plate girder spans with a composite concrete ballast deck bridge, the replacement of a single track 163'-0" 7-span open deck bridge on timber piles with a 4-span timber ballast deck steel beam bridge on steel pile and drilled shaft bents, the replacement of a single track 137'-4" 4-span open deck bridge on timber and steel pile bents with a 3-span timber ballast deck steel beam bridge on steel pile bents, among others.

Mr. Meredith received his Bachelor of Science in Civil Engineering in 1995 from the Virginia Polytechnic Institute and State University. He is a member of the American Railway Engineering and Maintenance of Way Association (AREMA), and the American Society of Civil Engineers (ASCE). Mr. Meredith previously worked for Norfolk Southern Corporation as Track Supervisor, managing all aspects of track maintenance and operations for several large metropolitan areas.

In BNSF's October 8, 2003 Reply Evidence, Mr. Meredith sponsored evidence relating to Section III.F.5 Bridges and Schematics. To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Mr. Meredith sponsors those changes. Mr. Meredith has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Reply 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 March 18, 2004


Rick A. Meredith

11. Terence J. Monks

Terence J. Monks is a computer programmer and software consultant. His business address is 2450 Freetown Drive, Reston, Virginia 20191.

Mr. Monks holds a Bachelor of Arts degree in French and German from the University of Exeter, United Kingdom. He also spent two years in a doctoral program in Computational Linguistics at Birkbeck College, University of London, United Kingdom.

Since 1968, Mr. Monks has been employed as a programmer, systems analyst and Director of Computer Services and Systems Development for various organizations. He has specialized in computer modeling and simulation, providing studies and software to the National Aeronautics and Space Administration (NASA), the Raytheon Corporation, and the Federal Aviation Administration (FAA). Mr. Monks was a lead designer/programmer for a project sponsored by the FAA to simulate day-to-day air traffic between the West Coast and Hawaii.

Mr. Monks held the titles of Chief, Operational Support and Director, Computer Services, for the United States Railway Association. During this time, he oversaw the development and deployment of the Operations Cost Model (OCM), a large-scale simulation of day-to-day operations on the entire Conrail rail network. Following deployment of the OCM, Mr. Monks spent considerable time refining the model and increasing the throughput and accuracy.

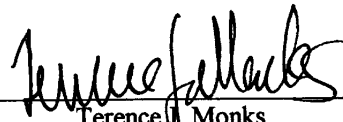
Throughout his professional career, Mr. Monks has had the opportunity to study and use many computer languages and operating systems, including all those in common use today. His work also includes program verification, debugging techniques and error checking in software development.

In BNSF's October 8, 2003 Reply Evidence, Mr. Monks sponsored evidence relating to Otter Tail's string program. His evidence was contained in Section III.B.2.a.3 and III.C.2.a of the Narrative. To the extent that changes have been made to the evidence presented in those

Sections in the Supplemental Reply Evidence, Mr. Monks, along with Mr. Leopold, sponsors those changes. Mr. Monks has signed a verification of the truth of the statements contained therein. A copy of Mr. Monks' verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 29th, 2004


Terence J. Monks

12. Loren E. Mueller

Loren E. Mueller is a railroad transportation consultant. His business address is 614 Regency Crossing, Southlake, TX 76092.

Mr. Mueller was employed by BNSF and its predecessors for 32 years. His management positions with the Burlington Northern Railroad began in 1975 as yardmaster at Lincoln, Nebraska. He held a number of positions with the railroad. From 1992 to 1994, Mr. Mueller was General Manager - Coal Operations, responsible for operations of the BN system coal business unit. During this time, he directed major construction and expansion of the BN's operations in the Powder River Basin ("PRB") of Wyoming to include coordination of the joint line with Chicago and North Western Railway Company ("CNW")/Union Pacific ("UP"). From 1995 through 1996, he was Vice President of Burlington Lines, responsible for the total transportation function for one-third of the BNSF Railroad, including major terminals, mechanical, engineering and operations. Mr. Mueller retired from BNSF in 1996. From May, 2000, through April 30, 2001, he held a one-year assignment as Vice President and Chief Operating Officer of the Alaska Railroad. He was responsible for all aspects of operation for the Alaska Railroad, including operations, engineering, mechanical, marketing and safety.

In BNSF's October 8, 2003 Reply Evidence, Mr. Mueller sponsored evidence relating to operations of the stand-alone railroad. His evidence was incorporated in Sections III.B.3, III.C and III.D.3 of the Narrative. To the extent that changes have been made to the evidence presented in those Sections in the Supplemental Reply Evidence, Mr. Mueller sponsors those changes. Mr. Mueller has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March ____, 2004


Loren E. Mueller

13. Julie A. Murphy

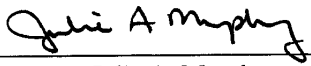
Julie A. Murphy is a Manager at FTI Consulting, Inc., an economic and financial consulting firm. Her business address is 1201 Eye Street, N.W., Suite 400, Washington, D.C. 20005. Ms. Murphy holds a Bachelor of Arts and a Master of Arts in Economics from Allegheny College and Pennsylvania State University. Since 1994, Ms. Murphy has been involved in various aspects of consulting for network industries including electric utilities, transportation and telecommunications firms. Her work has encompassed damages analysis, competition and antitrust analyses, asset valuations, pricing and costing analyses.

Ms. Murphy joined FTI Consulting in 2000. While with FTI, Ms. Murphy has provided technical support and filed testimony in several proceedings before the Surface Transportation Board, Federal Communications Commission, and the California State Utility Commission. She has been involved in developing traffic and revenue forecast in stand-alone cost proceedings since 2000 including the *WPL*, *TMPA*, *Duke Energy Co. v. CSX Transp. Co.*, *Duke Energy Co. v. Norfolk Southern Ry. Co.*, and *Carolina Power & Light v. Norfolk Southern Ry. Co.* cases.

In BNSF's October 8, 2003 Reply Evidence, Ms. Murphy sponsored evidence in Section III.A regarding flaws in Otter Tail's volume and revenue assumptions, Otter Tail's cross-over revenue divisions methodologies and revenue forecasts. She also sponsored evidence regarding BNSF's modified volume and revenue assumptions. To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Ms. Murphy sponsors those changes. Ms. Murphy has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 19, 2004



Julie A. Murphy

14. Robert C. Phillips, P.E.

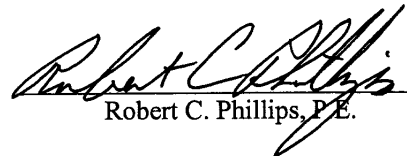
Robert C. Phillips is a Project and Branch Manager with Ralph Whitehead Associates. His business address is 1000 West Morehead St., Charlotte, NC 28208. As Project and Branch Manager for RWA, he is responsible for branch office management, construction management for fiber optic construction, and the general administration of construction inspection for railway projects. He has extensive experience in fiber optic construction management, railroad track and bridge construction, track maintenance and railroad operations. His special expertise is roadbed preparation, and his major project experience with RWA includes construction management at approximately ten sites.

Mr. Phillips is a 27 year veteran of the railroad industry. Mr. Phillips received his Bachelor of Science in Civil Engineering at Virginia Polytechnic Institute in 1975. He received his Masters in Business Administration from Averett College in 1992. Upon graduation he worked for Norfolk Southern Railroad as a Track Supervisor, where he inspected and maintained tracks, scheduled track maintenance, supervised track gangs, and maintained a successful safety program. He then worked for APAC-Virginia, Inc. as a project manager, which included cost estimating and analysis, as well as site engineering and development. He holds a license as a Registered Professional Engineer in Virginia.

In BNSF's October 8, 2003 Reply Evidence, Mr. Phillips sponsored evidence relating to Section III.F.2 Roadbed Preparation. To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Mr. Phillips sponsors those changes. Mr. Phillips has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Reply 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 March 18, 2004


Robert C. Phillips, P.E.

15. Robert J. Plum, III

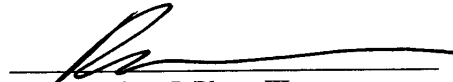
Robert J. Plum, III, is a Director of FTI Consulting, Inc. ("FTI"), with offices at 1201 Eye Street, N.W., Suite 400, Washington, DC 20005.

Mr. Plum holds a Bachelor's Degree in Accounting and an MBA 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.

In BNSF's October 8, 2003 Reply Evidence, Mr. Plum sponsored evidence relating to BNSF's variable costs for the issue movement, OTRR route miles, and the number of locomotives and railcars required by OTRR. His evidence was incorporated in Sections II.A, III.B.1, and III.C.2 of the Narrative. To the extent that changes have been made to the evidence presented in those Sections in the Supplemental Reply Evidence, Mr. Plum sponsors those changes. In addition, for purposes of the Supplemental Reply Evidence, Mr. Plum sponsors evidence concerning the calculation of the revised number of crew personnel required for the OTRR contained in Section III.D.3. Mr. Plum has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 19, 2004



Robert J. Plum, III

16. Dennis K. Prewitt

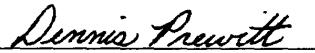
Dennis K. Prewitt is a Construction Inspector with Ralph Whitehead Associates, an engineering consulting firm. His business address is 1000 West Morehead St., Charlotte, NC 28208. As Construction Inspector for RWA, Mr. Prewitt is responsible for the general administration and construction inspection of railway projects. He has extensive experience in bridge inspections, bridge replacements, structural steel protective coatings, siding and mainline track construction upgrades and earthwork. His major project experience at RWA includes such duties as the daily on-site observation at work locations and the verification of construction compliance to approved plans and specifications for multiple projects. He has evaluated hundreds of bridges, and has provided detailed inspection reports, including photographs and videos.

Mr. Prewitt studied Physics at both Washington & Jefferson College and Wright State University. He holds multiple Inspector Certificates, including Bituminous Concrete Inspector, Portland Cement Concrete Inspector, DOT Corrugated Metal Culverts over 10' Span, DOT Structural Steel Protective Coatings with Lead Abatement, and Bridge Inspector, Concrete and Structural Steel. Mr. Prewitt has previously worked at Balke Engineers of Cincinnati, OH as a Resident Project Representative, responsible for the general administration and inspection of private and public works projects, including highways, bridges, railroad grade separations, water mains, sanitary installations and bridge painting.

In BNSF's October 8, 2003 Reply Evidence, Mr. Prewitt sponsored evidence relating to Sections III.C.1 Route Miles and III.F.2 Culverts and Compilations. To the extent that changes have been made to the evidence presented in those Sections in the Supplemental Reply Evidence, Mr. Prewitt sponsors those changes. Mr. Prewitt has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Reply 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 March 16, 2004


Dennis K. Prewitt

17. Charles W. (Pat) Price

Charles W. Price is a Project Inspector at Ralph Whitehead Associates, an engineering consulting firm. His business address is 1000 West Morehead St., Charlotte, NC 28208. As Project Inspector for RWA, Mr. Price is responsible for the general administration of construction inspection for railway projects, as well as for providing safety awareness training on fiber optic construction. His special expertise is in the area of signals, and his major project experience for RWA involving signals has included the oversight for all construction engineering and inspection services for fiber optic installation on the Norfolk Southern right of way. His daily responsibilities included providing on-site reports for all work locations and enforcing compliance with safety rules. He has performed a similar oversight role on other major right of ways. He has also served as Project Inspector for the construction of a large mixing facility, including the creation of a large excavation, the laying of track, paving of a storage yard, and installation of 2 railroad and 1 highway bridges.

Mr. Price is a 38 year veteran of the railroad industry. He graduated from the Master Course in Industrial Electronics Technology at the National Radio Institute in Washington D.C. in 1983. Mr. Price previously worked for Norfolk Southern Corporation as a Senior Project Engineer in the Signal Department, overseeing all signal projects in the northeastern region. This included the scheduling of all signal projects, meeting with contractors to solicit bids for signal projects, coordinating with material management to ensure materials were provided in a timely fashion, and monitoring of material and labor budgets.

In BNSF's October 8, 2003 Reply Evidence, Mr. Price sponsored evidence relating to Section III.F.6 Signals. To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Mr. Price sponsors those changes. Mr. Price has signed a verification of the truth of the statements contained therein. A copy of that

verification is attached hereto.

I declare under penalty of perjury that I have read the Reply 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 March 17, 2004

C. W. Price
Charles W. (Pat) Price

18. James Primm

James Primm specializes in all aspects of railroad engineering, specifically in the design of maintenance facilities for and the procurement of railcars and locomotives. He is currently working on subcontract for Ralph Whitehead Associates, an engineering consulting firm. His business address while on subcontract is 1000 West Morehead St., Charlotte, NC 28208. Mr. Primm has supervised the design of locomotive maintenance facility renovation projects and has helped procure over 1,300 unit train coal cars.

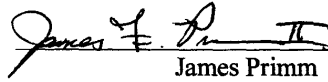
Among Mr. Primm's many engineering achievements are the direction of design and management of construction at Barstow Locomotive Facility in Barstow, California, Hinkle Locomotive Facilities in Hermiston, Oregon, and Topeka System Maintenance Terminal Renovation in Topeka, Kansas. He has also prepared conceptual designs for high speed train maintenance facilities.

Mr. Primm has authored numerous transportation studies, as well as undertaken geotechnical and environmental investigations. He received his Bachelor of Science in 1973 in Electrical Engineering from the University of Oklahoma. He is a member of the American Railway Engineering Association, the American Welding Society, the Locomotive Maintenance Officers Association, and the International Association of Railway Operating Officers.

In BNSF's October 8, 2003 Reply Evidence, Mr. Primm sponsored evidence relating to Section III.F.7 Buildings and Facilities. To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Mr. Primm sponsors those changes. Mr. Primm has signed a verification of the truth of statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 16, 2004


James Primm

19. Arnold S. Tesh

Arnold S. Tesh is a real estate consultant and certified real property appraiser at FTI Consulting, Inc., an economic and financial consulting firm. His business address is 1201 Eye Street, N.W., Suite 400, Washington, DC 20005. He has been valuing real estate for more than thirty-seven years. He has spent twenty-five years performing property appraisals for use by railroads. He served as the Director of Real Estate in the Law Department of the United States Railway Association during the proceedings that resulted in the creation of Conrail. In that proceeding, he directed the valuation of nearly 24,000 miles of railroad in seventeen states, the District of Columbia, and two Canadian provinces, comprising the lines of Penn Central, Erie Lackawanna, Central of New Jersey, Ann Arbor, Lehigh Valley, Reading, and Delaware and Hudson railroads. The methodology that he developed in that case, and which formed the basis of his Special Court testimony under the Regional Rail Reorganization Act of 1973, employs the same valuation principles he uses here.

Mr. Tesh has also performed real property appraisals for railroad lines used by Amtrak, Union Pacific, Southern Pacific, Illinois Central Gulf, Santa Fe, Burlington Northern, CSX, and other railroads. His experience also includes appraising commercial, industrial, residential and agricultural properties located throughout the United States, as well in the Caribbean, Canada, Mexico, and Central America.

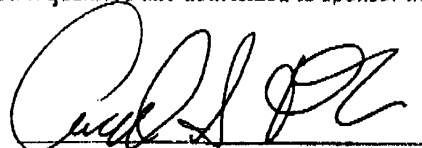
Mr. Tesh is a Counselor of Real Estate ("CRE") of the American Society of Real Estate Counselors and a Chairman of the Legislative and Regulatory subcommittee of the National Association of Realtors. Only about 1,100 real estate experts in the world have earned the CRE designation. He has his certification to appraise real estate in many states.

In BNSF's October 8, 2003 Reply Evidence, Mr. Tesh sponsored evidence relating to road property investment in land. His evidence was contained in Section III.F.1 of the Narrative.

To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Mr. Tesh sponsors those changes. Mr. Tesh has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 19, 2004



Arnold S. Tesh

20. Joseph L. Walton III

Joseph L. Walton III is a consultant who has worked for 42 years in the railroad signals and communications field. He is currently on subcontract to Ralph Whitehead Associates, an engineering consulting firm. His business address while on subcontract is 1000 West Morehead St., Charlotte, NC 28208.

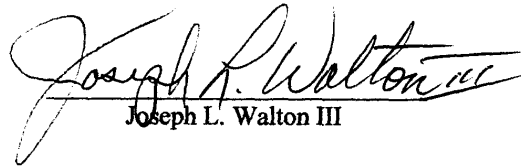
Mr. Walton has provided leadership, management and supervisory responsibility in the field of signals and communications since December, 1959. His experience includes the engineering, operating, construction and maintenance of railway signals and communications systems. His career has spanned the job of being an assistant signalman to being a top manager of complex signals and communications systems. Most of his career has been spent working in various positions involving signals and communications at Norfolk Southern Corporation.

Mr. Walton received an Associate Degree from Rowan Technical Institute in 1969 in Electronic Technology. He is a member of AREMA, the Association of American Railroads, and the American Short Line and Regional Railroad Association.

In BNSF's October 8, 2003 Reply Evidence, Mr. Walton sponsored evidence relating to Signals and Communications. His evidence was contained in Section III.F.6 of the Narrative. To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Mr. Walton sponsors those changes. Mr. Walton has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Reply 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 March 16, 2004



Joseph L. Walton III

21. David R. Wheeler

David R. Wheeler is the founder and President of Rail Network Analytics. His business address is 9222 Nottingham Way, Mason, OH 45040.

Mr. Wheeler received a Bachelor of Science degree in engineering and computer science from Merrimack College in 1985. He also received a Masters of Business Administration degree in finance and operations management from Miami University in 1992. He has training in Six Sigma methodology and holds a Six Sigma Blackbelt certification.

Throughout his career, Mr. Wheeler has focused on advanced analytical techniques for operational improvement and strategic planning. He has more than fifteen years experience in areas including rail operations analysis, capacity analysis, simulation, stand-alone rate case litigation, structured problem solving using the Six Sigma methodology, supply chain efficiency and mergers & acquisitions. Mr. Wheeler has experience not only in the simulation and analysis of railroads, but also in other high technology industries including cockpit simulation work on the F-16 and F-22 fighter aircraft.

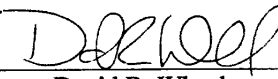
Mr. Wheeler held a number of leadership positions within the Union Pacific Railroad Company (UP). During his tenure with UP, Mr. Wheeler led teams within Finance, Capacity Planning, Network & Capital Planning and Network Design & Integration. He has submitted testimony in previous stand-alone cost cases and presented research in a variety of forums. As General Director, Capacity Planning & Analysis, Mr. Wheeler was responsible for and led the capital planning function for UP's annual capital development and implementation. In this capacity, Mr. Wheeler analyzed and directed spending of more than \$300 million for Powder River Basin coal traffic. Mr. Wheeler uses simulation tools on a regular basis and has conducted a number of simulation benchmarking studies to determine and lead vendors toward simulation improvements.

Mr. Wheeler has worked on a variety of projects in the railroad industry. Mr. Wheeler developed UP's Colorado/Utah coal capacity plan and guided the Intermodal growth capacity initiative from Chicago to Los Angeles across UP's Sunset and Tucumcari routes. He has worked on multiple projects for the BNSF, NS, CSX, CP and CN, as well as the many short lines that connect with the UP. Mr. Wheeler has also led teams working on proposals for new passenger service for Amtrak, various commuter agencies, and UP's Joint Facilities, Finance, Operations and Engineering groups.

In BNSF's October 8, 2003 Reply Evidence, Mr. Wheeler sponsored evidence relating to the OTRR's capacity requirements and cycle times. His evidence was contained in Sections III.B.2, III.B.3 and III.C.2 of the Narrative. To the extent that changes have been made to the evidence presented in those Sections in the Supplemental Reply Evidence, Mr. Wheeler sponsors those changes. Mr. Wheeler has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 18, 2004



David R. Wheeler

22. George T. Zimmerman, P.E.

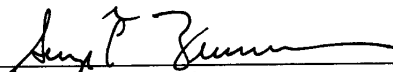
George T. Zimmerman is a Branch Manager and Project Manager/Senior Engineer with Ralph Whitehead Associates. His business address is 1000 West Morehead St., Charlotte, NC 28208. As Project Manager/Senior Engineer for RWA, Mr. Zimmerman manages all aspects of Ralph Whitehead Associates' relationship with Norfolk Southern. He assists in the preparation of proposals and contracts, and provides structural design and plan reviews for railway and bridge projects. His major project experience, among others, includes serving on an on-call as-needed basis for Norfolk Southern, for plan review and periodic construction inspection throughout the system. Mr. Zimmerman also has served as Project Manager for several large projects for CSXT.

Mr. Zimmerman is a veteran of 24 years in the railroad industry. Mr. Zimmerman received his Bachelor of Science in Civil Engineering in 1979, from West Virginia University. He holds a license as a Registered Professional Engineer in South Carolina, Georgia, Ohio, and Kansas. He is a member of the American Railway Engineering and Maintenance of Way Association (AREMA), and a member of the American Society of Civil Engineers.

In BNSF's October 8, 2003 Reply Evidence, Mr. Zimmerman sponsored evidence relating to Section III.F.3 Track Construction. To the extent that changes have been made to the evidence presented in that Section in the Supplemental Reply Evidence, Mr. Zimmerman sponsors those changes. Mr. Zimmerman has signed a verification of the truth of the statements contained therein. A copy of that verification is attached hereto.

I declare under penalty of perjury that I have read the Supplemental Reply 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 March 16, 2004


George T. Zimmerman

EXHIBITS

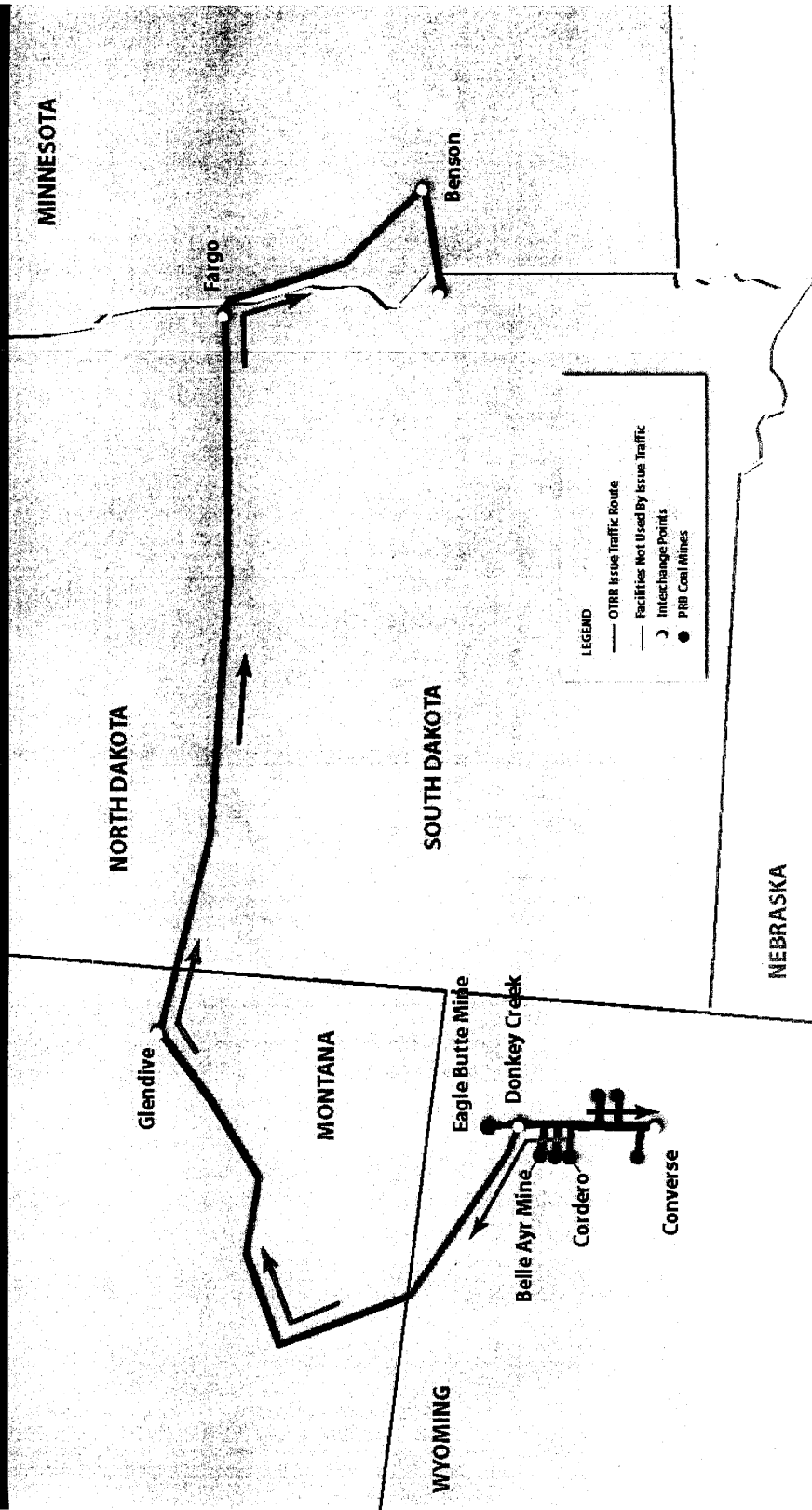
BNSF Supplemental Reply Exhibits				
Reply Exhibit #:	Applicable to Supp. Reply	Not Applicable to Supp. Reply	Replaced By	New Exhibits
I				
Exhibit I-1	X			
III.A				
Exhibit III.A-1			Supp. Reply Exhibit III.A-1	
Exhibit III.A-2	X			
Exhibit III.A-3	X			
Exhibit III.A-4			Supp. Reply Exhibit III.A-3	
Exhibit III.A-5	X			
Exhibit III.A-6	X			
Exhibit III.A-7	X			
Exhibit III.A-8	X			
Exhibit III.A-9			Supp. Reply Exhibit III.A-5	
Exhibit III.A-10			Supp. Reply Exhibit III.A-6	
Exhibit III.A-11			Supp. Reply Exhibit III.A-7	
Exhibit III.A-12			Supp. Reply Exhibit III.A-8	
Exhibit III.A-13	X			
Exhibit III.A-14	X			
Exhibit III.A-15	X			
Exhibit III.A-16			Supp. Reply Exhibit III.A-12	
Exhibit III.A-17			Supp. Reply Exhibit III.A-13	
Exhibit III.A-18			Supp. Reply Exhibit III.A-14	
Exhibit III.A-19			Supp. Reply Exhibit III.A-15	
				Supp. Reply Exhibit III.A-2
				Supp. Reply Exhibit III.A-4
				Supp. Reply Exhibit III.A-9
				Supp. Reply Exhibit III.A-10
				Supp. Reply Exhibit III.A-11
III.B				
Exhibit III.B-1			Supp. Reply Exhibit III.B-3	
Exhibit III.B-2		X		
Exhibit III.B-3		X		
Exhibit III.B-4	X			
Exhibit III.B-5	X			
Exhibit III.B-6	X			
Exhibit III.B-7	X			
Exhibit III.B-8	X			
Exhibit III.B-9		X		
Exhibit III.B-10	X			
Exhibit III.B-11		X		
Exhibit III.B-12		X		
Exhibit III.B-13	X			
Exhibit III.B-14		X		
Exhibit III.B-15		X		
Exhibit III.B-16		X		
Exhibit III.B-17		X		
Exhibit III.B-18		X		
				Supp. Reply Exhibit III.B-1

BNSF Supplemental Reply Exhibits				
Reply Exhibit #:	Applicable to Supp. Reply	Not Applicable to Supp. Reply	Replaced By	New Exhibits
				Supp. Reply Exhibit III.B-2
III.C				
Exhibit III.C-1	X			
Exhibit III.C-2	X			
Exhibit III.C-3	X			
Exhibit III.C-4	X			
Exhibit III.C-5	X			
Exhibit III.C-6			Supp. Reply Exhibit III.C-1	
Exhibit III.C-7		X		
				Supp. Reply Exhibit III.C-2
				Supp. Reply Exhibit III.C-3
				Supp. Reply Exhibit III.C-4
III.D-4				
Exhibit III.D.4-1			Supp. Reply Exhibit III.D.4-1	
Exhibit III.D.4-2	X			
Exhibit III.D.4-3	X			
III.F				
Exhibit III.F-1			Supp. Reply Exhibit III.F-1	
III.F-1				
Exhibit III.F.1-1	X*			
Exhibit III.F.1-2	X*			
III.F-2-12				
Exhibit III.F-2			Supp. Reply Exhibit III.F-2	
Exhibit III.F-3	X			
Exhibit III.F-4			Supp. Reply Exhibit III.F-3	
III.H				
Exhibit III.H-1			Supp. Reply Exhibit III.H-1	

* Exhibit applies, except as to ROW and yard locations excluded from supplemental reply filing.

**III.A: Stand-Alone
Traffic Group**

Facilities Used by Otter Tail's Big Stone Plant and Southern PRB Traffic Exiting at Converse



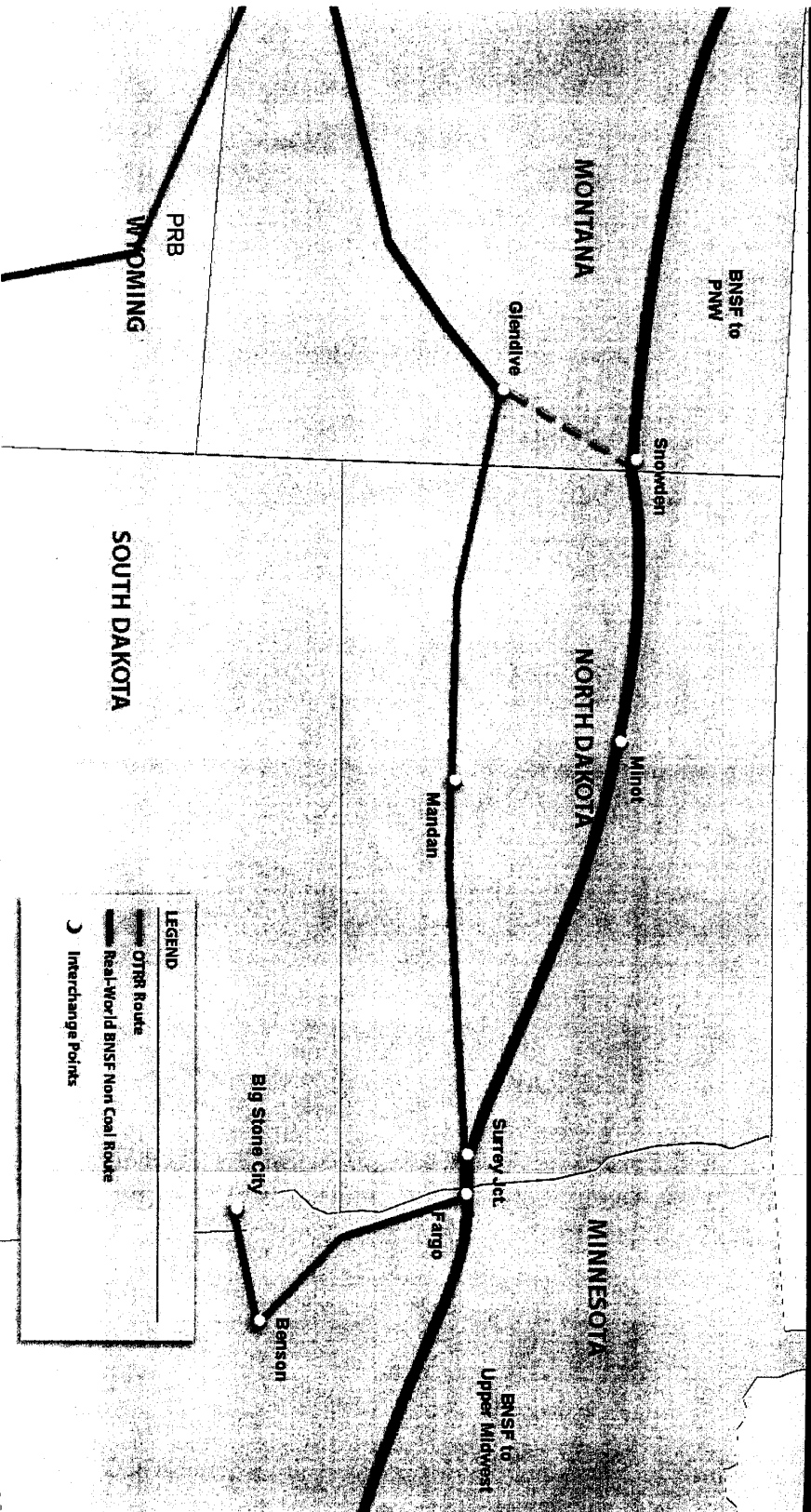
Supp. Reply Exh. III.A-2

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Comparison of OTRR and Real-World BNSF Routes



Comparison of OTRR Coal Tonnage Forecast by Otter Tail and BNSF in Supplemental Case

	<u>Otter Tail Supp. Opening</u>	<u>BNSF Supp Reply</u>	<u>Difference</u>
2002	212,090,456	127,626,209	84,464,247
2003	211,355,123	124,850,933	86,504,190
2004	213,300,538	126,065,926	87,234,612
2005	215,229,631	126,485,568	88,744,063
2006	219,288,371	129,248,672	90,039,699
2007	224,016,523	131,030,253	92,986,270
2008	227,438,536	133,331,894	94,106,642
2009	229,987,517	134,903,187	95,084,330
2010	233,949,054	137,313,672	96,635,382
2011	235,884,772	138,364,864	97,519,908
2012	237,209,020	138,829,978	98,379,042
2013	237,995,910	139,061,924	98,933,986
2014	238,417,186	139,306,202	99,110,984
2015	238,806,594	139,532,002	99,274,592
2016	239,367,461	139,850,522	99,516,939
2017	240,004,717	140,181,297	99,823,420
2018	240,374,654	140,368,132	100,006,522
2019	240,801,119	140,607,021	100,194,098
2020	241,206,861	140,825,160	100,381,701
2021	241,302,534	140,872,499	100,430,035

Comparison of OTRR Non-Coal Tonnage Forecast by Otter Tail and BNSF in Supplemental Case

	<u>Otter Tail Supp Opening</u>	<u>BNSF Supp Reply</u>	<u>Difference</u>
2002	25,243,569	7,484,699	4,071,273
2003	25,243,569	7,484,699	4,071,273
2004	25,243,569	7,484,699	4,071,273
2005	25,243,569	7,484,699	4,071,273
2006	25,243,569	7,484,699	4,071,273
2007	25,243,569	7,484,699	4,071,273
2008	25,243,569	7,484,699	4,071,273
2009	25,243,569	7,484,699	4,071,273
2010	25,243,569	7,484,699	4,071,273
2011	25,243,569	7,484,699	4,071,273
2012	25,243,569	7,484,699	4,071,273
2013	25,243,569	7,484,699	4,071,273
2014	25,243,569	7,484,699	4,071,273
2015	25,243,569	7,484,699	4,071,273
2016	25,243,569	7,484,699	4,071,273
2017	25,243,569	7,484,699	4,071,273
2018	25,243,569	7,484,699	4,071,273
2019	25,243,569	7,484,699	4,071,273
2020	25,243,569	7,484,699	4,071,273
2021	25,243,569	7,484,699	4,071,273

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Supp. Reply Exh. III.A-8

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Development of More Precise Mileage Block Credits

The source of the 100-mile origin and termination blocks used in the MSP formula is the Board's Carload Waybill Sample, which divides revenue on interline moves using an assumption that the originating and terminating carriers each receive a revenue credit that is the equivalent of a 100-mile line haul move. This credit is expressly intended to compensate the originating and terminating carrier for the costs associated with originating and terminating each move.¹

However, this 100-mile block credit was calculated to apply across all shipments, whether the traffic moves in single-car, multiple-car, or unit-train shipments, whether the traffic moves in shipper-owned or carrier-owned equipment, and regardless of the traffic type. The 100 mile block credit may reasonably reflect the origination and termination costs of a "system-average" carload. But its use in a SAC case to allocate revenue on cross-over traffic creates a perverse incentive for the complainant to load the SARR with short-haul coal traffic because the relative costs of originating and terminating a carload of unit train coal are considerably lower than the costs of originating or terminating a "system-average" carload of traffic.

1. Coal Traffic

Unit coal trains consist of continuously cycling sets of cars moving between an established origin and an established destination. The essence of unit coal train service, and one of the main factors driving railroads to provide unit train service, is the elimination of costs

¹ The documentation explaining the Waybill calculations states that the origin carrier receives "an additional [100-mile] block to allow for the pick-up and switching expenses," and the destination carrier receives "an additional [100-mile] block to allow for delivery expenses." *User Guide for the 1996 Surface Transportation Board Waybill Sample* at 8-33. The cited excerpt is included in BNSF's workpapers at BNSF.SUPP.WP.III-A-0071 to 0072.

associated with the switching that would otherwise be incurred to create a trainload from numerous individually originated cars or blocks of cars. To originate a unit train carload, an existing set of preconfigured cars is sent to a mine, where the entire set of cars is moved through the loading facilities. Coal is automatically dumped into each car from a loading tippie as the car moves through the loading dock. In the PRB, all of these operations are carried out on mine-owned loop tracks, so the originating railroad does not even own any road property associated with the origination of the coal. In some cases, the loading operations are carried out by third party loading crews that specialize in these activities. The loading operations in the PRB have become highly efficient due to the large volume of trains that load at individual mines. Unit trains that regularly consist of 115 to 130 carloads can be loaded at PRB mines in a matter of three to four hours.

The Board's URCS costing methodology recognizes the efficiencies and lower costs associated with originating and terminating unit trains. *Ex Parte No. 270 (Sub-No. 4)* prescribes specific adjustments to various URCS system-average costs to account for these efficiencies. All of these adjustments reduce the system-average costs for unit train traffic by substantial amounts.²

In Attachment 1 to this exhibit, BNSF shows the effect of these unit train adjustments using BNSF's 2002 URCS. Attachment 1 shows that URCS itself assumes that the costs to originate and terminate unit train carloads in shipper-owned cars is about 25% of the cost to originate the system-average carload and the cost to originate and terminate unit train carloads in railroad owned cars is about 57% of the system average (the vast majority of coal traffic in Otter

² *Ex Parte No. 270 (Sub-No. 4), Investigation of Railroad Freight Rate Structure Coal*, 344 I.C.C. 71, 227 (decided Dec. 3, 1974).

Tail's SARR is carried in shipper-owned equipment.) Applying these relationships to the 100-mile blocks that the Board's Waybill Sample uses to reflect the origination and termination costs of the system-average carload results in revised origination and termination blocks of 25 miles and 57 miles respectively for unit train carloads of coal in shipper and railroad cars.

BNSF carried out two additional analyses to confirm the reasonableness of these mileage blocks for unit-train carloads. First, BNSF examined the relationship between unit-train line-haul costs and unit-train origination costs as determined by URCS. The only significant difference in the URCS treatment of line-haul costs for unit trains as compared to shipments of single and multiple carloads is that URCS eliminates intertrain and intratrain ("I&I") switching. Since I&I switching is not a particularly large cost, there is little difference between the URCS line-haul costs for unit-train carloads and the URCS line-haul costs for single and multiple train carloads. As such, the relationship of line-haul costs to origination costs for unit-train carloads -- and therefore, the appropriate size of the mileage block for unit-train originations -- is not different than the relationships between the origination costs presented in Attachment 1.³

Second, BNSF examined the variable cost evidence that it submitted in this proceeding for the Otter Tail movement to determine the relationship between origination and line-haul costs. The Otter Tail movement is a relatively long, unit train movement that is reasonably representative of other BNSF movements of PRB coal. Attachment 2 sets out a movement-specific analysis showing that the variable origination costs for the Otter Tail movement are the equivalent of about 20 miles of line-haul costs. Taken together, these two analyses demonstrate that an origination and termination credit of 25 miles would be more appropriate than the 100-

³ BNSF Supp. Reply electronic workpaper "TERM COSTS SINGLE VS UNIT TRAIN.123."

mile MSP block for unit train coal moved in shipper cars, the predominant type of traffic on the OTRR, and a credit of 57 would be more appropriate for unit train service in railroad-provided cars.

Revision of the origin/termination blocks used in MSP would reduce the incentive a complainant has to game SAC results through the selection of short-haul, cross-over traffic. The size of the block credit for origination and termination is relatively unimportant in a case where the SARR carries cross-over traffic for a significant portion of the through movement. Indeed, in the TMPA case, where BNSF sponsored an adjustment to the origination/termination credits in MMP similar to the adjustment proposed here, the Board found that the adjustment had no significant effect on the revenue calculations.⁴ That was a case, however, where the SARR carried the cross-over traffic on average for a considerable portion of the move. Where, as here, the SARR is assumed to carry cross-over traffic for a short distance, an overstated origination credit gives the SARR a disproportionate amount of revenue and therefore provides a strong incentive to game the SAC test through the use of short-haul traffic.

2. Merchandise Traffic

As described above, the 100-mile origination/termination credit in the Waybill Sample applies across the board to all movements, and therefore reflects the cost to originate and terminate the system-average carload. However, just as the cost to originate and terminate a carload of unit train traffic is significantly less than average, the cost to originate and terminate a carload of merchandise traffic is significantly higher than average. URCS recognizes this through the use of a make-whole adjustment that is applied in assessing the costs of non-unit

⁴ *TMPA* at 31.

train service. Attachment 3 shows the relationship between the system-average carload origination cost and the origin/termination costs of non-unit train cars after the make-whole adjustment is applied. This analysis shows that the cost of originating/terminating a non-unit train carload in railroad equipment is about 341 percent of the cost of originating/terminating a system average carload in railroad equipment. For private equipment, the cost is 237 percent. This indicates that a mileage credit of 341 miles should be applied to merchandise traffic moving in railroad-owned equipment and a mileage credit of 237 miles should be applied to merchandise traffic moving in shipper-owned equipment.

3. Intermodal Traffic

The 100 mile block origination credit is also inappropriate for intermodal traffic, which is typically characterized by relatively low line-haul costs and relatively high origination and termination costs. According to William K. Berry, the former Vice-President Intermodal for Canadian National Railway, who is familiar with all types of rail traffic, intermodal terminal operations are the most complex and costly operations in the railroad industry. The disparity between intermodal terminal costs and line-haul costs is especially pronounced in the case of the intermodal cross-over traffic that Otter Tail selected for OTRR, which is long-haul traffic, much of which moves in efficient double-stack equipment. The costs of originating and terminating such traffic are, on average, equivalent to many more than the 100 miles of line-haul costs assumed by the generic MSP approach. As explained below, BNSF's average costs of originating and terminating the intermodal traffic moving over OTRR's SARR are equivalent to

560 miles of line-haul costs per unit for each origination or termination, 220 miles for each interchange, and 75 miles for intertrain switching en route.⁵

It is widely acknowledged that the Board's Uniform Rail Costing System does not produce satisfactory estimates of the costs associated with rail intermodal transportation, including terminal activities. *See Review of the General Purpose Costing System*, 2 S.T.B. 659, 662-63 (1997). To establish a more accurate measure of the costs of originating and terminating the cross-over intermodal traffic, BNSF retained Mr. Berry to develop costs for the various activities involved in handling that traffic. Mr. Berry most recently served as Vice President-Intermodal for Canadian National Railway. Section IV contains a complete statement of Mr. Berry's qualifications.

Mr. Berry developed the costs incurred by BNSF per intermodal unit (trailer or container) for intermodal originations and terminations. He did so by identifying the various terminal activities required to originate or terminate intermodal traffic and determining the costs associated with those activities. He based his analysis on information in the public domain, his discussions with knowledgeable railroad personnel and review of railroad data, and his own accumulated knowledge and experience of intermodal operations and marketing.⁶

In developing his analysis, Mr. Berry considered seven basic categories of terminal activities and their associated costs:

Lift Costs. Lift costs are the costs associated with loading a container or trailer onto a railcar or removing it from a railcar. These costs include the per unit ownership and operating

⁵ See Attachment 4 to this exhibit and BNSF.SUPPRP.WP.III-A-0001 to 0006.

⁶ BNSF.SUPPRP.WP.III-A-0007 to 0019.

costs for the lift equipment itself, ownership and operating costs of hostling tractors used to move loaded and empty trailers and containers in intermodal terminals, wages for terminal employees, clerical costs, and gate inspection costs. Mr. Berry concluded that, on average for the intermodal traffic that Otter Tail selected for its SARR traffic group, lift costs amount to \$30 per unit for each origination or termination event.⁷

Switching Costs. These are the costs of switching blocks of loaded and empty cars into and out of trains at origin or destination, as well as the costs of positioning cars during the loading and unloading process. Mr. Berry concluded that, on average for the intermodal traffic that Otter Tail selected for its SARR traffic group, switching costs amount to \$9.38 per unit for each origination or termination event.⁸

Sales, Billing, Claims, and Collections Costs. These are the customer-relations costs borne by the carriers that originate and terminate intermodal movements, who serve as the points of contact for intermodal customers. Mr. Berry concluded that, on average for the intermodal

⁷ BNSF.SUPPRP.WP.III-A-0002. Mr. Berry relied on his personal knowledge and experience in developing per unit lift costs. He also reviewed a study prepared by the Foundation for Intermodal Research & Education, in association with the U.S. Department of Transportation and the Federal Railroad Administration (the "FIRE Study"). BNSF.SUPPRP.WP.III-A-0020 to 0070. He discussed both the inputs and the results with the study's authors. BNSF.SUPPRP.WP.III-A-0007 to 0014. Mr. Berry's lift costs are consistent with the FIRE Study's findings.

⁸ Based on his personal knowledge and experience with intermodal operations, Mr. Berry concluded that the costs of switching and yard transfer activities amounted to \$4.17 per minute and 2.25 minutes per unit for each origination or termination event. BNSF.SUPPRP.WP. III-A-0002.

traffic that Otter Tail selected for its SARR traffic group, these “back office” costs amount to \$10 per unit for each origination or termination event.⁹

Terminal Car Costs. These are the car ownership costs for the time that intermodal cars spend in terminals during the loading and unloading process. Mr. Berry concluded that, on average for the intermodal traffic that Otter Tail selected for its SARR traffic group, these costs amount to \$3.78 per unit for each origination or termination event.¹⁰

Terminal Trailer & Container Costs for Rail Supplied Equipment. These are equipment ownership costs for the time that railroad-owned containers spend in terminals during the origination or termination process. Mr. Berry concluded that, on average for the intermodal traffic included in the OTRR traffic group, these costs amount to \$33 per unit for each origination or termination event when traffic moves in railroad-owned trailers or containers. (Although trailers are more expensive than containers, railroads incur significant additional costs associated with providing chassis for containerized traffic.) Of the OTRR intermodal traffic, approximately 24 percent moves in railroad-owned trailers or containers, which translates into an average trailer and container cost of \$7.92 per unit for each origination or termination event.¹¹

⁹ Mr. Berry based these costs on his personal knowledge and experience with intermodal operations.

¹⁰ BNSF.SUPPRP.WP III-A-0002. Mr. Berry based the terminal car costs on TTX’s per diem charge for a five-unit double-stack car, as presented in the FIRE Study. BNSF.SUPPRP.WP III-A-0020 to 0070. He conservatively assumed a 90-percent load factor and three-quarters of one day of terminal time for each origination or termination event.

¹¹ Mr. Berry based the trailer and container costs on information he obtained from companies that supply trailers and containers for intermodal transportation. BNSF.SUPPRP.WP III-A-0007 to 0014. He used a daily cost of \$11 and assumed three days of terminal time for loading or unloading the equipment. BNSF.SUPPRP.WP III-A-0002. Mr. Fisher of FTI supplied Mr. Berry with the approximate percentage of intermodal traffic in the SARR traffic group that

Rail Drayage Costs. These are the costs that railroads bear when they have responsibility for delivering units by truck to the final destination. Mr. Berry concluded that, on average for the intermodal traffic included in the OTRR traffic group, drayage costs amount to \$75 per dray.¹² Of the intermodal traffic that Otter Tail selected, approximately 12 percent is drayed at railroad expense,¹³ which translates into an average drayage cost of \$9 per unit for each origination or termination event.

Facility Capital Costs. These are the investment carrying costs associated with constructing an intermodal facility, including the costs of acquiring land for the terminal. Mr. Berry concluded that, on average for the locations handling intermodal traffic, facility capital costs amount to \$16.76 per unit for each origination or termination event.¹⁴

In sum, Mr. Berry calculates that, on average, BNSF incurs costs of \$86.84 per unit for each origination or termination event.¹⁵ In Otter Tail's cross-over world, these costs are borne entirely by the BNSF, and the revenue division that BNSF receives should reflect these costs.

Mr. Berry's conclusions are conservative when compared with the most recent available evidence on intermodal terminal costs. By way of comparison, BNSF charges a fee of \$115 per

moves in railroad-owned equipment. BNSF Supp. Reply electronic workpaper "otrr intermodal summary_revised.xls."

¹² Mr. Berry based the drayage costs on information obtained from companies serving the areas in which BNSF terminates intermodal traffic selected for the SARR. BNSF.SUPPRP.WP III-A-0007 to 0019.

¹³ BNSF Supp. Reply electronic workpaper "otrr intermodal summary_revised.xls."

¹⁴ Mr. Berry based the facility capital costs on recent BNSF experience in constructing intermodal facilities in the regions in which BNSF originates and terminates intermodal traffic selected for the SARR. BNSF.SUPPRP.WP.III-A-0007 to 0014.

¹⁵ BNSF.SUPPRP.WP.III-A-0002.

unit for originating or terminating intermodal units at its Oakland International Gateway terminal.¹⁶ This charge does not include switching costs or equipment costs for the time that loaded or empty trains remain in the terminal.¹⁷

As another example, the recent FIRE Study estimated total costs of \$125.00 per unit for originating and terminating a unit, or \$62.50 per unit for each origination or termination event.¹⁸ Mr. Berry learned from discussions with the authors of the FIRE Study that the study did not include certain costs that Mr. Berry included in his analysis.¹⁹ For example, the FIRE Study's estimate of lift costs did not include capital costs associated with ownership of lift equipment or gate inspection costs. The study also used lower labor costs associated with terminal activities than BNSF would incur in handling traffic in the SARR traffic group, because it assumed a drive-on/drive-off operation, in which non-railroad truck drivers, rather than railroad employees, would perform significant amounts of the terminal work. It also omitted from its calculation of total terminal costs any terminal switching costs; sales, billing, claims, and collections costs; and terminal trailer and container costs. The study included facility capital costs, but its estimate was not representative of BNSF's facilities in this case, because the study was modeling intermodal operations that did not require crane pads or the acquisition of land for storage of trailers or containers.²⁰ Finally, the study addressed drayage costs in a separate calculation.

¹⁶ BNSF.SUPPRP.WP.III-A-0015 to 0019.

¹⁷ *Id.*

¹⁸ BNSF.SUPPRP.WP.III-A-0020 to 0070.

¹⁹ BNSF.SUPPRP.WP.III-A-0007 to 0014.

²⁰ BNSF.SUPPRP.WP.III-A-0020 to 0070.

The costs that Mr. Berry developed can readily be converted into an estimate of a line-haul mileage equivalent for originating or terminating intermodal traffic that is far more appropriate than the 100-mile block in the generic MSP approach.

To convert BNSF's origination and termination costs into a mileage equivalent, it is also necessary to calculate BNSF's line-haul cost per mile of handling intermodal traffic. Because URCS does not produce a satisfactory estimate of intermodal line-haul costs, BNSF developed line-haul costs using a widely used, cost-based fee for the movement of intermodal units – TTX Company's current 62-cent per car-mile "Basic Mileage Rate" payment to railroad users of TTX equipment for movements of its empty intermodal cars.²¹ This payment is intended to compensate the railroad for the directly attributable costs, including the variable portion of road property ownership that they incur in moving the TTX intermodal equipment.²² The TTX payment does not include certain costs that BNSF incurs in line-haul movements of loaded intermodal units, such as car usage charges and costs associated with railroad-owned trailers or containers, and thus BNSF has adjusted the TTX base figure to incorporate those additional costs.²³ BNSF has also translated the charge into a per-unit basis, using TTX's average of 4.9 intermodal platforms per intermodal car.²⁴ These adjustments produce line-haul costs of 15.5 cents per unit-mile.²⁵

²¹ BNSF Supp. Reply electronic workpaper "TTX Application Testimony.pdf."

²² BNSF Supp. Reply electronic workpaper "TTX Supplement 78.pdf."

²³ BNSF Supp. Reply electronic workpaper "Intermodal Cost Matrix.xls."

²⁴ BNSF Supp. Reply electronic workpaper "TTX Application Testimony.pdf."

²⁵ BNSF Supp. Reply electronic workpaper "Intermodal Cost Matrix.xls." The line-haul costs produced by this methodology are quite close to those used in the FIRE Study. The line-haul costs estimates in the FIRE Study, which are almost certainly higher than the relevant line-

Using the respective origin/termination and line-haul costs described above, Benton Fisher of FTI calculated the line-haul mileage-block equivalent of each origination and termination event. Dividing line-haul costs of 15.5 cents per unit-mile into BNSF's average costs of \$86.84 per unit for each origination or termination event produces a mileage-block equivalent (rounded to the nearest five miles) of 560 miles for each origination or termination event.²⁶

4. Summary of Revised Origination/Termination Blocks

In sum, the 100-mile origination and termination blocks assumed under the Board's MSP methodology are problematic. The modified origination/termination mileage blocks calculated by BNSF above are as follows:

Traffic Type	Equipment Owner	
	Railroad-Provided	Private
Trainload Traffic (Coal, Grain, Other Unit Trains)	57	25
Other Carload Traffic (Manifest, Autos, other non-Intermodal)	341	237
Intermodal Traffic	560	

BNSF Supp. Reply Exhibit III.A-10 shows that using the adjusted mileage credits described above results in an overall 9-percent reduction in OTRR 2002 base-year revenues from those calculated using MSP with the generic 100-mile credit for all originations or terminations.

haul costs in this case, since the FIRE Study was modeling operations between eastern cities rather than the western routes traversed by Otter Tail's SARR, averaged approximately 17.5 cents per unit-mile for 200-unit trains and 21.3 cents per unit-mile for all trains in the study, including 100-unit trains. *Id.*; BNSF.SUPPRP.WP.III-A-0004; 0052 to 0054.

²⁶ BNSF Supp. Reply electronic workpaper "Intermodal Cost Matrix.xls."

Supp. Reply Exh. III.A-9
Attachment 1

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Supp. Reply Exh. III.A-9
Attachment 2

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Supp. Reply Exh. III.A-9
Attachment 3

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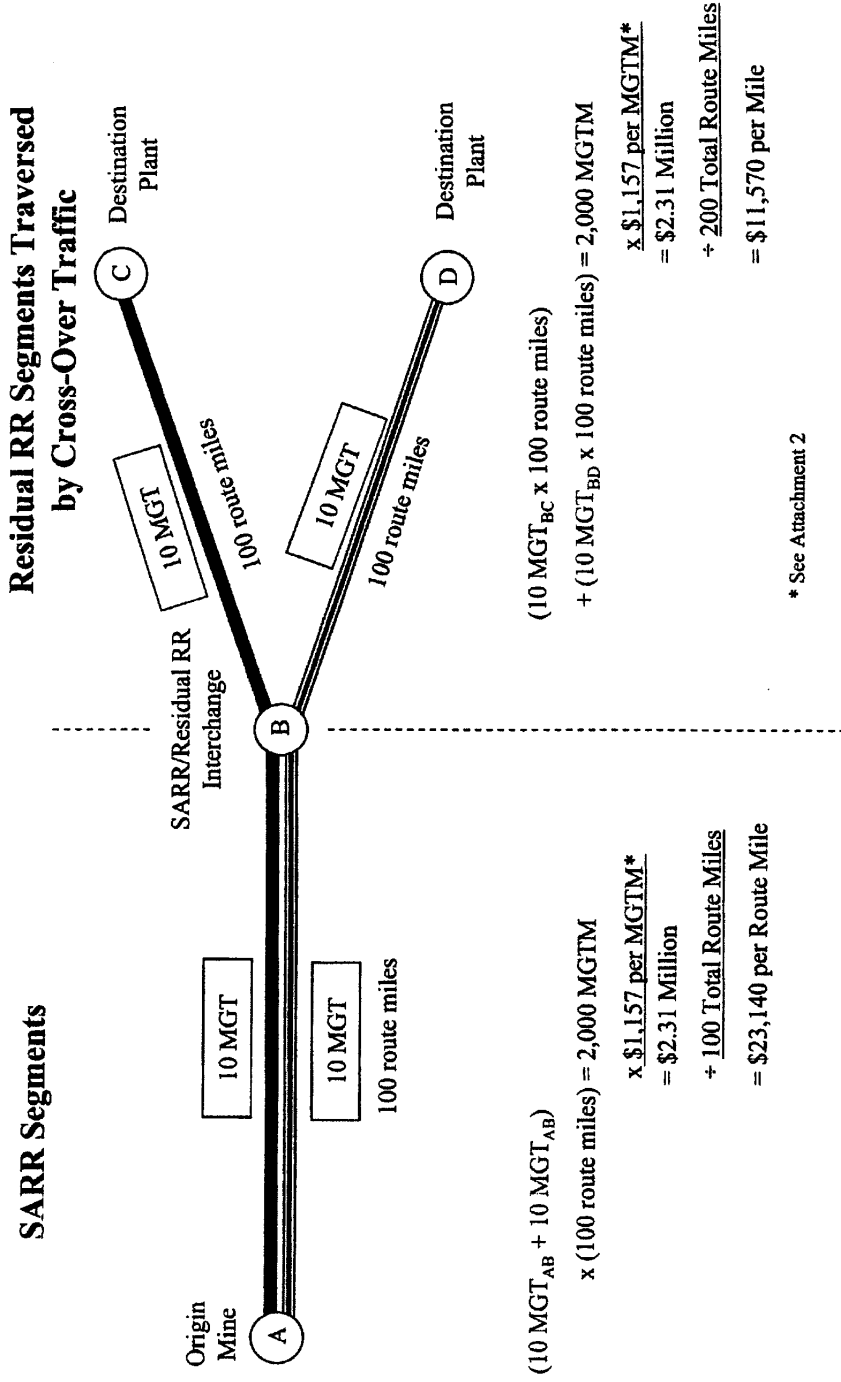
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Attachment 4

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Supp. Reply Exh. III.A-10

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Illustration of Allocation of Revenues for Recovery of Road Property Costs in Step #1 of DARA



► DARA allocates twice as much revenue per route mile (\$23,140 / \$11,570 = 200%) for recovery of road property costs to the SARR segments as it does to the residual RR segments traversed by cross-over traffic.

Allocation of OTRR Base-Year Coal Revenues in BNSF's Reply Testimony Using DARA

Base-Year Cross-Over Revenues for OTRR Coal Traffic Allocated on the Basis of Variable Costs in Step #1 of DARA			
	<u>OTRR SARR Segments</u>	<u>Residual BNSF Segments</u>	<u>Total</u>
Total Variable Costs for Cross-Over Movements (\$000s) 1/	\$299,524	\$549,406	\$848,930
Variable Road Property Costs (\$000s) 2/	\$61,627	\$125,312	
Total Route Miles 3/	1,148	8,788	
Variable Roadway Costs per Route Mile	\$53,675	\$14,260	
Base-Year Cross-Over Revenues for OTRR Coal Traffic Allocated in Step #2 of DARA			
	<u>OTRR SARR Segments</u>	<u>Residual BNSF Segments</u>	<u>Total</u>
Total Contribution for Cross-Over Movements (\$000s) 4/	\$58,595	\$208,878	\$267,472
Total Base-Year Cross-Over Revenues for OTRR Coal Traffic Allocated by DARA			
	<u>OTRR SARR Segments</u>	<u>Residual BNSF Segments</u>	<u>Total</u>
Total Revenue for Cross-Over Movements (\$000s)	\$358,119	\$758,283	\$1,116,402
Variable Costs as a Percent of Revenue			76%

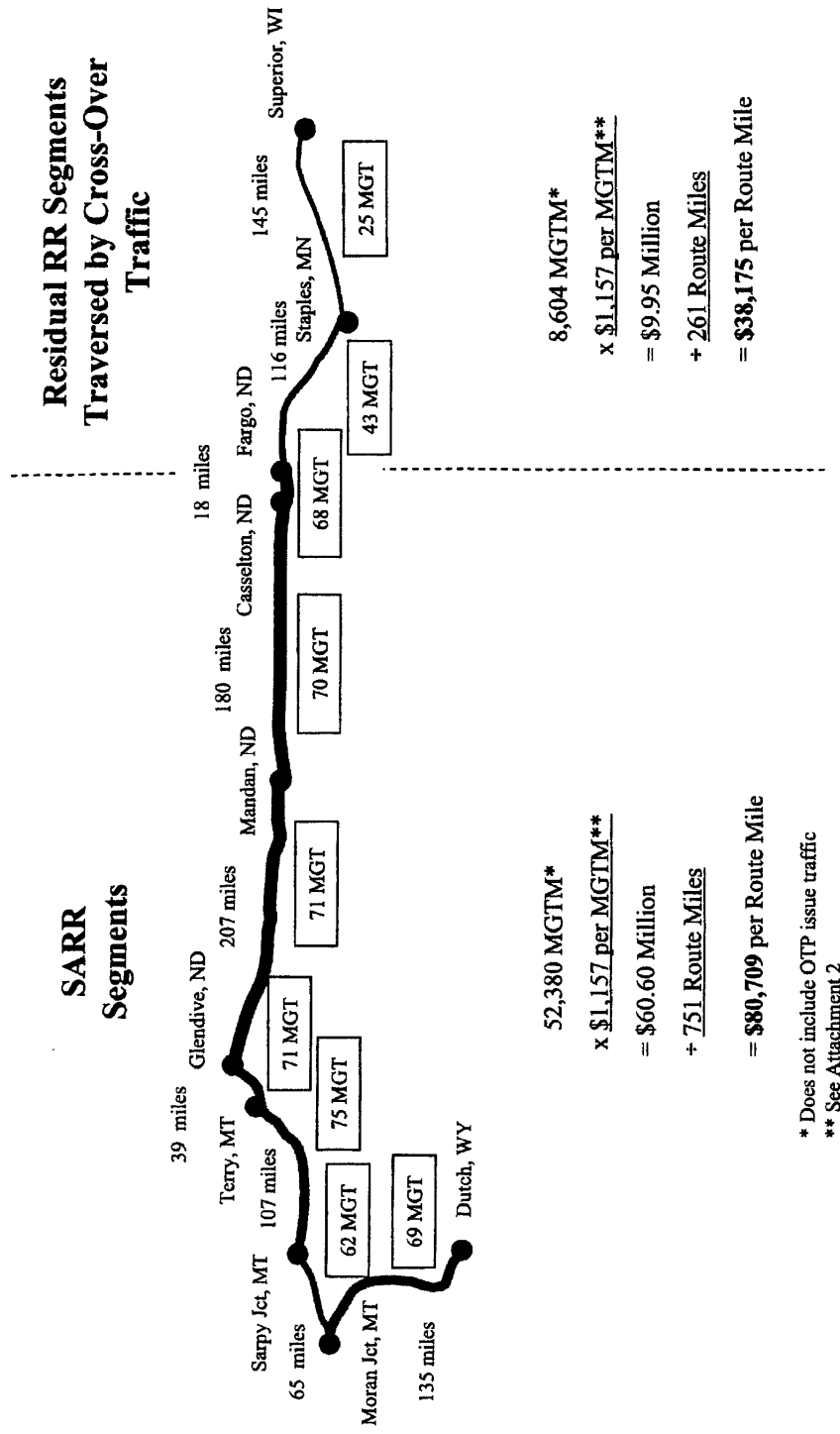
1/ BNSF Supplemental electronic workbook, "coal move_supp reply.xls"

2/ Includes URCS return on net investment and depreciation costs. Does not include maintenance of way operating expenses. Based on applying URCS unit costs to gross ton-miles. "coal move_supp reply.xls" tab "Summary"

3/ OTRR miles from BNSF Supplemental electronic workbook, "on sarr densities_supp.xls," tab "Sheet1;" residual BNSF miles from BNSF Supplemental electronic workbook, "OTRR and Residual BNSF Densities revised.xls," tab "Miles"

4/ BNSF Supplemental electronic workbook, "coal move_supp reply.xls"

Allocation of Revenues for Recovery of Road Property Costs in Step #1 of DARA Dutch - Superior



► DARA allocates more than twice (\$80,709/ \$38,175 = 211%) the revenue per route mile for recovery of road property costs to the SARR segments than to the residual RR segments traversed by cross-over traffic.

Comparison of OTRR Coal Revenue Forecast by Otter Tail and BNSF in Supplemental Case

	<u>Otter Tail Supp Opening</u>	<u>BNSF Supp Reply</u>	<u>Difference</u>
2002	\$533,648,475	\$383,870,184	\$149,778,291
2003	\$532,423,409	\$383,450,387	\$148,973,022
2004	\$534,891,126	\$384,606,342	\$150,284,784
2005	\$548,758,026	\$384,296,841	\$164,461,185
2006	\$571,804,432	\$399,188,218	\$172,616,214
2007	\$596,905,203	\$394,257,281	\$202,647,922
2008	\$618,922,258	\$409,385,756	\$209,536,502
2009	\$638,555,429	\$422,609,897	\$215,945,532
2010	\$662,216,372	\$439,627,156	\$222,589,216
2011	\$682,309,321	\$450,841,063	\$231,468,257
2012	\$700,710,054	\$455,868,038	\$244,842,016
2013	\$717,340,770	\$464,140,821	\$253,199,949
2014	\$732,446,194	\$468,007,174	\$264,439,021
2015	\$747,775,149	\$476,681,126	\$271,094,023
2016	\$764,033,263	\$485,720,997	\$278,312,266
2017	\$780,815,949	\$494,862,484	\$285,953,466
2018	\$797,061,826	\$503,901,993	\$293,159,833
2019	\$813,949,919	\$513,204,142	\$300,745,777
2020	\$831,354,789	\$522,722,007	\$308,632,782
2021	\$847,792,761	\$531,269,415	\$316,523,347

Comparison of OTRR Non-Coal Revenue Forecast by Otter Tail and BNSF in Supplemental Case

	<u>Otter Tail</u>	<u>BNSF</u>	<u>Difference</u>
	<u>Supp Opening</u>	<u>Supp Reply</u>	
2002	\$191,033,435	\$46,510,167	\$144,523,267
2003	\$191,924,695	\$46,912,760	\$145,011,935
2,004	\$192,825,693	\$47,321,132	\$145,504,560
2,005	\$193,736,576	\$47,735,376	\$146,001,200
2,006	\$194,657,497	\$48,155,587	\$146,501,910
2,007	\$195,588,608	\$48,581,861	\$147,006,747
2,008	\$196,530,067	\$49,014,296	\$147,515,771
2,009	\$197,482,032	\$49,452,992	\$148,029,040
2,010	\$198,444,665	\$49,898,050	\$148,546,615
2,011	\$199,418,130	\$50,349,573	\$149,068,557
2,012	\$200,402,592	\$50,807,666	\$149,594,927
2,013	\$201,398,223	\$51,272,434	\$150,125,789
2,014	\$202,405,194	\$51,743,987	\$150,661,207
2,015	\$203,423,681	\$52,222,434	\$151,201,247
2,016	\$204,453,860	\$52,707,886	\$151,745,974
2,017	\$205,495,914	\$53,200,458	\$152,295,456
2,018	\$206,550,026	\$53,700,264	\$152,849,761
2,019	\$207,616,382	\$54,207,423	\$153,408,959
2,020	\$208,695,173	\$54,722,052	\$153,973,121
2,021	\$209,786,592	\$55,244,274	\$154,542,318

Comparison of OTRR Tonnage and Revenue Forecast by Otter Tail and BNSF in Supplemental Case

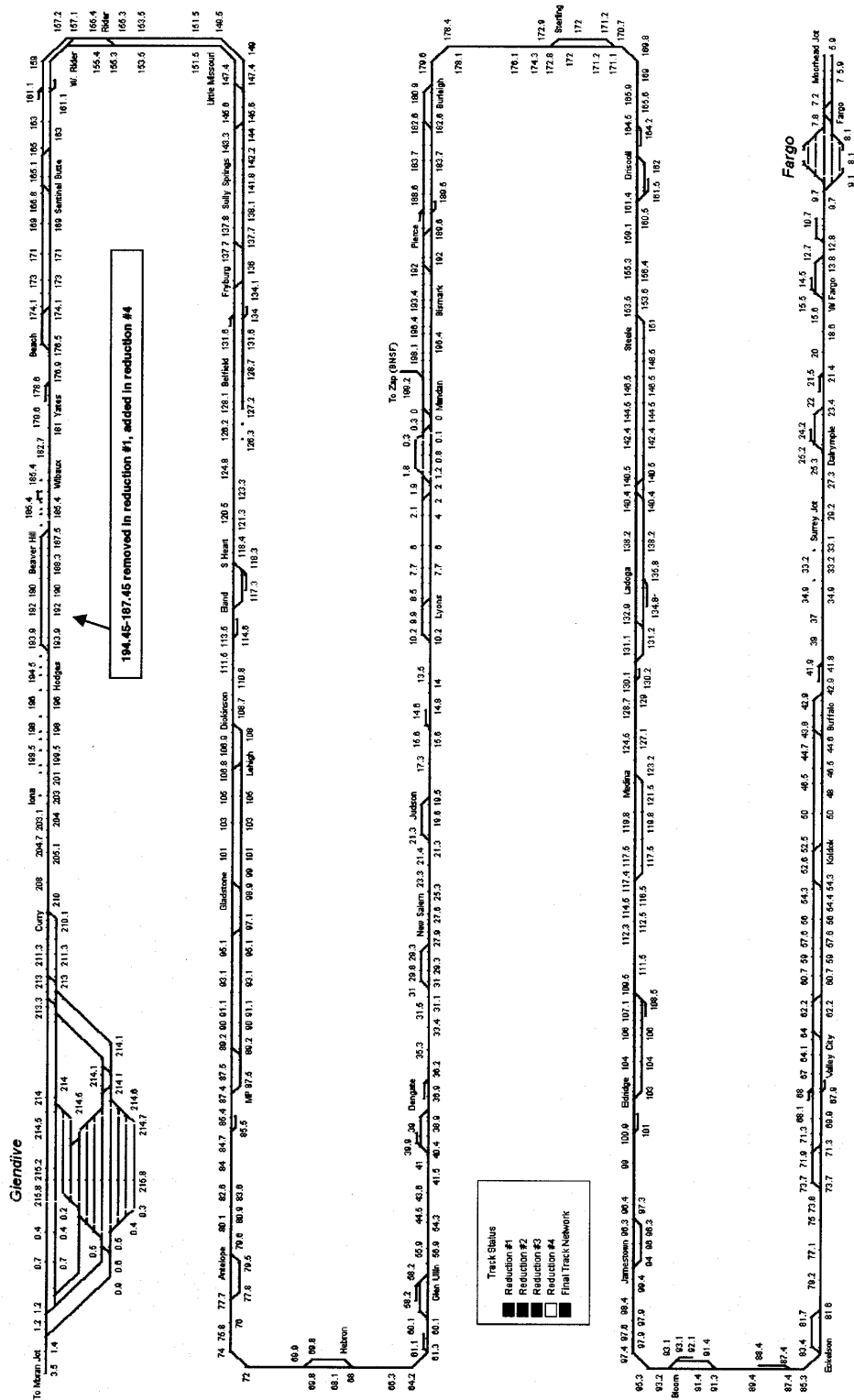
	Otter Tail Supp Opening		BNSF Supp Reply		Difference	
	Tonnages	Revenue	Tonnages	Revenue	Tonnages	Revenue
2002	237,334,025	\$724,681,910	135,110,908	\$430,380,352	102,223,117	\$294,301,558
2003	236,598,692	\$724,348,104	132,335,632	\$430,363,148	104,263,060	\$293,984,956
2004	238,544,107	\$727,716,819	133,550,625	\$431,927,474	104,993,482	\$295,789,345
2005	240,473,200	\$742,494,602	133,970,267	\$432,032,217	106,502,933	\$310,462,385
2006	244,531,940	\$766,461,929	136,733,371	\$447,343,805	107,798,569	\$319,118,124
2007	249,260,092	\$792,493,811	138,514,952	\$442,839,142	110,745,140	\$349,654,669
2008	252,682,105	\$815,452,325	140,816,593	\$458,400,052	111,865,512	\$357,052,273
2009	255,231,086	\$836,037,462	142,387,886	\$472,062,889	112,843,200	\$363,974,573
2010	259,192,623	\$860,661,037	144,798,371	\$489,525,206	114,394,253	\$371,135,831
2011	261,128,341	\$881,727,450	145,849,563	\$501,190,636	115,278,778	\$380,536,814
2012	262,452,589	\$901,112,647	146,314,677	\$506,675,704	116,137,912	\$394,436,943
2013	263,239,479	\$918,738,994	146,546,623	\$515,413,255	116,692,856	\$403,325,738
2014	263,660,755	\$934,851,389	146,790,901	\$519,751,161	116,869,854	\$415,100,228
2015	264,050,163	\$951,198,829	147,016,701	\$528,903,560	117,033,462	\$422,295,269
2016	264,611,030	\$968,487,123	147,335,221	\$538,428,883	117,275,809	\$430,058,240
2017	265,248,286	\$986,311,863	147,665,996	\$548,062,941	117,582,290	\$438,248,922
2018	265,618,223	\$1,003,611,851	147,852,831	\$557,602,257	117,765,392	\$446,009,594
2019	266,044,688	\$1,021,566,301	148,091,720	\$567,411,565	117,952,968	\$454,154,736
2020	266,450,430	\$1,040,049,962	148,309,859	\$577,444,059	118,140,571	\$462,605,903
2021	266,546,103	\$1,057,579,353	148,357,198	\$586,513,689	118,188,905	\$471,065,665

Supp. Reply Exh. III.A-15

Redacted

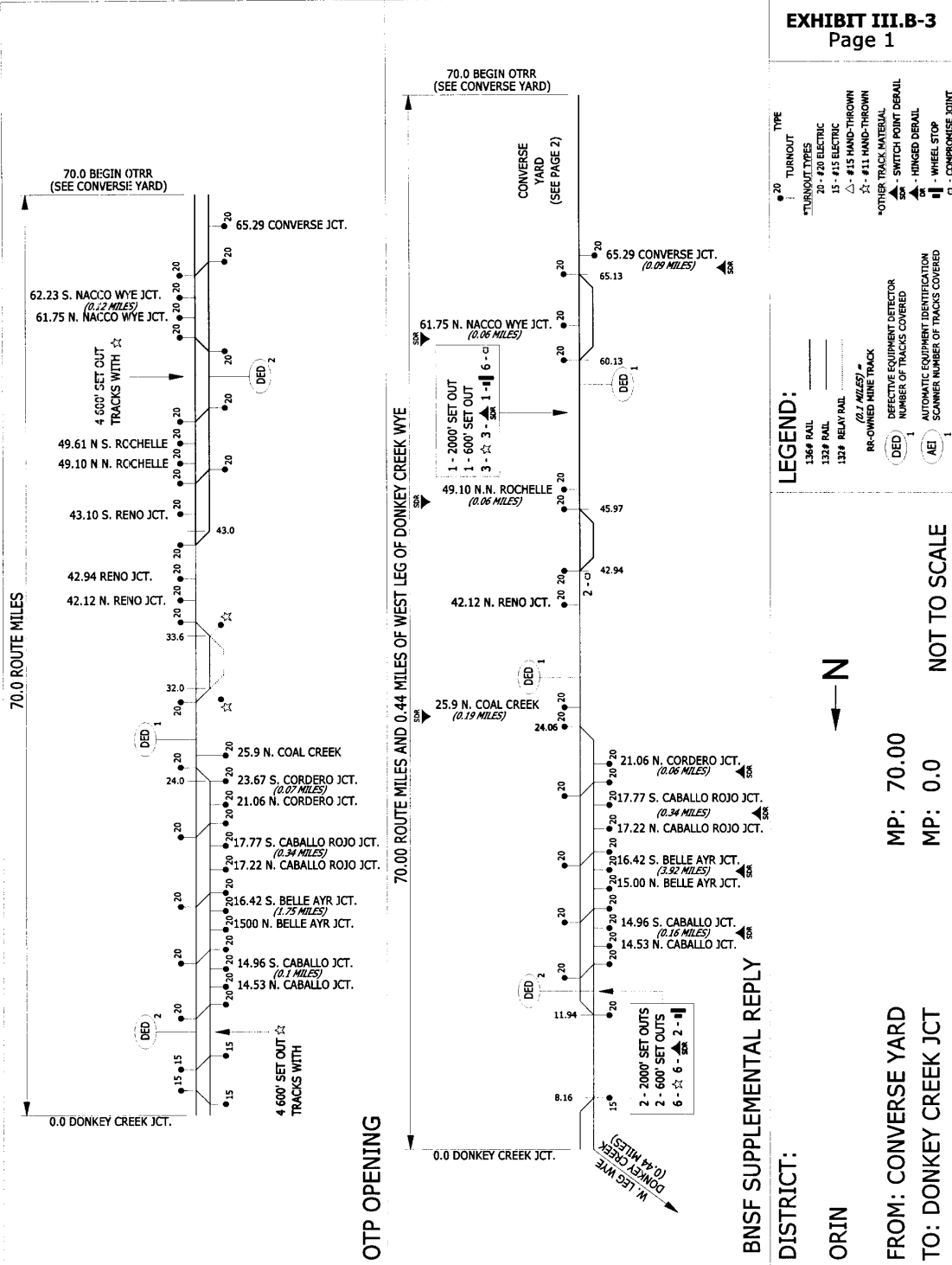
**III.B: Stand-Alone
Railroad System**

Glendive to Fargo Track Changes



COAL - LOADED DIRECTION		TRANSIT TIME COMPARISON									
		Final Reply		Glen-Fargo Supplemental 1		Glen-Fargo Supplemental 2		Glen-Fargo Supplemental 3		Glen-Fargo Supplemental 4	
Origin	Destination	Origin to Destination Avg Runtime (DD:HH:MM:SS)	Origin to Destination Avg Runtime (DD:HH:MM:SS)	Origin to Destination Avg Runtime (DD:HH:MM:SS)	Origin to Destination Avg Runtime (DD:HH:MM:SS)	Origin to Destination Avg Runtime (DD:HH:MM:SS)	Origin to Destination Avg Runtime (DD:HH:MM:SS)	Origin to Destination Avg Runtime (DD:HH:MM:SS)	Origin to Destination Avg Runtime (DD:HH:MM:SS)	Origin to Destination Avg Runtime (DD:HH:MM:SS)	Origin to Destination Avg Runtime (DD:HH:MM:SS)
E. Glendive	W. Mandan	00:07:53:02	00:07:12:31	00:05:03:22	00:07:30:22	00:05:24:59	00:05:21:03	00:07:50:59	00:05:40:09	00:09:11:35	00:05:40:09
E. Mandan	Casselton	00:05:46:42	00:05:03:22	00:05:03:22	00:05:24:59	00:05:24:59	00:05:21:03	00:05:50:59	00:05:40:09	00:09:11:35	00:05:40:09
Casselton	W. Fargo Yard	00:00:28:21	00:00:24:20	00:00:24:20	00:00:25:00	00:00:25:00	00:00:21:15	00:00:21:15	00:00:21:33	00:00:21:33	00:00:21:33
Total		00:14:08:05	00:12:40:13	00:12:40:13	00:13:20:21	00:13:20:21	00:13:33:17	00:13:33:17	00:14:13:37	00:14:13:37	00:14:13:37
(Excludes dwell times at Glendive, Mandan and Fargo Yards)											

EXHIBIT III.B-3 Page 1



- LEGEND:
- TURNOUT
 - TURNOUT TYPES
 - 20 - #20 ELECTRIC
 - 15 - #15 ELECTRIC
 - #15 HAND-THROWN
 - #11 HAND-THROWN
 - OTHER TRACK MATERIAL
 - SWITCH POINT DETAIL
 - HINGED DETAIL
 - WHEEL STOP
 - COMPROMISE JOINT

- RR-OWNED RAIL TRACK
- DEFECTIVE EQUIPMENT DETECTOR
- NUMBER OF TRACKS COVERED
- AUTOMATIC EQUIPMENT IDENTIFICATION
- SCANNER NUMBER OF TRACKS COVERED

NOT TO SCALE

MP: 70.00

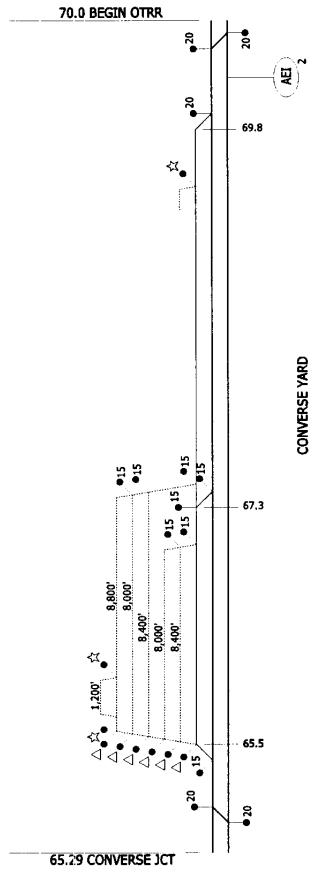
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DISTRICT:

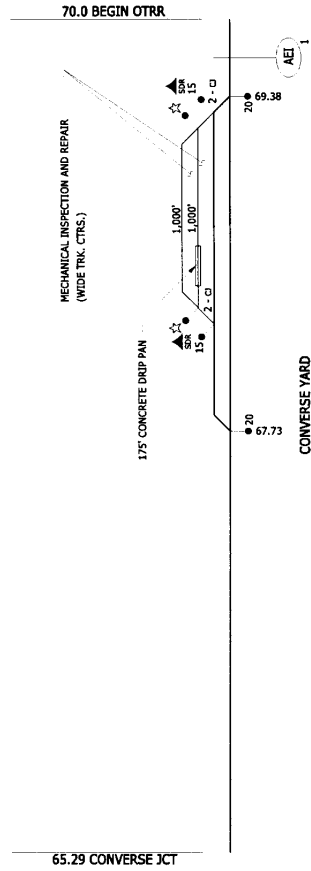
ORIN

FROM: CONVERSE YARD

TO: DONKEY CREEK JCT



OTP OPENING



BNSF SUPPLEMENTAL REPLY

DISTRICT:

ORIN

FROM: S. END CONVERSE YARD

TO: CONVERSE JCT.



MP: 70.00

MP: 65.29

NOT TO SCALE

LEGEND:

- 136# RAIL
- 132# RAIL
- 132# RELAY RAIL

- DEFECTIVE EQUIPMENT DETECTOR
- NUMBER OF TRACKS COVERED
- 1
- AEI
- 1

- TURNOUT
- TURNOUT TYPES
- 20 - #20 ELECTRIC
- 15 - #15 ELECTRIC
- △ - #15 HAND-THROWN
- ☆ - #11 HAND-THROWN
- *OTHER TRACK MATERIAL
- SWITCH POINT DETAIL
- HINGED DETAIL
- WHEEL STOP
- COMPROMISE JOINT



TO: JACOBS JUNCTION

MP: 5.76

NOT TO SCALE

136# RAIL
132# RAIL
132# RELAY RAIL
(0.1 MILES) =
RR-OWNED MINE TRACK

DED
DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED

1
AEI
1

TYPE 20

EXHIBIT III.B-3
Page 3

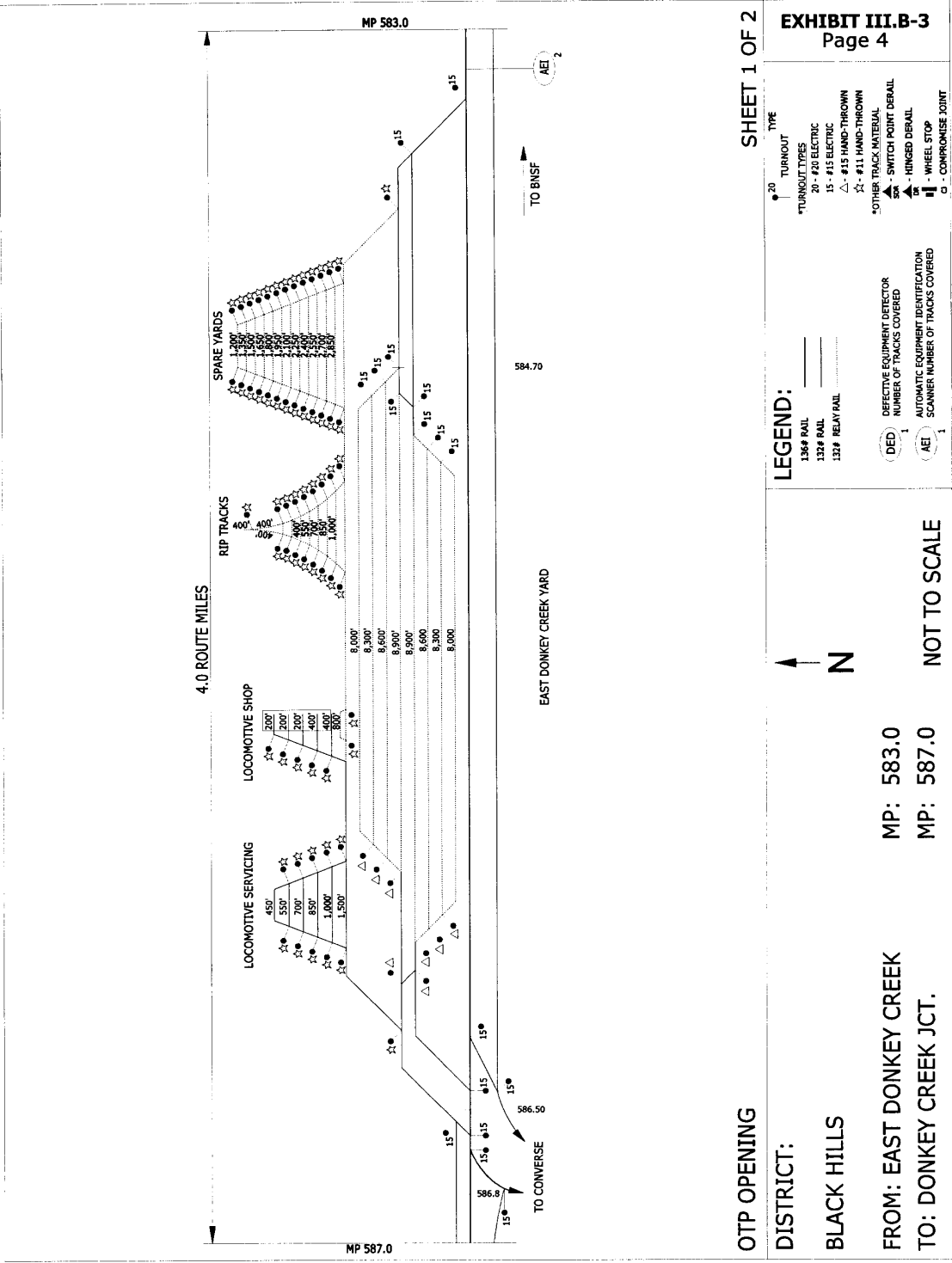
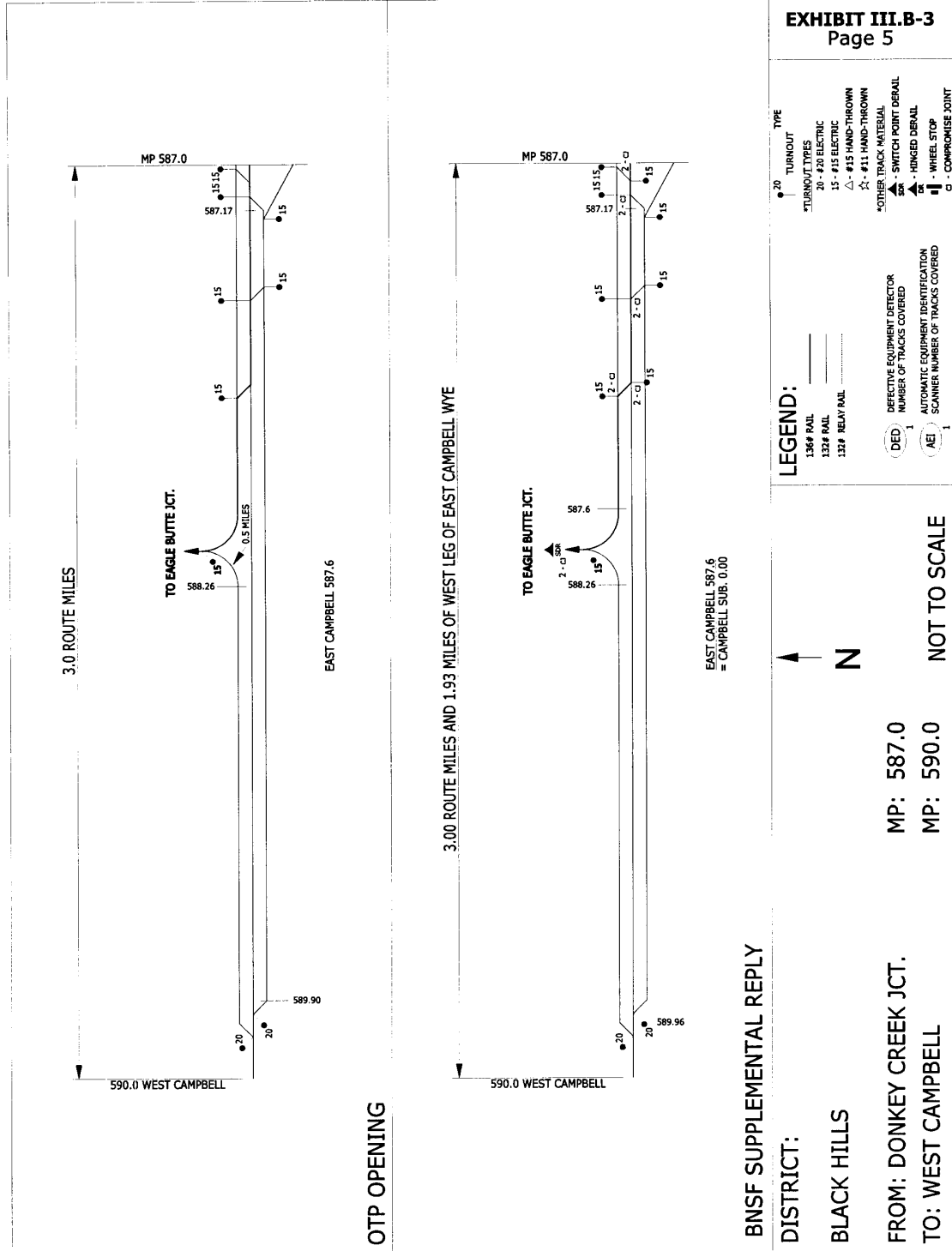
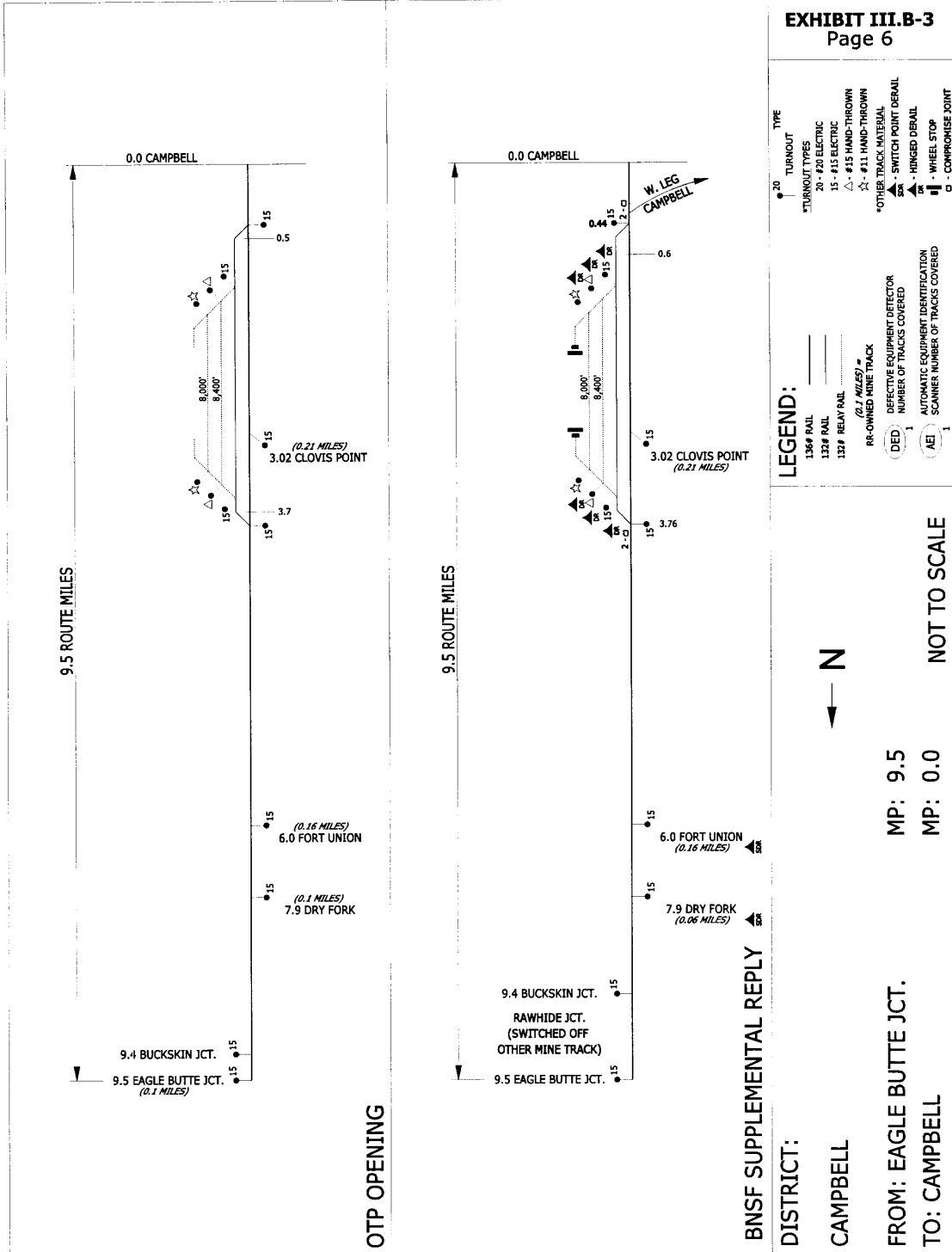


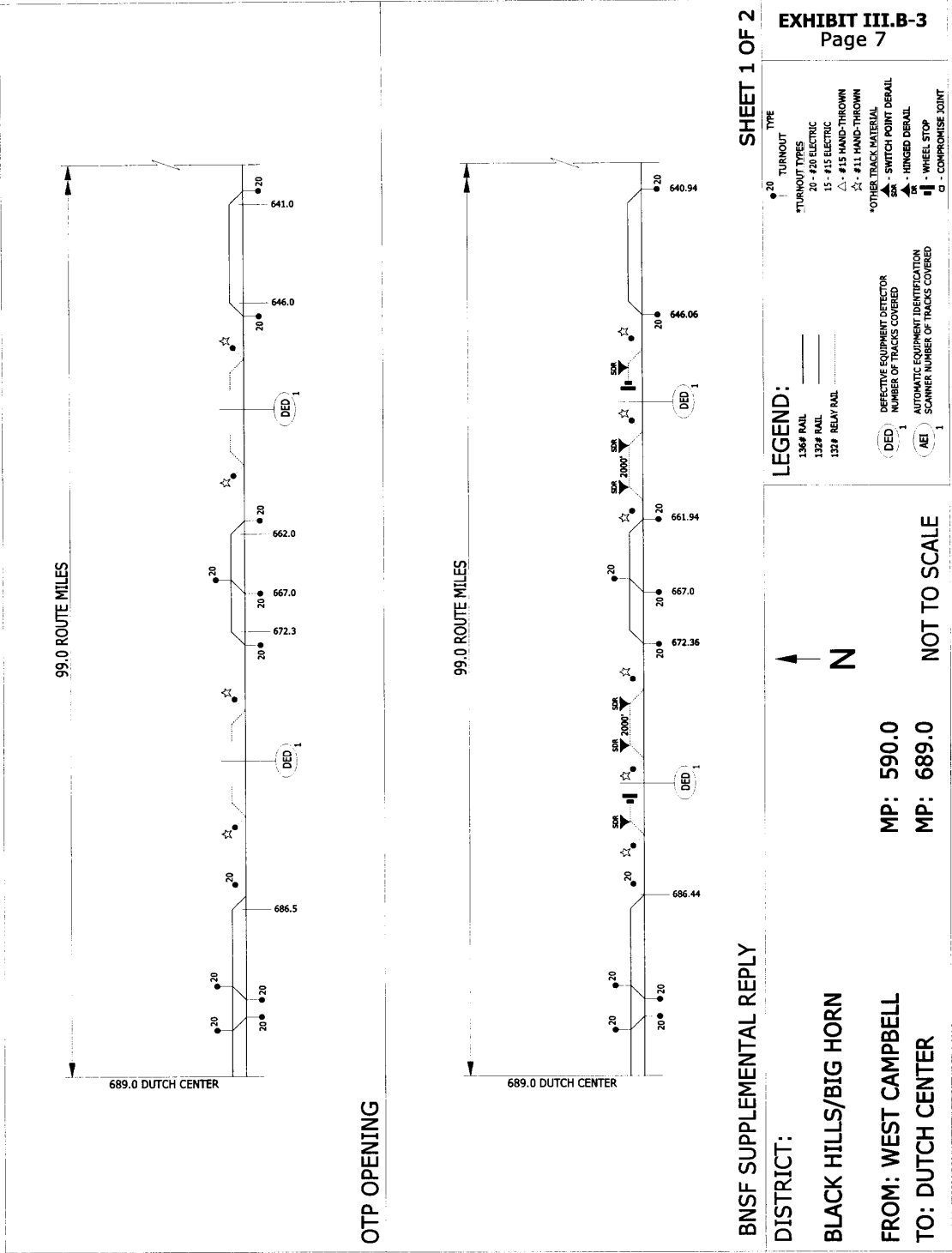
EXHIBIT III.B-3 Page 5

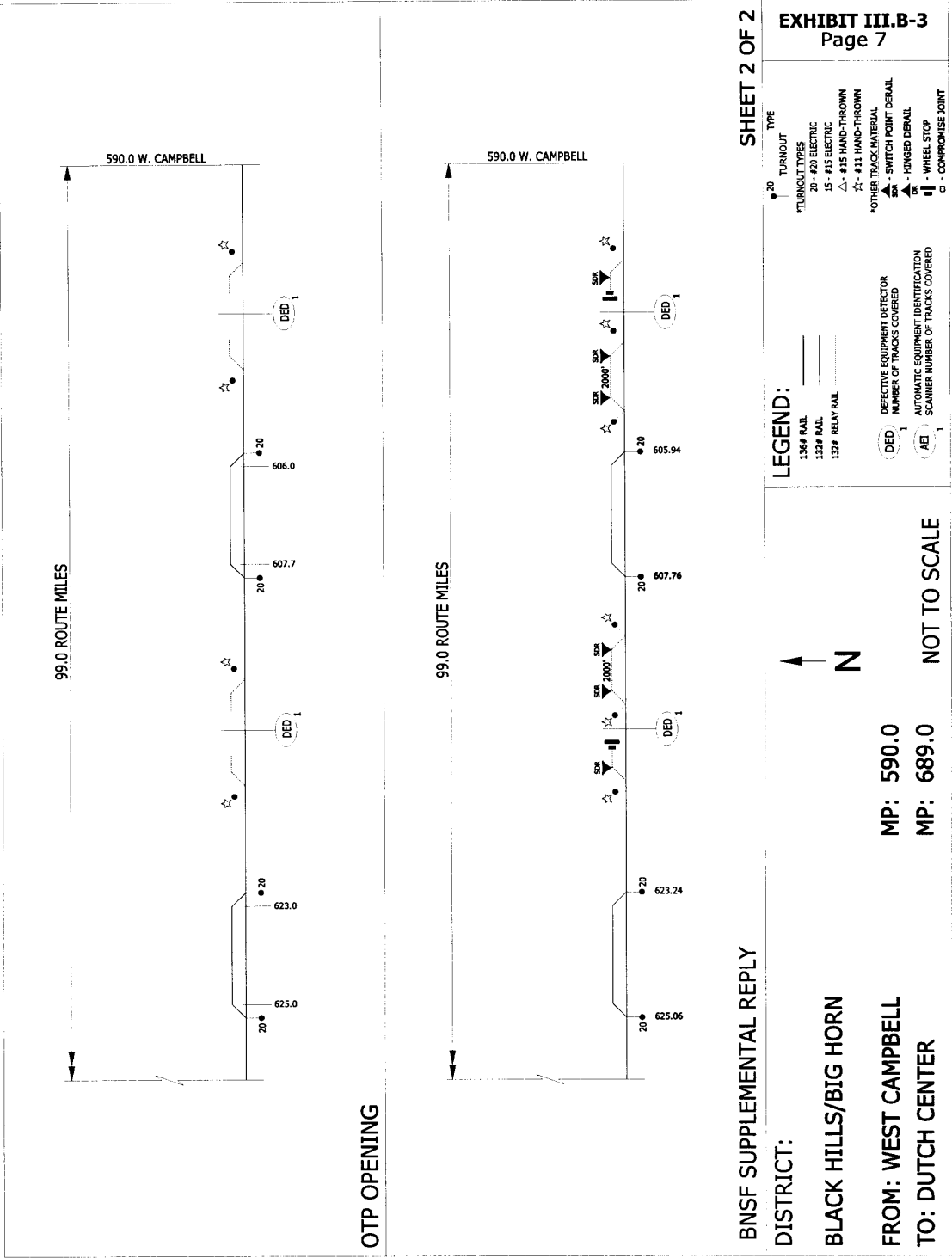


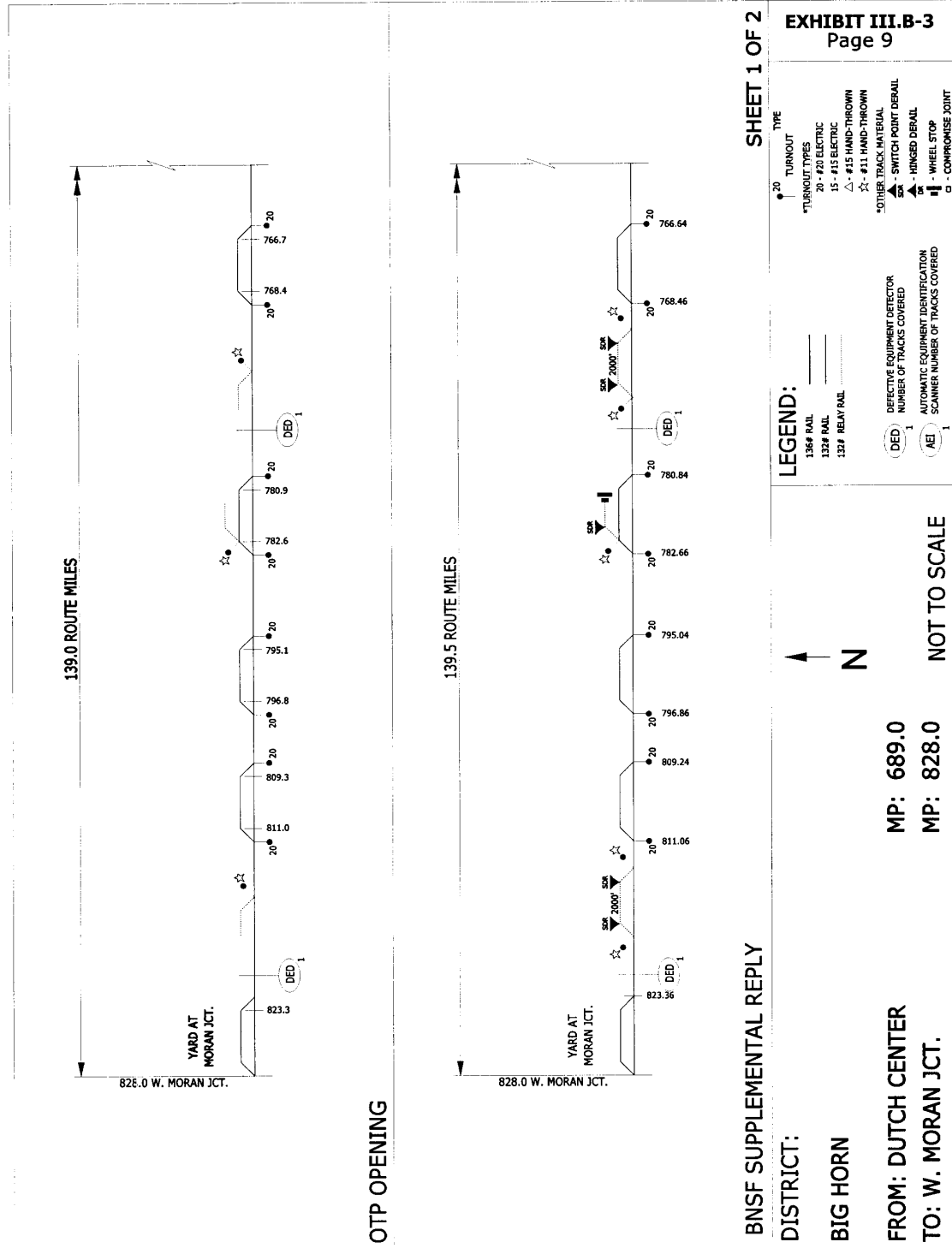
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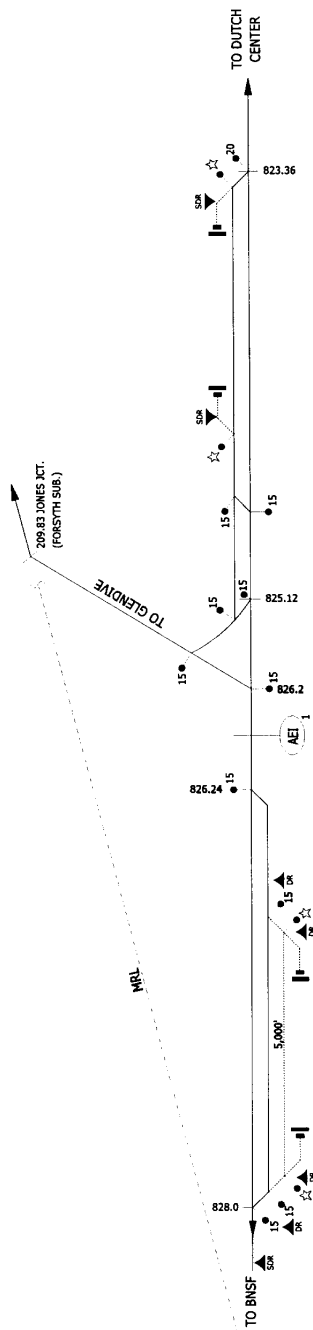
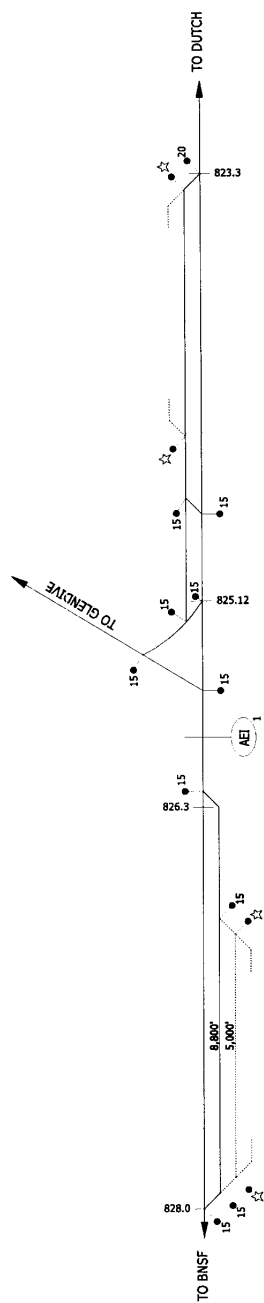
EXHIBIT III.B-3
Page 6











BNSF SUPPLEMENTAL REPLY

DISTRICT:

BIG HORN

MORGAN JCT. YARD

LEGEND:

1364 PATT

1324 BATH

132# RELAY RAIL

DEFECTIVE EQUIPMENT DETECTOR

DEDUCTIBLE

1 AUTOMATIC EQUIPMENT IDENTIFICATION

AEI

TYPE

TURNOUT

ROUT TYPES

20 - #20 ELECTRIC

15 - #15 ELECTRIC
△ - #15 HAND-THROWN

☆ - \$11 HAND-THROWN
△ - \$13 HAND-THROWN

OTHER TRACK MATERIAL

▲ - SWITCH POINT DERAIL

▲ - HINGED DERAIL

OR
 1. THREE STOR

- WHEEL STOP
- COMPROMISE JOINT

[illegible]

NOT TO SCALE

EXHIBIT III.B-3
Page 11

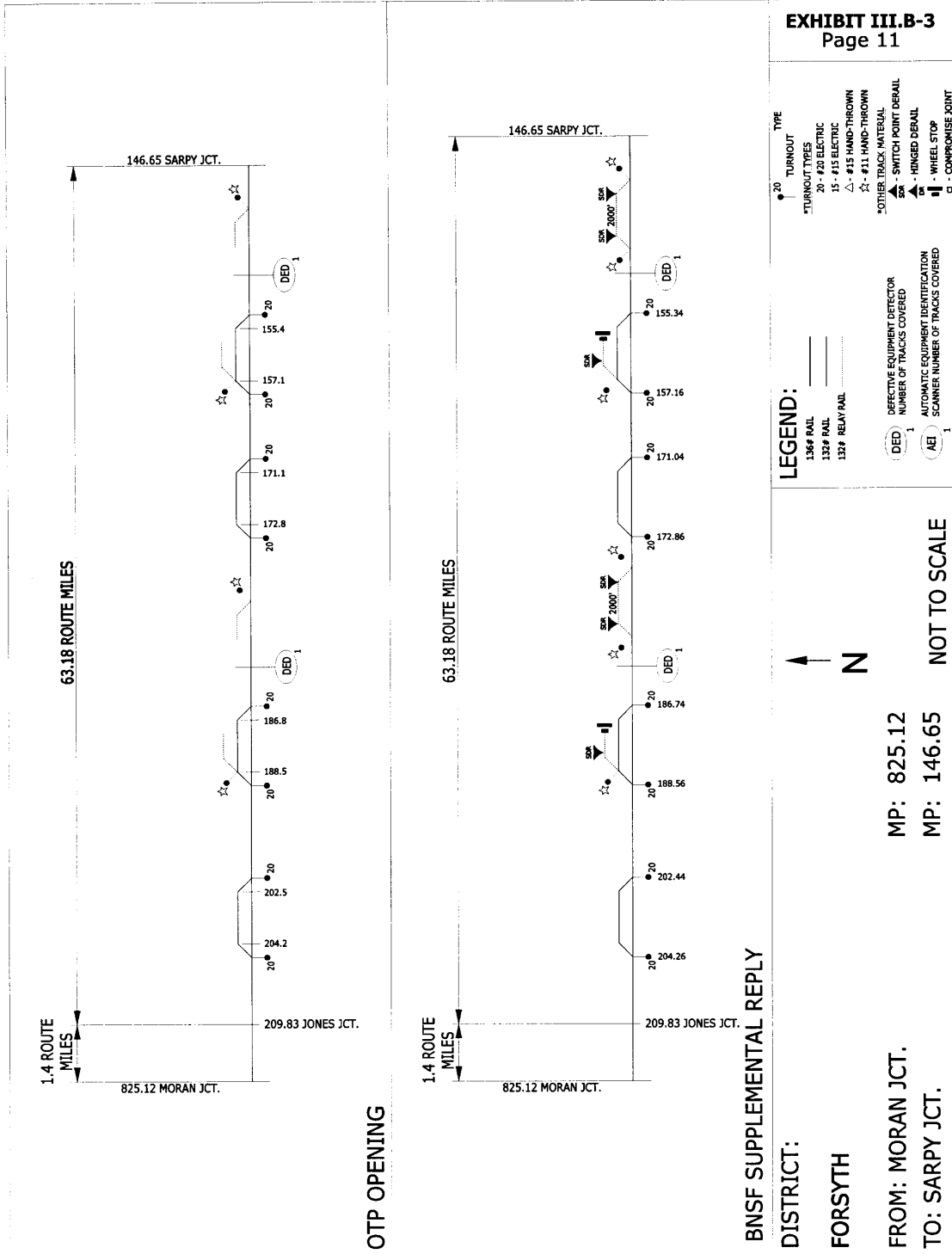


EXHIBIT III.B-3
Page 12

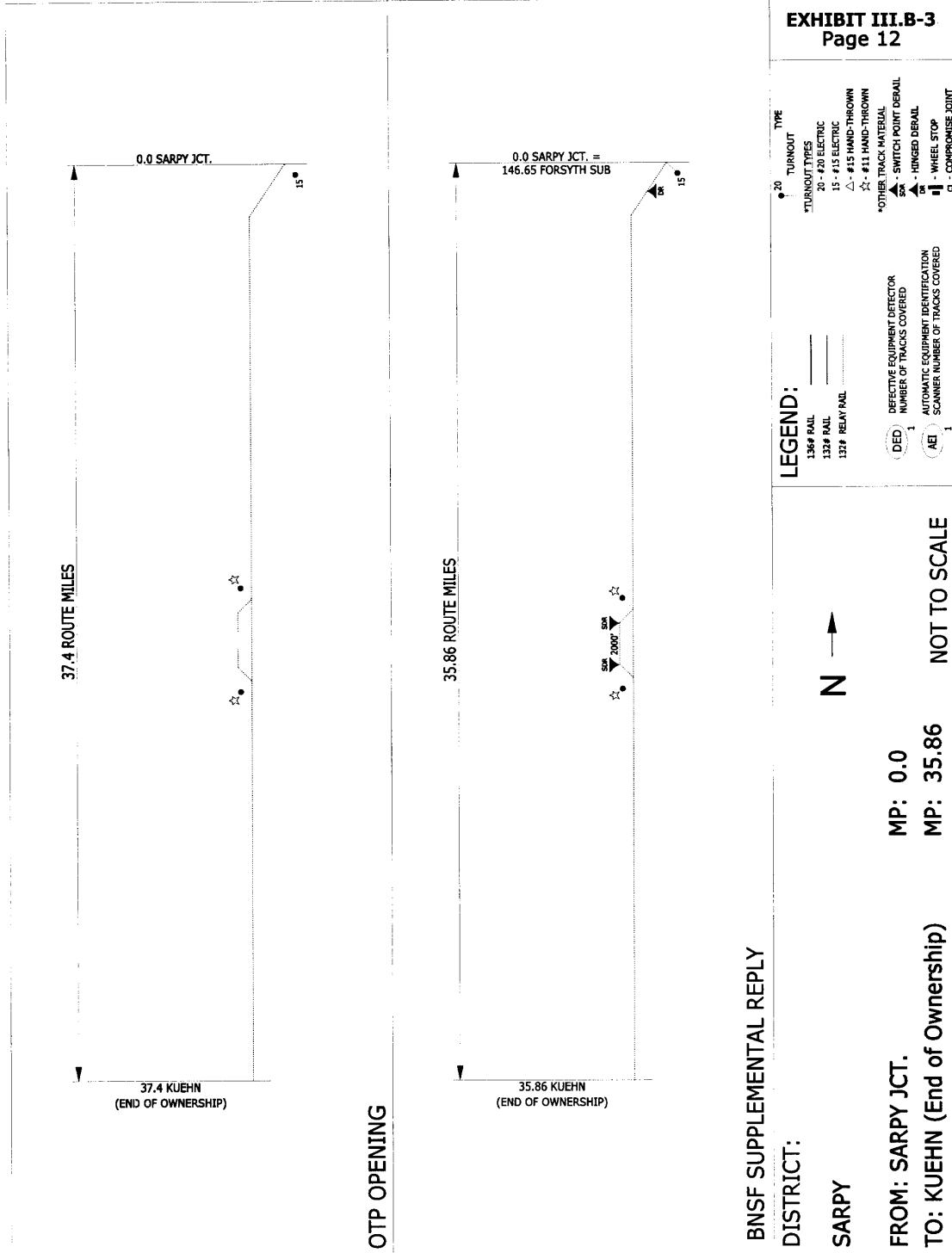
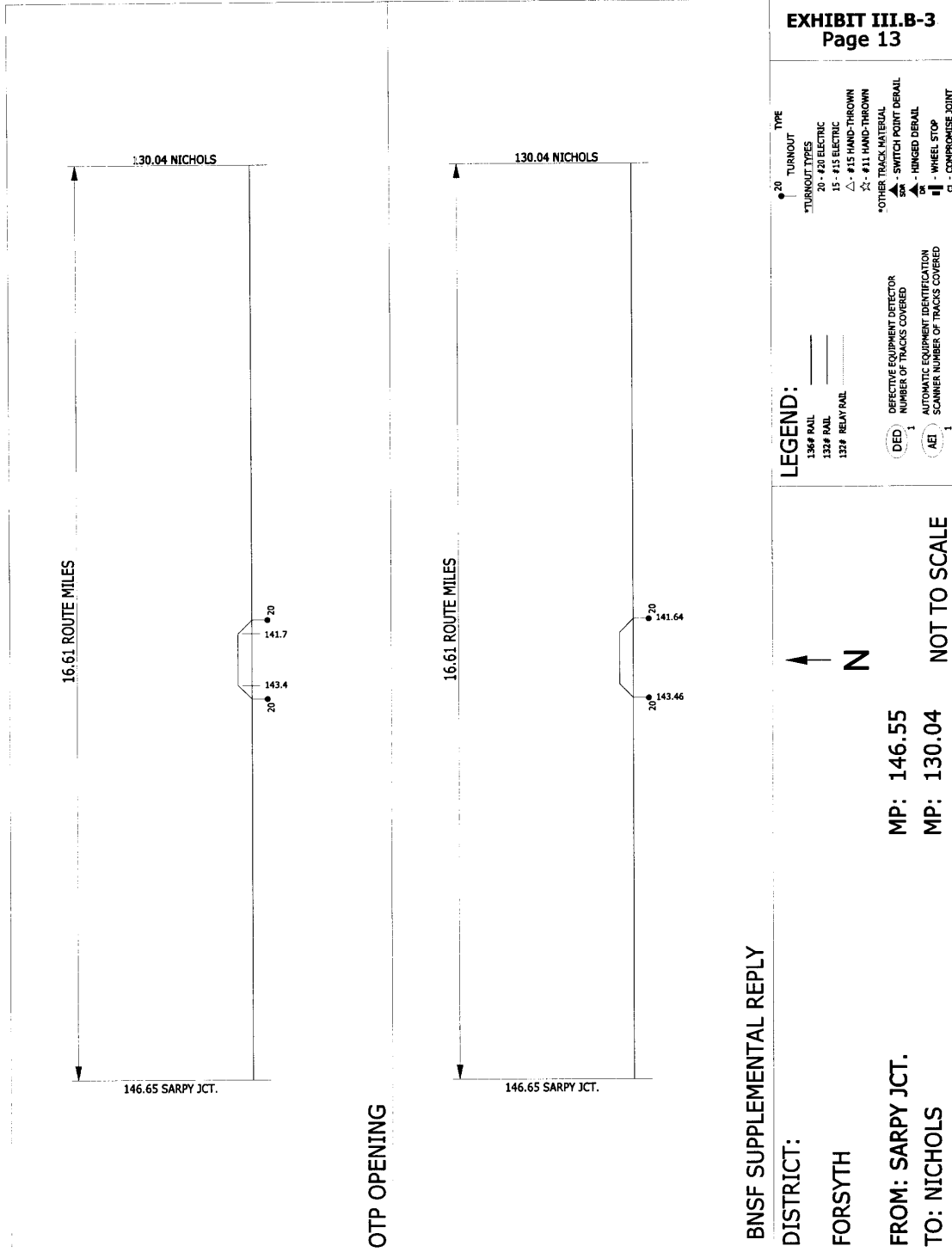
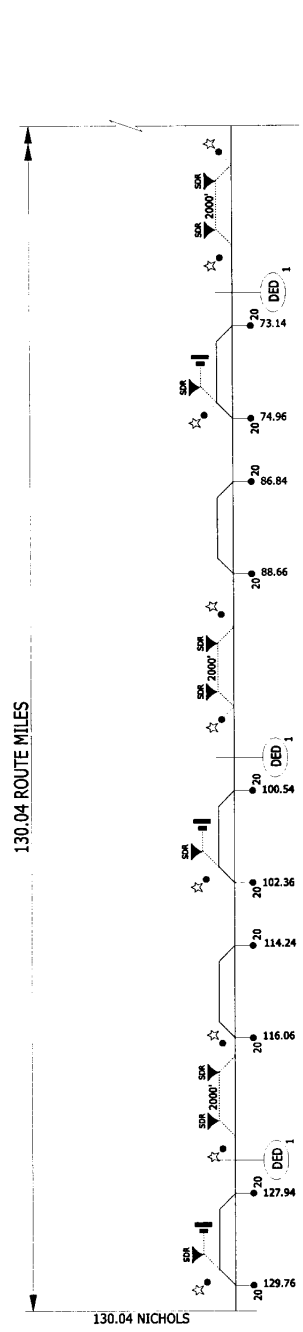
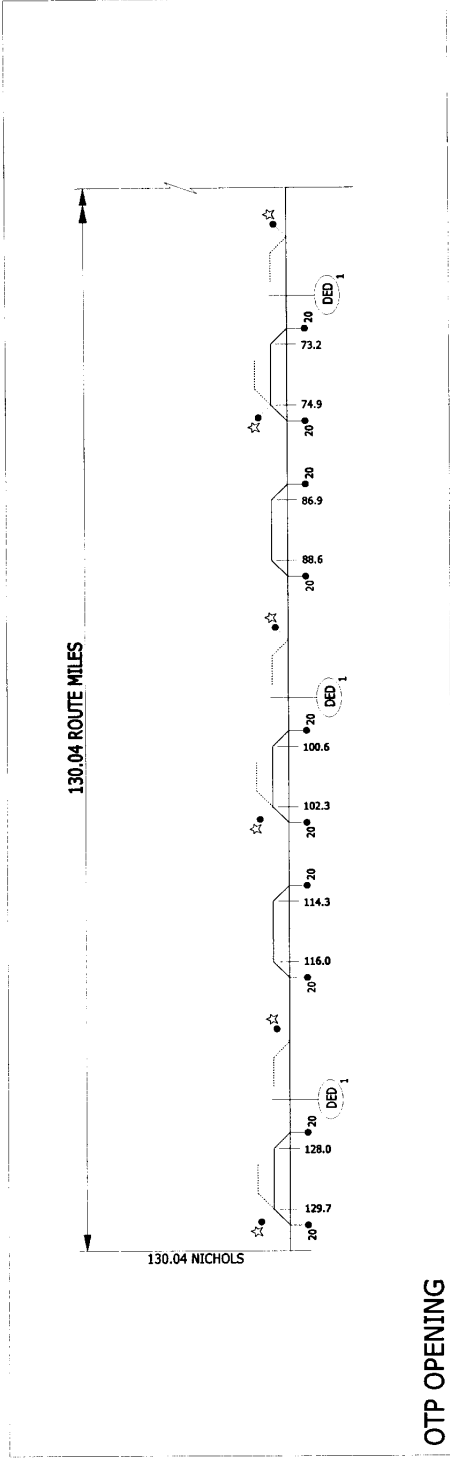


EXHIBIT III.B-3
Page 13





BNSF SUPPLEMENTAL REPLY

DISTRICT:
FORSYTH

FROM: **NICHOLS**

TO: **GLENDIVE**

MP: **130.04**

MP: **0.00**

NOT TO SCALE

EXHIBIT III.B-3

Page 15

LEGEND:

136# RAIL

132# RAIL

132# RELAY RAIL

DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED

AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED

TURNOUT

TURNOUT TYPES

20 - #20 ELECTRIC

15 - #15 ELECTRIC

△ - #15 HAND-THROWN

☆ - #11 HAND-THROWN

OTHER TRACK MATERIAL

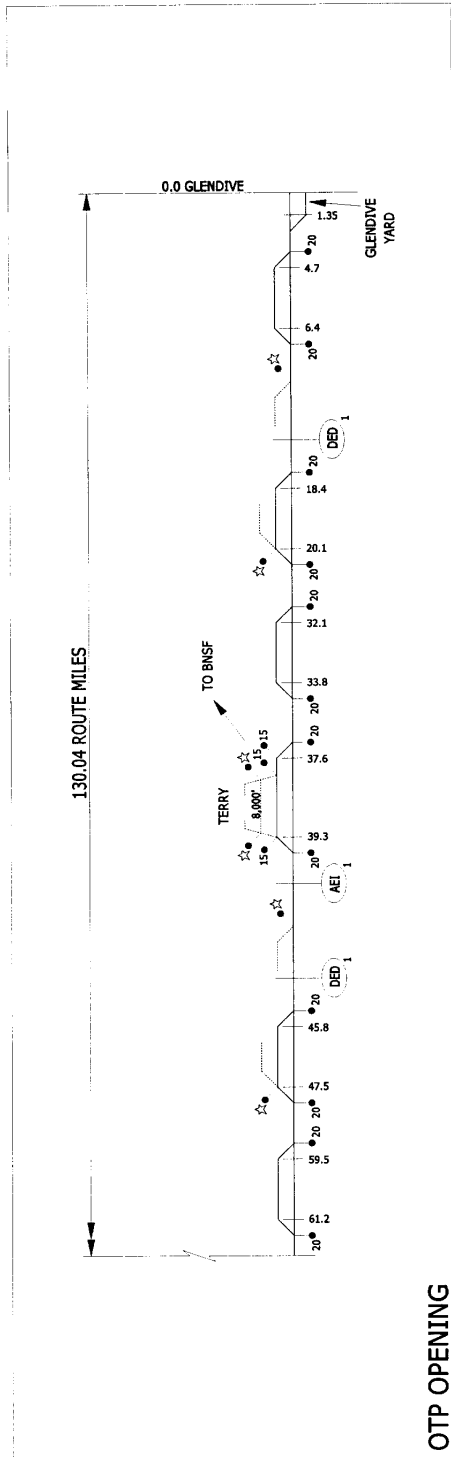
SWITCH POINT DERAIL

SWITCH POINT DERAIL

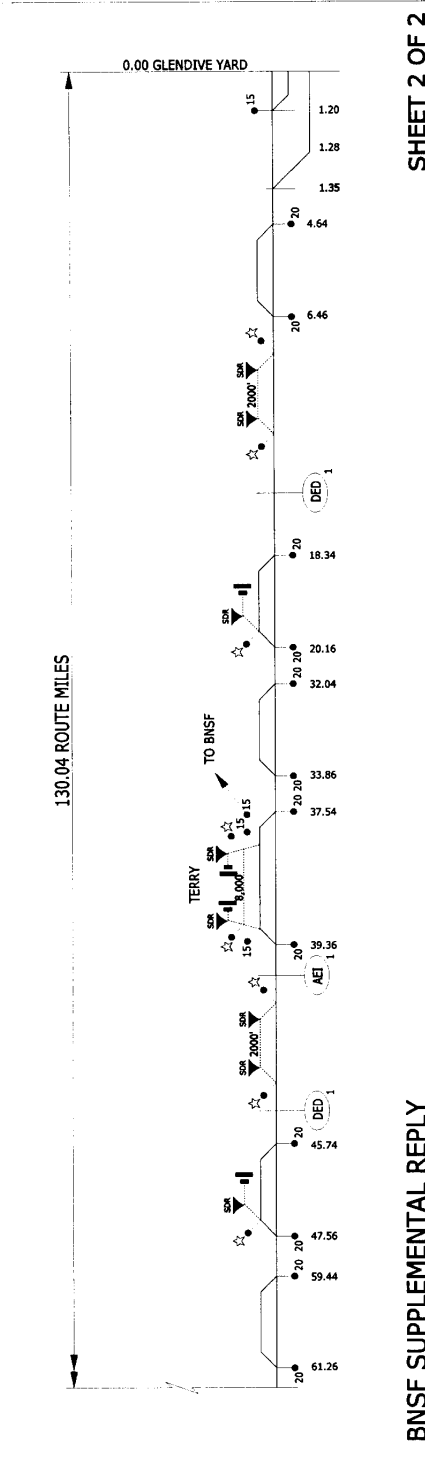
WHEEL STOP

COMPROMISE JOINT

SHEET 1 OF 2



OTF OPENING



BNSF SUPPLEMENTAL REPLY

DISTRICT:

FORSYTH

FROM: NICHOLS

TO: GLENDIVE

MP: 130.04

MP: 0.00

NOT TO SCALE

LEGEND:

136# RAIL
132# RAIL
132# RELAY RAIL

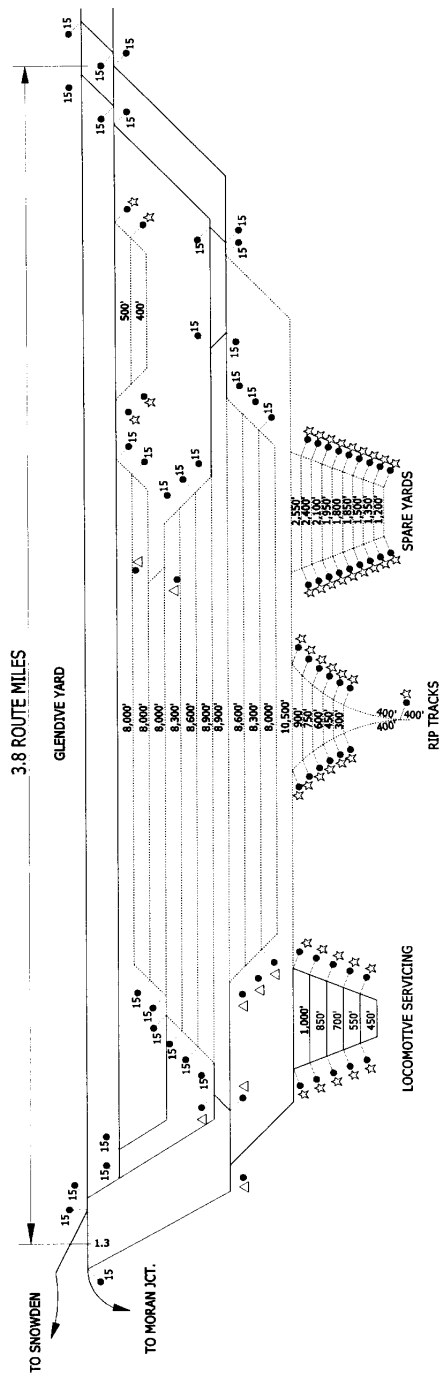
DED 1
AEI 1

DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED
AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED

SHEET 2 OF 2

EXHIBIT III.B-3
Page 15

TURNOUT
TURNOUT TYPES
20 - #20 ELECTRIC
15 - #15 ELECTRIC
15 - #15 HAND-THROWN
15 - #11 HAND-THROWN
OTHER TRACK MATERIAL
SW - SWITCH POINT DERAIL
SW - HINGED DERAIL
SW - WHEEL STOP
SW - COMPROMISE JOINT



SHEET 1 OF 2

EXHIBIT III.B-3
Page 16

LEGEND:

TURNOUT TYPES

- 20 - #20 ELECTRIC
- 15 - #15 ELECTRIC
- △ - #15 HAND-THROWN
- ☆ - #11 HAND-THROWN

OTHER TRACK MATERIAL

- SW - SWITCH POINT DETAIL
- HW - HINGED DETAIL
- W - WHEEL STOP
- - COMPROMISE JOINT

DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED

1 DED

AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED

1 AEI

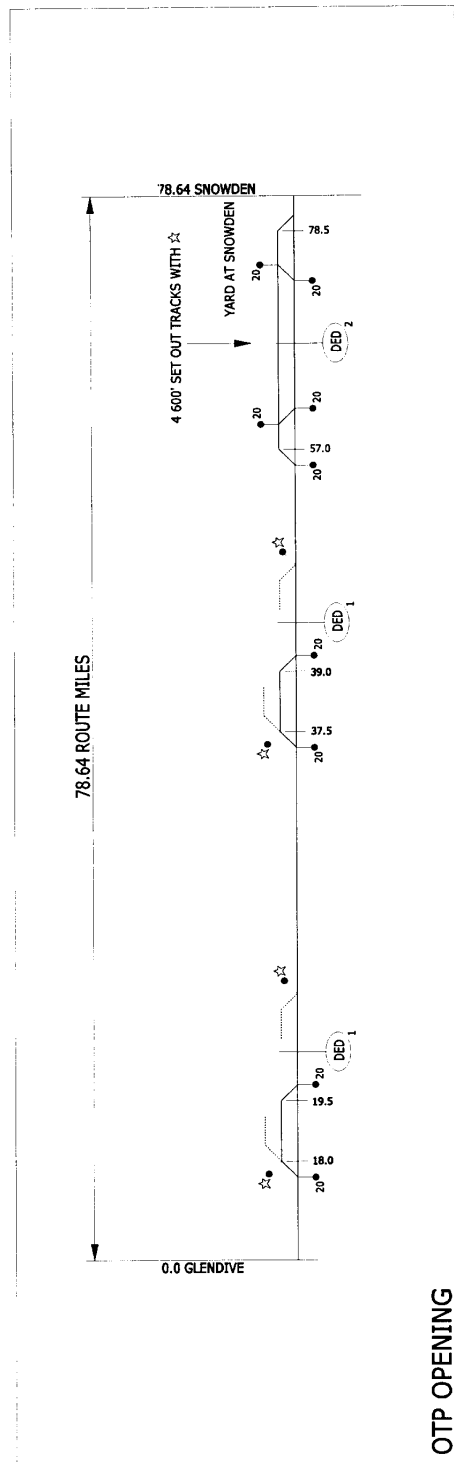
↑ N

NOT TO SCALE

OTP OPENING

DISTRICT:

GLENDIVE YARD



BNSF SUPPLEMENTAL REPLY

DISTRICT:

SIDNEY

FROM: GLENDIVE

TO: SNOWDEN

MP: 1.28

MP: 78.64

NOT TO SCALE

LEGEND:

136# RAIL

136# RAIL

132# RAIL
132# RELAY RAIL

DEFECTIVE EQUIPMENT DETECTOR NUMBER OF TRACKS COVERED	DEFECTIVE EQUIPMENT DETECTOR NUMBER OF TRACKS COVERED
DED	DED

1

AUTOMATIC EQUIPMENT IDENTIFICATION

1
AEI
SCANNER NUMBER OF TRACKS COVERED

[illegible]

20 TYPE

TURNOUT

TURNOUT TYPES
20 - #20 ELECTRIC

15 - #15 ELECTRIC

△ - #15 HAND-THROWN
☆ - #11 HAND-THROWN

OTHER TRACK MATERIAL

▲ - SWITCH POINT DERAIL
SDR

▲ - HINGED DERAIL
OR ■

- - WHEEL STOP
- - COMPROMISE JOINT

3. **What is the main purpose of the text?**

YARD AT SNOWDEN



OTP OPENING

BNSF SUPPLEMENTAL REPLY

DISTRICT:

SIDNEY

SNOWDEN YARD

LEGEND:

136# RAIL
132# RAIL
132# RELAY RAIL

20 TURNOUT

*TURNOUT TYPES

20 - #20 ELECTRIC

15 - #15 ELECTRIC

△ - #15 HAND-THROWN

☆ - #11 HAND-THROWN

*OTHER TRACK MATERIAL

▲ - SWITCH POINT DETAIL

▲ - HINGED DETAIL

■ - WHEEL STOP

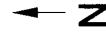
□ - COMPROMISE JOINT

DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED

1

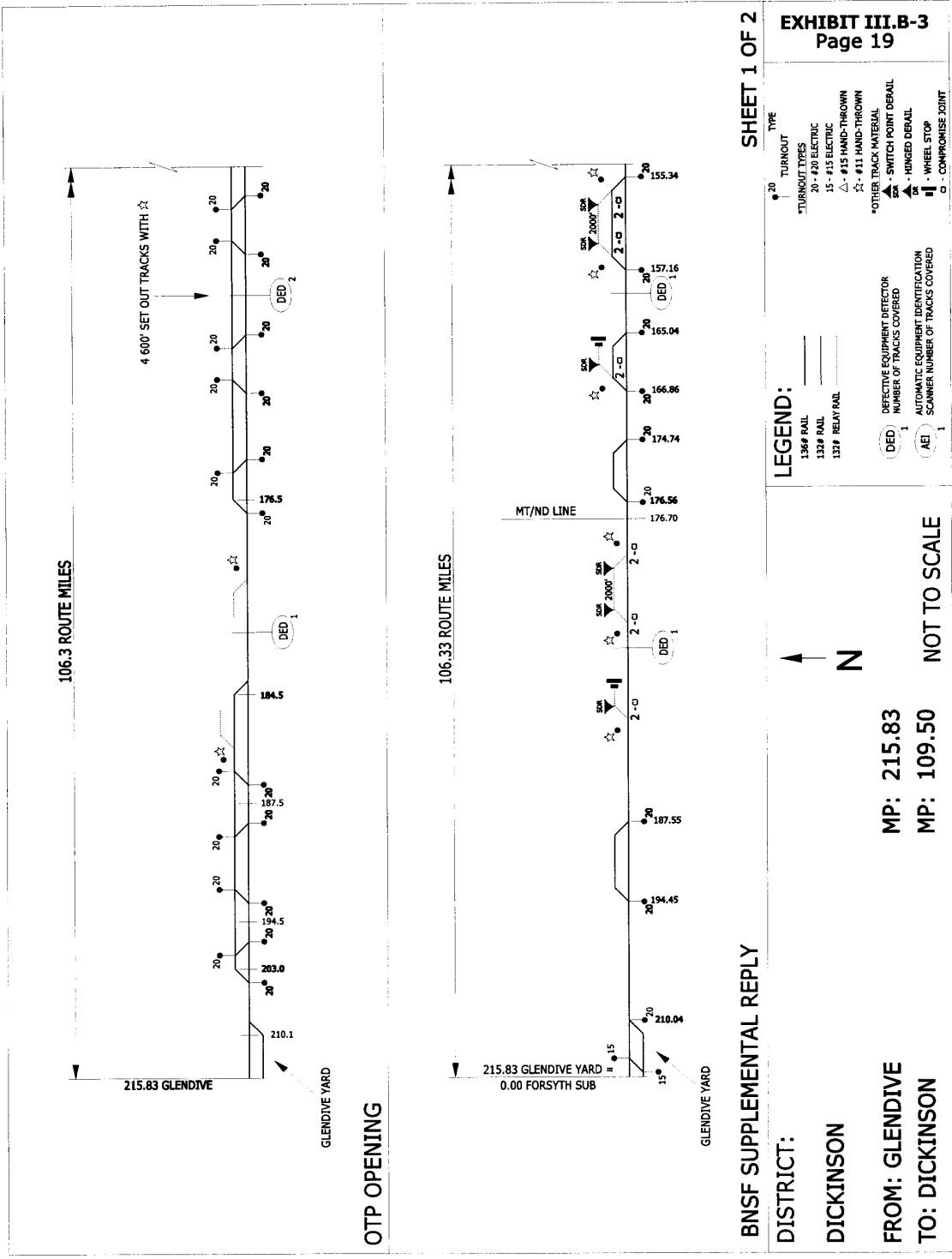
AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED

1



NOT TO SCALE

YARD AT SNOWDEN



OTP OPENING

BNSF SUPPLEMENTAL REPLY

DISTRICT:

DICKINSON

FROM: GLENDIVE

TO: DICKINSON

MP: 215.83

MP: 109.50

NOT TO SCALE

LEGEND:

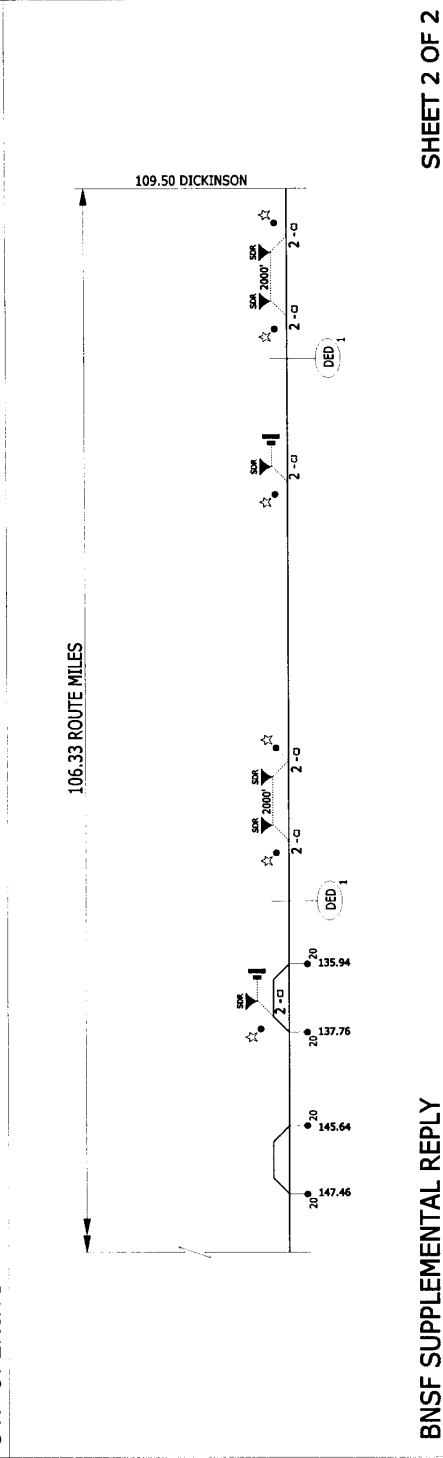
136# RAIL
132# RAIL
137# RAIL

DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED
AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED

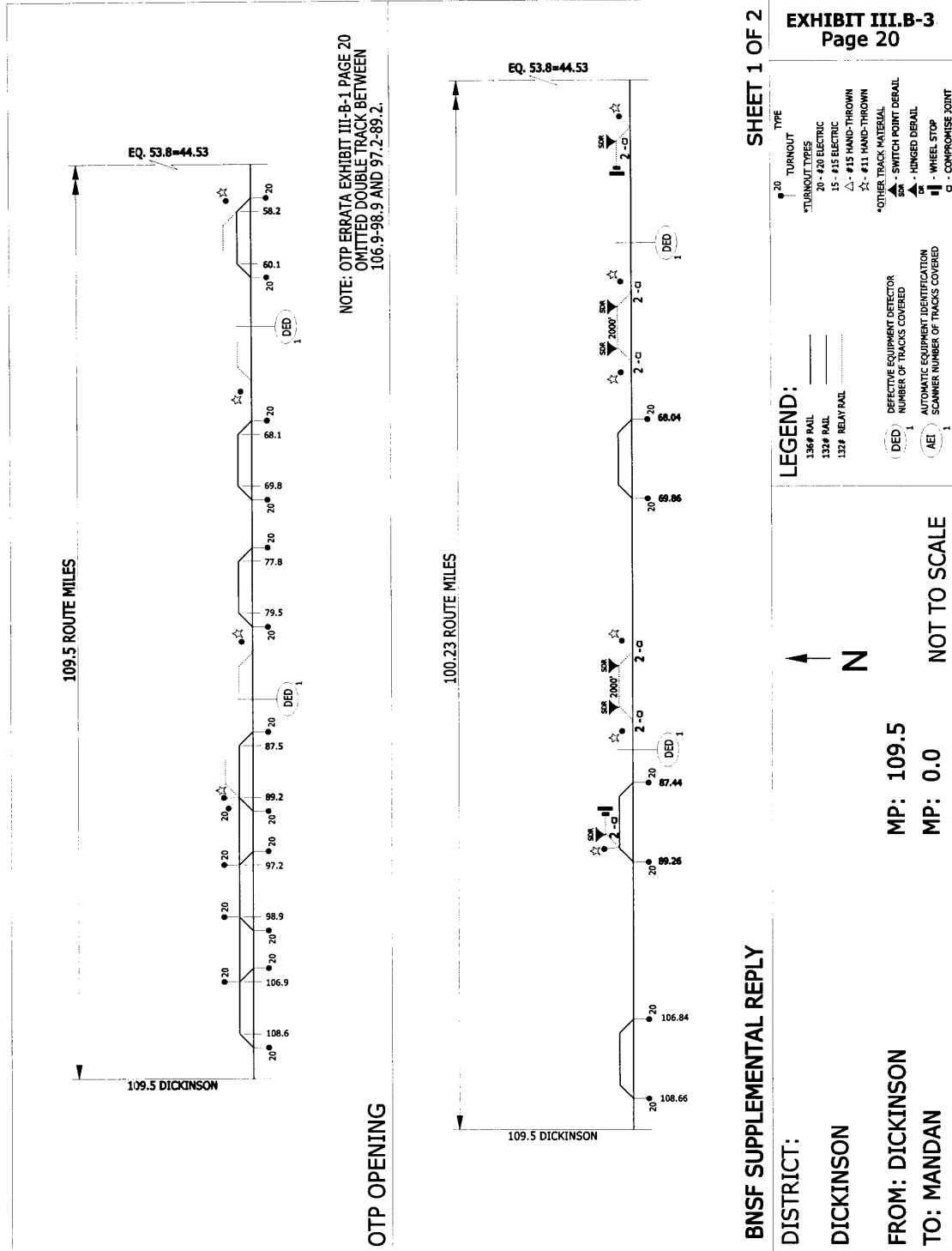
TURNOUT
TURNOUT TYPES
20 - #20 ELECTRIC
15 - #15 ELECTRIC
15 - #15 HAND-THROWN
15 - #11 HAND-THROWN
OTHER TRACK MATERIAL
SWITCH POINT DETAIL
HINGED DETAIL
WHEEL STOP
COMPROMISE JOINT

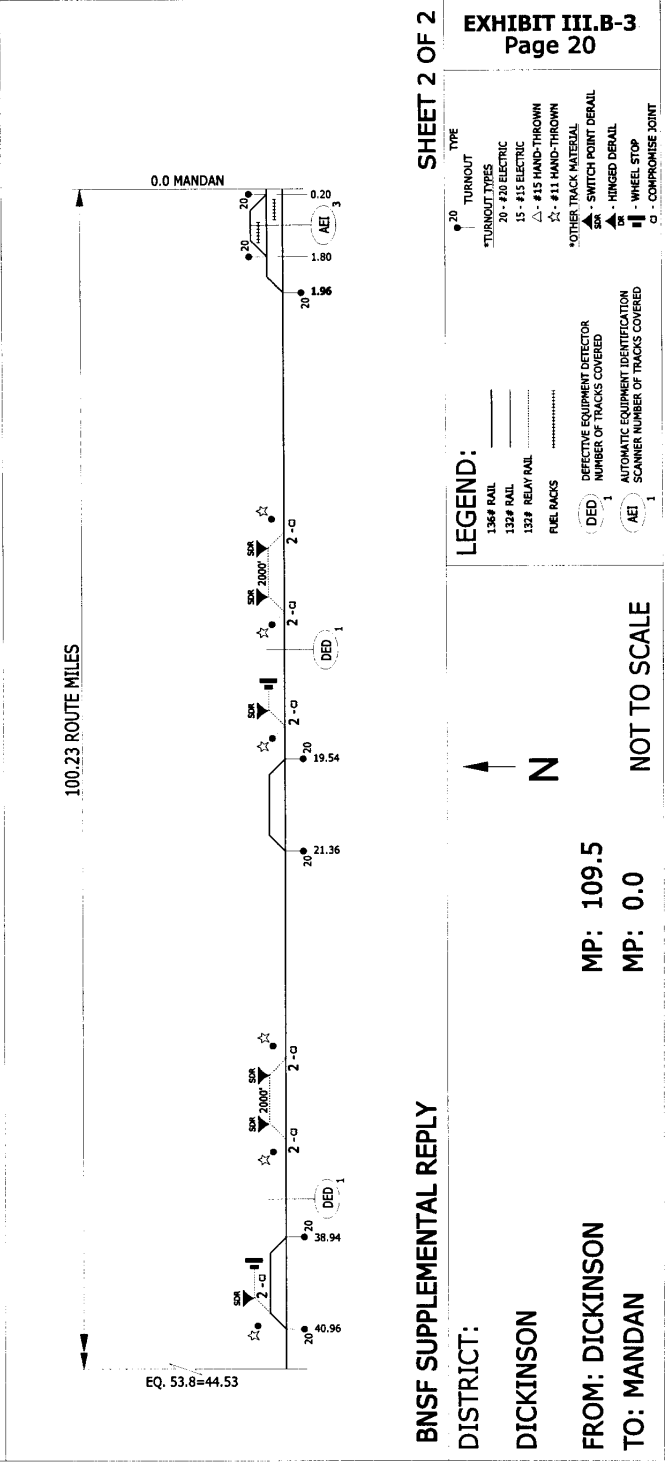
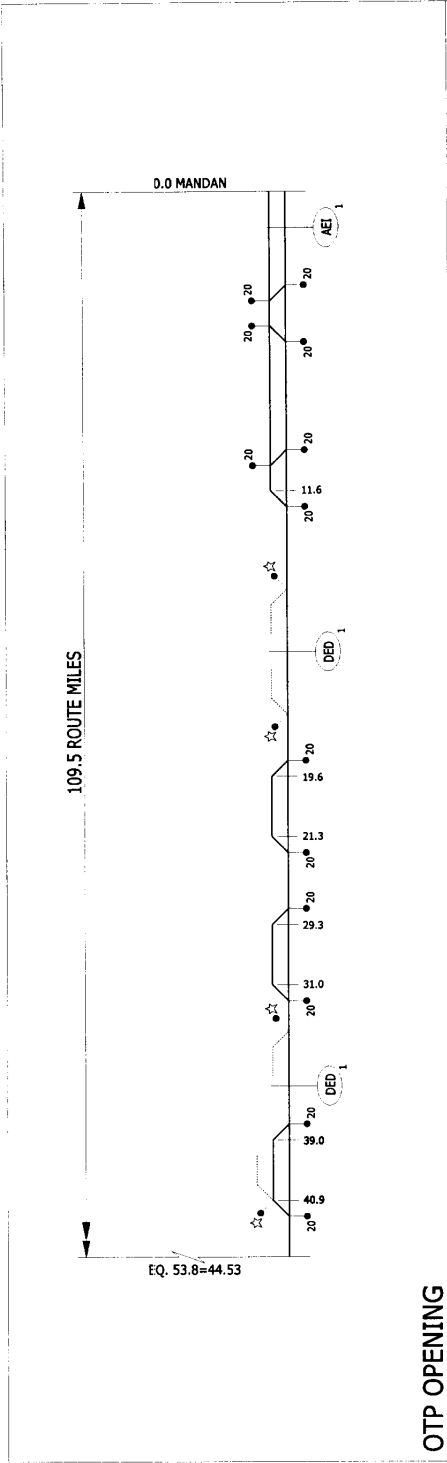
SHEET 1 OF 2

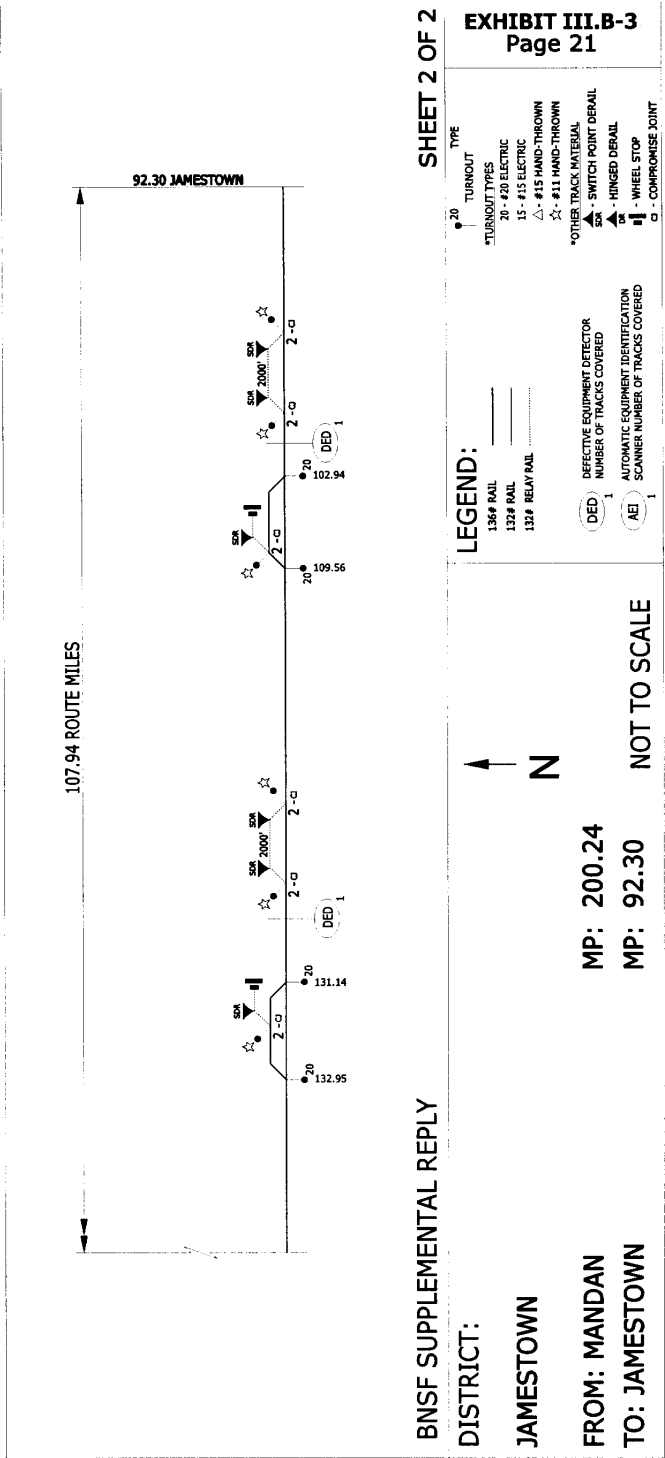
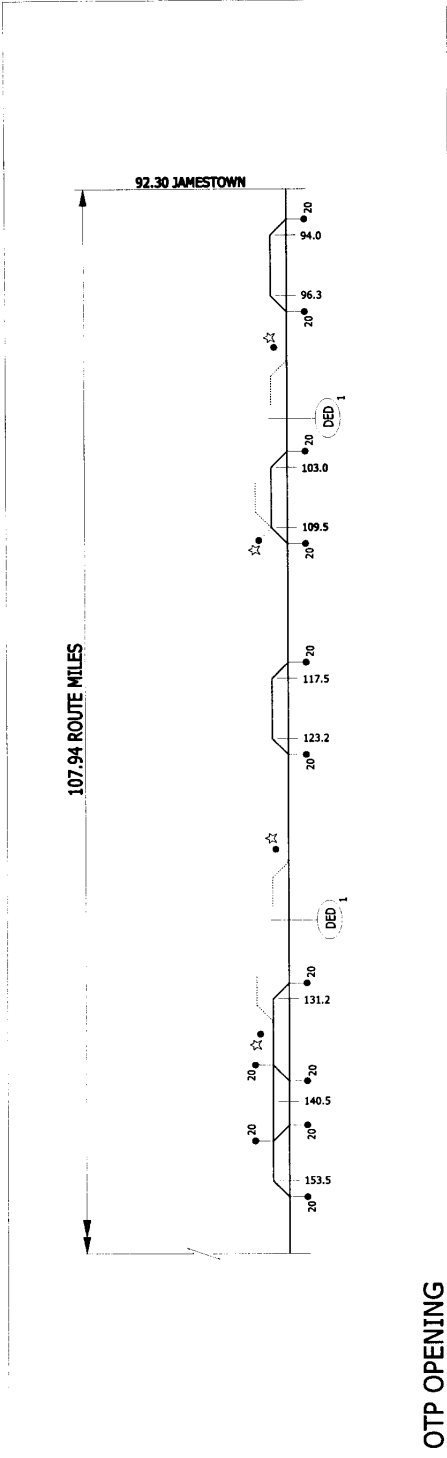
EXHIBIT III.B-3
Page 19

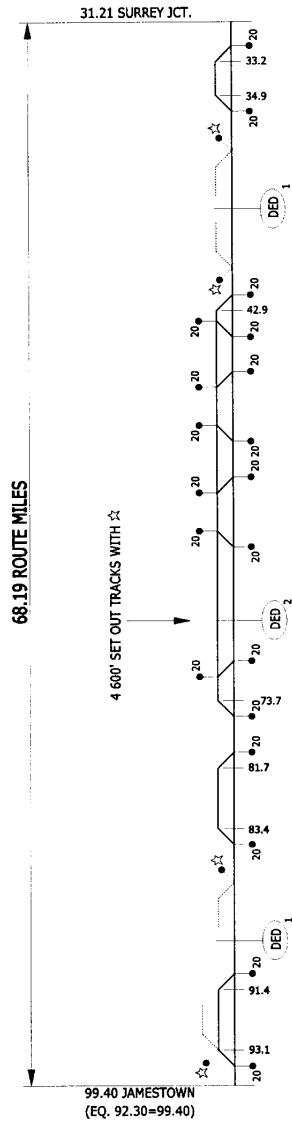


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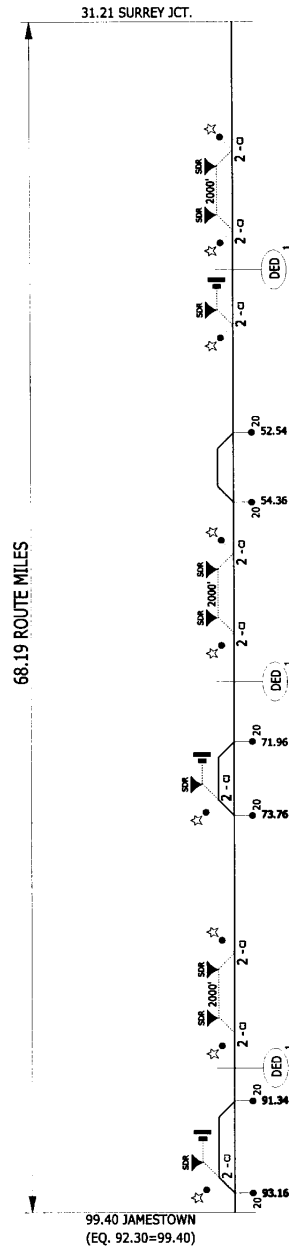








OTP OPENING



BNSF SUPPLEMENTAL REPLY

DISTRICT:

JAMESTOWN

FROM: JAMESTOWN

TO: SURREY JCT.

MP: 99.40

MP: 31.21

NOT TO SCALE

LEGEND:

EGEN
136# RAIL
132# RAIL
132# RAIL

LEGEND:

1364 RAIL	_____
1324 RAIL	_____
1328 RELAY RAIL	

**DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED**

DIED	_____
-------------	-------

20 TURNOUT TYPE

*TURNOUT TYPES

20 - #20 ELECTRIC

15 - #15 ELECTRIC

△ - #15 HAND-THROWN

☆ - #11 HAND-THROWN

*OTHER TRACK MATERIAL

▲ - SWITCH POINT DERAIL

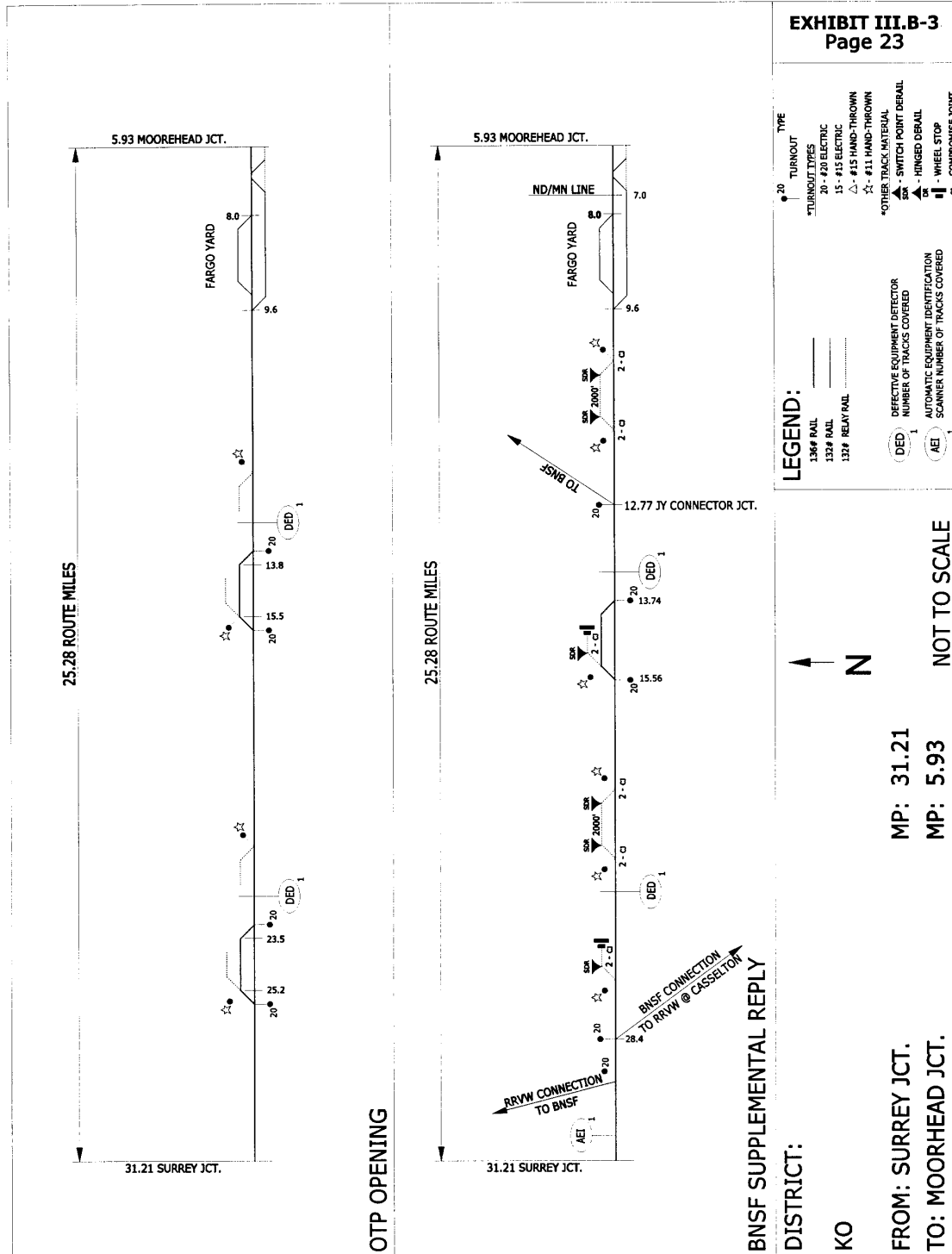
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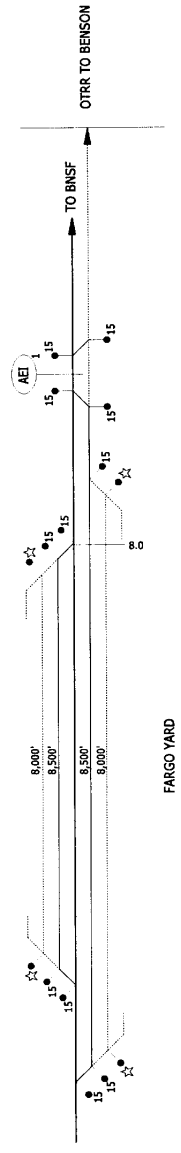
▲ - HUNG DERAIL

DR

■ - WHEEL STOP

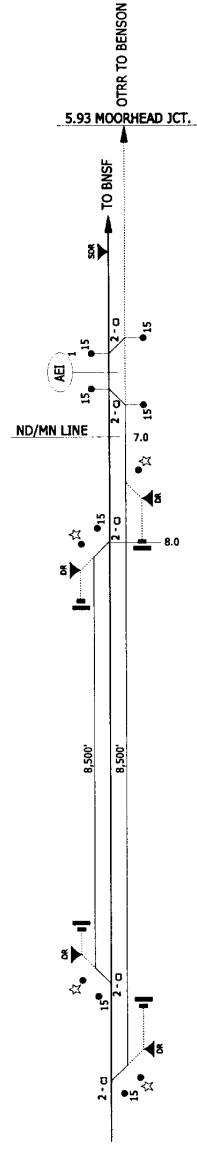
□ - COMPROMISE JOINT





FARGO YARD

OTP OPENING



FARGO YARD

BNSF SUPPLEMENTAL REPLY

DISTRICT:

KO

FARGO YARD

LEGEND:

- TURNOUT
- *TURNOUT TYPES
- 20 - #20 ELECTRIC
- 15 - #15 ELECTRIC
- △ - #15 HAND-THROWN
- ☆ - #11 HAND-THROWN
- *OTHER TRACK MATERIAL
- ▲ - SWITCH POINT DERAIL
- SA - HINGED DERAIL
- W - WHEEL STOP
- - COMPROMISE JOINT
- DEFECTIVE EQUIPMENT DETECTOR
- NUMBER OF TRACKS COVERED
- 1
- AUTOMATIC EQUIPMENT IDENTIFICATION
- SCANNER NUMBER OF TRACKS COVERED
- 1
- AEI
- 1
- 136# PAUL
- 132# PAUL
- 132# RELAY PAUL



NOT TO SCALE

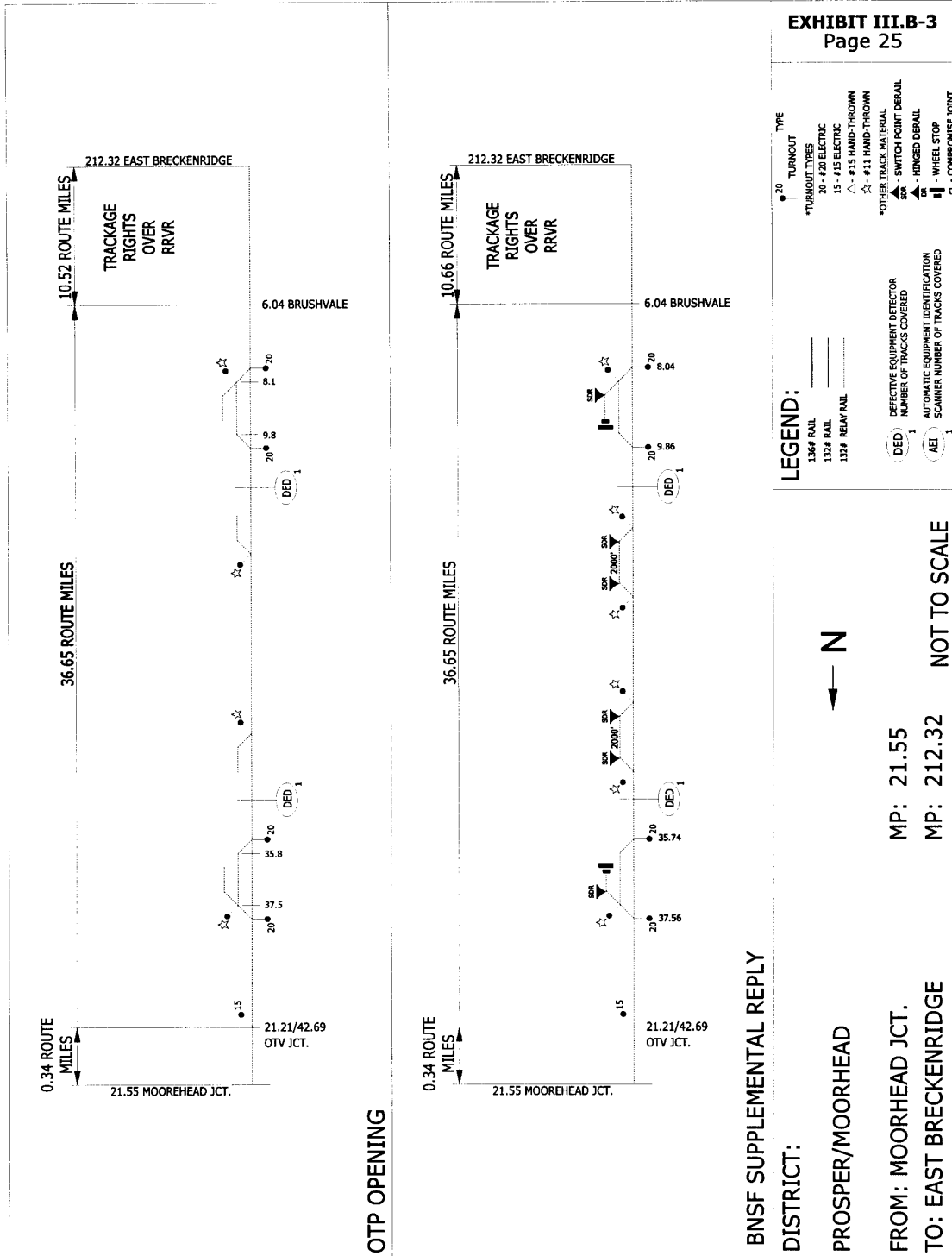
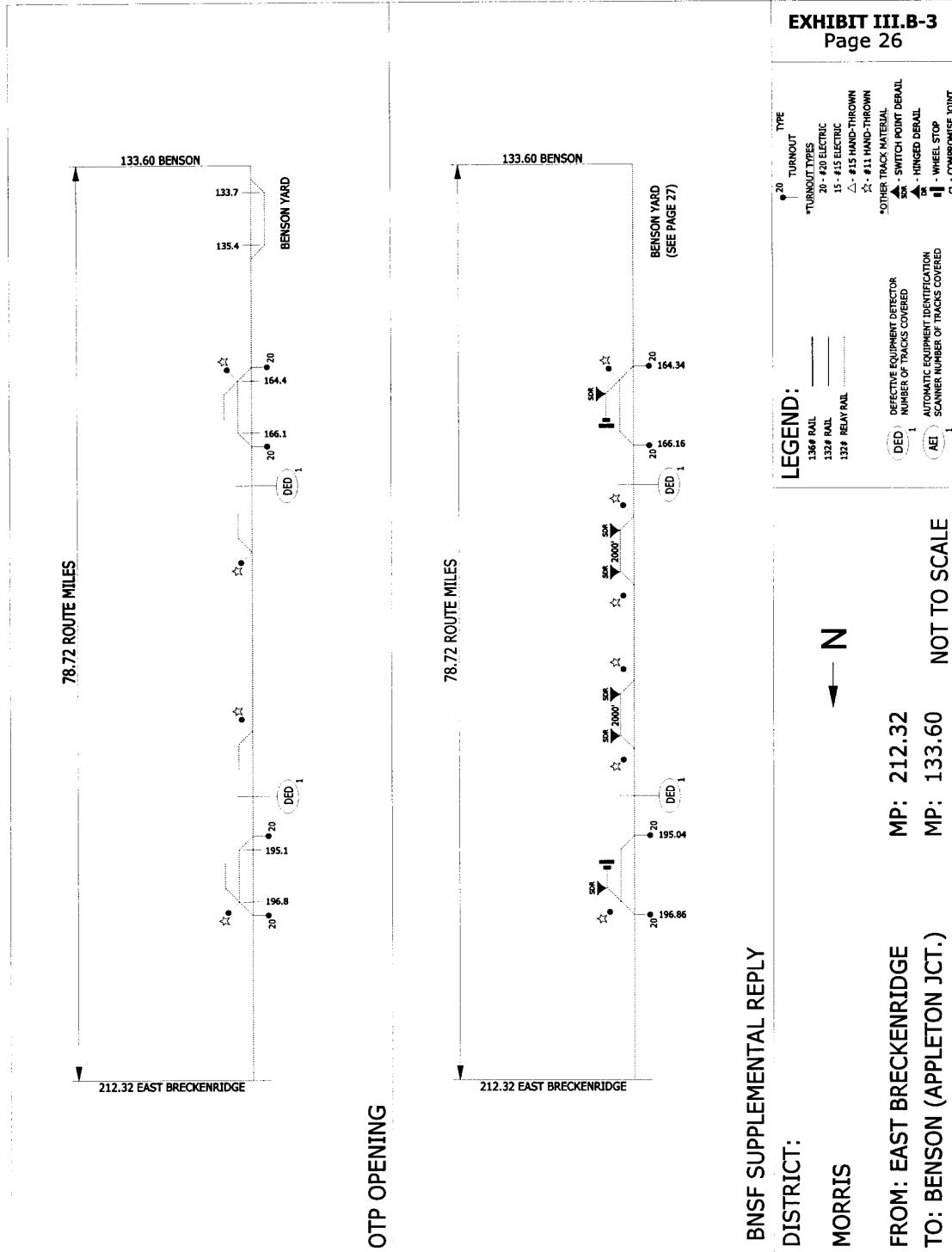
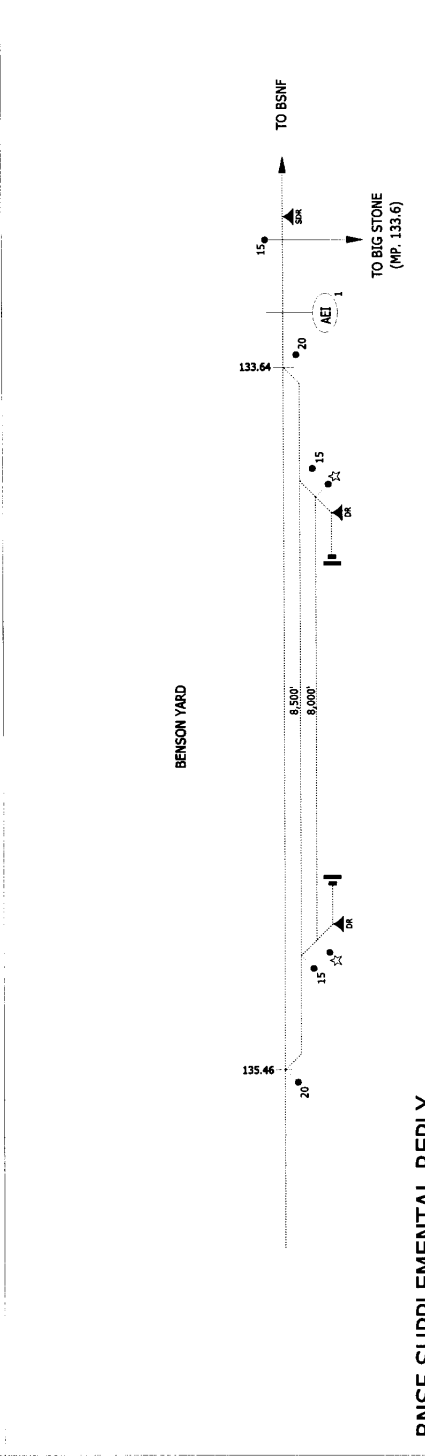
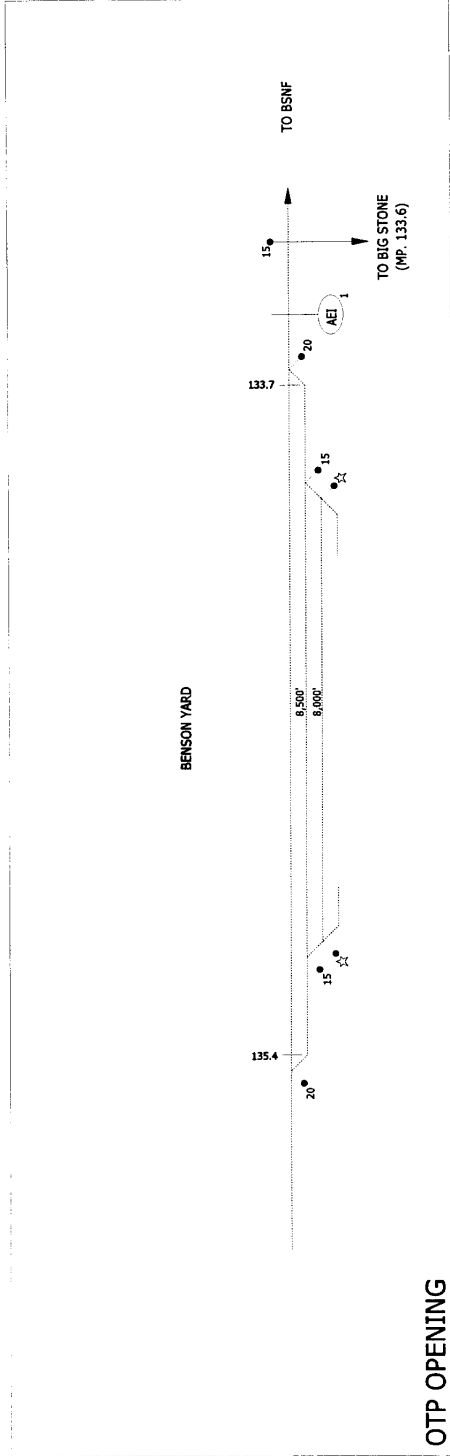


EXHIBIT III.B-3 **Page 26**





DISTRICT:
MORRIS

BENSON YARD

NOT TO SCALE

LEGEND:

136# RAIL	TURNOUT
132# RAIL	TURNOUT TYPES
132# RELAY RAIL	20 - #20 ELECTRIC
	15 - #15 ELECTRIC
	15 - #15 HAND-THROWN
	15 - #11 HAND-THROWN
	*OTHER TRACK MATERIAL
	SW - SWITCH POINT DERAIL
	SW - HINGED DERAIL
	SW - WHEEL STOP
	SW - COMPROMISE JOINT

DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED
1

AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED
1

TURNOUT TYPES
20 - #20 ELECTRIC
15 - #15 ELECTRIC
15 - #15 HAND-THROWN
15 - #11 HAND-THROWN

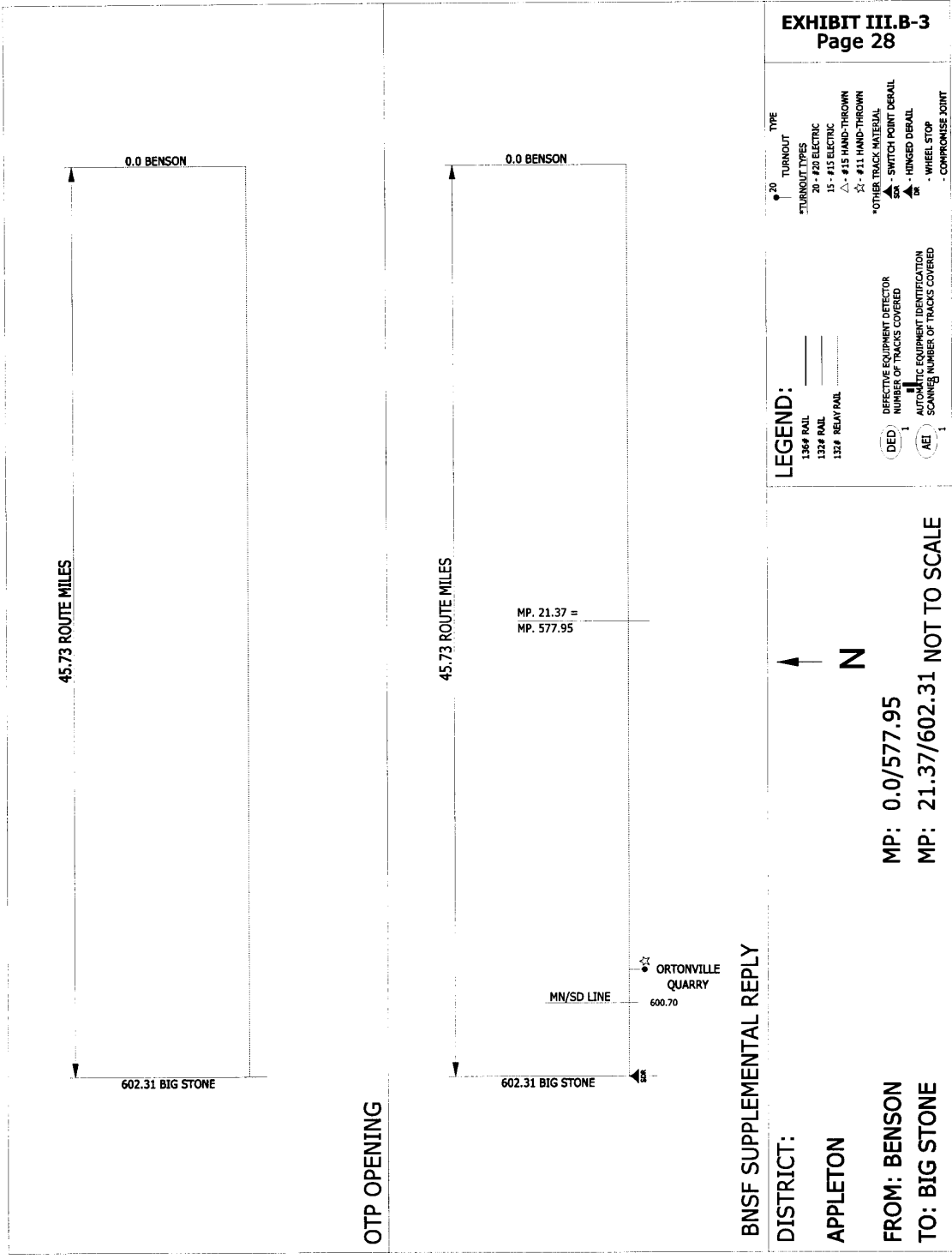
SWITCH POINT DERAIL
SW

HINGED DERAIL
SW

WHEEL STOP
SW

COMPROMISE JOINT
SW

EXHIBIT III.B-3
Page 28



TURNOUT	TYPE
*TURNOUT TYPES	
20 - #20 ELECTRIC	
15 - #15 ELECTRIC	
△ - #15 HAND-THROWN	
☆ - #11 HAND-THROWN	
*OTHER TRACK MATERIAL	
▲ - SWITCH POINT DERAIL	
△ - KINKED DERAIL	
△ - WHEEL STOP	
- COMPROMISE JOINT	

LEGEND:

136# RAIL
 132# RAIL
 132# RELAY RAIL

DEFECTIVE EQUIPMENT DETECTOR
 NUMBER OF TRACKS COVERED
 AUTOMATIC EQUIPMENT IDENTIFICATION
 SCANNING NUMBER OF TRACKS COVERED

DED 1
 AEI 1

DISTRIC:
APPLETON

FROM: BENSON
TO: BIG STONE

MP: 0.0/577.95
MP: 21.37/602.31 NOT TO SCALE

BNSF SUPPLEMENTAL REPLY

III.C: Operating Plan

YARD DWELL TIMES

	OTRR	BNSF
DONKEY CREEK		
Empty coal trains, Initial terminal insp	2 Hr	6 Hr
Loaded coal trains, I/C to BNSF	15 Min	1 Hr
Westbound non-coal overhead trains w/ insp	1 Hr	1 Hr w/o insp
Eastbound non-coal overhead trains	15 Min	1 Hr
CONVERSE		
Empty coal trains, w/ insp	45 Min	3 Hr w/insp
Loaded coal trains I/C to BNSF	15 Min	1 Hr
DUTCH		
Crew change on all trains	15 Min	15 Min
MORAN JCT.		
Crew change on thru trains	15 Min	15 Min
I/C with BNSF all trains	15 Min	1 Hr
GLENDIVE		
Empty coal trains, Initial terminal insp	2 Hr	6 Hr
Loaded coal trains, exchange power and crew	30 Min	2 Hr, helper
Loaded coal trains to BNSF at Benson, 1500 Mile insp	1 Hr	2 Hr, helper
Loaded coal trains to BNSF at Fargo, loaded South of Donkey Creek, 1500 Mi insp	1 Hr	2 Hr, helper
Loaded coal trains I/C to BNSF at Glendive	None	1 Hr
Westbound non-coal, insp	1 Hr	30 Min no insp
Eastbound non-coal	15 Min	30 Min
TERRY		
Westbound I/C from BNSF, insp	45 Min	1 Hr, no insp
Eastbound I/C to BNSF	15 Min	1 Hr
MANDAN		
Loaded and empty coal I/C to/from BNSF	15 Min	1 Hr
All loaded and empty thru coal trains - fuel	15 Min	1 Hr
All thru trains, crew change	15 Min	15 Min

JY CONNECTION, FARGO

All trains I/C to/from Cohasset

None

1 Hr

FARGO

All trains I/C to/from BNSF

15 Min

1 Hr

Crew change on trains to Benson

15 Min

15 Min

BENSON

All trains I/C to/from BNSF

15 Min

1 Hr

Crew change on trains to Big Stone

15 Min

15 Min

STEPTOE & JOHNSON^{LLP}
ATTORNEYS AT LAW

Supp. Reply Exh. III.C-2
Page 1 of 1

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February 5, 2004

Via FACSIMILE

Jeffrey O. Moreno, Esq.
Thompson Hine LLP
Suite 800
1920 N Street, N.W.
Washington, D.C. 20036

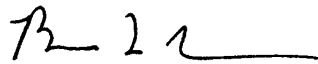
Re: **STB Docket No. 42071, *Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company***

Dear Jeff:

As we discussed in our telephone conversation yesterday, it is my understanding that L.E. Peabody & Associates ("LEPA") will address two issues that came up during our January 30 meeting that they were unable to explain at that time. First, LEPA will confirm whether the "svcunits.dbf" file contains mine loading time and identify where that time can be found. Second, LEPA will explain the relationship between the transit times shown in the "timesl.dbf" and "timese.dbf" files and the locomotive unit hours shown in the "svcunits.dbf" file, and confirm whether the data in those files are consistent. For example, as we showed in a handout during the meeting, the locomotive unit hours that we calculated from the transit times in the "timesl.dbf" and "timese.dbf" files differed from the locomotive unit hours calculated by the string program and shown in the "svcunits.dbf" file.

I would appreciate it if you could let me know when we can expect a response on these outstanding issues.

Sincerely,



Brooke L. Gaede

L. E. PEABODY & ASSOCIATES, INC.

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AS FORD K. EDWARDS

1959-1965
EDWARDS & PEABODY

Writer's Email: tc@lepeabody.com

February 13, 2004

VIA TELECOPIER

Jeffrey O. Moreno, Esquire
Thompson, Hine LLP
1920 N. Street N.W.
Washington, DC 20036-1601

Dear Jeff:

This letter responds to the questions regarding the string program raised by The Burlington Northern and Santa Fe Railway Company ("BNSF") in STB Docket No. 42071, Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company. Specifically, this letter responds to the four (4) examples of train times provided by BNSF at our January 30, 2004 conference, and the questions in Ms. Brooke Gaede's February 5, 2004 letter.

Concerning Ms. Gaede's request about the mine loading time, the mine loading time is contained in the column titled "ospur" in the "route.dbf" input file. This variable is then used in the model at lines 2346 and 2356 of the string program.

Concerning the four examples of train times between nodes 11 and 16 provided by BNSF during our January 30, 2004 conference, BNSF was unable to tie the locomotive hours shown in the summary of the service units with the "timese.xls" and "timesl.xls" files submitted in Otter Tail's Supplemental Opening evidence. Each example is discussed below:

The first example was labeled "Trains for L Node 11." The BNSF summary of the locomotive hours for this example failed to include the transit time between the dispatch time from the mine and the arrival time at node 11 ("s11") for the 5 trains in the example. The service units developed by string program includes this time between mine dispatch and arrival at node 11, which accounts for all of the difference between BNSF's calculations and our calculations.

Jeffrey O. Moreno, Esquire
February 13, 2004
Page 2

The second example was labeled "Trains for E Node 16E." The BNSF summary of the locomotive hours for this example failed to include the transit time between the time at node 11 ("s11") and the time on the mine spur. This time is not shown in the "timesc.xls" file, but is calculated internally in the program and used in developing the service unit times. Therefore, the service units developed by string program includes this time. This accounts for all of the difference between BNSF's calculations and our calculations.

The third and fourth examples were labeled "Trains for E Node 16L," and "Trains for R Node 11E," respectively. The difference between the times developed by the BNSF and the times shown in the service units output are related to train CCRMHOH342 in the example labeled "Trains for E Node 16L," and to train CCRMHOH165 in the example labeled "Trains for R Node 11E." Specifically, the service units did not include the delay between node 13 ("s13") and node 12 ("s12") for train CCRMHOH342, and the delay between node 11 ("s11") and node 12 ("s12") for train CCRMHOH165. The difference in the locomotive hours summarized by BNSF and the locomotive hours contained in the service outputs equals 1.23 hours for train CCRMHOH342, and 1.1 hours for train CCRMHOH165. To the extent this issue impacts any other trains in our model, we will correct the times in our rebuttal filing.

If you have any questions regarding the information discussed above, please call me.

Very truly yours



Thomas D. Crowley

TDC:maj

Supp. Reply Exh. III.C-4

Redacted

**III.D-4: Maintenance
of Way**

BNSF Supp. Rep. Exh. III.D.4-1

REDACTED

**III.F: Road Property
Investment**

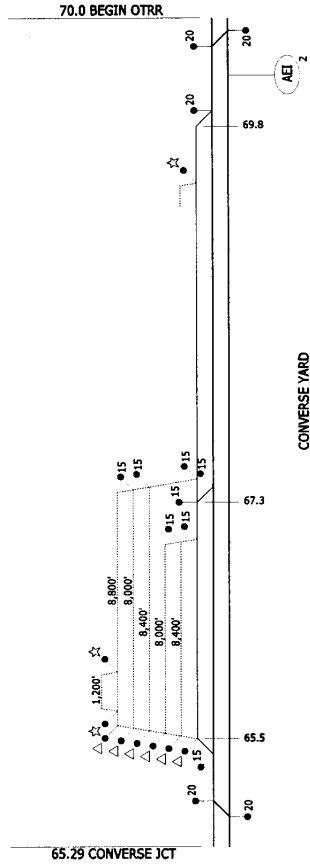
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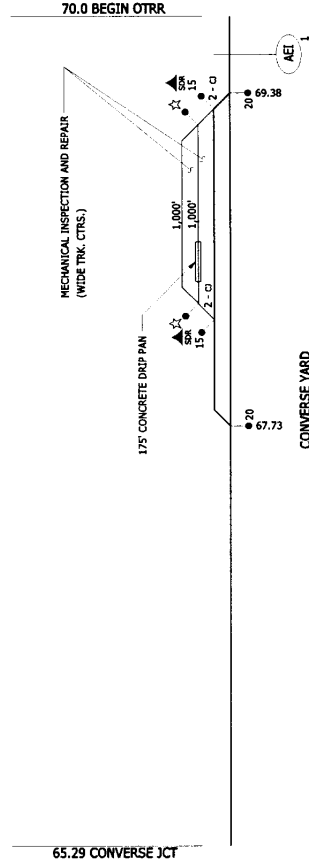
BNSF Supp. Rep. Exh. III.F-2

REDACTED

EXHIBIT III.F-3 Page 2



OTP OPENING



BNSF SUPPLEMENTAL REPLY

DISTRICT:

ORIN

FROM: S. END CONVERSE YARD

TO: CONVERSE JCT.

MP: 70.00

MP: 65.29

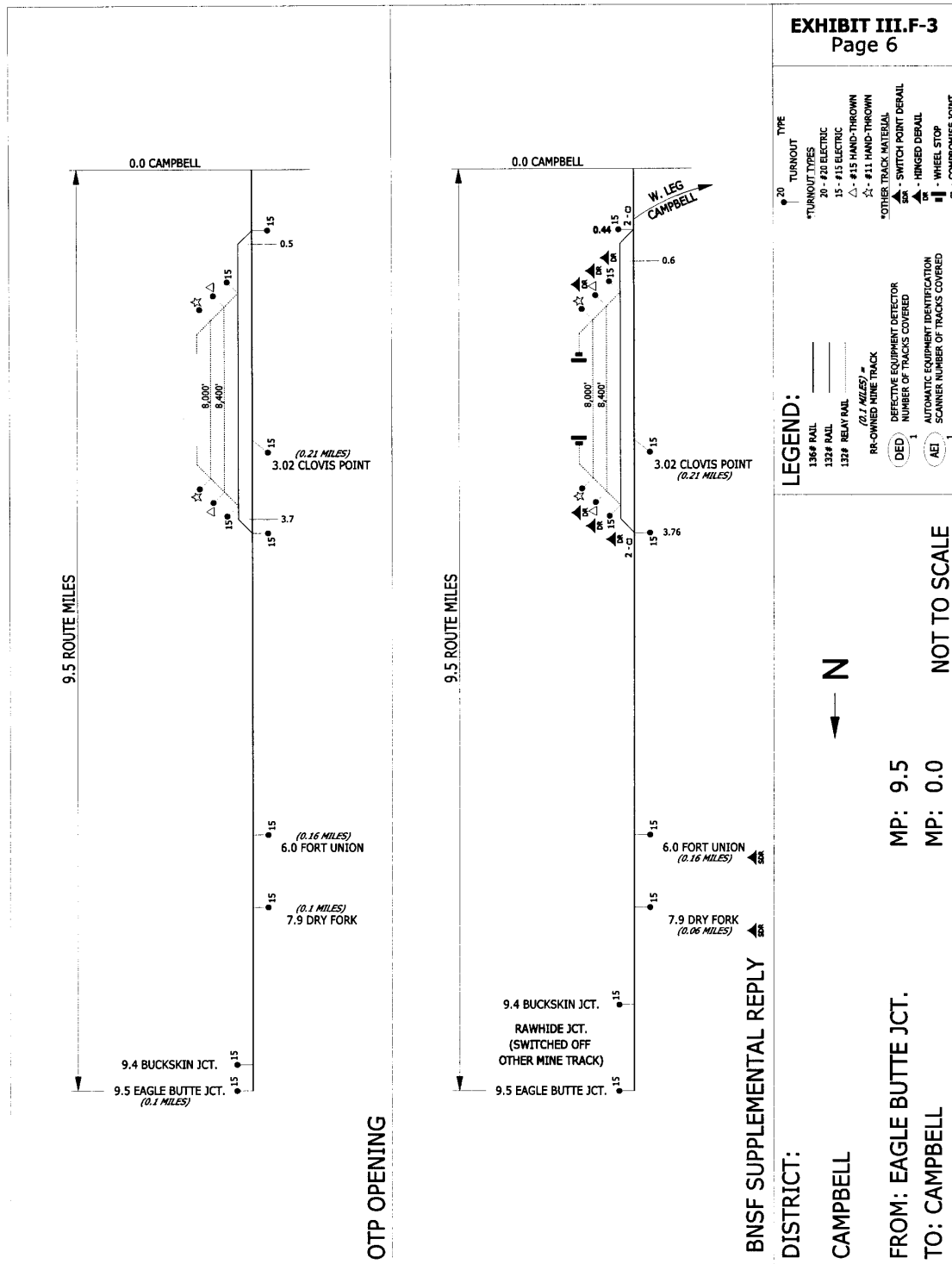
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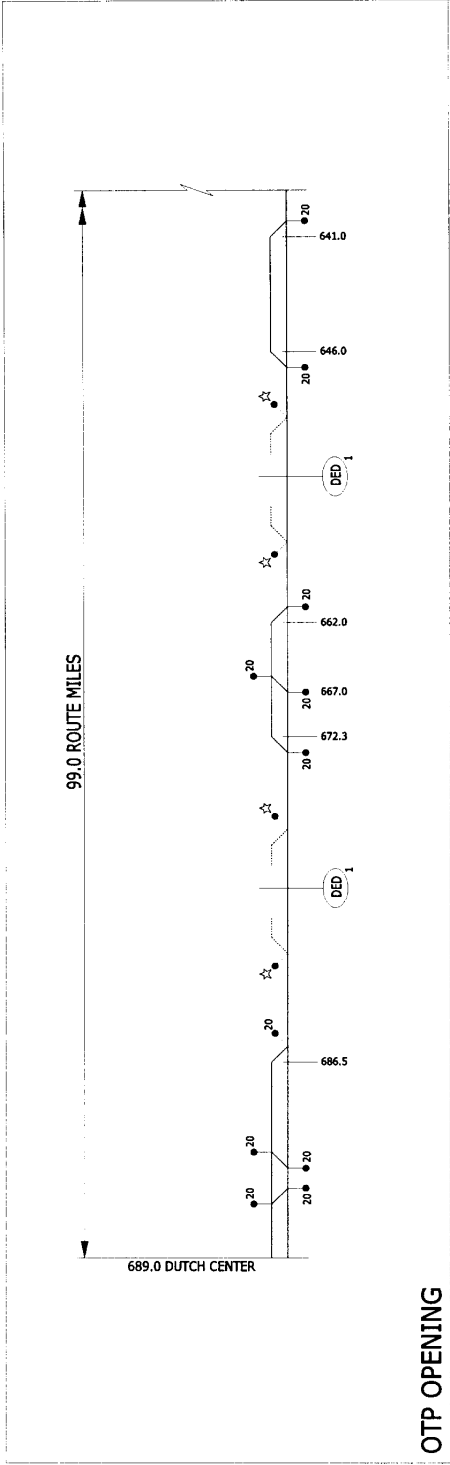
LEGEND:

20	TURNOUT	TYPE
20	TURNOUT TYPES	
20	20 - #20 ELECTRIC	
15	15 - #15 ELECTRIC	
15	15 - #15 HAND-THROWN	
15	15 - #11 HAND-THROWN	
15	15 - OTHER TRACK MATERIAL	
15	15 - SWITCH POINT DERAIL	
15	15 - HINGED DERAIL	
15	15 - WHEEL STOP	
15	15 - COMPROMISE JOINT	
1	DEFECTIVE EQUIPMENT DETECTOR	
1	NUMBER OF TRACKS COVERED	
1	AUTOMATIC EQUIPMENT IDENTIFICATION	
1	SCANNER NUMBER OF TRACKS COVERED	

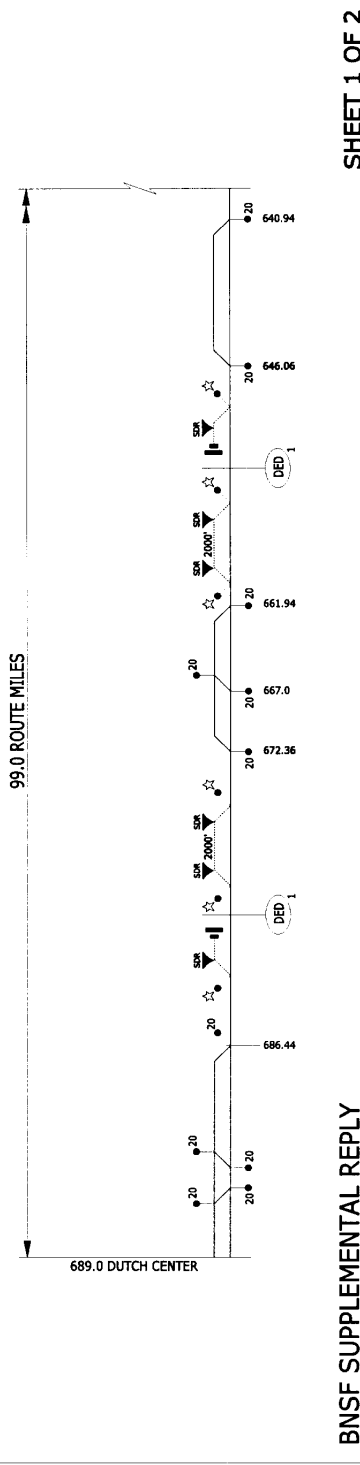








OTP OPENING



BNSF SUPPLEMENTAL REPLY

DISTRICT:

BLACK HILLS/BIG HORN

FROM: WEST CAMPBELL

TO: DUTCH CENTER

MP: 590.0

MP: 689.0



NOT TO SCALE

SHEET 1 OF 2

LEGEND:

136# RAIL

132# RAIL

132# RELAY RAIL

DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED

AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED

TURNOUT

20 - #20 ELECTRIC

15 - #15 ELECTRIC

15 - #15 HAND-THROWN

11 - #11 HAND-THROWN

OTHER TRACK MATERIAL

SWITCH POINT DERAIL

HINGED DERAIL

WHEEL STOP

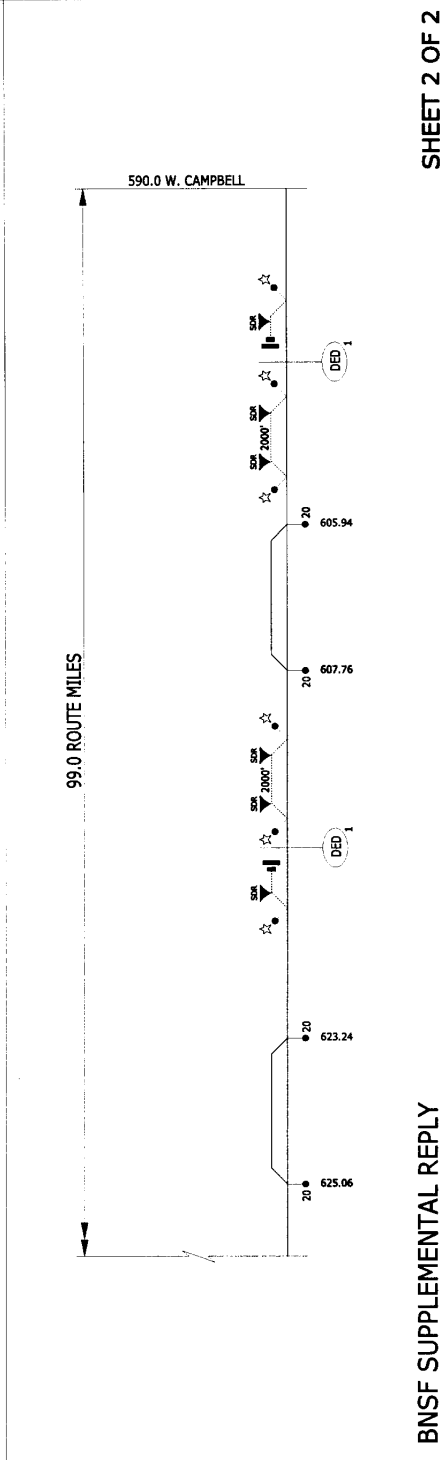
COMPROMISE JOINT

DED 1

AEI 1

EXHIBIT III.F-3

Page 7



NOT TO SCALE

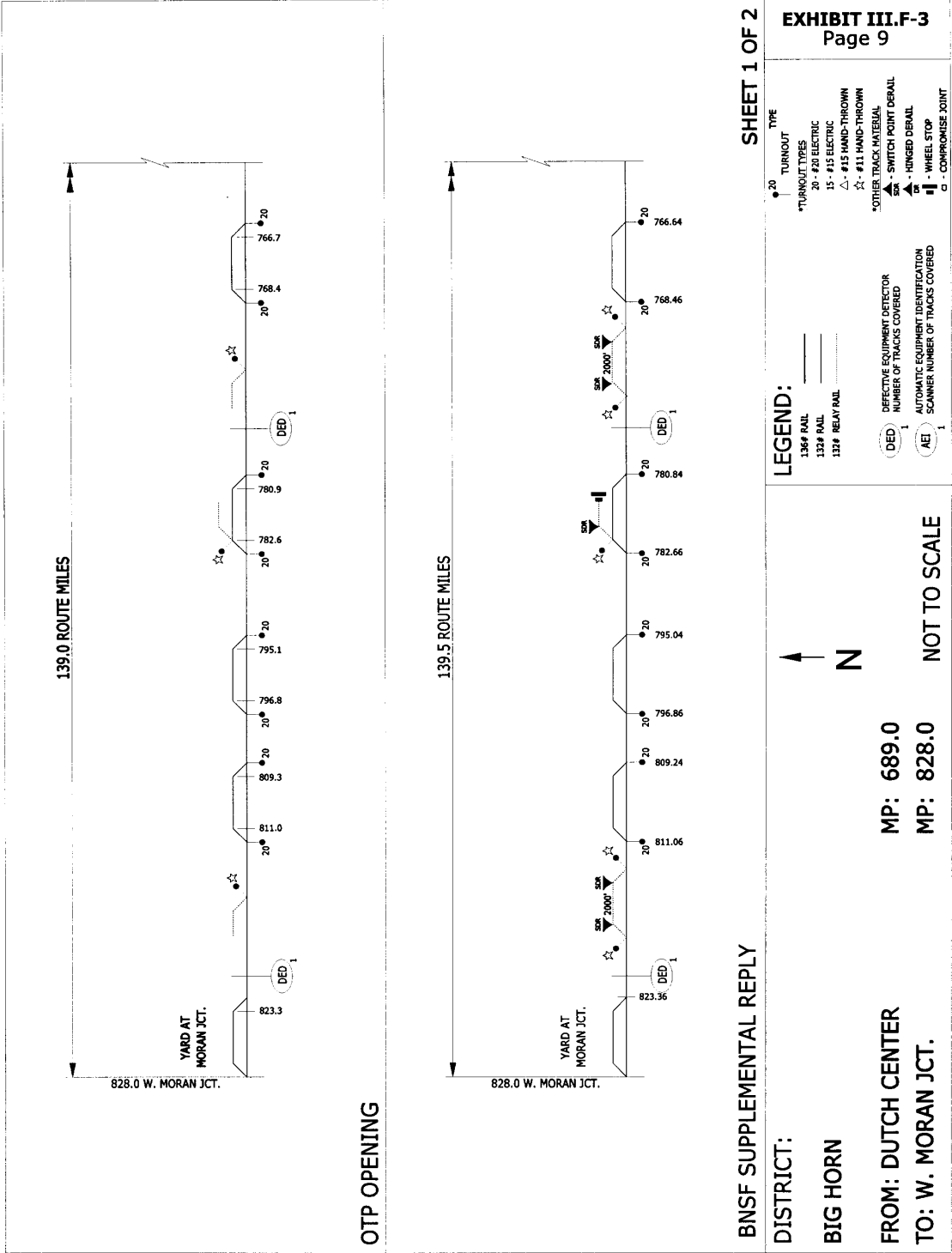
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1		1	

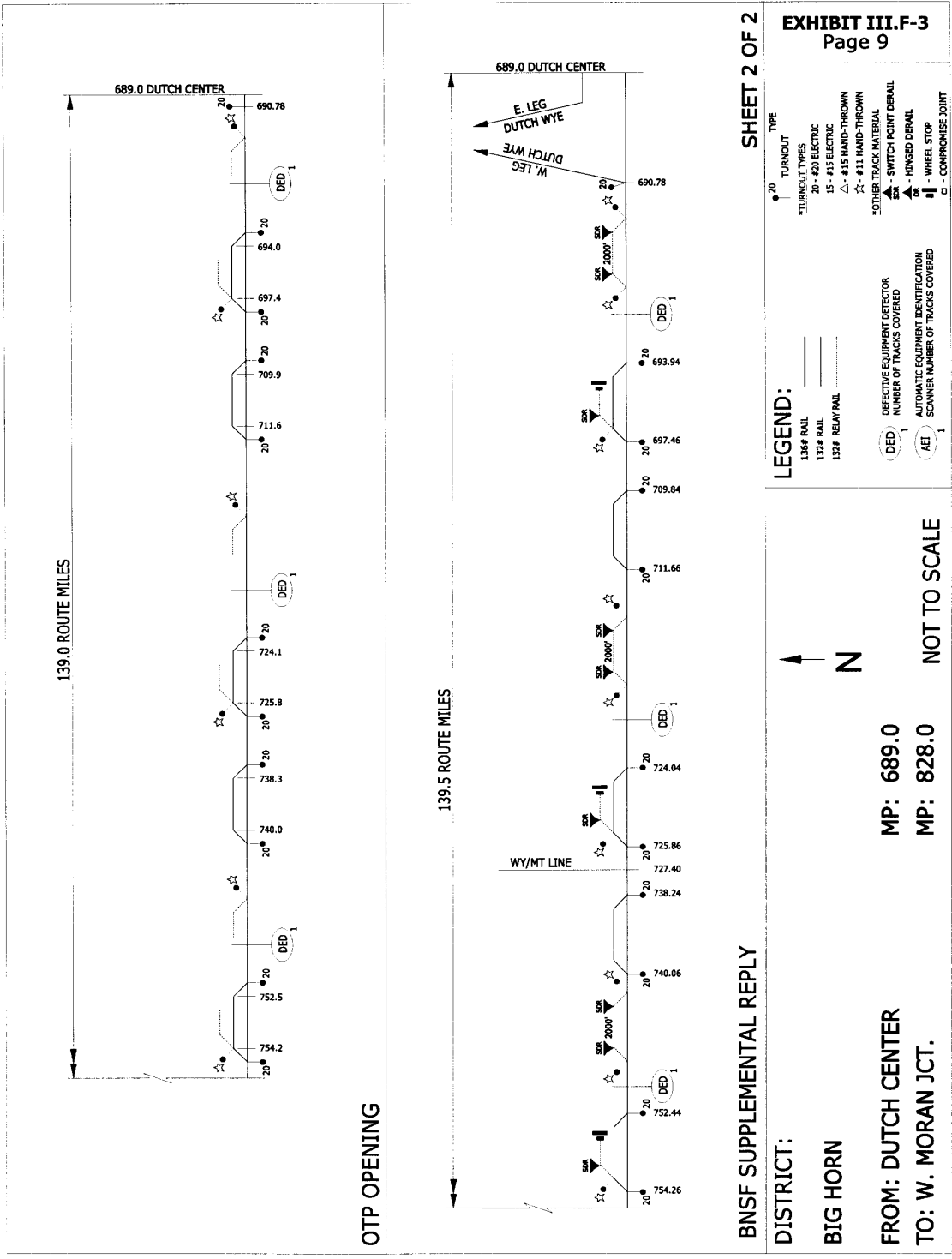
***TURNOUT TYPES**

20 - #20 ELECTRIC
15 - #15 ELECTRIC
△ - #15 HAND-THROWN
☆ - #11 HAND-THROWN

***OTHER TRACK MATERIAL**

▲ - SWITCH POINT DERAIL
S/S
▲ - HINGED DERAIL
OR
■ - WHEEL STOP
□ - COMPROMISE JOINT





OTP OPENING

BNSF SUPPLEMENTAL REPLY

SHEET 2 OF 2

DISTRICT:

BIG HORN

FROM: DUTCH CENTER

TO: W. MORAN JCT.

MP: 689.0

MP: 828.0

NOT TO SCALE

LEGEND:

- 136# RAIL
- 132# RAIL
- 132# RELAY RAIL

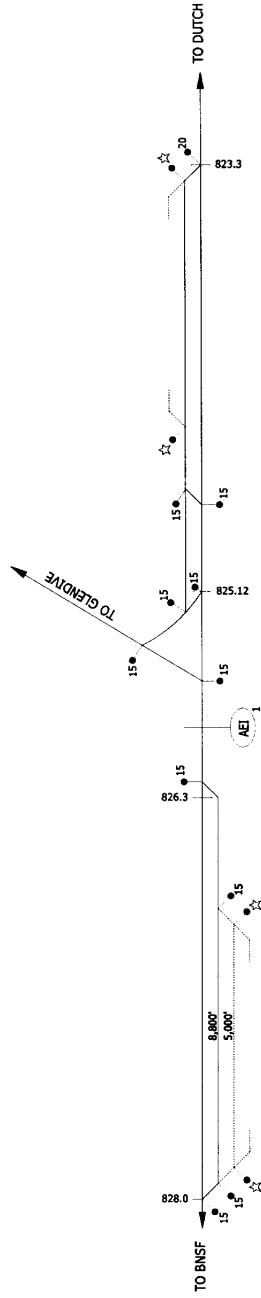
TURNOUT

- 20 - #20 ELECTRIC
- 15 - #15 HAND-THROWN
- 11 - #11 HAND-THROWN

- OTHER TRACK MATERIAL
- SWITCH POINT DETAIL
- HINGED DETAIL
- WHEEL STOP
- COMPROMISE JOINT

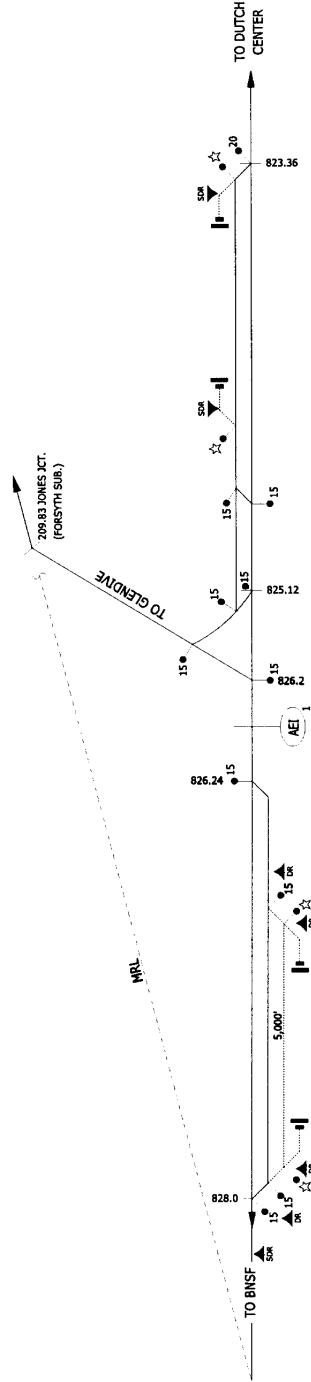
- DEFECTIVE EQUIPMENT DETECTOR
- NUMBER OF TRACKS COVERED
- AUTOMATIC EQUIPMENT IDENTIFICATION
- SCANNER NUMBER OF TRACKS COVERED

EXHIBIT III.F-3 Page 10



OTP OPENING

MORAN JCT. YARD



MORAN JCT. YARD

BNSF SUPPLEMENTAL REPLY

DISTRICT:

BIG HORN

MORGAN JCT. YARD

LEGEND:

136# RAIL
132# RAIL
137# RAIL

20 TURNOUT

*TURNOUT TYPES

20 - #20 ELECTRIC

15 - #15 ELECTRIC

△ - #15 HAND-THROWN

☆ - #11 HAND-THROWN

*OTHER TRACK MATERIAL

▲ - SWITCH POINT DERAIL

▲ - HINGED DERAIL

▲ - WHEEL STOP

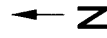
□ - COMPROMISE JOINT

DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED

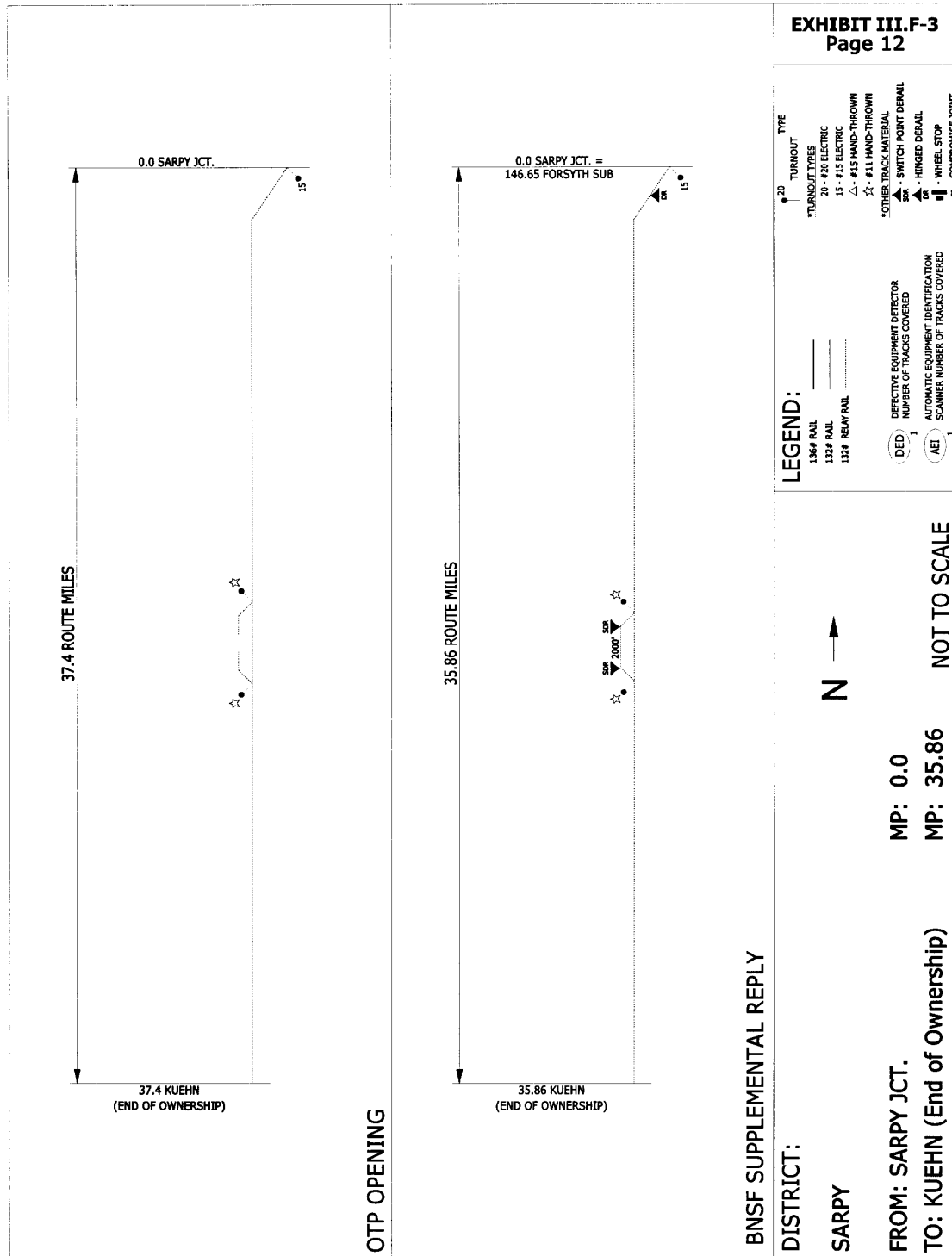
AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED

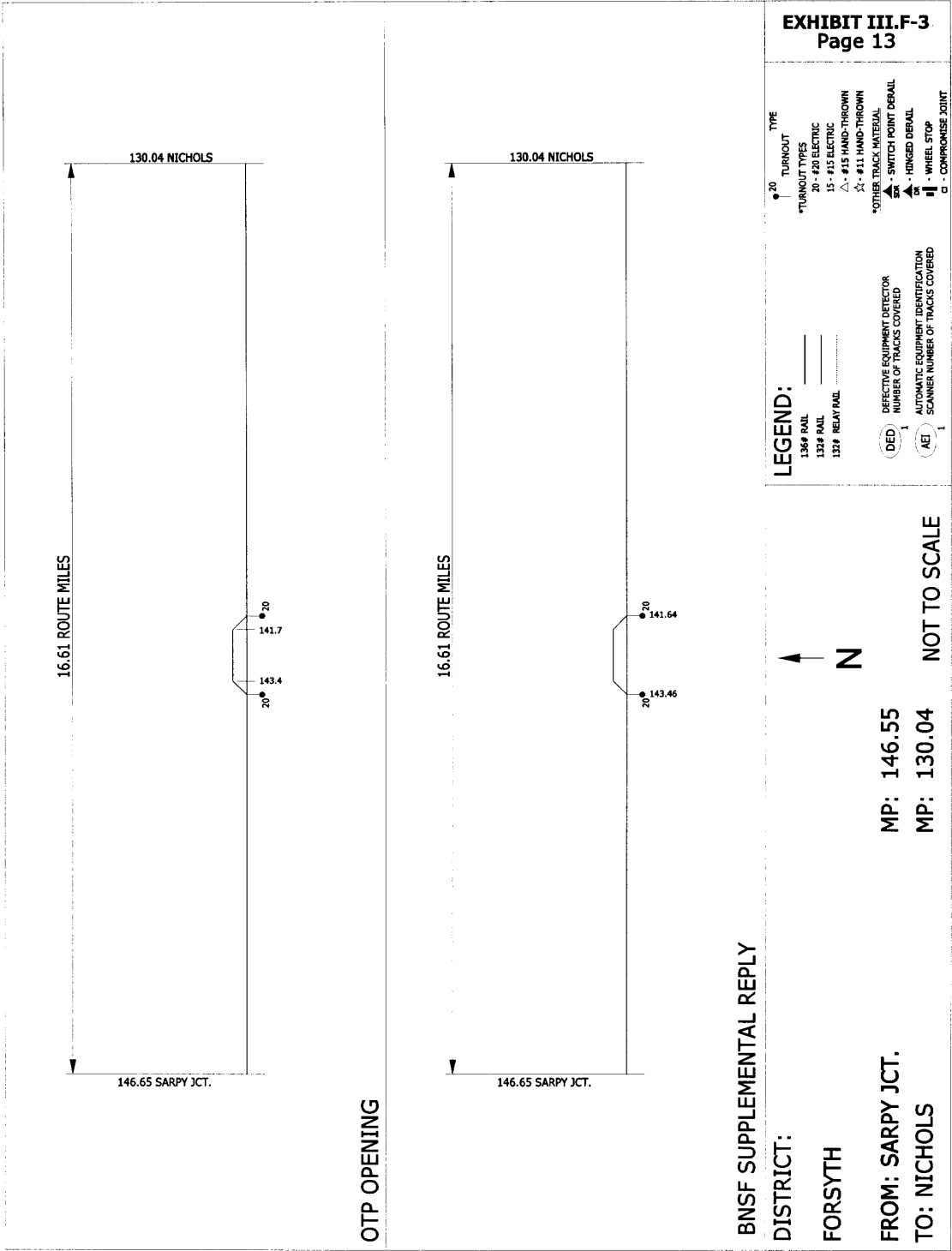
DED 1

AEI 1



NOT TO SCALE





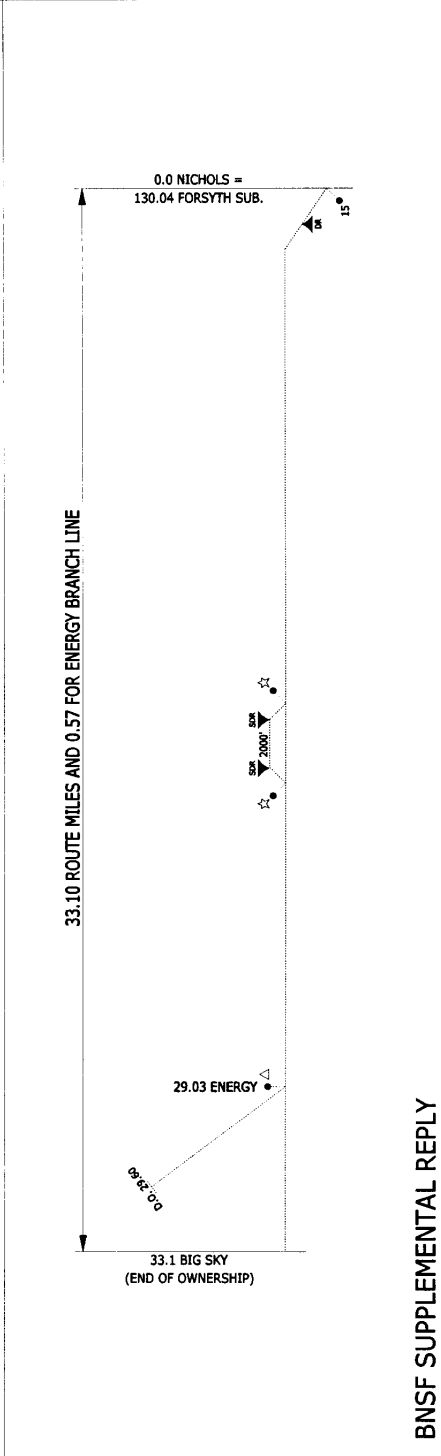
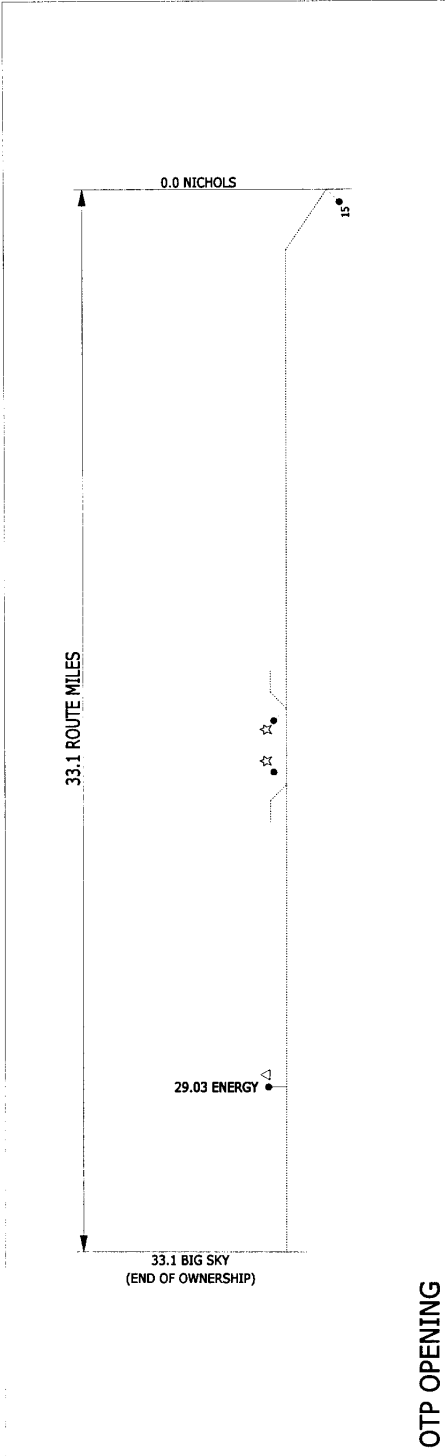


EXHIBIT III.F-3
Page 14

DISTRICT:
SARPY

FROM: NICHOLS
TO: BIG SKY (End of Ownership)

MP: 0.0
MP: 33.1

NOT TO SCALE

LEGEND:

TURNOUT TYPES

- 20 - #20 ELECTRIC
- 15 - #15 ELECTRIC
- △ - #15 HAND-THROWN
- ☆ - #11 HAND-THROWN
- ☆ - OTHER TRACK MATERIAL
- △ - SWITCH POINT DERAIL
- △ - HINGED DERAIL
- △ - WHEEL STOP
- △ - COMPROMISE JOINT

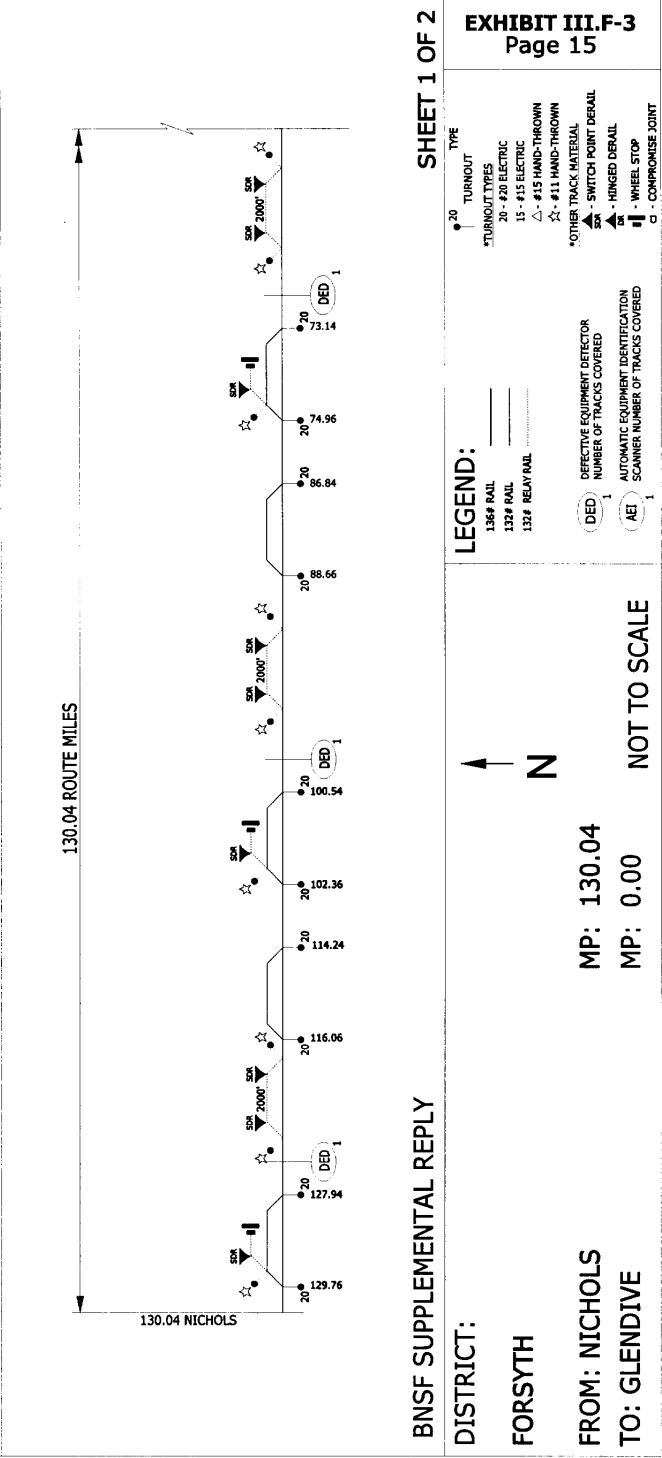
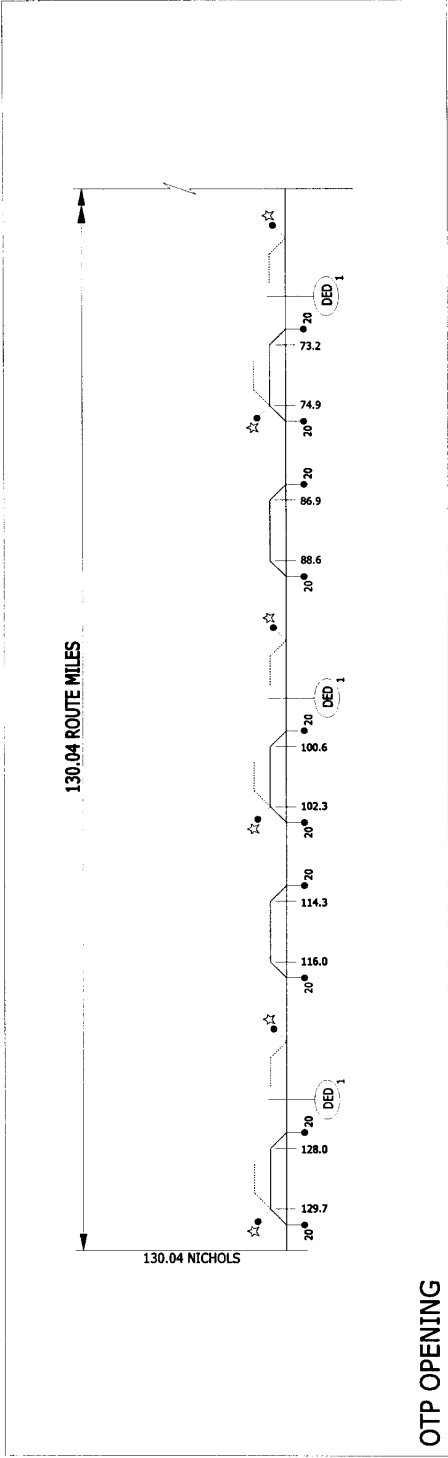
DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED

AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED

136# RAIL
132# RAIL
132# RELAY RAIL

DEED 1
AET 1

N



SHEET 1 OF 2

BNSF SUPPLEMENTAL REPLY

DISTRICT:

FORSYTH

FROM: NICHOLS

TO: GLENDIVE

EXHIBIT III.F-3

Page 15

LEGEND:

TURNOUT

TURNOUT TYPES

20 - #20 ELECTRIC

15 - #15 ELECTRIC

△ - #15 HAND-THROWN

☆ - #11 HAND-THROWN

☆ - OTHER TRACK MATERIAL

SW - SWITCH POINT DERAIL

SW - HINGED DERAIL

SW - WHEEL STOP

SW - COMPROMISE JOINT

DEFECTIVE EQUIPMENT DETECTOR

NUMBER OF TRACKS COVERED

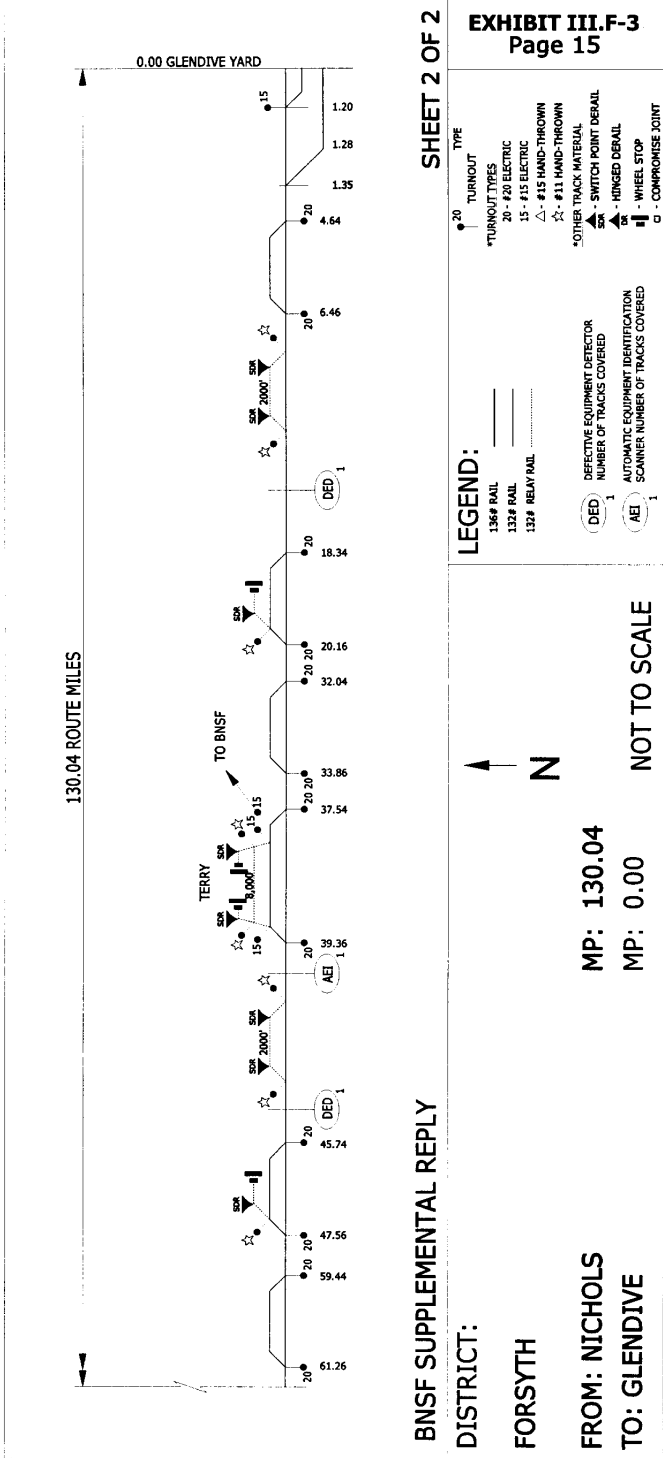
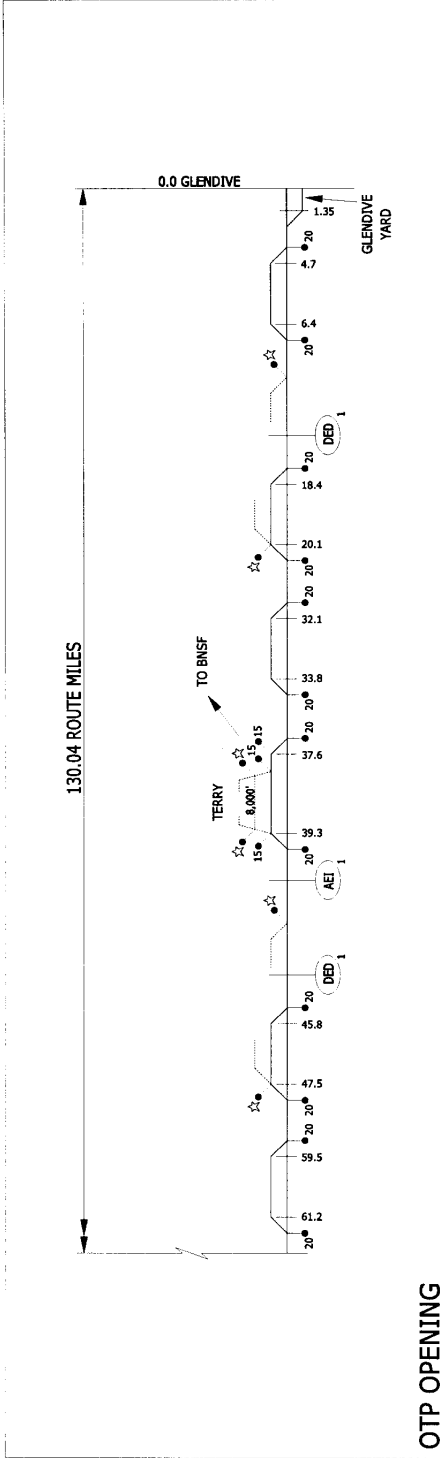
AUTOMATIC EQUIPMENT IDENTIFICATION

SCANNER NUMBER OF TRACKS COVERED

MP: 130.04

MP: 0.00

NOT TO SCALE



DISTRICT:
FORSYTH

FROM: NICHOLS

TO: GLENDIVE

MP: 130.04

MP: 0.00

NOT TO SCALE

LEGEND:

136# RAIL

132# RAIL

132# RAIL

DEFECTIVE EQUIPMENT DETECTOR

NUMBER OF TRACKS COVERED

AUTOMATIC EQUIPMENT IDENTIFICATION

SCANNER NUMBER OF TRACKS COVERED

TURNOUT

20 - #20 ELECTRIC

15 - #15 ELECTRIC

15 - #15 HAND-THROWN

15 - #11 HAND-THROWN

OTHER TRACK MATERIAL

SWITCH POINT DETAIL

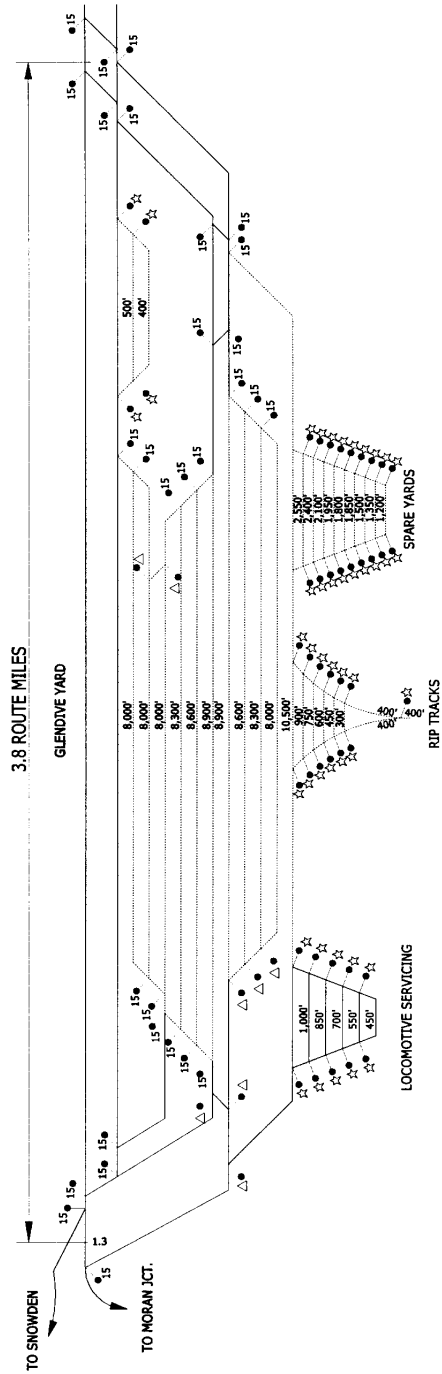
HINGED DETAIL

WHEEL STOP

COMPROMISE JOINT

SHEET 2 OF 2

EXHIBIT III.F-3
Page 15



OTP OPENING

DISTRICT:

GLENDIVE YARD



LEGEND:

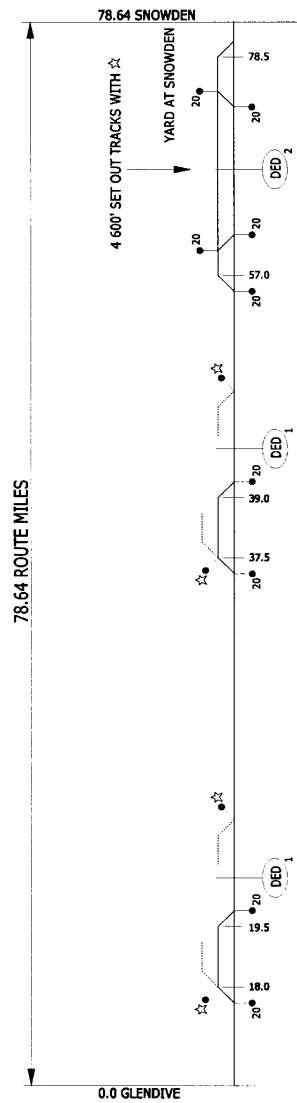
136# RAIL
132# RAIL
132# RELAY RAIL

DETECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED
1
AEI
AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED
1

TURNOUT
*TURNOUT TYPES
20 - #20 ELECTRIC
15 - #15 ELECTRIC
△ - #15 HAND-THROWN
☆ - #11 HAND-THROWN
*OTHER TRACK MATERIAL
SW - SWITCH POINT DERAIL
H - HINGED DERAIL
W - WHEEL STOP
C - COMPROMISE JOINT

SHEET 1 OF 2

EXHIBIT III.F-3
Page 16



OTP OPENING

BNSF SUPPLEMENTAL REPLY

DISTRICT:

SIDNEY

FROM: GLENDIVE

TO: SNOWDEN

MP: 1.28

MP: 78.64

NOT TO SCALE

← Z

LEGEND:

136# RAIL

132# RAIL

132# RELAY

DEFECTIVE EQUIPMENT DETECTOR

DED 1

AEI

1
SCANNER NUMBER OF TRACKS CO

DE

1

TYPE	20
------	----

TURNOUT

TURNOUT TYPES
20 - #20 ELECTRIC

15 - #15 ELECTRIC

△ - #15 HAND-THRO

☆ - #11 HAND-THROWN TRACK MATERIAL

▲ - SWITCH POINT

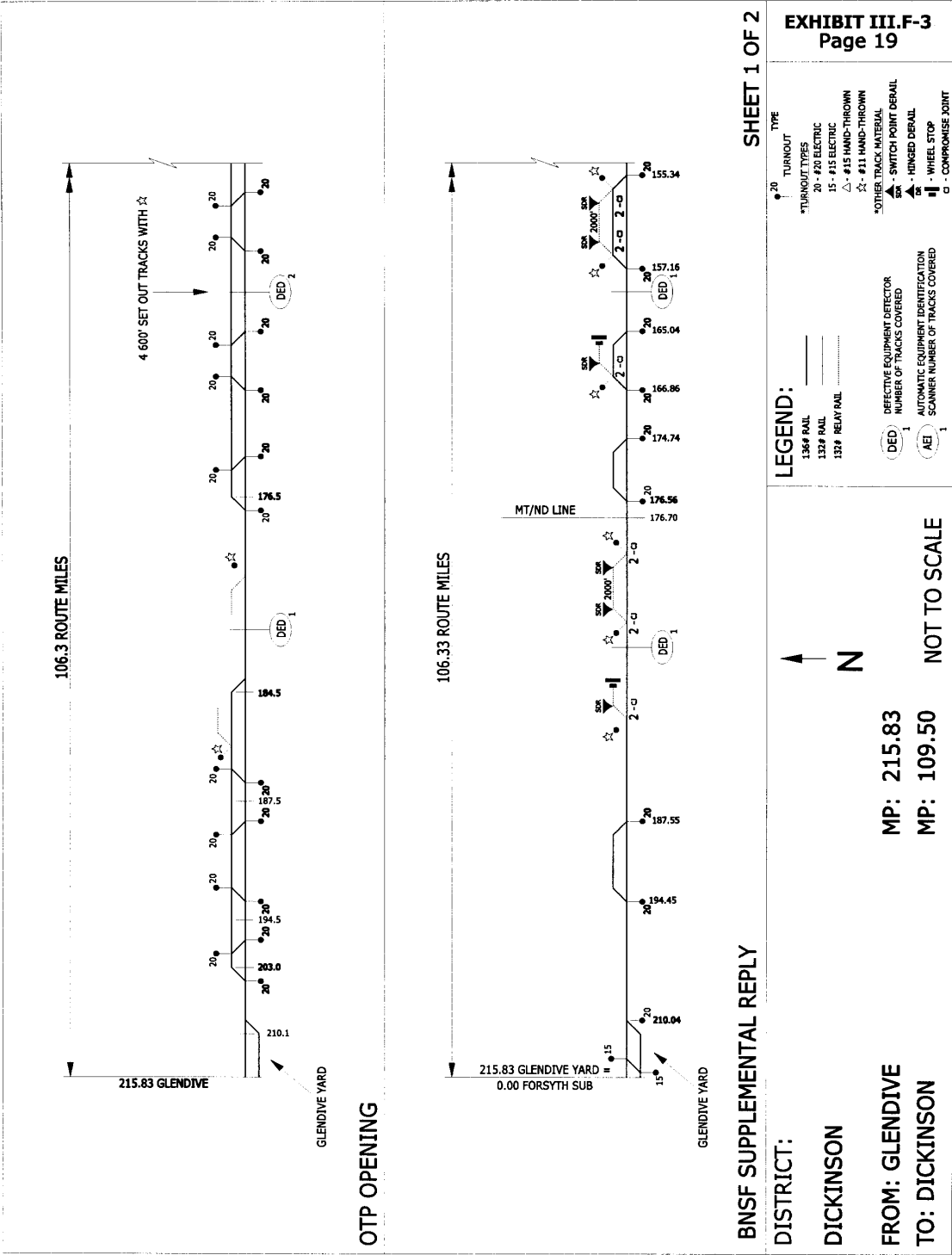
▲ - HINGED DERAIL

- WHEEL STOP

CI - COMPROMISE JO

EXHIBIT III.F-3
Page 17

Page 17



OTP OPENING

BNSF SUPPLEMENTAL REPLY

DISTRICT:

DICKINSON

FROM: GLENDIVE

TO: DICKINSON

MP: 215.83

MP: 109.50

NOT TO SCALE

LEGEND:

136# RAIL

132# RAIL

132# RAIL

132# RAIL

TURNOUT

TURNOUT TYPES

20 - #20 ELECTRIC

15 - #15 ELECTRIC

15 - #15 HAND-THROWN

☆ - #11 HAND-THROWN

☆ - OTHER TRACK MATERIAL

☆ - SWITCH POINT DEBAIL

☆ - HINGED DEBAIL

☆ - WHEEL STOP

☆ - COMPROMISE JOINT

DEFECTIVE EQUIPMENT DETECTOR

NUMBER OF TRACKS COVERED

1

1

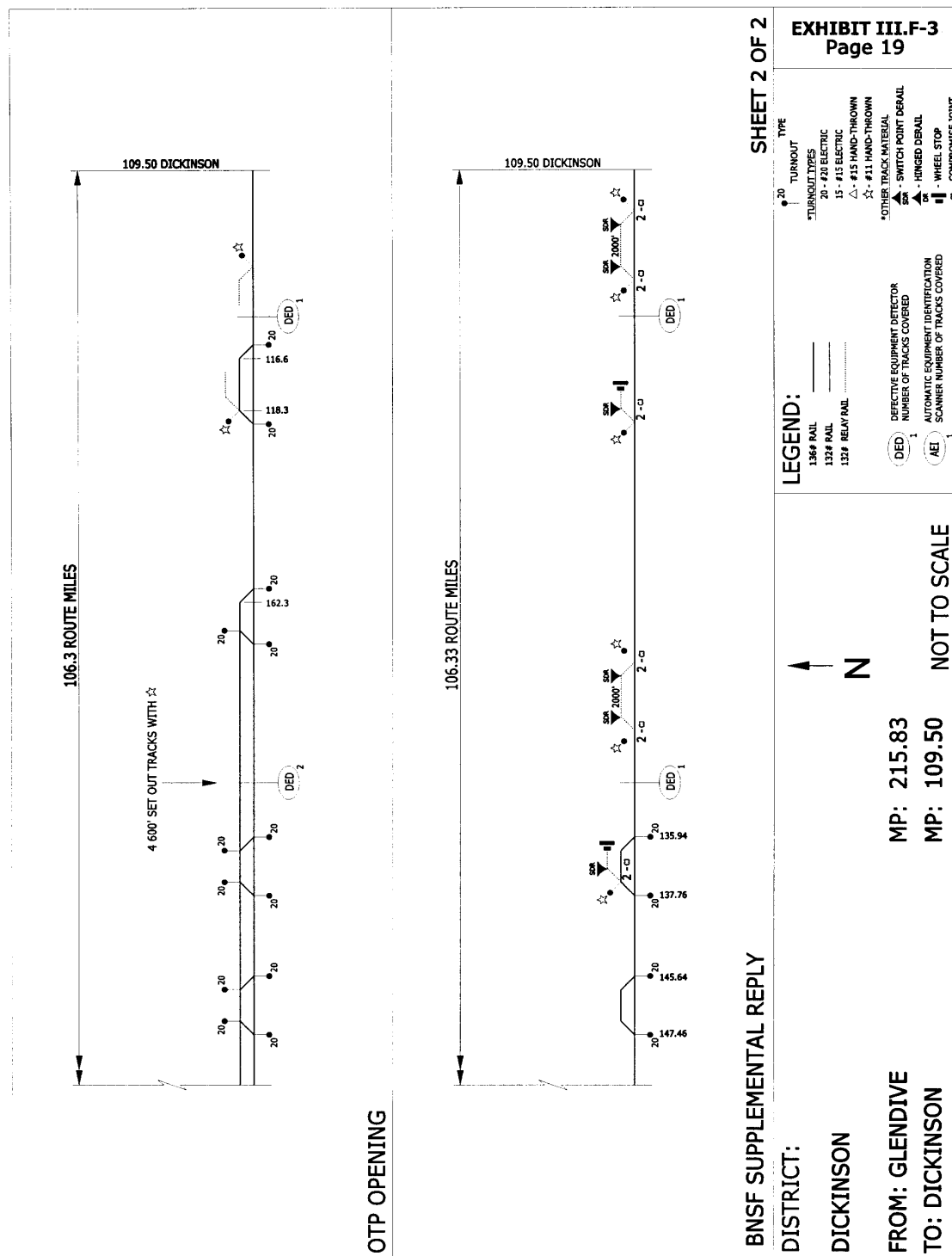
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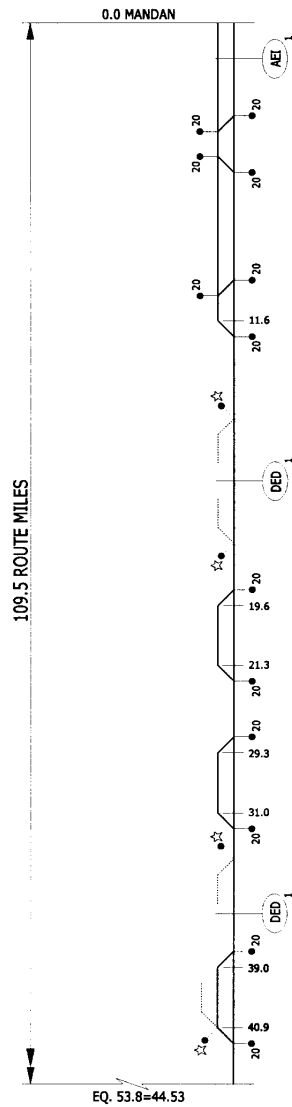
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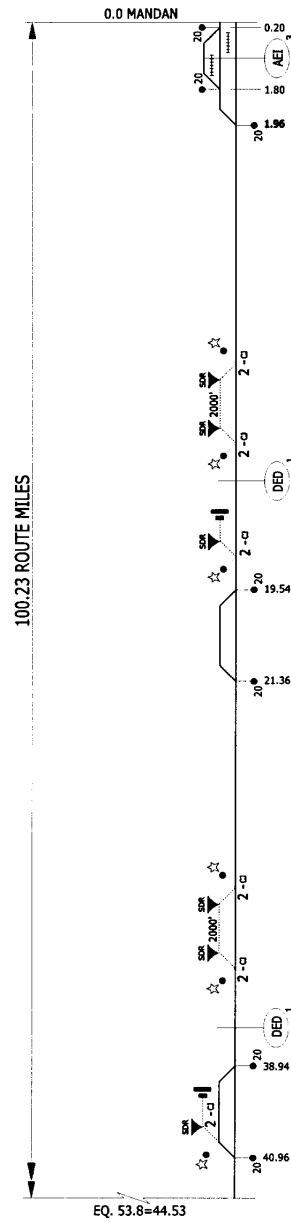
SHEET 1 OF 2

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Page 19





OTP OPENING



BNSF SUPPLEMENTAL REPLY

DISTRICT:

DICKINSON

FROM: DICKINSON

TO: MANDAN

MP: 109.5

MP: 0.0

NOT TO SCALE

LEGEND:

136# RAIL

132# RAIL

132# RELAY

FUEL RACKS

DEFECTIVE EQUIPMENT DETECTOR

DED 1 NUMBER OF TRACKS COVERED



**AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED**

1

● 20	TYPE
------	------

TURNOUT

***TURNOUT TYPES**
20 - #20 ELECTRIC

15 - #15 ELECTRIC

△- #15 HAND-THROWN
☆- #11 HAND-THROWN

*OTHER TRACK MATERIAL

▲ - SWITCH POINT DETAIL

▲ - HINGED DERAIL

- ☒ - WHEEL STOP
- ☐ - COMPROMISE JOINT

0000-0001-9786-400X

SHEET 2 OF 2

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Page 20

Page 20



DISTRICT:

JAMESTOWN

FROM: MANDAN

TO: JAMESTOWN

MP: 200.24

MP: 92.30

NOT TO SCALE

SHEET 1 OF 2

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Page 21

LEGEND:

20 **TURNOUT** **TYPE**

***TURNOUT TYPES**

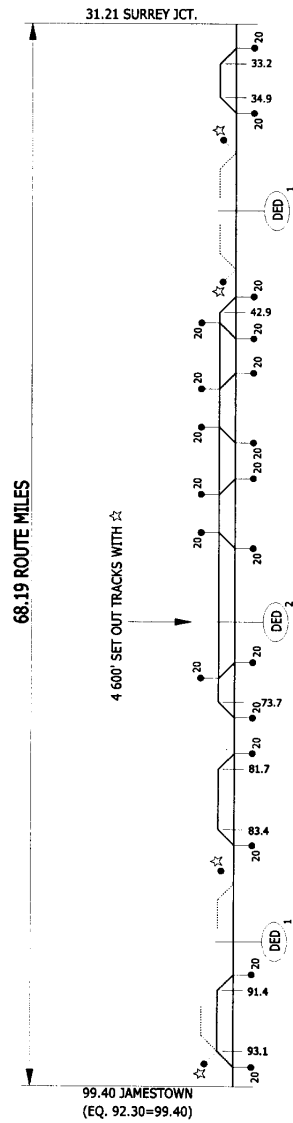
20 - #20 ELECTRIC
15 - #15 ELECTRIC
△ - #15 HAND-THROWN
☆ - #11 HAND-THROWN

***OTHER TRACK MATERIAL**

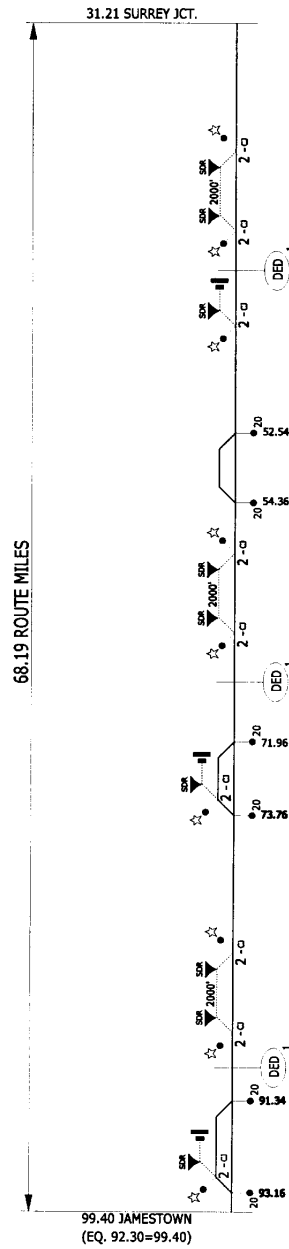
▲ - SWITCH POINT DERAIL
SUN
DA
▲ - HINGED DERAIL
■ - WHEEL STOP
□ - COMPROMISE JOINT

DED 1 DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED

AEI 1 AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED



OTP OPENING



BNSF SUPPLEMENTAL REPLY

DISTRICT:

JAMESTOWN

FROM: JAMESTOWN

TO: SURREY JCT.

MP: 99.40

MP: 31.21

NOT TO SCALE

LEGEND:

136# RAIL
132# RAIL
132# RELAY

DED	DEFECTIVE EQUIPMENT DETECTOR NUMBER OF TRACKS COVERED
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
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31	31
32	32
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34	34
35	35
36	36
37	37
38	38
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62	62
63	63
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73	73
74	74
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79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

1
AEI

20 TYPE TURNOUT

***TURNOUT TYPES**

20 - #20 ELECTRIC

15 - #15 ELECTRIC

△- #15 HAND-THROWN

☆ - #11 HAND-THROWN

*OTHER TRACK MATERIAL

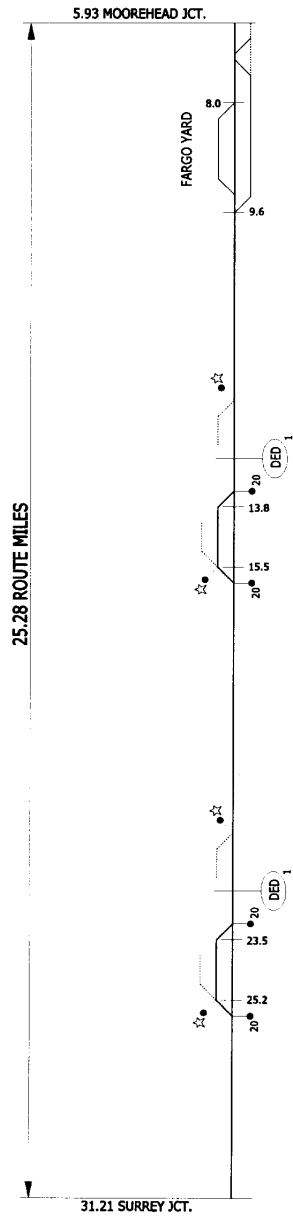
▲ - SWITCH POINT DERAIL

▲ - HINGED DERAIL

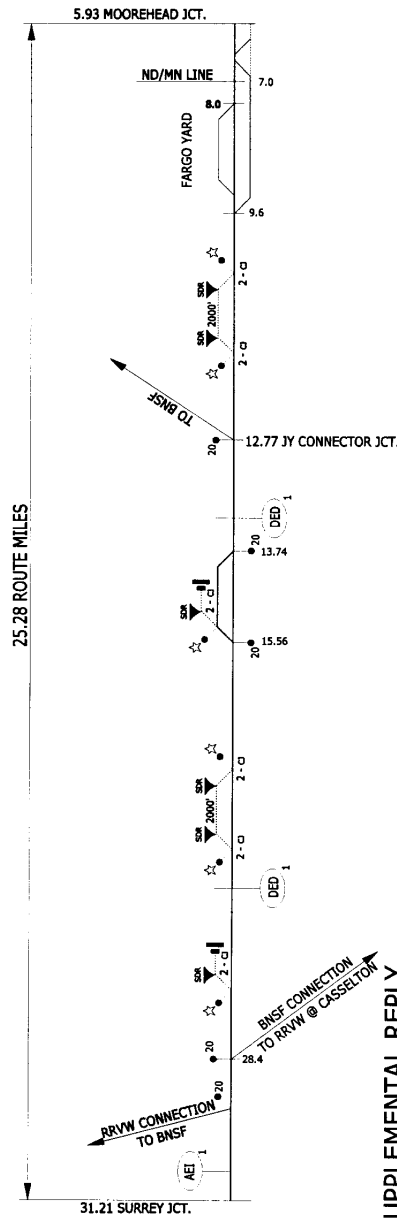
 - WHEEL STOP

CI - COMPROMISE JOINT

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OTP OPENING



BNSF SUPPLEMENTAL REPLY

DISTRICT:

KO

FROM: SURREY JCT.

TO: MOOREHEAD JCT.

MP: 31.21

MP: 5.93

LEGEND:

138# RAIL
132# RAIL
132# RAIL

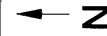
20 TURNOUT

*TURNOUT TYPES
20 - #20 ELECTRIC
15 - #15 ELECTRIC
15 - #15 HAND-THROWN
15 - #11 HAND-THROWN

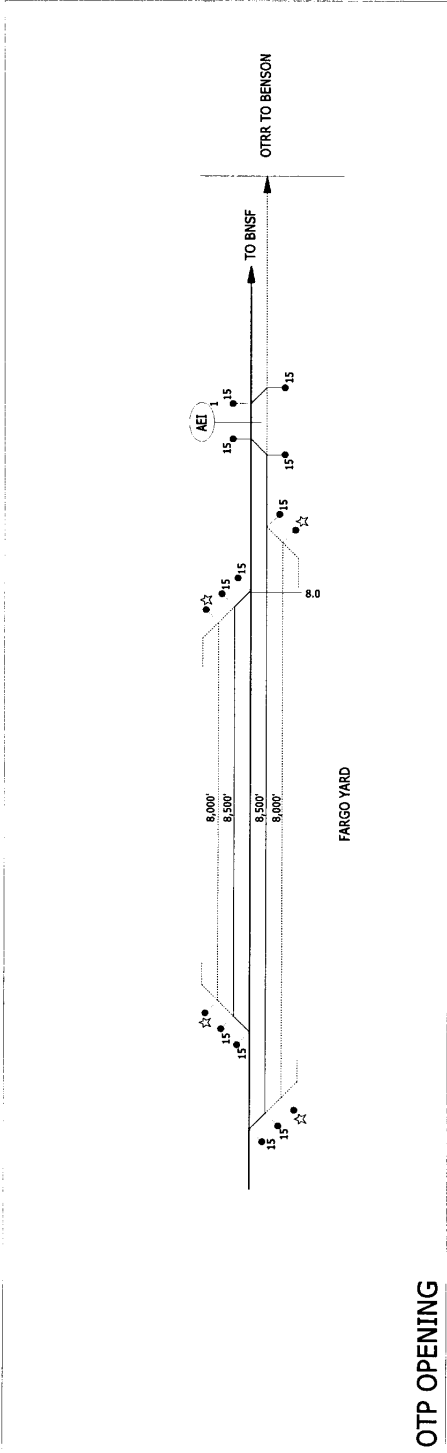
*OTHER TRACK MATERIAL
SWITCH POINT DERAIL
HINGED DERAIL
WHEEL STOP
COMPROMISE JOINT

DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED
AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED

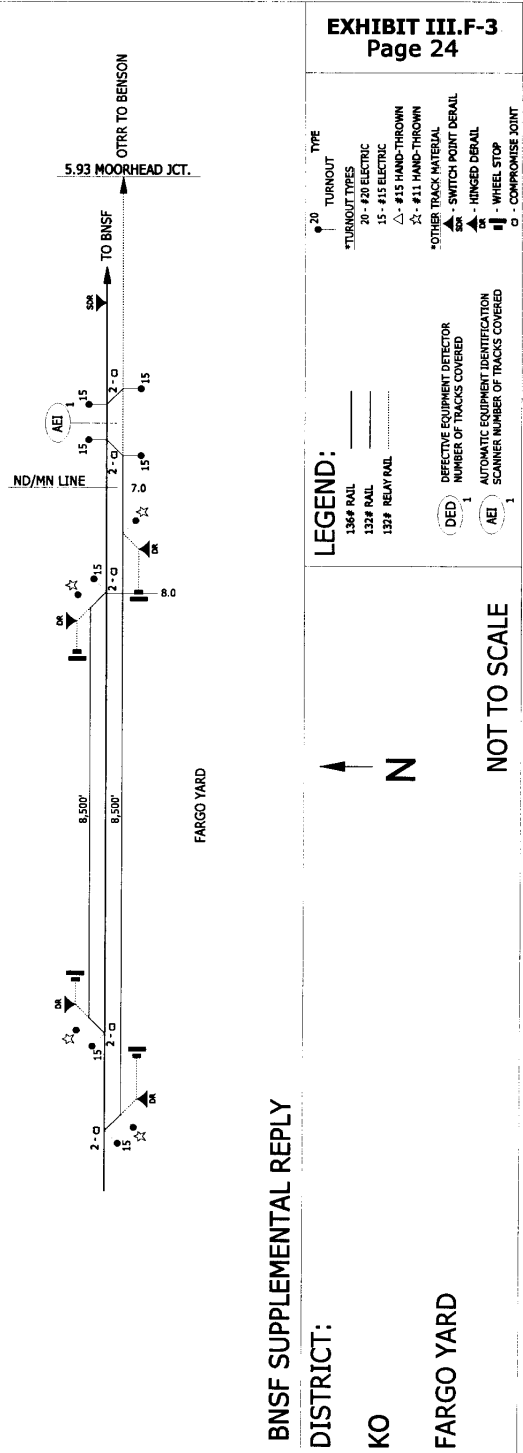
DED 1
AET 1



NOT TO SCALE



OTP OPENING



BNSF SUPPLEMENTAL REPLY

DISTRICT:

KO

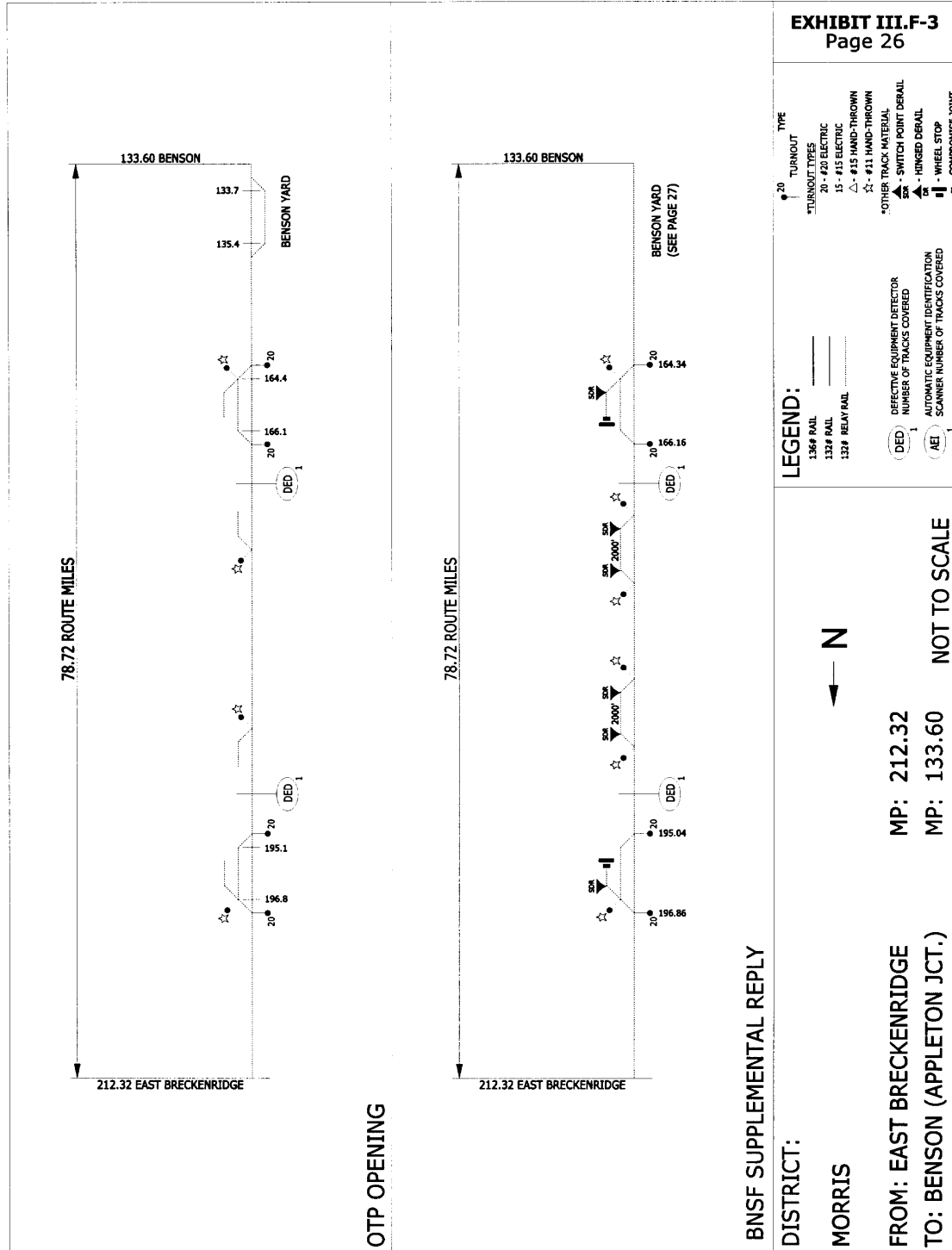
FARGO YARD

- LEGEND:**
- TURNOUT
 - TURNOUT TYPES
 - 20 - #20 ELECTRIC
 - 15 - #15 ELECTRIC
 - △ - #15 HAND-THROWN
 - ☆ - #11 HAND-THROWN
 - *OTHER TRACK MATERIAL
 - ▲ - SWITCH POINT DETAIL
 - SW - SWITCH POINT DETAIL
 - ▲ - HINGED DETAIL
 - - WHEEL STOP
 - - COMPROMISE JOINT
- DEFECTIVE EQUIPMENT DETECTOR
NUMBER OF TRACKS COVERED
- AUTOMATIC EQUIPMENT IDENTIFICATION
SCANNER NUMBER OF TRACKS COVERED
- (DED) 1
- (AEI) 1



NOT TO SCALE

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BNSF SUPPLEMENTAL REPLY

DISTRICT:

MORRIS

FROM: EAST BRECKENRIDGE

TO: BENSON (APPLETON JCT.)

MP: 212.32

MP: 133.60

NOT TO SCALE

N

OTP OPENING



BENSON YARD

136# RAJIL
132# RAIL
132# RELAY

DED	DEFECTIVE EQUIPMENT DETECTOR NUMBER OF TRACKS COVERED	AEI	AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER NUMBER OF TRACKS COVERED
1		1	

20 TYPE
TURNOUT

*TURNOUT TYPES

20 - #20 ELECTRIC
15 - #15 ELECTRIC
△ - #15 HAND-THROWN
☆ - #11 HAND-THROWN

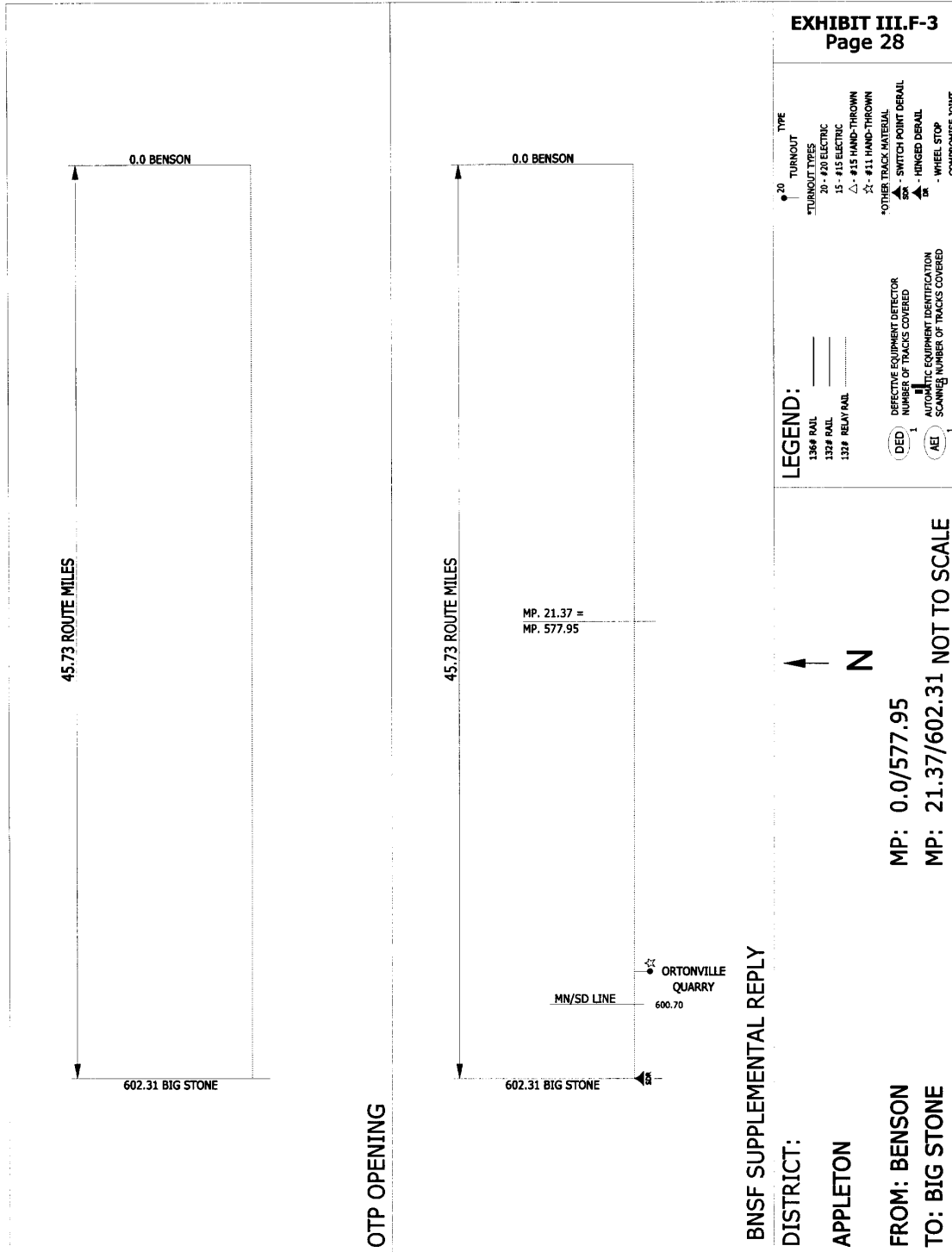
*OTHER TRACK MATERIAL

▲ - SWITCH POINT DERAIL
SOK
▲ - HINGED DERAIL
DK
■ - WHEEL STOP
□ - COMPROMISE JOINT

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NOT TO SCALE

EXHIBIT III.F-3
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**III.H: Results of SAC
Analysis**

BNSF Supp. Rep. Exh. III.H-1

REDACTED