

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

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

AEP TEXAS NORTH COMPANY	)	
	)	
	)	
Complainant,	)	
	)	
v.	)	Docket No. 41191 (Sub-No. 1)
	)	
THE BURLINGTON NORTHERN AND	)	
SANTA FE RAILWAY COMPANY	)	
	)	
Defendant.	)	

PART III

STAND-ALONE COST

III. A. STAND-ALONE TRAFFIC GROUP

That the TNR configuration, traffic group, volumes and revenues, costs, and resulting maximum reasonable rates presented in this proceeding should differ from those found by the Board nine years ago in an entirely separate proceeding and regulatory environment is neither surprising nor particularly relevant to the matters at issue here. The Board confirmed as much in its March 19, 2004 order vacating the Rawhide rate prescription originally issued in *West Texas Utilities*.¹

¹ See *Docket No. 41191*, Decision served March 19, 2004 at 3.

In its Reply, BNSF correctly observes that AEP Texas' SAC presentation incorporates substantial volumes of cross-over traffic, and that the maximum reasonable rate supported by AEP Texas' SAC evidence is significantly lower than the rate which would be in effect under the Rawhide prescription had it not been vacated. *See* BNSF Reply at III.A-3. The right of complainants in proceedings under the *Guidelines* to rely on cross-over traffic and revenues, however, is a settled issue most recently re-confirmed in *PSCo/Xcel*,² and fully consistent with SAC theory, the National Transportation Policy goals, and considerations of administrative practicality. BNSF's threshold challenge to AEP Texas' use of cross-over traffic is without merit, and should be rejected.

Equally unmeritorious are most of BNSF's challenges to AEP Texas' evidence respecting coal volumes for the TNR. AEP Texas' proposed internal re-routing of approximately 28 million tons (in 2001) of coal originating at the three southernmost PRB mines is supported by clear evidence showing that the quality of service – including transit times – that the subject shippers would receive from the TNR is at least equal to that currently provided by BNSF, and that the re-routings would have absolutely no operational or other ramifications on the residual BNSF. Under the Board's precedents that *properly* apply to the facts here, the re-routings are consistent with SAC principles and the coal volumes in question should be included in the TNR traffic group.

² *PSCo/Xcel* at 13-16.

The case is the same regarding Georgia Power's Scherer coal traffic, which BNSF (and, thus, the TNR) began handling this year. AEP Texas' operating plan evidence (Part III-C, *infra*) shows that the transit time for this new movement over the TNR routing will be lower than BNSF's current averages from the same origins, and the residual BNSF would receive the Scherer trains at a point along the current route of movement with no necessary changes to its operations as residual incumbent. BNSF would receive a fueled and inspected train at Alliance instead of stopping to fuel and inspect it itself at Guernsey; the TNR operating plan trades one stop for another, and spares BNSF the time and cost associated with the Guernsey activity.

Other exclusions proposed by BNSF likewise are not supported by the better evidence. AEP Texas properly includes revenues (in the form of trackage rights fees) paid to BNSF by UP for handling AEP Texas Central's Coletto Creek traffic over the Pueblo, CO-Amarillo, TX line that the TNR would replicate, as the TNR is assumed to step into BNSF's shoes for that portion of the UP move under the applicable UP-BNSF trackage rights agreement. The coal which AEP Texas' Opening evidence indicated moved to a river transloading facility for further delivery to TVA's Shawnee Plant has been redistributed to the TVA Paradise Plant and Entergy's Big Cajun 2 Station, in accordance with information supplied by BNSF for the first time on Reply. Finally, the evidence presented by AEP Texas in this Rebuttal confirms that construction and operation of a second coal-fired generating unit at Sunflower Electric's Holcomb Station

is sufficiently certain to warrant inclusion of the coal volumes that would fuel the unit, starting in the year that its commercial operation is scheduled to commence.

As detailed in Part III-A-2, *infra*, AEP Texas has modified its approach to determining TNR coal volumes for 2003, in response to points raised by BNSF on Reply. There no longer should be any dispute between the parties on this issue. Additionally, AEP Texas has adjusted the 2005 coal volumes forecast for TXU's Monticello plant, Midwest Generation's Baldwin plant, and Ameren's Newton plant to conform to the volumes shown in BNSF's internal Long Range Plan.

AEP Texas' methodological modifications with respect to 2003 coal volumes also leads to an adjustment in the calculation of the 85% capacity factor cap used to limit future TNR coal volume growth. These changes, which likewise should eliminate any dispute between the parties, are explained at pages III-A-53 to 55, *infra*. The re-calculated caps also lead to a restatement of the fixed annual volumes for plants that already were operating at or above the 85% capacity factor level in 2002. Finally, AEP Texas corrects an inadvertent omission on Opening and applies the capacity factor cap to all plants in the TNR traffic group, specifically including those served via a transloading facility.

While AEP Texas accepts BNSF's proposed adjustments to future volumes for Texas Genco's Limestone and Parish plants (*see* pp. III-A-44 and 55, *infra*), the carrier's reduction of volumes moving to a new unit at Tucson Electric's Springerville

Station is contradicted by the plant developer's own stated expectations concerning the planned operation of that unit. *See* pp. III-A-45 to 48, *infra*. AEP Texas' Rebuttal restatement also utilizes the tonnage forecast set out in EIA's 2004 AEO, which was not available when AEP Texas' Opening volume figures had to be finalized. Unlike BNSF, however, which understated future volume changes by improperly including projections for production regions that are not served by the TNR, AEP Texas uses the EIA forecasts specific to the PRB region. *See* AEP Texas Reb. Exhibit III-A-17.

This Part also addresses the flaws, errors and misstatements that run throughout BNSF's Reply presentation on the issue of TNR revenues. Despite its having been rejected repeatedly by the Board in prior cases – including, most recently, *PSCo/Xcel* – BNSF again advocates the use of its density adjusted revenue allocation (“DARA”) formula to allocate revenues from cross-over traffic. The principal purpose of DARA is to nullify the benefit of including cross-over traffic in the TNR's revenue base, a fact which BNSF essentially admits. As shown at pp. III-A-61 to 69, *infra*, DARA as presented by BNSF in this case suffers from the same fundamental and fatal flaws previously identified by the Board, and over-allocates to the residual BNSF virtually all revenue other than that needed to cover the directly attributable TNR costs associated with handling cross-over traffic. It is inconsistent with key principles underlying the SAC test, and should be rejected yet again.

In this Rebuttal, AEP Texas demonstrates that the modified straight mileage prorate (“MSP”) methodology used by the Board in recent cases and by AEP Texas on Opening is a reasonable approach to allocating cross-over traffic revenues that both protects the TNR’s right to realize the benefits of the density economies produced by this traffic, and ensures a division of revenues for the residual BNSF sufficient to cover the “off-line” costs associated with the traffic. AEP Texas also explains why BNSF’s alternative ploy to sap revenue from the TNR by reducing the MSP revenue blocks for traffic origination and termination lacks empiric support, and is contradicted by long-standing Board precedent and practice. *See* pp. III-A-60 to 69 and Exhibit III-A-21, *infra*.

In addition to its unmeritorious assault on cross-over revenues, BNSF’s Reply presentation includes an approach to forecasting revenues following the expiration of existing transportation contracts that is as transparent in its purpose (*i.e.*, lower the TNR’s revenues) as it is lacking in factual or precedential support. Relying on a made-for-litigation “contract rate study” that itself is flawed, BNSF claims that rates on existing contract movements should be presumed to {

} altogether for the duration of the DCF period. *See* BNSF Reply Exhibit III.A-12 at 5-7. As shown in this Rebuttal, such a scenario is contradicted by BNSF’s own stated intent to increase future coal rates and reduce the length of future contract terms, and conflicts with settled Board policy that eschews reliance on biased “studies” of past rate practices in favor of objective forecasts

of coal transportation rates by government agencies such as EIA, the sponsor of the 2004 forecast used by AEP Texas.

Aside from the foregoing, the differences between the parties' positions on TNR coal revenues are modest in number, and are explained and/or reconciled in Part III-A-2-b, *infra*. BNSF concurs in AEP Texas' approach to calculating TNR revenues from non-coal traffic, so no adjustments in this area are necessary.

AEP Texas' Rebuttal evidence in this Part III-A is sponsored by seven expert witnesses. Gary Vicinus, a Vice President, Arthur Holland, Jr., a Director, and Paul Meyers, a Vice President of Pace Global Energy Services, LLC, rebut BNSF's claims regarding historic and projected coal volumes for the TNR and shipper-specific transportation rates, and explain AEP Texas' Rebuttal restatement of TNR coal volumes and revenues. Thomas D. Crowley, President of L.E. Peabody & Associates, Inc., explains the flaws in the DARA methodology and BNSF's made-for-litigation "Contract Rate Study." Mr. Crowley also explains the flaws in BNSF's proposed adjustments to the MSP methodology, and demonstrates MSP's consistency with the goal of off-line cost coverage. Drs. Douglas W. Caves, B. Kelly Eakin and Mark E. Meitzen of Christensen Associates explain that the inclusion of cross-over traffic is fully consistent with SAC theory and the *Guidelines*, and expose the flaws in the claims summarized in BNSF's Reply at III.A-11 to 16. The qualifications and verifications for these witnesses appear in Part IV.

1. Stand-Alone Railroad Traffic

In *Duke/NS*, the Board reaffirmed the right of complainants such as AEP Texas to “select a subset of the defendant’s traffic for study (rather than the complainant’s traffic alone) in order to realize the benefit of the economies of scale, scope, and density inherent in the railroad industry and enjoyed by the defendant.” *Id.* at 29, *citing Guidelines*, 1 I.C.C. 2d at 544. The traffic group assembled by AEP Texas was designed to reflect and allow AEP Texas to realize the benefits of these economies, and is fully consistent with the standards most recently elaborated on by the Board in *TMPA*, *CP&L*, *Duke/CSXT* and *PSCo/Xcel*.

In its Reply, BNSF challenges the coal portion of AEP Texas’ basic traffic group³ in several respects. In the case of coal which AEP Texas’ initial traffic tape analysis indicated moved to TVA’s Shawnee Plant, BNSF has provided a clarification which justifies an adjustment to shift that tonnage to other TNR customers (*i.e.*, Entergy’s Big Cajun 2 and TVA’s Paradise stations). In virtually all other respects, however, BNSF’s claims are without merit, and serve only to arbitrarily reduce the volume of coal traffic available to the TNR and, thus, drive up the SAC level. Each is addressed in turn, below.

³AEP Texas’ traffic group also includes a modest volume of non-coal traffic moving in interline service between Amarillo and Oklaunion, TX. BNSF accepts AEP Texas’ historic and projected volumes for this traffic. *See* BNSF Reply at III.A-71.

**a. The Inclusion Of Cross-Over Traffic
In The TNR System Is Permissible
Under CMP And Should Be A Settled Issue**

The objective of the Board's SAC analysis is to simulate a contestable market. Including cross-over traffic in the TNR's traffic group is consistent with this objective and with contestable market principles. In prior cases, the Board has clearly affirmed that it is appropriate for the SARR to focus on the particular facilities and services used by the complaining shipper, and that it serves the regulatory goals of the Board to use cross-over traffic to make SAC presentations a practicable means for captive shippers to present their rate complaints to the agency. *See, e.g., PSCo/Xcel* at 14. Board precedents endorsing the inclusion of cross-over traffic in a stand-alone system make clear that a complainant may include such traffic *specifically* to realize the benefit of scale, scope and density economies *without* having to "[extend] the SARR to far flung origins and destinations of non-issue traffic" *Duke/NS* at 29; *Nevada Power II*, 10 I.C.C. 2d at 265-67 & n.12. In short, the legitimacy of using cross-over traffic to simplify the SAC analysis is well-established, and should be considered a settled issue. *PSCo/Xcel* at 13, *citing Duke/CSXT* at 20-22; *TMPA* at 17.

Despite this solid precedent, BNSF argues that the inclusion of cross-over traffic is not consistent with the SAC test ("A stand-alone railroad that carries cross-over traffic is not in fact stand-alone." BNSF Reply at III.A-12). BNSF's position is that in order to be able to credit any cross-over revenue to the TNR beyond, perhaps, the

minimum needed to cover directly - attributable costs (BNSF Reply at III.A-21), AEP Texas must posit the construction (and assume the costs) of all the facilities needed to handle the traffic from origin to its ultimate destination.⁴ This position was squarely rejected less than two months ago, and should meet the same fate here.

Under the *Guidelines*, a SARR represents a contestable railroad that replaces the incumbent over some portion of the incumbent's existing network with least cost, optimally efficient service. In designing its network and assembling its traffic group, the SARR's objective is to take advantage of production economies to maximize efficiency and profitability:

The parties will have broad flexibility to develop the least costly, most efficient plant. The plant should be designed to minimize construction (or acquisition) and operating costs and/or maximize the carriage of profitable traffic. In selecting the route of the SAC railroad, for instance, an overriding factor may be the effort to lower costs by taking advantage of economies of density. Generally, a stand-alone railroad would attempt to fully utilize plant capacity, adding other profitable traffic in order to reduce the average cost of operation. Thus, the stand-alone railroad may not represent the shortest route for the captive shipper, but the one with the highest traffic densities. The factors to be considered depend upon individual circumstances. Hence the optimal size and placement of the physical plant must be determined on a case-by-case basis.

⁴ As demonstrated at pp. III-A-61 to 69, *infra*, BNSF's preferred (and discredited) methodology for allocating cross-over revenues effectively seeks the same end via alternate means.

The ability to group traffic of different shippers is essential to the theory of contestability. It allows the captive shipper to identify areas where production economies define an efficient subsystem or alternative system whose traffic is divertible to a hypothetical competitor. Without grouping, SAC would not be a very useful test, since the captive shipper would be deprived of the benefits of any inherent production economies

Coal Rate Guidelines, 1 I.C.C. 2d at 543-44.

A potential entrant in a contestable market will evaluate all possibilities for service as a substitute for an incumbent, including different levels of output, different product mixes, and different degrees of vertical integration. If the entrant is not fully vertically integrated (*i.e.*, relies on upstream or downstream services), it may rely on the residual incumbent (or another provider) to provide these upstream and downstream services subject to the condition that the residual incumbent is economically viable. Given that the alternative would be a complete loss of revenue from the cross-over traffic,⁵ the residual incumbent would be better off as long as the revenues from providing the upstream and/or downstream services are greater than the incremental costs of providing the service(s) and, thus, provide some contribution to its non-incremental cost.

⁵ If a SARR *was* to replicate all facilities necessary to serve all members of its traffic group from origin to ultimate destination, the incumbent would be left with no revenue from the subject traffic to make a contribution to any portion of the cost of the system that it still would have in place. That residual system would include facilities used by the SARR's customers, as they also would be needed by other shippers that use the incumbent's service but are not included in the SARR traffic group.

To the extent the SARR exhibits economies of density, greater traffic volumes will reduce average costs. This includes carrying traffic over its network that may originate and/or terminate on the network of the residual incumbent. Eliminating cross-over traffic denies the SARR the benefits of economies of density, contrary to the Board's contestable markets paradigm. Restricting the SARR only to traffic that it can carry end-to-end or, conversely, requiring it to build a network to accommodate end-to-end transport of all of its traffic, is inconsistent with the SARR's role as an entrant in a contestable market and with the Board's procedures. Nowhere in the *Guidelines* does it state that all traffic must be carried end-to-end by the SARR, as BNSF effectively argues should be the case. *See* BNSF Reply at III.A-11.

Using an overly-simplistic example that appears both in its Narrative (BNSF Reply at III.A-12 to 16) and in its Exhibits (BNSF Reply Exhibit III.A-1 at 17-21), BNSF argues that the inclusion of cross-over traffic produces a "distortion" of the SAC analysis that can only be cured by precluding captive shippers from realizing any benefits from such inclusion.⁶ However, BNSF's example is structurally flawed and

⁶ BNSF advances as the "preferred" rule one which would make an SARR proponent indifferent between including cross-over traffic in its system and building and operating all the lines of the residual incumbent that are used to move the cross-over traffic to its ultimate destination on the defendant railroad. *See* BNSF Reply at III.A-16. Only last month, the Board extensively considered and squarely rejected such a rule. *See PSCo/Xcel* at 13-16.

essentially useless for any purpose other than confirming the obvious: eliminating cross-over traffic dramatically increases SAC levels.

The apparent goal of BNSF's example is to show that allowing cross-over traffic with revenues allocated under the MSP methodology inevitably leaves the residual incumbent worse-off from a systemwide revenue adequacy perspective. *See* BNSF Reply at III.A-16. To do this, however, BNSF must posit a hypothetical stand-alone system that breaks a basic rule of SAC theory; *i.e.*, BNSF's SARR is assumed to be able to accept a doubling of its system traffic with no additional system investment. *See* BNSF Reply at III.A-13. If the relationship between traffic levels and fixed investment properly is reflected, the outcome of BNSF's example depends entirely on what one assumes the relevant cost figures to be. Likewise, BNSF ignores operating costs altogether (which, as shown in Part III-D, differ considerably between an incumbent and a SARR), and makes assumptions regarding rates and demand elasticities which bear no apparent correlation to any real-world example. *See* BNSF Reply at III.A-14 to 15. With so many simplifications, omissions and out-of-the-air assumptions, it is no wonder that BNSF's "example" shows a result to the carrier's liking.

Addressing the same claims advanced by BNSF here, the Board in *PSCo/Xcel* conclusively and convincingly approved of the inclusion of cross-over traffic, which it termed a "standard feature of SAC cases." *PSCo/Xcel* at 17. The Board based

its ruling on the twin pillars of administrative practicality and federal transportation policy:

Creating a SARR to serve the same traffic group without using the cross-over traffic device would dramatically enlarge the geographic scope of a SARR. In this case, for example, if one were to design a SARR to serve the same 37 shippers without any cross-over traffic, the SARR would need to be at least 10 times larger than the WCC to reach the destinations shown on the following map

And the geographic scope of the expanded SARR might not end there. If one were to extend the SARR south of Pawnee Junction down to the Gulf coast region, for example, more traffic would need to be included in the traffic group (*e.g.*, intermodal, general manifest, or chemical traffic from the Gulf Coast region) to generate the same economies of density that BNSF enjoys along that corridor. But to add such traffic, the geographic scope of the SARR would need to be extended even further to include other portions of BNSF's system that would be needed to serve that added traffic. The cascading analysis could result eventually in a complainant having to replicate almost all of BNSF's system. The scope and complexity of the proceeding would expand exponentially. . . .

The use of cross-over traffic thus provides a reasonable measure of simplification that allows SAC presentations to be more manageable. Curtailing the geographic scope of the SARR greatly simplifies the operating plans that must be developed, thus limiting the complexity of what is nevertheless still a dauntingly large and detailed task. Without cross-over traffic, captive shippers might be deprived of a practicable means by which to present their rate complaints to the agency. This would be contrary to the policy directives set by Congress in 49 U.S.C. 10101(2) (to require fair and expeditious regulatory decisions when regulation is required), 10101(6) (to maintain reasonable rates where there is an absence of effective competition), and

10101(15) (to provide for the expeditious handling and resolution of all rail proceedings required or permitted to be brought before the Board). *See Association of Am. Railroads v. STB*, 306 F.3d 1108 (D.C. Cir. 2002) (upholding the Board's determination not to consider evidence of product or geographic competition in the market dominance analysis in order to avoid inordinate delay in the discovery and evidentiary phases of rail rate cases and to allow shippers that lack competitive alternatives practical access to the rate complaint process).

PSCo/Xcel at 14-16 (map omitted). The same considerations of policy and practicality are present here, and the same conclusions are warranted.

BNSF devotes considerable space to developing the obvious and essentially irrelevant point that SAC rate levels for coal service to Oklahoma based on the TNR model and the inclusion of cross-over traffic are lower than the rate levels found using the SAC model presented in 1995 in *West Texas Utilities*. *See* BNSF Reply at III.A-16 to 21. As noted in Part I, the Board already has approved AEP Texas' assembly of a new evidentiary record based upon current costs and regulatory policies:⁷

The economic and regulatory conditions reflected in the SAC analysis can change significantly over that time period. The rate prescription, which was imposed to protect the captive shipper from unreasonably high rates, should not become the source of a rate that would now be considered unreasonable under a SAC analysis.

⁷ Among other differences, at the time the record in *West Texas Utilities* was developed the inclusion and analysis of cross-over traffic and its various components was not a "standard feature of SAC cases." *PSCo/Xcel* at 17.

Docket No. 41191, Decision served March 19, 2004 at 3. Consistent with the approved role of cross-over traffic in the SAC analysis, the rate levels developed under the TNR model reflect the economies of scale, scope and particularly density that may be realized from the inclusion of such traffic. BNSF's observation that the incremental increase in TNR's revenues over those of the SARR posited in *West Texas Utilities* is greater than the corresponding increase in capital costs (BNSF Reply at III.A-23) simply confirms the economic principles supporting the current rule.

BNSF argues that AEP Texas should be denied the benefits of the economies of scale, scope and density that are reflected in the excess of stand-alone revenues over costs for the TNR because the TNR "does not make the off-line capital investments needed to achieve" the densities, which BNSF claims exist "only because there is a far flung network of lines that BNSF has built and paid for" BNSF Reply at III.A-23. However, the Board's precedents endorsing the inclusion of cross-over traffic in a stand-alone system make clear that a complainant may include such traffic *specifically* to realize the benefit of scale, scope and density economies *without* having to "[extend] the SARR to far flung origins and destinations of non-issue traffic" *Duke/NS* at 29; *Nevada Power II*, 10 I.C.C. 2d at 265-67 & n.12. AEP Texas' entitlement to claim the full benefits of enhanced densities resulting from the inclusion of cross-over traffic is a settled matter; BNSF's effort to relitigate it here is meritless and should be

rejected. *See Ex Parte No. 347 (Sub-No. 3)*, Decision served March 12, 2001 at 6; *PSCo/Xcel* at 11-16.

**b. BNSF's Proposed Exclusions From The
TNR Coal Traffic Group Are
Without Merit And Should Be Rejected**

**i. Rerouted Traffic Originating At
Southern PRB Mines**

BNSF would re-write the Board's now-settled rules regarding rerouted traffic in order to exclude approximately 28 million tons (in 2001), and an additional 5 million tons starting in 2005, from the TNR traffic group. *See* BNSF Reply at III.A-24 to 34. The coal in question originates at the three southernmost PRB mines – Antelope, North Antelope and North Rochelle – and presently is routed by BNSF via Guernsey, WY to Alliance, NE or points south along the Frontier Range. TNR would move this traffic to Alliance via Edgemont, SD to take advantage of available scale and density economies, adding some mileage to the length of haul even as transit times are reduced. BNSF's deliberate departure from binding Board precedent is without merit, and the subject traffic properly should remain in the TNR customer base.

In its recent trilogy of Eastern coal rate decisions and in *PSCo/Xcel*, the Board reaffirmed the right of complainants such as AEP Texas to route cross-over traffic differently from the routing used by the incumbent,⁸ and delineated the criteria that would

⁸ *See, e.g., PSCo/Xcel* at 22-24; *Duke/NS* at 25.

inform the Board's assessment of the consistency of such rerouting with the basic principles underlying the SAC test. Three basic rules may be distilled from these decisions:

First, where the rerouting contemplates the SARR operating over all of the rerouted portion of the move and the residual carrier would receive the traffic along its usual route, the sole focus is on whether there would be any changes in the level of service received by the shippers. *See Duke/NS* at 26.⁹ In general, if the reroute would shorten the overall length of haul, there is a presumption that it is more efficient and that shipper service quality would improve. *Id.* If the reroute lengthens the overall mileage, the presumption shifts, though “[a] longer route is not necessarily less efficient, as increased densities and other operational efficiencies may offset the additional distance-related costs.” *Id.* In such an instance, the complainant must present evidence showing that the longer haul would not adversely affect service to the shippers (*e.g.*, because overall transit times may be lower than on the incumbent's route). *See CP&L* at 22.

Second, if the rerouting involves traffic that the incumbent actually handles over at least some lines that would be replicated by the SARR, but the complainant would *not* have the SARR operate all of the rerouted portion of the move, then the complainant

⁹ The defendant in *Duke/NS* did not even object to the rerouting of traffic that would be interchanged with the residual NS along its usual route. *Id.* at 26 n.39.

“must ensure that the combined operations of the SARR and the residual carrier would be at least as efficient as the existing operations. At a minimum, the complainant must fully account for all of the ramifications of requiring the residual carrier to alter its handling of the traffic and any changes in the level of service received by the shippers.” *Duke/NS* at 26. In other words, when cross-over traffic is rerouted in a way that contemplates changes in the residual carrier’s current operations, the focus expands beyond shipper service quality to also consider whether costs associated with the rerouting are being shifted onto the incumbent. *CP&L* at 22.

Third, in the unique circumstance where a complainant seeks to include cross-over traffic “for which the customary routing would not use *any part* of the system replicated by the SARR,” the complainant must present “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.” *Duke/CSXT* at 16-17 (emphasis added). Absent such a showing, a complainant will not be permitted to divert traffic from other parts of the defendant’s system that otherwise make no use of any of the assets that would be replicated by the SARR. *Id.*

AEP Texas' rerouting of coal from the three southernmost PRB mines¹⁰ falls squarely in the first category described above. The portion of this traffic that would be interchanged to BNSF would enter the residual carrier's system along the customary route of movement, and the TNR would handle the traffic over the entire rerouted portion. There is no risk that costs associated with the rerouting would be shifted to BNSF, as the TNR bears all the cost of building and operating over the lines from the mines north through Northport to Alliance, and the traffic in question already utilizes some of the lines that would be replicated by the TNR. Under these circumstances, the sole consideration in evaluating the legitimacy of the rerouting is whether the shippers whose traffic is rerouted would suffer any deterioration in the quality of service as a result. *Duke/NS* at 26-29; *CP&L* at 22; *Duke/CSXT* at 16.

On Opening, AEP Texas presented evidence – which BNSF does not challenge – that length of haul and transit times are not as important to utility coal shippers as the secure delivery of all coal purchases on a schedule consistent with the power plants' fuel requirements. *See* AEP Texas Op. at III-A-13 and III-C-10. Even so, AEP Texas also demonstrated that for *every movement* out of the southernmost PRB mines, total movement transit times over the TNR via Edgemont would be more

¹⁰ The traffic includes approximately 28 million tons that moved in 2002, as subsequently increased by the growth rate implicit in BNSF's own internal forecast and the Energy Information Administration's coal growth forecast, plus about 5 million tons that would enter the TNR traffic group in 2005 for ultimate delivery to the {
} *See* BNSF Reply at III.A-33 to 34.

favorable than BNSF's current actual transit times via Guernsey. AEP Texas Op. at III-A-12 to 13 and III-C-8 to 10.

On Reply, BNSF challenges AEP Texas' transit time calculations by taking issue with AEP Texas' execution of the RTC Model, which AEP Texas used to confirm the feasibility of the TNR operating plan.¹¹ See BNSF Reply at III.A-27 to 28. AEP Texas rebuts BNSF's baseless criticisms on this issue in Part III-B of this submission.

Aside from its claims regarding the RTC Model, BNSF rests its case for the exclusion of coal traffic originating at the three southernmost PRB mines on two arguments: (1) that the TNR's operations in the PRB generally would be less efficient than BNSF's because the TNR would have one route out of the region instead of two (BNSF Reply at III.A-26 to 27); and (2) that the rerouted southern PRB traffic "involves only minimal use of the SARR facilities used by the issue traffic," and therefore should be disallowed under *Duke/CSXT*. See BNSF Reply at III.A-29 to 33. The first argument has no support in relevant fact. The second amounts to a request that the Board change its established rerouting rules in the middle of the game.

¹¹ BNSF's RTC witness purportedly changed the assumed operating characteristics used by AEP Texas and produced a "lock-up" of the RTC Model at TNR's traffic levels. BNSF Reply at III.A-28 to 29. This is neither surprising nor particularly relevant. One can always influence the output or performance of a computer model by manipulating the inputs. In Part III-B, AEP Texas explains in detail how the reasonable and realistic operating parameters incorporated in this Rebuttal presentation enable the Model to run smoothly at TNR's forecasted levels, effectively proving the adequacy of TNR's system capacity, the feasibility of its operating plan, and the reliability of the resulting transit time calculations.

Efficient SARR operations in the PRB never have been held to require dual routes out of the region.¹² UP, which originates as many coal trains in the PRB as BNSF does and the TNR would, has a single route and suffers no operational disadvantage as a result. Moreover, though the TNR would originate fewer tons than BNSF did during the historic time period, from the outset its system will have the capacity to handle the maximum weekly trainloads forecast for a year (2020) in which over 18% *more* coal would be originated than during the historic period. This significant, continuous excess capacity will provide substantial “operating flexibility should unplanned outages, equipment failures or derailments occur.” BNSF Reply at III.A-27. *See also PSCo/Xcel* at 22 (“Xcel could have designed a SARR that would not follow either of the current BNSF routes out of the PRB”).

Additionally, as AEP Texas noted on Opening (and BNSF did not dispute), unit coal train traffic ranks at the bottom of BNSF’s system priorities,¹³ after other categories of traffic that currently share space with BNSF coal trains on the lines leading out of the PRB. The TNR, by contrast, will be a coal-only railroad everywhere on its system except for the Amarillo-Oklahoma, TX line segment, and will attach first priority to unit coal trains. When combined with the restated TNR transit times that are detailed in Rebuttal Exhibit III-C-2 and summarized in the table below, this evidence clearly

¹² *See, e.g. TMPA* at 66; *WPL* at 12-13.

¹³ *See AEP Texas Op.* at III-A-12 to 13.

supports the conclusion that no TNR shipper will suffer a deterioration in service quality as a result of the southern PRB reroutes. *Duke/NS* at 26-29.

TABLE III-A-10 Coal Train Cycle Times (Hours:Minutes:Seconds) For Movements from Three Southernmost PRB Mines				
<u>Mine Origin</u>	<u>Destination</u>	<u>BNSF 2002 Cycle Time</u>	<u>TNR Peak Cycle Time</u>	<u>Difference</u>
N. Antelope/Rochelle	Alliance, NE	{ }	22:05:24	{ }
N. Antelope/Rochelle	Denver, CO	{ }	40:28:12	{ }
N. Antelope/Rochelle	HarPowPla, TX	{ }	93:04:48	{ }
North Rochelle	Alliance, NE	{ }	19:31:12	{ }
Antelope	Alliance, NE	{ }	21:19:12	{ }
Antelope	HarPowPla, TX	{ }	86:42:36	{ }
<u>Source:</u> AEP Texas Reb. Exhibit III-C-2.				

Perhaps in appreciation of the fact that AEP Texas' reroute evidence clearly meets the standards set down in *TMPA*, *Duke/NS* and *CP&L*, BNSF tries to re-write these standards by stretching a unique aspect of the Board's *Duke/CSXT* decision beyond its proper boundaries. Claiming that the "real world" BNSF routing for coal traffic from the three southernmost mines involves "only minimal use" of the TNR lines that AEP Texas' traffic would use,¹⁴ BNSF argues that under *Duke/CSXT* AEP Texas should be required to

¹⁴ BNSF Reply at III.A-31. Conveniently, BNSF offers no definition of "minimal use." The term apparently is left for the defendant to expand or contract as it sees fit.

show that BNSF's *existing* routing is inefficient and that BNSF likewise should be using the TNR routing, before the subject traffic can be included. BNSF Reply at III.A-31 to 32. This argument ignores the stark contrast on this issue between *Duke/CSXT* and this case, and was specifically rejected in *Xcel/PSCo*. The same result is warranted here.

The proposed rerouting in *Duke/CSXT* that prompted the Board to look for a “compelling justification that the defendant carrier should itself be routing the traffic in this manner”¹⁵ would have had the subject traffic shifted to a route that used *none* of the facilities used by the SARR. Indeed, as the Board pointed out, in that case the “customary routing” did not come within 250 miles of any of the lines that would have been replicated by the SARR.¹⁶ It was clear that the rerouting would have significant ramifications for the residual defendant, as traffic would be diverted from other parts of its system to help defray costs for another portion of which the subject traffic made *no use*. It was in this context that the Board concluded 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.” *Duke/CSXT* at 16-17 (emphasis supplied).

¹⁵ *Duke/CSXT* at 16.

¹⁶ *Id.* at 19.

In this case, by contrast, the TNR's rerouting of traffic originating at the Antelope, North Antelope and North Rochelle mines will have no ramifications for the residual BNSF's operations. All of this traffic would be interchanged to BNSF along its current, customary route of movement, and all of it presently utilizes some of the lines that would be replicated by the TNR.¹⁷ None of the concerns expressed in *Duke/CSXT* about "divert[ing] traffic from other parts of the defendant carrier's system"¹⁸ are present here.

Very recently, the Board considered and rejected the same argument that BNSF seeks to make here to stretch *Duke/CSXT* beyond its factual limits. In *PSCo/Xcel*, BNSF sought to exclude traffic which, like the subject traffic here, would be rerouted over the SARR from its PRB origins and would exit the region along a different route than that used by BNSF. Noting that the traffic in question there (as here) *did* share some of the facilities to be replicated by the SARR,¹⁹ the Board held:

Xcel could have designed a SARR that would not follow either of the current BNSF routes out of the PRB. Yet, under BNSF's test, because none of the traffic currently moves over such a route, the shipper could include no other traffic beyond its own in the traffic group to share costs – a result at odds with the *Guidelines*. . . . In these circumstances the Board finds nothing unreasonable about including the JEC traffic in

¹⁷ See AEP Texas Op. Exhibit III-A-1.

¹⁸ *Duke/CSXT* at 16.

¹⁹ *PSCo/Excel* at 21. The Board specifically distinguished *Duke/CSXT* on this basis.

BNSF objects to inclusion of the Georgia Power traffic, essentially on the same grounds as are advanced for the exclusion of all traffic from the southernmost PRB mines; *i.e.*, (1) length of haul on the TNR re-route; and (2) a “minimal” sharing of facilities with the Oklahoma traffic. As shown in Part III-A-1(b)(i), *supra*, neither ground is supported by the evidence.

As it relates to Georgia Power, BNSF’s “length of haul” argument is a classic Catch-22: because the Georgia Power traffic did not start moving until 2004 and BNSF has no transit time records, AEP Texas supposedly cannot show that the TNR’s times would be faster and the traffic therefore must be excluded. *See* BNSF Reply at III.A-36. However, the transit time records that do exist for other BNSF movements from the same mines as those used by Georgia Power show relatively consistent times and speeds across customer lines. According to BNSF’s records, most of the Georgia Power/Scherer traffic originates at the Jacobs Ranch and Black Thunder Mines.²² Comparative average BNSF 2002 and peak-period TNR transit times for movements from these mines to Alliance are set forth in the following table:

²² Some Scherer traffic also originates at the three southernmost mines (North Antelope/Rochelle, North Rochelle and Antelope). AEP Texas presented a comparison of BNSF and TNR transit times from these mines to Alliance in Table III-A-10, *supra*.

TABLE III-A-11 Coal Train Cycle Times (Hours:Minutes:Seconds) For Movements From PRB Mines that Originate Georgia Power Coal Traffic				
<u>Mine Origin</u>	<u>Destination</u>	<u>BNSF 2002 Cycle Time</u>	<u>TNR Peak Cycle Time</u>	<u>Difference</u>
Jacobs Ranch	Alliance, NE	{ }	20:40:48	{ }
Black Thunder	Alliance, NE	{ }	20:31:48	{ }
<u>Source:</u> AEP Texas Reb. Exhibit III-C-2.				

Based on this evidence and the showing made in Part III-C-1-b, and Rebuttal Exhibit III-C-2, *infra*, it is reasonable to conclude that just as the TNR's performance will equal or exceed BNSF's with respect to historic shipments, so it will for the Georgia Power traffic.

As for improved efficiencies, AEP Texas already showed that the TNR would accord higher priority to its coal traffic than BNSF does, and would have a design capacity that allows it to avoid the delays and other inefficiencies associated with BNSF's handling of higher priority non-coal trains over the same lines. *See* pp. III-A-21 to 23, *supra* and AEP Texas Op. at III-A-12 to 13.

BNSF's second ground for excluding the Georgia Power traffic likewise fails. Because the Georgia Power trains in fact share some of the facilities used by the Oklaunion trains, it is not necessary that AEP Texas present a "compelling justification" that BNSF should be routing the Georgia Pacific traffic via Edgemont, or that "it is inefficient not to do so." BNSF Reply at III.A-37. As shown *supra*, that strict test only

applies where the re-routed traffic would share *no* facilities with the issue traffic.

Duke/CSXT at 16, 19. BNSF's attempt to stretch that ruling to cover a case such as the instant was specifically rejected in *PSCo/Xcel* (*id.* at 22), and likewise should be here.

Finally, BNSF assaults its own straw man with the claim that the Georgia Power traffic could not be split between BNSF and the TNR (with BNSF routing shipments from the three southernmost mines via Guernsey), because Georgia Power contracted with BNSF alone and "it is impossible to know whether Georgia Power would have accepted an arrangement whereby part of its traffic is originated by one carrier (BNSF) and part of it is originated by another carrier (TNR)" BNSF Reply at III.A-38.

There is no reason to consider whether splitting the Georgia Power traffic between BNSF and the TNR would be feasible, since as shown above, AEP Texas' inclusion of all the Scherer volume in the TNR traffic group is proper under the applicable Board standards. Nevertheless, if it *was* deemed necessary to examine this alternative, neither the terms of the BNSF-Georgia Power contract nor speculation as to what Georgia Power might or might not agree to could preclude the TNR from re-routing its share of the traffic.

In *TMPA*, the Board specifically rejected the notion that a SARR could be precluded from participation in a given shipper's traffic simply because a contract

between the shipper and the defendant specified single-carrier service.²³ *TMPA* at 18. As the Board explained:

. . . any contract with a single carrier is by definition for single-carrier service. If traffic were automatically disqualified from being included as cross-over traffic in a SAC group solely because the contract specifies single-carrier service, carriers could manipulate and artificially limit what traffic could be included in future SAC cases

Id. This same principle should dispatch BNSF's claim that Georgia Power's entry into a contract with BNSF alone makes it "unreasonable to assume" that Georgia Power would accept a split of its origin traffic between the TNR and the residual BNSF.

Likewise, BNSF cannot invoke its own operational preference for fueling Georgia Power trains at Guernsey instead of Alliance (BNSF Reply at III.A-39) as justification for excluding the TNR from participating in that traffic. Contrary to its assertion, a split of the Georgia Power traffic would not impose operational problems on the residual incumbent. The trains handled by the TNR would be handed off to BNSF – already fueled and inspected – at Alliance, which is along their current, customary route of movement. *See Duke/NS* at 26. The trains handled by BNSF, of course, would move exactly as they do today. BNSF's objection to receiving a train "at an interchange point

²³ Nothing in the excerpt from the BNSF-Georgia Power contract that BNSF included as a workpaper actually indicates any restrictions on routings or participation by other carriers.

where those trains do not generally stop”²⁴ reaches too far: virtually *every* example of cross-over traffic involves an incumbent hypothetically receiving trains at points where they do not normally stop in the “real world.” Yet the Board repeatedly and consistently approves the inclusion of such traffic in SARR systems. *See, e.g., PSCo/Xcel* at 20; *Duke/NS* at 26. *Cf., TMPA* at 24.

In its Rebuttal restatement, AEP Texas reflects the actual mix of Georgia Power traffic origins, as disclosed by BNSF for the first time on Reply.²⁵ Otherwise, however, the Georgia Power coal properly is included in the TNR traffic group.

iii. Coleto Creek Traffic

Coal revenues for the TNR include a share of the trackage rights fees that BNSF receives from UP for the latter’s use of the Pueblo, CO - Amarillo, TX line that would be replicated by the TNR, to deliver coal to AEP Texas Central Company’s Coleto Creek station. *See* AEP Texas Op. at III-A-3 n.2 and 41 to 42. Inclusion of this revenue is consistent with the principle that under the *Guidelines*, a SARR is assumed to step into the shoes of the incumbent with respect to traffic moving over the line segments replicated by the SARR. *See Nevada Power II*, 10 I.C.C. 2d at 267. *See also West Texas Utilities*, 1 S.T.B. at 657 n.40.

²⁴ BNSF Reply at III.A-39.

²⁵ BNSF Reply Table III.A-5.

In Reply, BNSF excludes all Coletto Creek revenues from the SAC calculation, on two grounds. First, BNSF claims that its train movement records over the 2001-03 time period suggest that only { } of the Coletto Creek traffic would be routed by UP over the Pueblo-Amarillo lines in succeeding years, and that AEP Texas' trackage rights revenue calculations accordingly are overstated. *See* BNSF Reply at III.A-41. Second, BNSF argues that Coletto Creek revenues should be excluded in their entirety because amendments to the trackage rights agreements between BNSF and UP executed in September, 2003 { } *Id.* at III.A-43 to 44.²⁶ Neither criticism is valid.

As AEP Texas described on Opening (AEP Texas Op. at III-A-41 to 42), trackage rights revenue from the Coletto Creek traffic was counted on an historic basis according to actual BNSF receipts, and forecasted over the DCF period by applying the actual fees prescribed under the UP-BNSF agreements to the total gross ton-miles for the UP Coletto Creek trains moving over the Pueblo-Amarillo segment each year. Consistent with its modified approach to forecasting future changes in TNR coal volumes generally, discussed in detail *infra*, in this Rebuttal AEP Texas has recomputed the Coletto Creek revenues based on actual tons handled over the segment in 2002 (derived from BNSF

²⁶ According to BNSF, loaded Coletto Creek trains traveling under the trackage rights agreements { }. *See* BNSF Reply Exhibit III.A-4.

traffic tape data), indexed forward using BNSF's Long Range Plan and, subsequent to 2008, the EIA's 2004 AEO.²⁷

Use of a 2001-June, 2003 average percentage of the total Coletto Creek tons that were handled via trackage rights, as suggested by BNSF at page III.A-41 of its Reply, understates likely actual future use of the trackage rights lines by UP. This is because both total tons and trackage rights tons in 2001 were well below normal, due to plant outages and abnormal transportation conditions which apparently caused unusual rerouting of the Coletto Creek traffic. In contrast, the percentage of 2003 Coletto Creek tons moving via trackage rights differed from the 2002 share by only {

},²⁸ reflecting greater stability in UP's routing patterns after 2001. The actual tons handled over the Pueblo-Amarillo line in 2002-03 provides a more reliable base from which to project future volumes and, thus, TNR trackage rights revenues.

BNSF's claim that the Coletto Creek revenues should be excluded in their entirety because the TNR is not building the lines needed to implement a directional running scheme between Pueblo and Amarillo misrepresents the provisions of the September, 2003 supplemental trackage rights agreement²⁹ that allows UP to move loaded

²⁷ See AEP Texas Reb. Exhibit III-A-17.

²⁸ See BNSF Reply Exhibit III.A-2.

²⁹ BNSF Reply electronic workpaper "Dalhart to Fort Worth Agreement.pdf."

Coletto Creek trains over the line between Pueblo and Amarillo that the TNR would replicate.

The supplemental agreement cited by BNSF {

}³¹

As BNSF correctly notes, the TNR is not building an alternate route line between Pueblo and Amarillo, and assumes that UP would handle loaded and empty Coletto Creek trains over the same line used by the TNR to serve Oklahoma and other

³⁰ BNSF Reply electronic workpaper “Dalhart to Fort Worth Agreement.pdf.”

³¹ *Id.*

shippers south of Amarillo (and pay TNR the prescribed trackage rights fee). As shown, however, the existing trackage rights agreements between UP and BNSF do not preclude such an operation, and BNSF itself is {

} The better evidence

clearly supports retention of the Coletto Creek trackage rights revenues in the TNR SAC calculation. *Cf.*, *TMPA* at 19 (“... the determination of what traffic may be included in a SAC analysis should not be controlled by the specific language of a contract that has been drafted (or its terms set) at least in part by the defendant railroad.”).

iv. Redistribution of Shawnee Tonnage

AEP Texas accepts BNSF’s clarification that the approximately { } tons of coal that data produced in discovery initially indicated were delivered by barge to TVA’s Shawnee Plant in 2001³² actually were split between {

} . *See* BNSF Reply at III.A-46 to 47. However, the proper adjustment is to redistribute the tons to the correct stations, not exclude them from the SAC calculation.

³² While the traffic tapes produced by BNSF clearly identified the coal as moving to a river transloading point, the link to its ultimate destination was not plain. In its Reply, BNSF confirms the contracts to which the coal should be matched and the destinations to which it actually moved.

The total volume of coal shown on AEP Texas' Op. Exhibit III-A-3 for the historic time periods (2000-2002) matches the totals shown on the relevant BNSF traffic tapes for the same origin-destination pairs.³³ As the traffic tape destination point for the tons erroneously identified with the Shawnee Plant {

}. Contrary to BNSF's claim, redistributing the tons does not double-count volumes for those two plants. Indeed, by excluding the tons BNSF improperly creates a shortfall of total tons handled by the TNR between a designated set of O-D pairs from the total tons shown on BNSF's own traffic tapes as moving between corresponding O-D pairs during the same time periods.

In its restatement (AEP Texas Reb. Exhibit III-A-16³⁴), AEP Texas has re-assigned the Shawnee tons { } in the splits shown by BNSF for the historic time periods. The resulting 2002 base year tons then are adjusted forward over the DCF period based on growth reflected in the BNSF Long Range Plan and the 2004 AEO, as limited by the recognized 85% capacity factor cap. *See* pp. III-A- 51 to 53, *infra*.

³³See AEP Texas Op. electronic workpaper file "TNR Coal Traf and Rev0100-0603.xls."

³⁴ Exhibits III-A-1 through III-A-15 are included in AEP Texas' Opening presentation.

v. **Coal Volumes to Holcomb Unit 2**

BNSF challenges AEP Texas' inclusion of an additional { } tons of coal moving to the Holcomb Station commencing in { } to fuel a new, second unit being developed by Sand Sage Power LLC, on the ground that "it is too uncertain that this new unit will be built." BNSF Reply at III.A-49. In fact, however, when considered in the context of a proper understanding of power markets and the project development process, even the few published excerpts that BNSF relies upon support the strong likelihood of construction.

Sand Sage is in the advanced stages of completing its customer base well in advance of its scheduled financial closing in the First Quarter of 2005. Since it is customary for construction to start almost immediately after financing closes in order to minimize working capital costs, Sand Sage still has at least six months to finish finalizing its customer base. BNSF's own electronic workpaper "Sunflower 5-11-04 (Development).pdf" supports a finding that Sand Sage will succeed:

Potential customers with total requirements of considerably more than 600 MW are in the advanced stages of considering participation in the project. Sand Sage entered into confidentiality agreements with all of these customers and cannot disclose their names, but the plant structure has evolved from its original concept, which was to constitute it as primarily a "merchant" power plant, selling most of its output to "the market."

As the foregoing reflects, heightened customer interest has prompted Sand Sage to restructure the project from a more speculative “merchant” concept to a more secure project owned by its customers.

In anticipation of a First Quarter 2005 financial closing, Sand Sage has secured extensions of its air and construction permits from the Kansas Department of Health and Environmental Quality, through October 2005.³⁵ This extension provides a margin of 6-9 months from the scheduled closing to the expiration of the permits, and dovetails with the project shifting from a “merchant” plant to a project with fully-subscribed output.

While BNSF is correct that many *proposed* projects are never built (BNSF Reply at III.A-49), the opposite is true of plants such as Holcomb Unit 2 that are in the advanced stages of permitting and securing firm customers. Moreover, many unsuccessful plants were being pursued by professional developers seeking merchant plant profits, and were susceptible to changing financing conditions. Sunflower, by contrast, has exhibited strength in the financial sector, refinancing a significant part of its debt in April 2004 and achieving interest rate reductions despite a so-called “credit crunch.”³⁶

³⁵ See BNSF electronic workpaper file “Sunflower 5-12-04 (Air Permit & Financing).pdf.”

³⁶ See AEP Texas Reb. electronic workpaper file “04-SEPE-1091-RTS-L. Earl Watkins Testimony 2004 0609155 330.”

Sunflower/Sand Sage's commitment to and expectation of completing the Holcomb Unit 2 project is further confirmed by Sand Sage's active development of additional transmission capacity to accommodate the new unit and prevent bottlenecks. For example, on February 17, 2004, Sunflower and Sand Sage presented the "Spearville-Mooreland Transmission Project" to the Southwest Power Pool's Kansas/Panhandle Sub-Regional Workshop,³⁷ wherein the plan to have a new transmission line operational by 2007 was outlined. Furthermore, the Southwest Power Pool ("SPP") clearly considers Holcomb Unit 2 a viable project that is likely to be completed. This is evident from SPP's inclusion of the project in its planning process and as a key factor in the decision-making process for choosing transmission expansion projects. At SPP's latest Regional Planning Summit held in Dallas on June 8, 2004, the project was included as a fundamental input in both the overview of the regional planning process and in the presentation detailing various proposed transmission projects and SPP's recommended projects.³⁸ In sworn testimony before the Kansas Corporation Commission on June 9, 2004, Sunflower CEO L. Earl Watkins confirmed that a commitment was in place to develop the line.³⁹ Mr. Watkins further testified that the new Holcomb unit not only will

³⁷ See AEP Texas Reb. electronic workpaper file "KS-Pan-Wksp_021704_SUNF."

³⁸ See AEP Texas Reb. electronic workpaper files "3.Summit_II_Process_Overview.pdf" and "6.Summit_II_Kansas-Panhandle_Expansion_60104_rev2.pdf."

³⁹ See AEP Texas Reb. electronic workpaper file "04-SEPE-1091-RTS-L. Earl Watkins Testimony 2004 0609155330.pdf," at 23.

serve growing electricity demand, but also will alleviate current operational concerns (including voltage support and load following capabilities) and increase access to regional generation.⁴⁰

The better evidence amply demonstrates a strong likelihood that Holcomb Unit 2 will be built and will be operational beginning in 2008. This showing plainly is sufficient to support inclusion in the TNR traffic group of an additional 2,700,000 tons of coal to fuel that unit starting the same year. AEP Texas' Rebuttal restatement continues to reflect these volumes. *See* AEP Texas Reb. Exhibit III-A-16.

2. TNR Volumes (Historical and Projected)

a. Coal Traffic

i. Historical Coal Volumes (3Q00-4Q02)

As demonstrated in Part III-A-1, *supra*, for the most part BNSF's proposed adjustments to and/or exclusions of TNR coal volumes prior to 2003 are without merit and should be rejected. However, BNSF agrees with AEP Texas that the BNSF traffic tapes produced in discovery are an appropriate data source on which to base historic coal volumes. AEP Texas Reb. Exhibit III-A-16 sets forth AEP's restatement of TNR coal tonnages for the 3Q00-4Q02 time period, taking into account the redistribution of Shawnee tonnage discussed *supra*, and should be adopted by the Board for use in the SAC determination.

⁴⁰*Id.*, at 21.

ii. Projected Coal Volumes (2003-2008)

As AEP Texas explained on Opening, coal volumes for the TNR over the 2003-2008 time period were based on actual 2002 volumes as reported in BNSF's traffic tapes and reflected in coal consumption rates for the power plants included in the TNR traffic group, and growth projections derived from BNSF's September, 2003 Long Range Plan, which was produced in discovery. *See* AEP Texas Op. at III-A-13 to 15. In its Reply filing, BNSF challenged AEP Texas' 2003-2008 coal volume calculations in a number of respects. *See* BNSF Reply at III.A-51 to 61. AEP Texas' rebuttal of BNSF's claims and resolution of the issues raised therein are summarized in the following sub-parts.

(a) Calculation of 2003 Coal Volumes

Augmented by an even greater than usual sprinkling of polemics, BNSF challenges AEP Texas' calculation of 2003 coal volumes for the TNR, which employed data from BNSF's Long Range Plan and plant-specific operations data developed by AEP Texas' experts⁴¹ to offer a more precise picture of 2003 coal consumption by the TNR customer group. *See* BNSF Reply at III.A-51 to 55. As is apparent from the ease with

⁴¹ AEP Texas' evidence regarding coal volumes for the TNR is sponsored by Messrs. Gary Vicinus, Arthur Holland, Jr. and Paul Meyers of Pace Global Energy Services, LLC, a respected international energy services and consulting firm.

which BNSF understands and then mischaracterizes AEP Texas' approach, there is nothing "convoluted" or "devious"⁴² about the methodology.

As BNSF correctly (albeit perjoratively) acknowledges, on Opening AEP Texas determined 2003 TNR coal volumes by using the total volumes of coal actually consumed by the plants in the traffic group in 2002 as reported by the individual plants on EIA Form 767, and adjusting the consumption figures using the trend projected in BNSF's Long Range Plan to yield corresponding volumes for 2003. BNSF Reply at III.A-53. AEP Texas started with actual reported coal consumption rather than delivery figures because it eliminates the distortions and variability associated with year-to-year inventory management, and thus provides a better foundation for future coal needs and transportation requirements.

The number of tons of coal delivered in an historic year does not necessarily reflect true coal use at a plant, due to additions to or subtractions from the plant's existing inventory. By looking only at deliveries in a single base year, it is quite possible that the coal consumption could be overstated (*i.e.*, more coal was added to inventory than was burned that year) or understated (*i.e.*, coal inventory was not fully replaced). The approach followed by AEP Texas – projecting a plant's near term coal and transportation

⁴² BNSF Reply at III.A-52.

needs based on the 2002 heat input in BTU's rather than tonnage delivered – renders a more accurate forecast.⁴³

BNSF's claim that the AEP Texas methodology overstates 2002 consumption levels⁴⁴ itself is based on a misreading of the relevant data and fundamentally is wrong. BNSF grounds its calculations on 2002 data reported in EIA Form 906, which, among other things, records *net* generation.⁴⁵ It then multiplies the 2002 net generation by the 3-year average heat rates provided by AEP Texas, which are derived from EIA Form 860, to arrive at the heat input. BNSF mixes apples and oranges in its calculations to arrive at erroneous results. AEP Texas, in contrast, used data on fuel consumption reported directly by plant operators on EIA Form 767, which is available on EIA's website and is reported publicly by COALdat.⁴⁶ This captures all of the actual fuel used to generate electricity and steam and is not subject to the uncertainty of combining different data sets and other vagaries of inference.

While AEP Texas' actual consumption-based approach is more accurate as a base year indicator than an approach which relies solely on tons delivered, AEP Texas

⁴³ Actual consumption as reported by the individual plants is a more accurate reflection of fuel consumed than fuel delivered to each plant.

⁴⁴ BNSF Reply at III.A-67 to 68. *See also* pp. III-A-53 to 55, *infra*.

⁴⁵ BNSF Reply at III.A-67 n.146 and III.A-68.

⁴⁶ *See* AEP Texas Op. electronic workpaper file "SARR Traffic Group Tonnage Model 12-31-2003 DELIVERED," Tab "Heat Input Growth."

acknowledges that in prior cases the Board has derived volumes for the first year following an historic period by adjusting the prior year's deliveries according to the defendant carrier's internal forecast. *See, e.g., TMPA* at 25. Therefore, to reduce the number of disputed matters that must be resolved by the Board, in its Rebuttal restatement AEP Texas has re-computed the 2003 coal volumes by adjusting 2002 deliveries as reported in the BNSF traffic tapes by the rate implied by BNSF's Long Range Plan or holding them constant if the volumes are equivalent to the plant operating at or above an 85% capacity factor.⁴⁷ As shown in AEP Texas Reb. Exhibit III-A-16, this has the effect of reducing the total TNR coal volume for 2003 by 10,051,066 tons or 5.2%.

(b) Post-2003 Coal Volumes to Limestone Plant

AEP Texas accepts BNSF's adjustment to forecasted coal tonnages moving to Texas Genco's Limestone Plant. *See* BNSF Reply at III.A-56 to 58. In its Rebuttal restatement, AEP Texas includes a base volume of { } tons for 2002, based on BNSF's traffic tape data, then adjusts the Limestone volumes over the DCF period by the growth rates set forth in the BNSF Long Range Plan (2003-2008) and the 2004 AEO (2009-2020). *See* AEP Texas Reb. Exhibit III-A-16.

⁴⁷ *See* AEP Texas Op. Workpapers Vol. 15, p. 07624.

(c) Post-2004 Coal Volumes to {

Consistent with its acceptance of BNSF's approach to application of the growth rates shown in the carrier's Long Range Plan for the 2003-2008 time period, as discussed at p. III-A-41, *supra*, AEP Texas adopts the Plan's forecasted 2005 volumes for the { } tons) Plants. See BNSF Reply Table III.A-10. For the reasons explained at pp. III-A-17 to 26, *supra*, however, there is no basis for BNSF's proposed reduction in volumes to exclude coal expected to originate at the Antelope, North Antelope and North Rochelle mines.

In its Rebuttal restatement, AEP Texas includes the full forecasted 2005 volumes for { } as shown in BNSF's Long Range Plan, then adjusts them over the remainder of the DCF period by the growth rates shown in the Plan (2006-2008) and the 2004 AEO (2009-2020), subject to the 85% capacity factor cap discussed *infra*.

(d) Post-2006 Coal Volumes to Springerville

While BNSF accepts AEP Texas' inclusion of a new unit at Tucson Electric Power Company's Springerville Station in the TNR traffic group starting in 2007, BNSF challenges AEP Texas' assumption that the new unit will operate at an 85% capacity factor from the outset, and thus add { } of coal per year to the TNR traffic volume. BNSF's tonnage reduction (to a base of { }) is predicated on

“statements” made to a BNSF marketing officer by unnamed “Springerville Unit 3 Holding, LLC representatives” BNSF Reply at III.A-60 to 61. However, the adjustment is contradicted by more specific information regarding how TEP actually plans to operate the new unit.

In response to an inquiry by Pace Global Energy Services, on June 8, 2004

Mr. Tom McKenna, TEP’s Manager of Project Development stated:

based on the design of this coal unit [Springerville Unit 3], which is a base load design and not designed for cycling, we would expect to operate the plant similar to other coal units in the Southwest, of which the Springerville Units 1&2 are representative.⁴⁸

As shown in Table III-A-12 below, over the 1994-2003 time period Springerville Units 1 and 2 experienced an average net capacity factor of 87.04%. The corresponding average net capacity factor over the most recent five year period was 89.08%.⁴⁹

⁴⁸See AEP Texas Reb. Workpapers Vol. 1, p. 00238.

⁴⁹See AEP Texas Reb. electronic workpaper file “Springerville GADS vs Plant Data 1994-2003.”

TABLE III-A-12 Springerville Units 1 and 2 Net Capacity factors	
Year	NCF (%)
1994	82.45
1995	75.30
1996	92.61
1997	87.32
1998	87.30
1999	88.30
2000	87.30
2001	90.60
2002	89.00
2003	90.20
Average 1994-2003	87.04
Average 1999-2003	89.08

Given TEP's stated plan to operate Springerville Unit 3 as a baseload unit and in the same manner as Units 1 and 2, projected coal volumes based on an 85% capacity factor reflect conservative operational assumptions.

TEP's projections are also consistent with the expectations of Tri-State Generation & Transmission Association, the entity that will lease and operate Springerville Unit 3 and use 50% of the unit's output. Tri-State likewise intends to use Unit 3 as a baseload unit, to serve rapidly growing electricity demand in Arizona, New Mexico and Colorado. As summarized in its 2003 Annual Report:

Construction projects – on both established and new generation facilities – took center stage at Tri-State in 2003. In October, Tri-State and Tucson Electric Power Company (TEP) commissioned the groundbreaking for the construction of a 400-megawatt, coal-based generating unit at TEP's Springerville Generating Station in eastern Arizona. The launch of this project represents a pivotal step in Tri-State's history because it's the first major, baseload generating unit that the association has been involved in developing in more than two decades.

Once completed by year-end 2006, Tri-State will lease 100 percent of the new unit and will use 200 megawatts to serve existing load and projected growth in the southwestern Colorado and New Mexico portion of its service territory. Under a purchase power agreement with Tri-State, TEP will receive 100 megawatts for up to five years, while Salt River Project of Phoenix, Ariz., will receive the remaining 100 megawatts under a 30-year contract with Tri-State.⁵⁰

The better evidence clearly supports AEP Texas' conclusion that once it comes on line in 2007, Springerville Unit 3 consistently will be operated at least at an 85% capacity factor level. In its Rebuttal restatement, therefore, AEP Texas continues to include 1,700,000 tons of coal traffic per year for Springerville Unit 3, commencing in 2007. *See* AEP Texas Reb. Exhibit III-A-16.

(e) Restatement of Presque Isle Tons

In its Reply, BNSF reduced the TNR coal volume destined for Wisconsin Electric's Presque Isle Station by some { } tons (in 2002), by excluding tons that

⁵⁰ *See* AEP Texas Reb. electronic workpaper file "Tri-State Annual Report 2003-Generation" and Tri-State's website (www.tristategt.org).

originated at one of the three southernmost PRB mines.⁵¹ For the reasons explained at pp. III-A-17 to 26, *supra*, BNSF's exclusion is improper. Nevertheless, it is necessary to adjust and restate the Presque Isle tonnages to correct an inadvertent error in AEP Texas' Opening volume calculations.

Specifically, in calculating BNSF's share of the total 2002 tonnage moving for the Presque Isle account, AEP Texas failed to count tons originating in Montana, which can only travel via BNSF. According to COALdat and FERC data, approximately 26% of the Presque Isle coal came from Montana sources.⁵² Because of this error, BNSF (and, thus, the TNR) was credited with only a 27% share of the Presque Isle tonnage in years following 2002, while BNSF's actual share of the total was 57%. Properly adjusted, the TNR volumes for Presque Isle start at { } tons in 2002, and gradually increase to { } tons in 2020. *See* AEP Texas Reb. Exhibit III-A-16.⁵³

**(f) Additional Post-2002 Volumes for Nine
Movements Via Alliance**

Finally, BNSF's Reply evidence included tonnages moving on the TNR after 2002 for nine generating stations that only showed historic volumes for purposes of

⁵¹ Compare AEP Texas Op. Exhibit III-A-3, line 45b and BNSF Reply Exhibit III.A-6, line 45b.

⁵² See AEP Texas Reb. electronic workpaper file "SARR Traffic Group Tonnage Model 7-12-2004-FINAL," Tab "Presque Isle."

⁵³ Based on the BNSF Long Range Plan and 2004 AEO growth rates, during the DCF period the TNR's portion of the tonnage does not reach 57% of the annual coal volume that would support operations at an 85% capacity factor.

AEP Texas' Opening SAC calculations. Since AEP Texas' Rebuttal adopts BNSF's approach to determining 2003 TNR coal volumes (*see* pp. III-A-41 to 44, *supra*), tons destined for these stations have been included in AEP Texas' restatement. The movements in question are:⁵⁴

<u>Utility</u>	<u>Station</u>
{	}
{	}
{	}
{	}
{	}
{	}
{	}
{	}
{	}
{	}

As shown in AEP Texas Reb. Exhibit III-A-16, 2003 coal volumes for these movements total { } tons.

iii. 2009 Through 2020 Projected Coal Volumes

In its Opening presentation, AEP Texas used EIA's 2003 Annual Energy Outlook to project TNR coal volumes over the 2009-2020 time period, because the 2003 AEO was the most recent iteration available at the time that AEP Texas finalized its traffic group and traffic volume forecast over the DCF period. As an experienced litigant in coal rate proceedings under the *Guidelines*, BNSF undoubtedly is aware that a SARR

⁵⁴ Compare AEP Texas Op. Exhibit III-A-3, p. 4, and BNSF Reply Exhibit III.A-6, p. 2.

traffic group and traffic forecast must be set well in advance of a filing deadline for SAC evidence, as the traffic data is a fundamental building block for development of an operating plan, construction cost calculations, and other major components of the SAC analysis. *See, e.g., TMPA* at 13. AEP Texas did not “erroneously” use the 2003 AEO;⁵⁵ the final 2004 iteration simply was not available at the time it would have been needed.

In its Rebuttal restatement, AEP Texas applies the 2004 AEO to forecast coal volumes over the 2009-2020 time period. However, AEP Texas does not use the same specific growth rate that BNSF applies in its Reply. The growth rate used by BNSF includes volumes for the Green River Basin (low sulfur bituminous and medium sulfur sub-bituminous coal) as well as the PRB. This is inappropriate for application to a railroad such as the TNR, which handles low sulfur, sub-bituminous PRB coal. The 2004 AEO growth rate employed by AEP Texas in its Rebuttal restatement is specific to the coal type and region that will dominate the TNR’s traffic volumes. *See* AEP Texas Reb. Exhibit III-A-17.

**iv. AEP Texas’ Restated Calculation
of the 85% Capacity Factor Cap**

AEP Texas’ acceptance of an approach to calculating 2003 coal tonnage for the TNR based on coal tons delivered to the members of the traffic group in 2002 rather

⁵⁵ *See* BNSF Reply at III.A-62.

than tons equivalent to the MMBTU's actually consumed by each plant⁵⁶ likewise necessitates an adjustment to AEP Texas' calculation of the 85% cap, used to limit future volume growth for plants that operated below that level in 2002.⁵⁷

In its Rebuttal restatement, AEP Texas calculates the volume of coal that each plant in the TNR traffic group would consume if it operated at a level equal to 85% of its rated capacity.⁵⁸ The result for each plant was then compared to the volume of coal delivered to the plant in 2002. If 2002 deliveries equaled or exceeded the 85% capacity factor level, then TNR volumes for that plant are held constant throughout the DCF period. If 2002 deliveries were below that level, TNR volumes in subsequent years are adjusted by the growth rates in the BNSF Long Range Plan (2003-2008) and the EIA's 2004 AEO (2009-2020) until each plant's 85% capacity factor level is reached, at which

⁵⁶ See p. III-A-44, *supra*.

⁵⁷ Consistent with past practice and precedent, if a plant already was operating above the 85% capacity factor level in 2002, its future annual volumes on the TNR should be frozen at that higher historic level. See *WPL* at 20-21; BNSF Reply at III.A-67, n.143.

⁵⁸ As parties and the Board have done in prior cases, AEP Texas assumed that each plant would continue to burn the same type and quality of coal that was delivered to the plant in 2002. In its Reply, BNSF does not dispute AEP Texas' calculations of the percentage of each plant's coal traffic that currently moves over BNSF, and accepts AEP Texas' plant capacity and heat rate determinations. See BNSF's electronic workpaper "SARR Traffic Group Tonnage Model_BNSF Reply.xls."

point the annual volumes for the plant are held constant for the remainder of the DCF period.⁵⁹ See AEP Texas Reb. Exhibit III-A-16.

**(a) Adjustments to Coal Volumes Moving
Through Transloading Facilities**

In its Opening evidence, AEP Texas inadvertently failed to apply the 85% capacity factor cap to a dozen movements that would be interchanged by the TNR to BNSF for rail delivery to river transloading facilities. See BNSF Reply at III.A-63 to 64. While the impact of this error on overall TNR traffic volumes is very minor,⁶⁰ it should be corrected. In its Rebuttal restatement, AEP Texas applies the 85% capacity factor cap to these transloader movements as well. See AEP Texas. Reb. Exhibit III-A-16.

**(b) Adjustments For Plants With 2002
Delivered Volumes In Excess of the
85% Capacity Factor Cap**

AEP Texas' revision of its methodology for calculating the 85% capacity factor caps applied to the coal growth projections for members of the TNR traffic group effectively addresses BNSF's position regarding volumes to plants whose 2002 deliveries exceeded the 85% capacity factor level. BNSF Reply at III.A-65 to 69.⁶¹ In its Rebuttal

⁵⁹ See, e.g., *WPL* at 20-21; *West Texas Utilities*, 1 S.T.B. at 663-64.

⁶⁰ The difference amounts to a total of 28,415,699 tons of coal over the entire DCF period. See AEP Texas Reb. Exhibit III-A-16.

⁶¹ As noted at p. III-A-41, *supra*, BNSF's erroneous claim that AEP Texas overstated 2002 coal consumption (BNSF Reply at III.A-67) results from its mistaken reliance on calculated heat input using *net* coal generation as reported in EIA Form 906

(continued...)

restatement, AEP Texas accepts the use of 2002 delivery volumes as the starting point, and applies a methodology consistent with that used by BNSF to develop the appropriate caps for different plants.⁶²

It bears noting that BNSF's Reply methodology accepts all the components of AEP Texas' revised calculation of tonnage caps that represent 85% of a plant's capacity factor; *i.e.*:

$$\text{Tonnage Cap} = \text{PRB Tons} \times \text{BNSF Percentage}$$

where:

$$\text{PRB Tons} = \text{Total MMBtus} / (\text{Heat Content} \times 2 / 1000)$$

and

$$\text{Total MMBtus} = [\text{Capacity (MW)} \times 8760 \text{ (hours)} \times .85 \times \text{heat rate (Btu/Kwh)}] / 1000$$

While BNSF's narrative claims to dispute AEP Texas' data (BNSF Reply at III.A-68), the carrier's calculations under the "Heat Input Growth" tab on the electronic workpaper "SARR traffic Group Tonnage Model_ BNSF Reply .xls" shows acceptance of AEP Texas' percentages of coal handled by BNSF, heat content figures for the coal moving to

⁶¹(...continued)

and AEP Texas' average heat rates. Since AEP Texas utilizes actual fuel consumption data as reported directly by individual plants on EIA Form 767, AEP Texas' 2002 consumption values are proved accurate and BNSF's claim that AEP Texas calculated volume caps for some plants that exceeded 100% of the plant's capacity (BNSF Reply at III.A-69) is debunked.

⁶² AEP Texas also adds calculations of the percentages of coal handled by BNSF to the High Bridge, Riverside, Paradise, Ghent, Monroe, River Rouge and Trenton channel plants, and connects the caps for the Lansing and Nelson Stations. See AEP Texas Reb. electronic workpaper file "SARR Traffic Group Tonnage Model 7-12-2004-FINAL," Tabs "Monroe-River R-Trenton," "High Bridge - Riverside - Paradise," "Lansing," and "Nelson."

virtually all TNR plants,⁶³ plant capacity figures, and heat rate calculations. *See* AEP Texas Reb. Exhibit III-A-18.

AEP Texas Reb. Exhibit III-A-16 incorporates the recalculated capacity factors and resulting volume levels for the plants that already had achieved factors at or above 85% in 2002.

(c) Coal Volumes to Parish Plant

As part of its Reply workpapers, BNSF produced the actual contract with Texas Genco, which permits the calculation of the percentage of total coal volumes transported to the Parish Plant that is handled by BNSF. *See* BNSF Reply at III.A-70. This specific information was not available to AEP Texas when its Opening evidence was prepared. In its Rebuttal restatement, AEP Texas adjusts the percentage of Parish traffic handled by the TNR in 2002 to match BNSF's { } share.

As explained at pp. III-A-51 to 53, *supra*, in its Rebuttal restatement AEP Texas modifies its methodology for application of the 85% capacity factor cap so that the calculation is based on tons delivered to the plants rather than tons of coal consumed, as derived from the measure of actual heat generation. This approach likewise is followed with respect to determining an annual tonnage cap for the Parish coal traffic.⁶⁴

⁶³ The only exceptions are the TVA Shawnee Station – where the coal originally assigned { }.

⁶⁴ As shown in AEP Texas Reb. Exhibit III-A-16, maximum TNR tonnage for
(continued...)

b. Non-Coal Traffic

BNSF accepts AEP Texas' Opening evidence concerning historic and future volumes of traffic other than coal, which would be handled by TNR in interline service between Amarillo and Oklaunion, TX (BNSF Reply at III.A-71). Thus, there is no dispute with respect to this issue.

c. Volume Summary

Table III-A-13 below shows AEP Texas' restated traffic volumes for the TNR for each year of the DCF period, both by comparison to AEP Texas' Opening volume levels and the truncated volumes proffered by BNSF. Complete details as to traffic volumes by year and individual shipper are included in AEP Texas Reb. Exhibit III-A-16.

⁶⁴(...continued)

Parish was capped at 75% of the delivered coal volume equivalent to plant operation at an 85% capacity factor level.

TABLE III-A-13
TNR Total Traffic Volume
Coal and General Freight (Tons)

	Year	AEP-Texas Op. TNR Total Volume ^{1/}	BNSF Reply TNR Total Volume ^{2/}	AEP-Texas Reb. TNR Total Volume ^{3/}	Difference Column (4) - Column (3)
1.	2000	102,043,625	87,146,340	102,043,625	14,897,285
2.	2001	198,692,007	170,324,800	198,692,007	28,367,207
3.	2002	195,424,814	167,527,129	195,424,814	27,897,684
4.	2003	200,596,124	162,755,564	190,545,058	27,789,494
5.	2004	212,794,713	161,448,170	202,072,608	40,624,437
6.	2005	209,154,616	152,757,693	196,553,793	43,796,101
7.	2006	211,168,052	154,592,632	198,697,537	44,104,906
8.	2007	214,360,016	156,428,104	202,168,685	45,740,580
9.	2008	216,910,847	156,734,119	204,911,820	48,177,701
10.	2009	219,588,056	161,087,928	210,314,951	49,227,023
11.	2010	224,602,496	162,164,161	212,125,113	49,960,953
12.	2011	227,067,470	163,498,540	214,332,551	50,834,011
13.	2012	228,572,459	166,184,094	219,602,941	53,418,847
14.	2013	229,615,485	168,114,122	223,132,612	55,018,490
15.	2014	230,608,448	168,991,795	224,983,454	55,991,659
16.	2015	231,448,125	169,703,551	227,661,432	57,957,881
17.	2016	232,587,641	171,261,655	228,436,825	57,175,170
18.	2017	233,953,686	171,993,064	229,293,623	57,300,559
19.	2018	234,757,608	171,480,116	229,236,837	57,756,721
20.	2019	235,787,389	172,602,570	230,258,769	57,656,199
21.	<u>2020</u>	<u>236,909,400</u>	<u>173,464,073</u>	<u>231,254,519</u>	<u>57,790,446</u>
22.	<u>TOTAL</u>	4,526,643,077	3,390,260,220	4,371,743,573	981,483,354

^{1/} From AEP Texas Op. electronic workpaper file "All Traffic Summary rv 2-26-4.xls."

^{2/} From BNSF Reply electronic workpaper file "Exhibit III.A - T&R Comparison.xls."

^{3/} From AEP Texas Reb. electronic workpaper file "All Traffic Summary Reb Revised.xls," 'Rebuttal' worksheet.

3. TNR Revenues (Historical and Projected)

AEP Texas' Opening evidence on the subject of historical and projected revenues for the TNR adheres closely to the guidelines and parameters established by the Board in its most recent rulings under the *Guidelines*, including *Duke/CSXT* and *PSCo/Xcel*. In Reply, BNSF accepts AEP Texas' evidence with respect to revenues from non-coal traffic, in its entirety.

Significant differences exist between the parties when it comes to the proper determination of TNR coal revenues. In terms of aggregate dollars, most of these differences are attributable to BNSF's advancement of unmeritorious and previously rejected theories regarding the allocation of revenues from cross-over traffic and the projection of rate levels following the expiration of existing coal transportation contracts. A significant share of the difference likewise results from BNSF's improper exclusion of certain coal volumes from or reductions in volumes for the TNR.

In this sub-part, AEP Texas explains why BNSF's alleged justifications for its dramatic write-down of TNR coal revenues⁶⁵ are without merit, and should be rejected. AEP Texas also addresses several areas where, for various reasons, adjustments to its Opening methodology are being made in this Rebuttal in response to issues raised by BNSF on Reply. This subpart closes with a summary restatement of annual TNR

⁶⁵ See BNSF Reply Table III.A-18.

revenues over the DCF period. A detailed breakdown of the restatement and its components appears in AEP Texas Reb. Exhibit III-A-20.⁶⁶

**a. Historical Single-Line Revenues
(3Q00 through 4Q02)**

BNSF agrees with AEP Texas' Opening calculation of historic single-line coal revenues.⁶⁷ See BNSF Reply at III.A-73. Therefore, no adjustments to these revenue figures are needed.

b. Divisions of Revenue -- Existing Interchanges

BNSF agrees with AEP Texas' Opening calculation of revenue divisions for the two coal movements which would be handled by the TNR along the route currently used by BNSF and then interchanged to another carrier.⁶⁸ See BNSF Reply at III.A-73 to 74. Therefore, no adjustments to these revenue figures are needed.

c. Divisions of Revenue -- Cross-Over Traffic

Consistent with the Board's prior rulings, AEP Texas allocates revenue from cross-over traffic between the TNR and the residual BNSF using the MSP formula. See AEP Texas Op. at III-A-39 to 41 and Exhibits referenced therein; *PSCo/Xcel* at 17-

⁶⁶ AEP Texas Reb. Exhibit III-A-19 shows the total BNSF through movement revenues for each TNR traffic group member. AEP Texas Reb. Exhibit III-A-20 displays TNR's share of these revenues, by customer and year.

⁶⁷ The TNR does not move any non-coal traffic in single-line service.

⁶⁸ The TNR does not interchange any non-coal traffic with carriers other than BNSF.

18; *Duke/CSXT* at 21-22; *CP&L* at 21; *Duke/NS* at 24-25. For its part, BNSF again urges the use of its DARA procedure, the principal feature of which is its consistent bias in favor of the residual BNSF. *See* BNSF Reply at III.A-80 to 89.

DARA has been rejected by the Board in many of the same decisions that endorsed the use of MSP. *See e.g., PSCo/Xcel* at 18; *Duke/NS* at 21-22. The same result is warranted here.

**i. The MSP Methodology Provides A
Fair Measure Of The Relative Costs
Of Cross-Over Service**

As a threshold proposition, AEP Texas rejects the notion advanced by BNSF that AEP Texas should have a burden of justifying the use of a revenue allocation methodology that the Board itself has adopted and used in the four most recent cases under the *Coal Rate Guidelines*. If the Board's 2001 mandate that parties to maximum-rate proceedings should desist from continually relitigating settled issues⁶⁹ is to have vitality, it should be wielded swiftly in instances such as this.

In its Reply, BNSF claims that MSP is not a valid cost-based methodology and does not reflect the relative costs of providing service for cross-over traffic. *See* BNSF Reply at III.A-76. BNSF also argues that the 100-mile terminal credit applied under MSP misstates the relative costs of providing terminal services for various traffic types. *Id.* at 77. Neither claim is well-founded.

⁶⁹*Ex Parte No. 347 (Sub-No. 3), supra* (Decision served March 12, 2001 at 6).

First, the MSP methodology used by AEP Texas is the same MSP methodology used by the Board to allocate revenues on cross-over traffic in *Duke/NS*, *Duke/CSX*, *CP&L* and most recently, *PSCo/Xcel*. As demonstrated in AEP Texas Reb. Exhibit III-A-21, the MSP methodology in fact is a fair approximation of the relative costs of providing service for cross-over traffic, and no adjustment to the 100-mile terminal additive is warranted for any traffic group.

Second, MSP provides for the coverage of attributable costs on all segments of TNR cross-over traffic. As shown in AEP Texas Reb. Exhibit III-A-22, MSP results in the full coverage of the directly variable cost to the residual BNSF of providing service on 99.99 percent of TNR cross-over traffic. For the remaining 0.01 percent of traffic, the total movement revenue is at a level below the total directly variable cost of providing the service.

**ii. BNSF's DARA Procedure Is
Biased And Fatally Flawed**

The DARA procedure proposed and rejected in *Duke/NS*, *CP&L*, *Duke/CSXT* and *PSCo/Xcel* is described by BNSF as follows:

BNSF's 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 variable costs that

would be available to cover unattributable costs on the SARR and residual incumbent.⁷⁰

In the first step of DARA, BNSF calculated the hypothetical attributable cost of providing the TNR's portion and the residual BNSF's portion of all cross-over service using the *Ex Parte No. 399* variable costing procedures and BNSF's 2002 URCS. In the second step of DARA, BNSF allocated the revenues net of BNSF's calculation of attributable cost to the TNR and the residual BNSF in direct proportion to the relative lengths of haul over the two railroads, and in inverse proportion to the relative traffic densities on the segments of the railroads over which the traffic moves.

BNSF spends much time rehashing the same arguments it has used unsuccessfully to justify the use of DARA in prior rate cases. All are rooted in a misunderstanding or misstatement of railroad economics, and none is capable of rebutting the fact that DARA artificially overstates the amount of revenue allocated to the residual incumbent at the expense of the SARR. In short, DARA is a biased formula that hardly disguises BNSF's unswerving purpose: to nullify the benefits to a SARR of the cross-over traffic that it otherwise cannot convince the Board to exclude altogether.⁷¹

⁷⁰ See BNSF Reply at III.A-80 to 81.

⁷¹ BNSF's proposed alternative to the percentage reduction methodology for allocating rate relief shares the same central purpose. See pp. III-G-40 to 43, *infra*.

(a) DARA's Fundamental Flaws

As a threshold matter, BNSF's calculation of the "directly attributable" costs for TNR coal movements in the first step of DARA produces absurd results. BNSF claims that "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 Reply at III.A-77), and then asserts that DARA solves the problems with MSP. (*Id.*) BNSF's clear implication is that DARA provides "an explicit demonstration" that its allocation does cover both on-SARR and off-SARR attributable costs.

In fact, however, BNSF's DARA workpapers show exactly the opposite. BNSF's workpapers show that the attributable costs calculated by BNSF using DARA actually *exceed* revenues for 19% of the cross-over coal movements included in BNSF's TNR traffic group.⁷² Essentially, BNSF has demonstrated that under its preferred revenue divisions methodology, one out of every five tons of coal is moved at a loss both by the TNR and by the residual BNSF. In addition, according to BNSF's Reply Exhibit III.A-11, the total movement revenues for TNR cross-over movements in 2002 was \$1,264,511,000, while the total variable costs for the same traffic group was

⁷² See AEP Texas Reb. electronic workpaper file "AEP Coal Move NEG CONT.xls."

\$990,087,000. In other words, according to BNSF, the average revenue to variable cost ratio for some of the most profitable traffic on its system was 1.28.

BNSF's definition of the portion of revenue it distributes based on density and length of haul in the second step of DARA as "the portion of the revenue representing contribution in excess of attributable costs that would be available to cover unattributable costs on the SARR and residual incumbent" (BNSF Reply at III.A-81) also is inaccurate. BNSF conveniently ignores the profit component of the revenue amount; *i.e.*, DARA uses density to distribute profit, not simply to allocate unattributable costs.

Yet another fundamental flaw in DARA is that it provides *disincentives* to both interline carriers to maximize economies of density, and would reduce the efficiency of the entire rail system if used in the real world. For example, under DARA, if Carrier A invested capital to increase capacity and add traffic (*i.e.*, to become more efficient), connecting Carrier B that interlines traffic with Carrier A would be allocated more of the revenue (and profit) associated with an interlined movement. In other words, Carrier B is rewarded when Carrier A becomes more efficient, despite the fact that Carrier B made no additional capital investment and provides the same service at the same cost that it did before Carrier A invested capital to take advantage of economies of density. At the same time, DARA ensures that Carrier A will receive less revenue to defray the costs of the infrastructure it added. That DARA cannot pass muster under even the most basic

principles of railroad economics is further evidence that the formula is merely a means to an end: to deprive the SARR of revenues from cross-over traffic.

**(b) BNSF's Justifications For
The Use Of DARA Fail**

The language used by BNSF in its narrative to try to justify DARA in fact contradicts the actual methodologies inherent in both steps of the DARA procedure. For example, BNSF acknowledges that variable cost components vary with traffic levels, yet BNSF applies the same system average variable cost components in its calculation of attributable costs for all cross-over traffic, regardless of the level of traffic on (and the track configuration of) the lines over which the traffic moves. Likewise, while BNSF acknowledges that there is no relationship between unattributable costs and traffic levels, DARA allocates unattributable costs based on the relative densities of the lines over which cross-over traffic moves.

The methodology used by BNSF to calculate attributable costs of cross-over traffic movements in the first step of BNSF's DARA procedure also misstates the road property component of the variable cost of each portion of each cross-over movement. Specifically, in order to calculate the total variable road property costs for cross-over movements, BNSF applied URCS system average unit costs to all traffic that moved over the TNR and the residual BNSF on a gross ton-mile basis, regardless of the track characteristics of the various portions of the respective systems traversed by the movements. BNSF assumed variable roadway costs of \$1,216 per MGTM for all portions

of every unit coal train movement.⁷³ This methodology was specifically rejected by the Board in *PSCo/Xcel*:

BNSF correctly notes that URCS seeks to capture the additional road property investment -- which may include double tracking, cross-overs, more sidings, and yard infrastructure. What BNSF ignores, however, is that URCS develops the average investment for the carrier's entire rail system (system average costs) and therefore does not attribute the additional investment of the high-density line to just that line but rather distributes the investment over all traffic on the entire network, including traffic that travels over just the light density line. By relying on URCS to calculate the variable costs of the two segments of a movement, DARA overestimates the road property component of the variable cost that should be attributed to light-density lines, therefore allocating too much revenue to those lines. Conversely, it underestimates the road property component of variable costs for high-density lines and therefore allocates too little revenue to those lines.

PSCo/Xcel at 18.

In its Reply evidence in this case, BNSF attempted to justify its procedures with an analysis that purports to compare variable road property costs per route-mile allocated to the TNR and the residual BNSF for TNR cross-over traffic. The analysis does not serve its intended purpose, however. It merely is a simple comparison of the gross ton-miles of TNR cross-over coal traffic traversing the TNR and the residual BNSF; no costs are developed.

⁷³See BNSF Reply Exhibit III.A-11 and BNSF Reply electronic work paper file "AEP Coal Move.xls."

BNSF's assertion that "[o]n 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"⁷⁴ is nonsense. In the first place, BNSF's Reply Exhibit III.A-11 completely fails to consider any of the variable road property cost associated with any volumes of traffic other than TNR cross-over coal traffic that moves over the line segments in the comparison. In addition, whereas BNSF's statement implies that relatively greater variable costs per mile are allocated to relatively denser segments of track, the first step of BNSF's DARA procedure does not allocate revenues in this manner. Rather, as pointed out in *PSCo/Xcel* (at 18), DARA's allocation of variable costs (including the road property portion) treats each mile of each movement equally, regardless of relative density or track structure. As stated elsewhere in BNSF's own Reply evidence, "There is no density adjustment made in calculating attributable costs in the first step of the DARA procedure." See BNSF Reply at III.A-81. Because BNSF fails to account for the fact that URCS variable road property costs reflect system average (as opposed to segment specific) track characteristics, it misstates costs associated both with traffic moving over lines with greater than average per-mile roadway investment, and traffic moving over lines with less than average per-mile roadway investment.

⁷⁴See BNSF Reply at III.A-83.

The logic BNSF offers in support of the density adjustment in the second step of DARA also is biased in that it is expressly reliant on the assumption that each mile of track has identical cost characteristics. This faulty assumption serves to further overcompensate the residual incumbent at the expense of the SARR. BNSF offers the following justification for its density based allocation of the “contribution” portion of cross-over revenues: “[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 cost that needs to be recovered on average from each individual ton-mile to recover the total costs of the segment.” *See* BNSF Reply at III.A-80 (emphasis added). But all else is *not* equal, and because the track structures for the two (or more) segments of track traversed in a cross-over movement are not identical, BNSF’s revenue allocation methodology is theoretically unsound and demonstrably biased.

The TNR is characterized by higher densities and higher capacity route segments than the connecting line segments of the residual BNSF. The principle relied on by BNSF that “the more traffic that moves over a given line segment, the lower the cost that needs to be recovered on average from each individual ton-mile to recover the total costs of the segment” is only true *within* a single segment. It is not a principle that holds in the comparison of cost-recovery per ton-mile requirements *across* two or more segments with different track characteristics.

Finally, BNSF's statement that, "[t]he 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"⁷⁵ squarely contradicts the application of the density adjustment in the second step of DARA, wherein BNSF's allocation of "unattributable costs" is directly dependent on relative line densities. In one breath BNSF states that unattributable costs are independent of line segment densities, and in the next BNSF states that unattributable costs should be distributed based on relative segment densities. These contradictions further undermine any potential justification for the use of DARA.

iii. Summary

As shown herein, the Board's MSP methodology is a sound formula that fairly allocates revenues from cross-over traffic between the TNR and the residual BNSF. In contrast, DARA is a biased and result-oriented approach that over-allocates revenue to the residual BNSF, and rightly has been rejected by the Board four times in the past eight months. In its Rebuttal restatement, AEP Texas continues to use the MSP formula to allocate cross-over revenues.

⁷⁵ See BNSF Reply at III.A-84.

d. Projected Revenues

i. Coal Traffic

(a) Common Carrier Movements

At the time that AEP Texas filed its Opening Evidence, the movement to one of the generating stations in the TNR traffic group (TMPA's Gibbons Creek Station) was governed by a Board rate prescription, and another (the movement to PSCo/Xcel's Pawnee Station) was subject to a common carrier rate publication that included a rate adjustment mechanism. AEP Texas projected revenues for the TMPA traffic based on the Board-prescribed rate, and for the PSCo/Xcel traffic based on the adjustment provisions in its common carrier pricing authority. *See* AEP Texas Op. at III-A-43. On Reply, BNSF accepted AEP Texas' revenue calculations for these plants. *See* BNSF Reply at III.A-92.

On Rebuttal, AEP Texas continues to use the Board's Gibbons Creek rate prescription for the TMPA traffic. However, subsequent to BNSF's Reply filing the Board served its decision in *PSCo/Xcel*, which established maximum reasonable rate levels for coal shipments to Pawnee through 2020. *PSCo/Xcel* at 41. AEP Texas' Rebuttal restatement recalculates future TNR revenues from the Pawnee traffic using the new, Board-prescribed maximum rates.

In addition to Gibbons Creek and Pawnee, the TNR traffic group described by AEP Texas on Opening included movements to three other power plants that currently

are governed by common carrier pricing authorities (as opposed to contracts): AEP Texas' Oklaunion Station; PPL Montana's Corette Station; and Otter Tail Power's Big Stone Station. However, none of the common carrier pricing authorities established for these movements contain rate adjustment provisions. In light of the absence of any empiric, non-arbitrary basis for projecting future changes in rates for these movements, AEP Texas conservatively assumed that the last established rate for each would apply throughout the DCF period. *See* AEP Texas Op. at III-A-42 to 43.

In its Reply submission, BNSF proposes different methods of escalating the rates for each of these movements. In all cases, however, BNSF's approach is inherently arbitrary, and in the case of the Oklaunion traffic allows the defendant to bias the outcome of the Board's maximum rate analysis. BNSF's proposed adjustments should be rejected.

Oklaunion. BNSF argues that the Board should assume that rates on shipments to Oklaunion would be set to match the levels shown in the Board's May 2003 modification of the former Rawhide rate prescription through 2014, and thereafter would be escalated according to 100% of the forecasted change in the RCAF-U through 2020. *See* BNSF Reply at III.A-93 to 94. However, the Rawhide prescription – which never applied to shipments from the other PRB mines – has been vacated, and the RCAF-U has never been used previously to adjust the Oklaunion rates. In essence, BNSF is suggesting that the defendant in this rate case should be able to dictate the level of rates that the

complainant will be deemed to pay over the DCF period, for purposes of the SAC analysis.

The adverse implications of BNSF's approach for the integrity of the regulatory process are obvious. Under the "percentage reduction" methodology for allocating the excess of stand-alone revenues over stand-alone costs among the members of the designated traffic group, the higher the forecasted rate for the complainant's traffic in a given year, the higher the maximum reasonable rate prescribed for that year.⁷⁶ If projected rates for the issue traffic are set by the caprice of the defendant, the power to determine the maximum lawful rate that BNSF may charge for coal service to its captive customer at Oklaunion would pass from the Board to BNSF. While there may be reasons why BNSF and its Class I counterparts believe that they do or should control the rail regulatory process, that is not the structure of the statute or the *Guidelines*.

In the absence of any specific adjustment methodology in the applicable common carrier pricing authority or other independent evidentiary basis for assuming the timing and measure of future rate adjustments, it is reasonable to hold the last established rate for the issue traffic constant throughout the DCF period. If the Board nonetheless determines that some measure of future rate adjustments is necessary, however, the Board should follow the procedure used in *Duke/CSXT* and *PSCo/Xcel* for traffic not currently

⁷⁶ The need for, and the merits of the alternative to the "percentage reduction" methodology developed and advanced herein by AEP Texas are discussed in Part III-G, *infra*.

moving under contract,⁷⁷ and base those adjustments on BNSF's Long Range Plan (through 2008) and the 2004 EIA forecast (2009-2020). AEP Texas' Rebuttal restatement shows the result of following this approach. See AEP Texas Reb. Exhibit III-A-20.

Corette and Big Stone: BNSF would project future rates for movements to these plants by assuming that BNSF's own pattern of historic rate adjustments would be continued throughout the DCF period. As with the Oklaunion movement, BNSF would claim for itself the right to establish the future revenues to be earned by the TNR from this traffic, without any empiric basis or consideration of the myriad factors (*e.g.*, capacity constraints, emerging competition, volume growth, changes in corridor density, etc.) that could affect future pricing.

In its Rebuttal restatement, AEP Texas likewise has projected future changes in rates (and, thus, revenues) for the Corette and Big Stone movements based on the BNSF Long Range Plan and the 2004 EIA forecast for coal transportation rates. *Duke/CSXT* at 48. See AEP Texas Reb. Exhibit III-A-20.

(b) Current Contract Movements

AEP Texas addresses the issue of projected TNR revenues from movements that currently are covered by coal transportation contracts below, in two categories:

⁷⁷ See *PSCo/Xcel* at 55.

(1) revenues through the term of the existing contract; and (2) revenues from contract expiration through the end of the DCF period.

**(1) Projected Revenues Through
The Existing Contract Term**

In its Reply, BNSF accepts AEP Texas' methodology for calculating projected revenues through the terms of existing contracts. BNSF Reply at III.A-94 to 95. However, BNSF proposes adjustments to the 2003 rates for movements to Texas Genco's Limestone Station, and the 2002 rates for Montana coal shipments to Midwest Generation's Will County and Powerton Stations; Wisconsin Power & Light's Dewey Station; Dominion Energy's Stateline Station; IES Utilities' Ottumwa Station; and Arizona Public Service Company's Cholla Station. *See* BNSF Reply at III.A-95 to 96. BNSF bases its adjustments on the terms of the applicable contracts. AEP Texas accepts these adjustments, and incorporates them in its Rebuttal Restatement. *See* AEP Texas Reb. Exhibit III-A-20.

**(2) Projected Revenues Following
Contract Expiration**

In its Opening evidence, AEP Texas projected revenues for TNR coal movements subsequent to the expiration of their current transportation contracts by adjusting the rate(s) in effect at the end of the contract term through 2020 using the EIA's coal transportation rate index. AEP Texas Op. at III-A-45.⁷⁸ In its Rebuttal restatement,

⁷⁸ AEP Texas' Opening presentation relied on the 2003 AEO, and applied the 2003
(continued...)

AEP Texas uses the growth rates reflected in the region-specific transportation rate forecasts in EIA's 2004 AEO. EIA forecasts rates for pairs of supply-demand regions. In its restatement, AEP Texas uses the rate forecasts for coal originating in Wyoming and Montana and delivered to the demand region in which a specific plant is located. *See* AEP Texas Reb. Exhibit III-A-23. AEP Texas also updates the GDP-IPD deflator to use the 2004 AEO forecast. This methodology is superior to the approach followed by BNSF, and consistent with that applied by the Board in prior cases under the *Guidelines*. *See PSCo/Xcel* at 55; *Duke/CSXT* at 48.⁷⁹

On Reply, BNSF also proposes to “rebase” the post-contract TNR shipper rates by reducing them at contract expiration by varying percentages ({ } if a movement was deemed “competitive” and { } if it was deemed “sole served”), and applying various percentages of the RCAF-U⁸⁰ as escalators for the ensuing 7 (for “competitive”

⁷⁸(...continued)
GDP/IPD forecast to convert the EIA rates from real to nominal dollars.

⁷⁹ As shown by BNSF's workpapers (*see* BNSF Reply at III.A-102, n.202), the carrier uses the national rate forecast found in Transportation Multiplier table 68 in the 2004 AEO. Additionally, BNSF erroneously continues to use 2003 GDP/IPD data to convert 2004 EIA transportation rates. Since the 2008-2020 compounded annual growth rate for the GDP-IPD in the 2003 AEO was 2.54% while the 2004 AEO iteration is 3.04%, BNSF's error further understates the TNR's actual revenues. *See* AEP Texas Reb. Exhibit III-A-24.

⁸⁰ For “competitive” moves, the proposed escalator is { } of the RCAF-U. For “sole-served” moves, it is { } of the RCAF-U. *See* BNSF Reply Exhibit III.A-12 at 7.

moves) and 6.7 (for “sole-served” moves) years. Following the end of these “renewed” contract terms, BNSF would hold the then-current rates constant for the remainder of the DCF period. The stated justification for this approach is the result of a “Contract Rate Study” prepared by BNSF for use in this litigation. *See* BNSF Reply at III.A-98 to 101 and Reply Exhibit III.A-12. Revealing the obvious purpose of its convoluted methodology, BNSF notes that “[a] projection of rail rates based upon this analysis would result in a { } BNSF Reply Exhibit III.A-12 at 7.

Both the BNSF “study” and the implications of its results for the projection of TNR coal revenues should be rejected by the Board, for three reasons.

First, BNSF’s made-for-litigation approach is at odds with the Board’s five most recent decisions in coal rate proceedings where the projection of post-contract coal revenues for a SARR have been in issue. Beginning in *TMPA*, the Board consistently has rejected the notion that analyses of past rate changes serve as reliable indicators “of what change in rates would reasonably be expected in the future.” *TMPA* at 28.⁸¹ Instead, the Board has endorsed the use of the EIA’s forecasts, applied to the rate levels in effect at the conclusion of the then-current contract term:

⁸¹ In *TMPA*, the Board specifically declined to base future SARR rates on a “study” of post-1997 contract rate negotiations prepared and submitted by BNSF, which was very similar to the one offered by BNSF here. *Id.* at 29 and n. 72.

[A]s the Board explained in *TMPA* at 29 and *Duke/NS* at 64-65, forecasts developed by EIA are more reliable and less subject to manipulation by litigants than forecasts by private parties. Finally, as noted in prior cases, EIA's coal demand forecasts reflect EIA's rate forecasts, and tonnage and rate forecasts should be internally consistent where possible. Thus, where EIA tonnage forecasts are used, it is preferable to use the matching EIA rate forecasts as well. This provides a single, consistent, and independent source for the coal rate and tonnage projections.

PSCo/Xcel at 55. See also *CP&L* at 19; *Duke/CSXT* at 48.

Second, even if the BNSF "study" otherwise was an accurate reflector of past BNSF pricing policies and practices,⁸² both the rate trends and the contract durations implied therein are at odds with the future goals and stated intentions of BNSF itself. The recent public record is replete with evidence of BNSF's plans to raise rates and shorten contract terms for all of its coal shippers, regardless of whether they are "competitive" or "sole-served." For example:

- In an interview conducted just last month, BNSF's Chief Executive

Officer was quoted as saying:

"What I personally believe is the need to shorten our contracts to be more reflective of [the market]. We're closing in on capacity supply-demand imbalance. Values should go up."⁸³

⁸² As shown at pp. 80-84, *infra*, the "study" is invalid even for that limited and largely irrelevant purpose.

⁸³ See AEP Texas Reb. Workpapers Vol. 1, p. 00269.

- Responding to UP's newly-stated plan to abandon private contracts in favor of "public pricing" of unit train utility coal transportation at higher rates, industry analysts see a move by both BNSF and UP to significantly increase coal revenues:

Industry speculation is that this type of pricing could stick this time around, as both carriers appear to recognize that now is the time to make better margins on this high-volume business.

"We view this move by the western carriers as a clear desire to raise rates, ending years of strong pricing degradation," Merrill Lynch rail analyst Ken Hoexter said in a research report.⁸⁴

- BNSF's own statements to the financial community echo the message that higher rates on future coal traffic is part of the carrier's core business plan:

Analysts believe that if the two Western carriers commit themselves to their respective plans, pricing for coal moves to both competitive and captive plants could increase substantially in the next few years.

Recent comments suggest that Burlington Northern Santa Fe (BNSF) will try hard to make the new pricing plan stick this time around.

...

"We don't want to be in long-term contracts, we want our services to reflect what the market conditions are," [BNSF CEO Matthew] Rose said. "As coal becomes an inherently more valuable resource . . . we want to be able to realize that value."⁸⁵

⁸⁴ See AEP Texas Reb. Workpapers Vol. 1, p. 00265.

⁸⁵ See AEP Texas Reb. Workpapers Vol. 1, p. 00267.

- Reports of rail customer reactions indicate that the message has been

received:

With rates now made public, UP rival Burlington Northern Santa Fe Railway will know what rate it needs to match or just undercut UP, thereby allowing both railroads to raise the floor on transportation rates.

Growth in the coal industry, particularly the market for western coal, represents one of the best opportunities for the railroads to capture rate increases

Several fuel purchasing managers contacted at UP-and BNSF-served power plants did not want to be identified but all were concerned about the effect of the new policy on rates. "The size of these (Eastern) rate increases has emboldened the railroads to be indifferent to the possibility of being sued," said one fuel buyer. He said the new rates published for coal moving to his utility already are up to three times higher than the contract rates in place. He fears that once his contract is up for renegotiation, the new, higher rates are going to stick.⁸⁶

- As confirmed by BNSF's CEO in July, 2002, the carrier's policy to

pursue higher rates on coal traffic has been set and in effect for almost two years:

"... we're going to roll out a – some different changes to our pricing models, this fall...It is a market based rate and with coal, you know, . . . we want to see those rates start to come up. In terms of where we have a model to go to market – in terms of more transparency in these markets, you know, we are taking a leadership position, there's no doubt about it and we're comfortable that we should be able to get nominal type price increases."⁸⁷

⁸⁶ See AEP Texas Reb. Workpapers Vol. 1, p. 00241.

⁸⁷ See AEP Texas Reb. Workpapers Vol. 1, p. 00260.

Whatever might be suggested by a review of the results of past BNSF rate-making decisions, it is clear that BNSF's current and planned coal pricing policy does not contemplate { } on expiring contract movements.

Third, BNSF's contract rate "study" itself is flawed and unreliable, even as a reflector of the carrier's irrelevant, prior coal rate policies.

At the outset, BNSF's study applies an improper criterion to determine whether a plant is "competitively-served" or "sole-served." If a plant has no service options at destination, it properly cannot be considered "competitive" regardless of the number of service options along other parts of the route. However, many of the destinations included in BNSF's list of "competitively-served" plants are in fact captive to a single railroad at destination. They include Southwestern Electric Power Company's Flint Creek and Welsh Plants (captive to KCS), Westar Energy's Jeffrey Energy Center (UP), Kansas City Power & Light Company's La Cygne Plant (KCS), Kansas City Board of Public Utilities' Nearman Creek Plant (UP), and Energy Arkansas, Inc.'s White Bluff Plant (UP). Likewise, BNSF improperly classifies as "competitive" movements that originate at mines that are captive to BNSF. These include the movements to Wisconsin Power & Light's Dewey plant, Westar Energy's Jeffrey Energy Center, Kansas City Board of Public Utilities' Nearman Creek Plant and Dominion Energy's Stateline Plant.

The calculation of "competitive marketplace" rates in the BNSF study likewise is rife with errors. For example, BNSF artificially deflated the mills per ton-mile

rate for certain moves by including rates other than the base rates in the “base rate” field of its model. For the Consumers Energy movements to Essexville, West Olive and Whiting, Michigan, the contract clearly states the base rate for movements in shipper cars is { } per ton and the rate for movements in railroad cars is { } per ton at January 2002 levels.⁸⁸ BNSF applies a { } annual volume rate reduction to the contract base rates for the movement based on the actual volume of { } tons shipped to the plants in 2002. This is clearly not representative of a market rate as the rate would not be available to any shippers that move fewer tons than does consumers Energy on a per-year basis. Nonetheless, the BNSF “study” would apply this “market rate” to shippers of all volumes.

BNSF further biased the results of its analysis by weighting the competitive market rates by volume of coal shipped in its calculation of an “average” market rate. This practice also serves to artificially reduce the market rate. Shippers that move greater volumes of coal on an annual basis have relatively more market power than do small volume shippers, which predictably results in large volume shippers receiving lower rates than small volume shippers. By weighting the average rate on volume shipped, BNSF effectively slides the market “average” to the end of the rate spectrum only available to high volume shippers. This weighting is inappropriate because, as discussed above, BNSF applies its competitive rate to shippers of all volumes. The problem is exacerbated

⁸⁸ See BNSF Reply electronic workpaper “12112.pdf.”

by the fact that BNSF used artificially lower rates for high volume movements in the first place.

Even if it were appropriate to weight the respective rates included in the analysis, which it clearly is not, BNSF's formula used to calculate the weighted average rate is flawed. BNSF overweighted several of the low-rated movements by including all tons moved to all destinations in both (1) its calculation of weighted average rates for movements in shipper owned cars, and (2) its calculation of weighted average rates for movements in railroad owned cars. At a minimum, BNSF should have weighted the rates on the tons associated with the distinct movement types separately. For example, {

} of coal moved to TVA plants via { } in 2002. {

}, moved in shipper owned cars at a rate of {

}, while the remaining { } moved in

railroad provided cars at a rate of { }. In

BNSF's calculation of a weighted average rate, BNSF weighted both the shipper car rate and the railroad car rate by the full { } of coal routed via { } under contract BNSF-C-12306.

An additional flaw in BNSF's "study" of competitive moves is its selective exclusion of movements that otherwise met all criteria for inclusion in the analysis. For example, BNSF excluded the movements to Grand River Dam Authority's GRDA plant at Prior, Oklahoma, and to Portland General Electric's Boardman plant, even though they were in the study included in BNSF's Reply evidence as Exhibit III.A-12. The mill rates

for these excluded movements { } above the range of mill rates for movements BNSF included in its analysis.

The handling of movements to sole-served plants in the BNSF “study” likewise is suspect. For example, BNSF excluded newly established common carrier rates for the movement of coal to Otter Tail’s Big Stone Plant and Arizona PSC’s Cholla plant, on the ground that the shippers have challenged the rates and are seeking lower rates in rate reasonableness proceedings at the Board, and so the common carrier rates “[do] not reflect an agreed upon rate.” *See* BNSF Reply at III.A-101. It is appropriate to include these movements because they are the actual rates that BNSF is charging and have been in effect since the expiration of prior contracts. BNSF’s characterization of the rates as not agreed upon does not make them any less reflective of BNSF’s perception of its market power. If anything, these movements accurately depict BNSF’s estimation of the appropriate rates for captive movements upon contract expiration, as they were developed in whole by BNSF, and they are being aggressively defended by BNSF in the rate proceedings as “reasonable” rates. Furthermore, they also were in the rate study included in BNSF’s Reply evidence as Exhibit III.A-12.

Finally, the BNSF analysis of the “average rate reduction” that should be expected by captive shippers is purposefully misleading. BNSF’s own Reply Exhibit III.A-15 shows that for {

} than the expired contract

rate. When the two tariff moves discussed above are properly included in the study, {

} Based on its flawed study, BNSF applies a universal rate reduction to all “sole-served” movements upon contract expiration when BNSF’s own evidence clearly shows that rates for captive shippers are {

} than they are to { } at contract expiration.

In sum, in addition to running afoul of the Board’s rule against using “made for litigation” historic studies to project future rates,⁸⁹ the BNSF “study” is error-ridden and unreliable even on its own terms. The Board should reject it.

In *PSCo/Xcel*, the Board used BNSF’s internal coal rate forecast to project post-contract revenues through the last year covered by the forecast, and the EIA forecast from that point through the end of the DCF period. *Id.* at 55. *See also Duke/CSXT* at 48. AEP Texas adopts this approach in its Rebuttal restatement:⁹⁰ from contract expiration through 2008, AEP Texas projects TNR coal movement rates using the formula included in BNSF’s Long Range Plan ({ } of the forecasted change in the RCAFU); from 2009

⁸⁹ *See West Texas Utilities*, 1 S.T.B. at 662-63.

⁹⁰ BNSF appears to endorse this methodology as well, despite its advocacy of the “Contract Rate Study” approach described in its Reply Exhibit III.A-12. *See* BNSF Reply at III.A-101 to 102.

through 2020, AEP Texas applies the coal rate forecast in the EIA's 2004 AEO. *See* AEP Texas Reb. Exhibit III-A-23.

(c) Future Contract Movements

BNSF accepts AEP Texas' methodology for projecting revenues for the four movements that are shown in BNSF's Long Range Plan as beginning after 2003.⁹¹ BNSF Reply at III.A-103. However, BNSF improperly excludes the volumes from one of those movements (Georgia Power) altogether, and reduces the volumes for the other three { } based on its objections to the TNR's re-routing of the subject traffic. *Id.*

As AEP Texas explains at pp. III-A-17 to 26, *supra* and demonstrates in Part III-C, *infra*, the TNR's proposed re-routings fully comply with the Board's governing standards, and the traffic the BNSF suggests be excluded should be retained in the TNR traffic group. These retentions are reflected in AEP Texas' Rebuttal restatement of TNR revenues. *See* AEP Texas Reb. Exhibit III-A-20.

BNSF likewise does not dispute AEP Texas' revenue projection methodology for three new (post-2003) movements that are not listed in the BNSF Long Range Plan, though it would exclude the volumes attributed on Opening to the Shawnee

⁹¹ As BNSF points out, the 2004 EIA AEO is now available for use in the revenue projection process. BNSF Reply at III.A-103. AEP Texas uses the 2004 AEO forecast in its restatement of revenues for the TNR.

Station and the planned new unit at the Holcomb Station, and would reduce the volumes for a new, third unit at the Springerville Station. *See* BNSF Reply at III.A-104 to 105.

At pp. III-A-35 to 36, *supra*, AEP Texas showed that the tons which were counted on Opening as destined for TVA's Shawnee Station in fact should be redistributed to the TVA Paradise Plant and to Energy's Big Cajun 2 Station, not excluded from the TNR system. Similarly, AEP Texas demonstrated that there is ample evidence to support the addition of Holcomb Unit 2 to the TNR traffic group in 2008 (pp. III-A-37 to 40), and to project coal volumes for Springerville Unit 3 that are consistent with full operating status at an equivalent 85% capacity factor (pp. III-A-45 to 48). Therefore, AEP Texas' Rebuttal revenue restatement applies the projection methodology concurred in by BNSF to the full TNR traffic volumes detailed in AEP Texas Reb. Exhibit III-A-20.

**(d) Projected Revenues For Nine
Additional Coal Movements**

As described at pp. III-A-49 to 50, *supra*, AEP Texas' adoption of BNSF's basic approach to calculating TNR coal volumes for 2003 results in the addition of nine movements to the TNR traffic group for the 2003-2020 time period. For those movements where the applicable transportation contracts were produced by BNSF (*i.e.*, the Hastings/Whelan, Crawford/Fisk, Powerton and Will County plants), AEP Texas projects rates and revenues subsequent to 2002 based upon the rate adjustment provisions of each particular contract for the duration of the contract term, the same approach that

was used with the other contract shippers in the TNR traffic group and has been accepted by BNSF. *See* BNSF Reply at III.A-95. Following the expiration of each contract, revenues are projected through 2020 based on the BNSF Long Range Plan and EIA's 2004 AEO forecast. *See* Exhibit III-A-20; *PSCo/Xcel* at 55; *Duke/NS* at 64-65.

For the movements in the group for which no contracts were produced (*i.e.*, the Ashtabula, Cholla, Cochise, Louisa and Northeastern plants), AEP Texas' Rebuttal restatement follows the procedure adopted by the Board in *PSCo/Xcel* for application to non-contract traffic; *i.e.*, the BNSF Long Range Plan is used until 2008, and the EIA forecast is used throughout the 2009-2020 period. *See PSCo/Xcel* at 55.

Projected revenues for the nine movements added by BNSF are summarized in Reb. Exhibits III-A-19 and 20.

ii. Non-Coal Traffic

BNSF agrees with AEP Texas' Opening calculations of historic and projected TNR revenues attributable to non-coal traffic. *See* BNSF Reply at III.A-105. Therefore, no adjustments to these revenues figures are necessary.

e. Summary

The following Table summarizes AEP Texas' restatement of total TNR revenues as presented in this Rebuttal, by comparison to the understated revenues offered by BNSF on Reply.

TABLE III-A-14 TNR Revenues – Coal and General Freight					
	Year	AEP-Texas Op. TNR Revenues^{1/}	BNSF Reply TNR Revenues^{2/}	AEP-Texas Reb. TNR Revenues^{3/}	Difference Column (4) - Column (3)
1.	2000 ^{4/}	\$407,442,589	\$346,185,564	\$407,283,127	\$61,097,563
2.	2001	767,312,777	654,566,246	763,261,404	108,695,159
3.	2002	772,201,509	656,963,303	764,822,170	107,858,866
4.	2003	784,096,775	629,771,545	749,821,547	120,050,002
5.	2004	840,836,834	636,601,324	790,414,506	153,813,182
6.	2005	830,676,319	615,885,500	784,783,352	168,897,852
7.	2006	851,032,481	634,054,013	806,268,344	172,214,332
8.	2007	878,617,948	649,930,889	836,590,850	186,659,961
9.	2008	916,126,519	668,085,101	875,546,563	207,461,462
10.	2009	939,186,877	687,168,895	911,866,250	224,697,355
11.	2010	969,910,072	673,829,760	943,186,507	269,356,748
12.	2011	990,533,397	690,879,693	971,430,349	280,550,656
13.	2012	1,009,361,539	710,435,856	1,002,227,818	291,791,962
14.	2013	1,028,014,935	726,347,261	1,039,173,106	312,825,845
15.	2014	1,045,780,210	744,754,658	1,069,312,838	324,558,180
16.	2015	1,063,831,547	761,552,679	1,104,383,170	342,830,492
17.	2016	1,078,664,596	782,883,558	1,133,625,585	350,742,027
18.	2017	1,094,969,172	800,203,037	1,161,328,770	361,125,734
19.	2018	1,109,927,275	812,125,283	1,197,573,951	385,448,668
20.	2019	1,125,232,165	833,765,516	1,223,022,586	389,257,069
21.	<u>2020</u>	<u>1,142,232,930</u>	<u>851,691,610</u>	<u>1,251,340,745</u>	<u>399,649,135</u>
22.	<u>TOTAL</u>	\$19,645,988,466	\$14,567,681,291	\$19,787,263,540	\$5,219,582,248

- ^{1/} From AEP Texas Op. electronic workpaper file "All Traffic Summary rv 2-26-4.xls."
^{2/} From BNSF Reply electronic workpaper file "Exhibit III.A - T&R Comparison.xls."
^{3/} From AEP Texas Reb. electronic workpaper file "All Traffic Summary Reb Revised.xls," 'Rebuttal' Worksheet.
^{4/} June 16 - December 31

A detailed breakdown of AEP Texas' restatement of TNR revenues by movement and year is shown in AEP Texas Reb. Exhibit III-A-20. For the reasons explained above, AEP Texas' revenue calculations represent the best evidence of record, and should be used by the Board in its final SAC determination.

III. B. STAND-ALONE RAILROAD SYSTEM

This case is unique because of the large number of areas where the parties are in agreement with respect to the SARR's route, track and yard configuration, operating plan, and operating expenses (Parts III-B, III-C and III-D of the Board's outline for the presentation of SAC evidence). As shown in Exhibit III-B-4 submitted herewith, AEP Texas has identified at least 34 distinct areas of agreement involving these interrelated aspects of the Texas & Northern Railroad ("TNR"), the stand-alone railroad posited by AEP Texas in this proceeding.

Areas of agreement between the parties relating specifically to Part III-B include the following:

- The TNR's route and general configuration including main lines and branch lines.
- Route miles (the difference between AEP Texas' Opening route mileage and BNSF's Reply route mileage is only 16-hundredths of a mile).
- The location of and functions to be performed at the TNR's principal yard at Alliance, NE, and the time allotted to perform these functions.
- Use of the RTC Model to simulate the TNR's operations and assess the capacity of the system to handle its peak traffic, and as the starting point for developing annual operating statistics used as inputs in the DCF model.
- Seven inputs/assumptions used in the RTC Model, including:
 - Use of a simulation period that includes the TNR's peak traffic week in 2020 plus warm-up and cool-down periods.
 - Helper districts.

- Loading (dwell) times at mines served by the Orin Subdivision and Reno Branch.
- Interchange locations.
- For modeling purposes the cycle for interchange coal trains begins with the arrival of the empty train at the interchange point.
- Program maintenance-of-way (“MOW”) will not be performed during the peak traffic period.
- FRA-required track inspections will be worked around the peak traffic period without interfering with train operations.
- The TNR requires two yards and there is no need for additional empty-train staging yards closer to the PRB mines.
- Provision for a CTC traffic control/signal system with operations controlled by dispatchers at the TNR’s Alliance headquarters (the parties also agree that Alliance is an appropriate headquarters location).
- Provision of a microwave-based communications system with radios assigned to train crews and field transportation/mechanical/MOW supervisors.

AEP Texas discusses below the areas of both agreement and disagreement between the parties concerning the principal subjects covered by the Board’s outline for the presentation of evidence related to Part III-B.

1. Route and Mileage

BNSF has accepted AEP Texas’ proposed route for the TNR, which extends from the PRB to Oklaunion, TX, with an additional main line between South Logan and Donkey Creek, WY and two branch lines that serve PRB mines. *See* AEP Texas Op. Exhibit III-A-1. BNSF also accepted the TNR’s route in two areas where

optional BNSF routes are available: between Donkey Creek, WY and Northport, NE and between Pueblo, CO and Amarillo, TX. *See* Op. Exhibit III-A-4. With respect to the first option, AEP Texas chose to replicate BNSF's "northern" route between Donkey Creek and Northport via Edgemont, SD, rather than its "southern" route via Guernsey, WY. With respect to the second option, AEP Texas chose to replicate BNSF's route via La Junta and Las Animas Jct., CO, rather than its route via Trinidad, CO. BNSF did not object to AEP Texas' selection of either of these options (although, as noted in Part III-A, *supra*, BNSF argued that certain coal traffic should be excluded from the TNR's traffic group because of its route selection in the PRB area). *See* BNSF Reply at III.B-3.

a. Route Miles

The parties are extremely close in their calculations of the TNR's route miles. In fact, the only remaining difference is entirely a function of their disagreement as to the TNR's traffic group and peak-year traffic volume.

On Opening, AEP Texas calculated 1,192.24 route miles for the TNR. In its Reply Evidence BNSF calculated a total of 1,192.09 route miles, which is only 0.16 of a mile less than AEP Texas' Opening number. *See* BNSF Reply at III.B-2.¹ On Reply, BNSF proposed six specific (albeit minor) changes in AEP Texas' calculation of route

¹ BNSF agrees that the TNR will use existing BNSF trackage rights over UP between Sterling and Union, CO, which reduces the route-miles to be constructed by 23.71 miles. *Id.* The table on page III.B-2 of BNSF's Reply Narrative reflects total "constructed" route miles, which is why the numbers in the table are lower than the TNR's total route miles.

miles. On Rebuttal, AEP Texas accepts five of BNSF's six changes. The result is total TNR route miles of 1,192.39, a net increase of 14/100ths of a mile from the number in AEP Texas' Opening Evidence and 4/10ths of a mile from the number in BNSF's reply Evidence. The single difference that remains between the parties' route-mile calculations is discussed below.

BNSF's six specific proposed route-mile changes are shown in Table III.B-1 on page III.B-2 of its Reply Narrative. After reviewing these changes AEP Texas concurs with all of them except the reduction of 0.29 route miles due to BNSF's proposed reduction in the length of the eastern portion of the TNR's Alliance Yard (referred to by BNSF as "Alliance East").

The reduction in Alliance East yard length is due to BNSF's proposed elimination of six of the 16 yard tracks used for interchanging coal trains between the TNR and the residual BNSF. *See* BNSF Reply at III.B-1 and III.B-32 to 33. The reduction in the number of yard tracks, in turn, is due to BNSF's reduction in the peak-year interchange coal traffic volume moving through Alliance East. However, as indicated in Part III-A, *supra*, AEP Texas disagrees with most of BNSF's proposed traffic reductions, and the revised traffic group posited by AEP Texas on Rebuttal results in a net reduction of only six 2020 peak-week trains compared with the trains reflected on Opening. The Rebuttal peak-week trains are listed in Exhibit III-B-5; the six trains removed from AEP Texas' Opening train list are highlighted in red color.

If the Board accepts AEP Texas' revised peak-year (2020) traffic volume and corresponding peak-period train counts, then it should also accept the 16 Alliance East yard tracks proposed by AEP Texas which means it should add the 0.29 route-miles that BNSF subtracted back to the TNR system.² The result is a total of 1,192.39 route-miles, of which 1,168.68 miles represent new construction by the TNR and 23.71 miles represent trackage rights miles between Sterling and Union, CO.

b. Methodology for Developing the TNR System Configuration

i. Overview

BNSF accepted AEP Texas' methodology for determining the configuration of the TNR system. That methodology included the use of the RTC Model to simulate the TNR's operations and refine the system configuration initially developed by AEP Texas Witness Paul Reistrup to be sure of its ability to handle the TNR's peak-week traffic, and to develop train transit times used to calculate various operating statistics used in the DCF model. BNSF Reply at III.B-3 to 4. Thus, the modeling issue that has plagued recent rate cases is not present in this case. *See PSCo/Xcel*, Decision served June 8, 2004, at 24-27, and in particular the following statement at p. 27: "There is no

² BNSF has also proposed to eliminate two tracks from the "Alliance South" portion of the yard, which is used by trains moving south of Alliance on the TNR system. These tracks should also be added back into the system due to AEP Texas' restoration of most of the peak-period trains moving through this portion of the yard. However, the retention or removal of these two tracks does not affect the TNR's route miles.

question that the operating plan produced using the RTC model is far superior to the one produced by using the string program.”

Although the parties agree on the use of the RTC Model, as well as a majority of the inputs used to execute the Model and simulate the TNR’s operations (*see* Rebuttal Exhibit III-B-4), they disagree as to several of the operating inputs. BNSF claims that “AEP Texas’ consultants made certain assumptions about TNR operations that do not reflect real world operations and ignored other operational realities altogether” and that AEP Texas’ simulation is “idealized” and “cannot reliably predict the TNR’s capacity requirements or transit times under real world conditions.” *Id.* at III.B-4.

AEP Texas certainly acknowledges that its operating plan and assumptions for the TNR do not completely reflect the real-world operations by the incumbent BNSF. Nor should they; the TNR is a hypothetical stand-alone railroad, designed from the ground-up, with an operating plan tailored to its specific traffic group (primarily unit-train coal traffic) and unencumbered by the defendant’s need to accommodate existing collective bargaining agreements with its employees and its multiple service offerings for a variety of commodities and train types. As the Board stated in the 1995 *Coal Rate Guidelines*, the purpose of the SAC test is to determine the *least* cost at which an efficient competitor could provide the service, and in this regard a SARR is entitled to develop the “least costly, most efficient plant. . . designed to minimize construction. . . and operating costs and/or maximize the carriage of profitable traffic [by] taking advantage of

economies of density [and] fully utiliz[ing] plant capacity.” *Id.* 1 I.C.C.2d at 542-43; *see also* *PSCo/Xcel* at 10-11 and 23 (“the operating plan must be able to meet the transportation needs of the traffic the SARR proposes to serve”). Thus, a SARR’s system configuration and operations need not mimic those of the incumbent so long as they are feasible, taking into account the efficiencies inherent in the stand-alone world (freedom of entry and exit, assumption of unlimited availability of necessary resources).

ii. Inputs/Assumptions for the RTC Model

In Part III.B of its Reply Narrative, BNSF presents five alleged problems with the input assumptions used by AEP Texas’ operating experts (Messrs. Paul Reistrup and Walter Schuchmann) in their RTC simulation of the TNR’s peak-period operations. *Id.* at III.B-4 to 17. BNSF then presents its own version of an RTC simulation with “corrected” assumptions. *Id.* at III.B-17 to 27.

The specific input problems alleged by BNSF are as follows:

1. AEP Texas’ simulation assumes that loading slots at PRB mines jointly served by BNSF and UP are always available despite the fact that the TNR would be required to coordinate and share access to certain mine slots with UP and, to a lesser extent, the residual BNSF;
2. AEP Texas did not provide for any track outages for the entire 15-day study period used for its RTC simulation;
3. AEP Texas understated certain time requirements for TNR trains, including loading time at the Campbell Subdivision mines, unloading time at plants served directly by TNR, and fueling and inspection times;
4. AEP Texas’ use of standardized trains between TNR origin/destination pairs produces unrealistic and invalid modeling results; and

5. AEP Texas' selection of arrival times for empty coal trains interchanged to the TNR as the beginning of each train's on-SARR cycle results in scheduled train arrivals which are inconsistent with the actual movement of coal trains.

See BNSF Reply at III.B-4.

AEP Texas does not agree that mine tracks need to be held out of service to account for the possible presence of UP at the Orin Subdivision mines that are jointly served by BNSF and UP (Item No. 1 above). With respect to Item Nos. 2 through 5, AEP Texas's operating experts have concluded that some adjustments to the model inputs need to be made. In making these adjustments, to minimize the areas of dispute between the parties and avoid making substantial changes on rebuttal, AEP Texas' experts have used the same train file BNSF used in its RTC Model runs with adjustments (1) to add back in all but six of the study trains BNSF removed due to its down-sizing of the TNR's traffic group and (2) to reflect the operating parameters that AEP Texas Witness Reistrup believes are appropriate given the least-cost, most-efficient nature of a SARR.

(a) Loading Slots at Jointly Served PRB Mines

BNSF asserts that AEP Texas' assumed operations to and from the PRB mines served from the Orin Subdivision (including those located on the Reno Branch) fail to take into account "one of the leading causes of mine congestion in the PRB –shared access with UP to nine of the fifteen Wyoming PRB mines." BNSF Reply at III.B-4 to

5.³ To “account for the impact that UP train loading would have on the TNR’s operations,” BNSF purported to identify the actual UP trains loaded at these mines during AEP Texas’ 15-day RTC simulation period and “added the UP mine loadings to BNSF’s simulation to account for the unavailability of mine slots during this time.” *Id.* at III.B-5. The UP train loadings at the jointly served mines are identified in BNSF Reply electronic workpaper file “UP Track outage data.xls.”

There are two fundamental problems with BNSF’s approach. First, as Mr. Reistrup stated on opening in testimony that has not been disputed by BNSF, all of the Orin Subdivision (and Reno Branch) mines that are jointly served by BNSF and UP can actually load trains in two hours or less, and six of the eight active mines can load two trains at a time. *See* AEP Texas Op. at III-C-28 to 29 and Op. Workpapers Vol. 17, pp. 08686-08705. Specifically, the following jointly served mines have two loop tracks and thus can load two trains simultaneously: Black Thunder, Caballo, Caballo Rojo, Cordero, Jacobs Ranch and North Antelope/Rochelle. All of the jointly served mines can hold at least two trains on site. Belle Ayr and Jacobs Ranch can hold three trains on site; Caballo, Caballo Rojo, Cordero and North Rochelle can hold four trains on site; and North Antelope/Rochelle can hold 12 trains on site. *Id.*

³ In fact, there are eight active mines that are jointly served by UP. Peabody’s North Rochelle/Antelope complex is effectively a single mine for train loading purposes, and Arch’s Coal Creek mine is inactive. *See* AEP Texas Op. Workpapers Vol. 17, pp. 08691, 08701 which are copies of pages from BNSF’s Guide to Coal Mines.

Notwithstanding these undisputed physical facts, Mr. Reistrup allotted 5.5 hours of dwell time for TNR trains at each of these mines. He did so precisely to allow a time cushion for the possible presence of UP trains at the mines. *See* AEP Texas Op. at III-C-29. This is exactly the same mine dwell time deemed appropriate by the Board in *TMPA*, in part to allow for the presence of UP. *Id.* at 75.⁴ BNSF did not quarrel with the 5.5 hours of dwell time assumed by AEP Texas at the Orin Subdivision mines. By also making mine tracks unavailable for use by TNR trains to allow for the presence of UP trains, BNSF has effectively double-counted the dwell time at these mines.

Second, it is inappropriate to assume that, in fact, either UP trains or TNR trains would actually arrive at each PRB mine at precisely the times reflected in the RTC simulations). In their RTC simulations both AEP Texas and BNSF randomized the mine loading times for several of the TNR's local trains and they also randomized the empty train arrival time at the interchange point for a number of cross-over trains during the 15-day peak period in 2020 – particularly growth trains that did not move in the 2002 base year used to select the peak traffic week.⁵

⁴ In *TMPA* the Board also noted that “a GCRR [SARR] train would be unlikely to incur delays waiting to reenter the main line after it is loaded because the GCRR would not share the main line in the PRB with another carrier, as BNSF does.” *Id.*

⁵ Indeed, alteration of the TNR's traffic group as proposed by BNSF probably changes the peak week developed by AEP Texas on Opening, although neither BNSF (on Reply) nor AEP Texas (on Rebuttal) has deemed it necessary to consider changing the peak week since the number of trains is likely to be lower than those simulated by AEP Texas and using the same peak week and peak train counts is therefore conservative.

BNSF's attempt to determine exactly which UP trains might be loading at particular jointly-served mines when a TNR train would arrive thus amounts to an exercise in futility – and in any event AEP Texas has provided empty-train staging capacity at its Alliance Yard and in the South Logan area. In short, BNSF has provided no reason for assuming additional interference from UP trains that would justify a departure from the *TMPA* precedent.

(b) Additional Time for Track Outages

At pp. III.B-5 to 6 of its Reply Narrative, BNSF criticizes AEP Texas' RTC simulation because it "did not account for any planned or unexpected track outages [which is] unrealistic."⁶ AEP Texas Witness Reistrup acknowledges that unplanned or "random" track and operating outages can occur on any railroad during peak traffic periods. However, as explained in more detail at pp. III-C-38 to 45, *infra*, Mr. Reistrup disagrees with BNSF's allocation of time for such outages in its Reply RTC simulation based on actual BNSF outage events on the lines being replicated by the TNR during the peak week of 2002 particularly given BNSF's failure to demonstrate the extent to which those events actually resulted in train delay.

⁶ Notwithstanding this general statement, BNSF goes on to concur with AEP Texas that it is appropriate to exclude time for programmed MOW work during the TNR's peak traffic week and that "[t]o a lesser extent, the more regular inspections and planned day-to-day maintenance can also be worked around peak traffic periods." *Id.*

Notwithstanding the difficulty of predicting exactly when random outages will occur in 2020, Mr. Reistrup has concluded that some time should be allocated for outages that realistically could be expected to occur during the TNR's peak week and has instructed AEP Texas Witness Schuchmann to include 13 specific outage events as operating inputs in the Rebuttal RTC simulation. The outage events and times used in the simulation are shown in Rebuttal Exhibit III-C-4. Further details are provided at pp. III-C-45 to 55, *infra*.

(c) Time Requirements for TNR Trains

BNSF asserts that AEP Texas' experts did not allow enough time for loading coal trains at the mines served by the Campbell Branch and for unloading trains at the TNR-served (local) destinations. BNSF also notes that in some cases the interchange dwell times used in AEP Texas' RTC simulation were less than the interchange times described in its Narrative, and that AEP Texas reversed the times for adding and detaching helper locomotives for certain trains. *See* BNSF Reply at III.B-6 to 8.

Loading Time at Campbell Branch Mines. With respect to the loading (dwell) times at the mines served by the Campbell Branch, Mr. Reistrup used an average of four hours which reflected the fact that all of these mines but one can load a train in two hours and that (unlike the Orin Subdivision mines) UP does not serve any of these mines, while still providing a cushion to absorb congestion resulting from the presence of other TNR trains at or near these mines. *See* AEP Texas Op. at III-C-29 to 30. BNSF

asserts that the TNR would continue BNSF's present practice of using a loading contractor at these mines, and that in 2002 the third-party loading contractors required, on average, { } hours of time "from the arrival of the train at the mine to the release of the train to BNSF." BNSF Reply at III.B-7. However, examination of BNSF's 2002 train movement records for trains loaded at the Campbell Subdivision mines indicated the following average elapsed hours from arrival of the loaded train at the mine to the release of the empty train:

Buckskin	{ }	hours
Clovis Point	{ }	hours
Dry Fork	{ }	hours
Eagle Butte	{ }	hours
Rawhide	{ }	hours

See BNSF Reply electronic workpaper file "LineSegment2002.pdf." It would appear that AEP Texas would be justified in using these individual average times for each mine. However, it is not possible from the information provided by BNSF to determine whether the "spot to release" times shown in the referenced BNSF electronic workpaper are identical to the times when the trains were under the control of the loading contractor. Therefore, to be conservative and minimize the areas of dispute between the parties, Mr. Reistrup has accepted BNSF's { } average loading time at the mines served by the Campbell Branch and that time has been used in AEP Texas' Rebuttal RTC simulation.

Mr. Reistrup notes that BNSF's assumption that the TNR would continue BNSF's present practice of using a loading contractor at the Campbell Branch mines is

incorrect. The RTC simulations show that the TNR turnaround crews based at Campbell/Donkey Creek have ample time to complete their run to the mine, accompany the train through the loading process, and return to their home terminal within a single tour of duty even assuming they spend the same { } hours (on average) of dwell time at the mine as BNSF's loading contractor. As the Board held in *TMPA* (*id.* at 110), there is no need to incur the extra expense of using a loading contractor in this situation.⁷

Unloading time. With respect to unloading dwell time at the local TNR utility destinations, Mr. Reistrup accepts the dwell times shown in Table III.B-3 on page III.B-21 of BNSF's Reply Narrative, with one exception. The exception (AEP Texas' Oklaunion plant) causes Mr. Reistrup to be suspicious of the dwell times shown for the other destinations, but he has nonetheless decided to accept them to minimize areas of dispute.

BNSF's Reply Table III.B-3 shows an average dwell time at the Oklaunion power plant of { } hours. The accompanying Narrative text states that the dwell times in the table reflect the average time from the arrival of the train at the plant to the release of the train at the plant. However, as Mr. Reistrup briefly noted on Opening (at III-C-30), during his site visit to AEP Texas' Oklaunion plant on October 30, 2003, Mr. Reistrup was informed by the plant's General Manager, Mr. Mark Barton, that AEP Texas

⁷ The TNR does use loading contractors at the same Orin Subdivision mines where BNSF uses them. See AEP Texas Op. at III-B-24 to 25.

averages only { } hours to unload coal trains, measured from the time of arrival of the loaded train at the plant to the time when AEP Texas releases the empty train to BNSF (i.e., the time when BNSF is notified that the train has been completely unloaded and is available for pickup by BNSF).⁸ Therefore, the average Oklaunion dwell time of { } hours shown by BNSF obviously includes time after the train is released – most likely until the BNSF crew arrives to move the empty train out of the loop track.

There is no reason why a most-efficient SARR such as the TNR would let empty trains sit for { } hours before scheduling a crew to remove them from the plant. If experience shows that the average unloading time is only { } hours, the TNR would call crews to be ready shortly after this period. Thus, Mr. Reistrup has instructed AEP Texas Witness Schuchmann (who is responsible for running the RTC Model simulations of the TNR's train operations) to continue to use the { } hours of dwell time at the Oklaunion plant that Mr. Reistrup allotted on Opening (which includes a half-hour cushion to schedule crew arrivals) based on his personal knowledge and observation of the unloading operations at this particular plant.

Interchange/helper times. With respect to the times assumed for interchange and adding/detaching helpers, Mr. Schuchmann reviewed the Opening RTC simulation and determined that, indeed, the dwell time used in the simulation for cross-

⁸ See AEP Texas Rebuttal Workpapers Vol. 2, p. 0272. Mr. Reistrup notes that he inadvertently neglected to include this page from his field trip notes that were included in Volume 17 of AEP Texas' Opening workpapers.

over trains interchanged with BNSF at Oklaunion was improperly input as 15 rather than 30 minutes. He also determined that in some cases the dwell times to attach and remove helpers had been reversed (Mr. Reistrup allotted 20 minutes to attach helpers and 15 minutes to remove helpers, and BNSF accepted these times). These input errors were corrected for purposes of AEP Texas' Rebuttal RTC simulation.

(d) Use of Standardized Trains

On Opening, AEP Texas Witness Schuchmann developed 52 standardized "seed" trains for purposes of simulating TNR coal train operations, one for each O/D pair. Mr. Schuchmann also used 14 trains with distinct characteristics to populate the model with the manifest trains that move overhead between Amarillo and Oklaunion. In an effort to be conservative, Mr. Schuchmann used the length and weight for the longest train for each category of "seed" train.

On Reply, BNSF notes that in some cases the longest TNR train is not the heaviest train, and that train weight is more important than train length for purposes of the RTC simulation. *See* BNSF Reply at III.B-10. Accordingly, BNSF used the train movement data it produced in discovery to develop the actual number of cars, length and weight of each train used to populate the RTC Model for its own RTC simulation (and used the same data to develop "growth" trains). *Id.* at III.B-23 to 24.

After reviewing BNSF's evidence, AEP Texas Witnesses Reistrup and Schuchmann concluded that BNSF's approach of using actual train sizes and weights

produced more realistic results than the “standard train” approach used on Opening. Therefore, for purposes of the Rebuttal simulation, they determined to use the same train file that BNSF used in its RTC simulation since it reflected actual train sizes and weights for the peak-period trains that moved in 2002 and appeared to produce reasonable train sizes and weight for the growth trains. However, because BNSF’s simulation excluded trains whose operation was simulated by AEP Texas on Opening (due to BNSF’s exclusion of some coal traffic from the TNR’s traffic group), Messrs. Reistrup and Schuchmann added back in all but six of the trains that BNSF removed from the AEP Texas Opening train file to reflect the peak-period trains resulting from the revised (on Rebuttal) TNR Peak-year traffic volume by O/D pair. *See* AEP Texas Rebuttal Exhibit III-B-5. The actual size and weight for each of these trains was also developed, using the information provided by BNSF in discovery and following the exact same procedure used by BNSF to determine the size and weight of the trains in its RTC simulation train file. *See* Rebuttal electronic workpaper file “Rebuttal Train File.doc.”⁹

In summary, by using the same train file used by BNSF and adding most of the original trains that BNSF removed but following the same procedures used by BNSF to develop individual train sizes and weights, AEP Texas’ experts have eliminated the

⁹ At pp. III.B-11 to 12 of its Reply Narrative, BNSF states that use of actual train sizes means that helpers are required to assist loaded trains on the Campbell Branch. AEP Texas’ Rebuttal simulation confirms that 17 loaded trains that originate on the Campbell Branch during the study period (or about one per day) require helper assistance. *See* p. III-C-25, *infra*.

“standard-train” issue and improved the accuracy of the simulation results in exactly the manner proposed by BNSF in its Reply Evidence.

(e) Start Times for Empty Coal Trains

On Opening, AEP Texas’ experts used an estimate of the arrival time at the interchange point for empty coal trains interchanged to the TNR as the starting point for the RTC simulation of these trains’ operation. On Reply, BNSF agrees that the arrival time at the interchange point is the appropriate starting time for the modeling of these trains because it avoids the “disappearing train” problem that results if the starting point is the time of release of the loaded train at origin. *See* BNSF Reply at III.B-14 to 15.

The “disappearing train” problem arises because a SARR invariably moves coal trains faster than the real-world incumbent, which means each empty coal train arrives back at the mine before its actual, real-world arrival (and well in advance of its next actual release time as a loaded train). In prior SAC rate cases involving the “string” program, the complainants began the train cycle with the loaded train release time which meant the simulation did not capture the operation of trains for a full on-SARR cycle. In the *PSCo/Xcel* case this was one of the principal reasons why the Board rejected the complainant’s simulation of SARR operations using the string program. *Id.* at 25-26.

With respect to the TNR’s local coal trains (*i.e.*, trains both originated and terminated by the TNR), on Opening AEP Texas’ experts started the cycle for these trains with the time of the release of the first loaded train appearing for each O/D pair during the

15-day study period. However, they instructed the RTC model to cycle the trains continuously thereafter (using the appropriate mine dwell time depending on the origin) rather than having the empty trains “disappear” when they arrive back at the mine until the next scheduled real-world loading time. In its Reply simulation, BNSF also cycled the TNR’s local coal trains, but it started the cycle with the release of the empty train rather than the loaded train. Since AEP Texas is using BNSF’s train file in its Rebuttal RTC simulation, the Rebuttal simulation also starts each local train cycle with the release of the first empty train for a particular O/D pair and cycles it continuously.

With respect to interchange coal trains, as previously indicated, BNSF agrees with AEP Texas’ experts that the appropriate time to begin these trains’ cycle is the time of arrival of the empty train at the interchange point. However, BNSF disagrees with AEP Texas’ Opening procedure of starting with each loaded train’s release time and then backing out the simulated empty transit time from the interchange point (as well as the empty-train dwell time at the interchange point) to arrive at an estimated arrival time at the interchange point for the previous empty train. BNSF Reply at III.B-15. In its own RTC simulation, BNSF used the train movement records provided in discovery to develop the actual date and time when each empty train arrived at the TNR interchange point as its starting time for simulation purposes. *Id.* at III.B-24.¹⁰

¹⁰ BNSF was not able to develop this information in all instances. In such cases, BNSF estimated the starting date and time at the hypothetical TNR interchanges. For
(continued...)

Messrs. Reistrup and Schuchmann continue to believe that their methodology for estimating the arrival time of empty trains at the TNR interchange point is reasonable – particularly since BNSF used essentially the same methodology where it was unable to determine actual empty-train arrival times and for growth trains. However, they agree that BNSF’s methodology is also appropriate. Accordingly, to minimize the areas of dispute between the parties and remove the determination of the start times for the simulation of interline coal trains as an issue requiring resolution by the Board, Messrs. Reistrup and Schuchmann have adopted BNSF’s methodology for determining the time of arrival of empty coal trains at the TNR interchange points.

Specifically, Mr. Schuchmann used the same empty-train interchange arrival times used by BNSF for all of the trains in BNSF’s train file used in its RTC simulation. For the additional trains that BNSF removed from AEP Texas’ Opening train list due to its improper reduction of the TNR coal traffic group, AEP Texas’ witness Crowley used the same procedures used by BNSF to determine the corresponding empty-train arrival times at the TNR interchange points. *See* AEP Texas Rebuttal electronic workpaper file “AEPTEX Rebuttal Peak Train worksheet.xls.”

¹⁰ (...continued)
new (growth) trains moving in the 2020 peak period, BNSF used a random number generator to develop a starting time, which was the same approach used by AEP Texas. *See* BNSF Reply at III.B-24 to 25 and AEP Texas Op. at III-C-17.

AEP Texas notes that the use of actual empty-train interchange times results in a longer warm-up period than the four-day warm-up period used in AEP Texas' Opening RTC simulation.¹¹ Although the same peak-week loaded coal trains were modeled by both parties, the use of actual arrival times at the interchange point for the prior empty train requires a longer warm-up period because in both parties' simulations, the TNR moves empty trains to the mines faster than the real-world BNSF did in the 2002 period used to develop the TNR's peak traffic week. Since AEP Texas is using the same train file used by BNSF for its Rebuttal RTC simulation, AEP Texas is also using the longer warm-up period.

Both parties cycled coal trains in their simulations, which meant the loading dates and times in the simulations were different from the comparable (2002) real-world loading times for the trains in the TNR's peak traffic week because the empty simulation trains move faster than the 2002 real-world trains did. The result is a slight shift in the dates for the peak week, but only for purposes of the modeling exercise. The slight shift in dates does not affect the actual peak-period trains studied by either party, and both parties' RTC simulations captured the same peak period data.

¹¹ For its Opening RTC simulation, AEP Texas used a 15-day study period, with a four-day warm-up period beginning on June 27, a seven-day peak week beginning on July 1, and a four-day cool-down period beginning on July 8. On Reply, BNSF did not quarrel with the concept of using a 15-day modeling period. However, for its Reply RTC simulation BNSF used an eight-day warm-up period beginning on June 21, a seven-day peak week, and a four-day cool-down period.

Put differently, both parties have modeled the same peak-period loaded trains to determine whether the TNR system configuration is feasible and to develop train transit/cycle times (although AEP Texas has modeled more trains than BNSF did because of BNSF's improper exclusion of certain coal movements from the TNR's traffic group). The only data developed from the RTC Model that is actually used in AEP Texas' operating statistics spreadsheet is locomotive hours and car hours. For other operating statistics such as locomotive unit-miles and car-miles, both parties used spreadsheets whose calculations were based on the same loaded (simulation) trains. Thus, the slight shift in dates for the peak-week loaded trains does not have a material impact on the results of the RTC simulations or the calculation of operating statistics.

Further details concerning the train file used to populate the model with trains and the Rebuttal simulation procedures are set forth in AEP Texas Rebuttal electronic workpaper files "Simulation Process - Network.doc," "Rebuttal Train File.doc," and "Rebuttal Dispatching Adjustments.doc."¹²

c. Results of RTC Simulation With Revised Inputs

Mr. Schuchmann has revised the operating inputs and other assumptions used in the Opening RTC Model simulations in accordance with the foregoing discussion. He also revised the TNR's Opening main-track and yard configuration used in the RTC

¹² The dispatching adjustments are described further at pp. III-C-54 to 55, *infra*.

simulation to reflect several minor additions and revisions to the TNR's track and yard configuration. These changes are described below in Part III-B-2.

The Rebuttal RTC simulation confirms the feasibility of the TNR system configuration and operating plan. The simulation and the transit-time comparisons set forth in Rebuttal Exhibit III-C-2 show that the TNR moves its peak-week trains faster than the real-world BNSF moved the comparable trains in 2002. Thus, AEP Texas has demonstrated that the TNR is "able to meet the transportation needs of the traffic the SARR proposes to serve." *PSCo/Xcel* at 23.

AEP is providing to the Board as part of its Rebuttal workpapers the notebook computer with the RTC Model on it. The computer contains three sets of files that contain (1) AEP Texas' Opening simulation, (2) BNSF's Reply simulation, and (3) AEP Texas' Rebuttal simulation. These files are identified as "TNR 2-25B.OPTION," "BNSF Reply Final-AEP2.OPTION" and "TNR REBUTTAL.OPTION, respectively. The files containing these three simulations are also included in the "Rebuttal RTC" folder included in AEP Texas' Rebuttal electronic workpapers, which are being provided to BNSF.

2. Track Miles and Weight of Track

The differences in the parties' Opening and Reply calculations of the TNR's track miles are shown in Table III.B-4 on page III.B-28 of BNSF's Reply Narrative. That table shows that the parties are very close in terms of main and branch

line track miles (Lines 1, 2 and 3 of BNSF's Table III.B-4). The principal differences involve yard tracks and interchange/set-out tracks.

BNSF has accepted the rail weights and types for the various kinds of TNR track, which include main, siding, interchange, yard and set-out tracks. *See* BNSF Reply at III.B-29 to 31.

On Rebuttal, AEP Texas has accepted several additions/modifications to the TNR's track and yard configuration that were proposed by BNSF. AEP Texas has made a few minor additional modifications as a result of its Rebuttal RTC simulation of the TNR's operations using the revised operating inputs developed by Paul Reistrup. All of the modifications to AEP Texas' Opening configuration are summarized in Table III-B-4 below.¹³ An explanation of each modification is provided in the narrative text that follows the table.

¹³ After reviewing BNSF's evidence that the UP trackage rights segment between Sterling and Union, CO does not have CTC, AEP Texas Witness Schuchmann noticed that he had neglected to include a passing siding on that segment in the TNR configuration for modeling purposes. The siding was added to the configuration for the Rebuttal RTC simulation although it is not actually used by any TNR trains. It is not listed in the table because the TNR operates over the Sterling-Union segment using trackage rights rather than building/owning it.

TABLE III-B-4 TNR Track/Yard Additions			
Subdivision	Location	Track Miles	Nature of Addition
Campbell	MP 3.10 to MP 4.75 ^{1/}	1.65	Staging track/passing siding
Campbell	MP 7.60 to MP 9.15 ^{2/}	1.55	Staging track/passing siding
Brush	MP 458.05/ Pawnee Jct. ^{1/}	1.60	Siding on spur to Pawnee power plant
Orin	MP 15.40 ^{1/}	0.06	Double-end helper track
Butte	MP 422.90 ^{1/}	0.30	Extend/double-end helper track
Pikes Peak	MP 6.00 to 6.68/ Arapahoe spur ^{1/}	0.68	Siding
La Junta	Las Animas Yard ^{1/}	1.50	Relay/inspection track
La Junta	Las Animas Yard ^{2/}	1.60	Relay/inspection track
Red River Valley	MP 156.95 ^{1/}	0.10	Crossover at Oklaunion interchange
Red River Valley	MP 156.85/Oklaunion plant spur ^{1/}	0.62	Extension of TNR-owned portion of Oklaunion plant lead track
Various	Various ^{1/}	6.38	Extend all set-out tracks at FEDs from 600 feet to 860 feet, except extend set-out tracks at MP 533 on Black Hills Subdivision and MP 431 on Butte Subdivision from 600 feet to 2,000 feet
Total additional track miles		16.04	
^{1/} Proposed by BNSF and accepted by AEP Texas. ^{2/} Added by AEP Texas as a result of Rebuttal RTC simulation of TNR operations.			

Each of these additions is shown in red color on the appropriate page of Exhibit III-B-6, which is the Rebuttal version of Opening Exhibit III-B-1.

a. Main Lines

The difference in the parties' Opening and Reply calculations of mainline track miles, including passing sidings, totals 1.59 miles (the sum of Lines 1 and 2 of BNSF's Table III.B-4). The difference appears, effectively, to be accounted for by BNSF's elimination of one 1.6-mile passing siding on the Red River Valley Subdivision, between Amarillo and Oklaunion, TX, due to its proposed reductions in the TNR's traffic volume.¹⁴ Because its Rebuttal reductions to the TNR's peak-period traffic are very small, amounting to a total of six loaded and six empty coal trains during the 15-day study period, AEP Texas continues to include this siding in the TNR configuration. If the Board accepts AEP Texas' Rebuttal traffic volume and peak-period train counts, then the retention of this siding and the other adjustments to the TNR system described herein bring the total to 1,597.29 main-track miles.

b. Branches and Mine/Destination Spurs

As shown on Line 3 of BNSF's Table III.B-4, the parties are 0.62 miles apart in their calculation of the TNR's branch line and origin/destination spur track miles. The 0.62 number corresponds to BNSF's proposed route-mile addition for its ownership of a portion of the spur serving AEP Texas' Oklaunion power plant, which AEP Texas has accepted. However, BNSF also proposes to add a 1.55-mile staging track/passing

¹⁴ See BNSF Reply at III.B-27 and 29. There appear to be other minor differences due to the adjustments to the TNR's route miles, discussed *supra*.

siding on the Campbell branch and a 0.91-mile “auxiliary” track on the TNR-owned spur serving Public Service of Colorado’s Arapahoe power plant near Denver.¹⁵

AEP Texas’ operating experts have concluded on the basis of their Rebuttal RTC simulation that the additional siding proposed by BNSF for the Campbell Branch should be added. Additionally, due to the changes in train sizes/weights and the increase in dwell (loading) time at the mines on the Campbell Branch, the simulation shows that one more siding is needed on the Campbell Branch. Both of these sidings have been added to the TNR’s configuration on Rebuttal. They are shown on page 1 of Exhibit III-B-6.

AEP Texas Witness Reistrup also accepts the need for a small siding in the vicinity of the Arapahoe power plant, given BNSF’s evidence that the loop track used to unload trains at Arapahoe { }. However, a siding 0.68 miles in length is adequate for this purpose, rather than the 0.91-mile siding proposed by BNSF. The longest Arapahoe coal train is { } cars, which means that the siding needs to accommodate up to { } cars at a time. Conservatively assuming 53.5 feet between coupler ends, this requires { } feet in the clear. A 0.68-mile siding

¹⁵ See BNSF Reply at III.B-30. The referenced BNSF electronic workpaper, “arapahoe runaround.pdf,” does not show either the Arapahoe spur or an auxiliary siding. Presumably, the additional track proposed by BNSF is the 0.91-mile siding shown on page 12 of BNSF Reply Exhibit III.B-1.

equates to 3,590 feet, which { }.

The added siding is shown in red on page 12 of Exhibit III-B-6.

c. Yards

On Opening, AEP Texas provided for two TNR yards, located at Alliance, NE and Las Animas Jct., CO. On Reply, BNSF accepted the location, functions and general configuration for the Alliance Yard, although it proposed to eliminate a total of eight tracks from the yard (six from Alliance East, which is used for coal trains interchanged with the residual BNSF, and two from Alliance South, which is used for coal trains continuing on south of Alliance via the TNR). These proposed yard track reductions were occasioned by BNSF's proposed reduction in the TNR's peak-year coal traffic volume and corresponding peak-period trains. As discussed previously, AEP Texas has restored all but six peak-week coal trains. Since the vast majority of the TNR's coal trains move to or through Alliance, all of the Alliance yard tracks provided on Opening continue to be needed to accommodate the TNR's peak traffic volume.

In the latter regard, AEP Texas notes that, in both its Opening and Rebuttal RTC simulations, four of the Alliance East yard tracks were not used by any trains during the peak study period. However, AEP Texas Witness Reistrup has concluded that the Opening configuration of this yard should be retained to provide additional staging capacity in the event of problems/track blockages at the PRB mines or random track outages between Alliance and the mines.

With respect to the TNR's Las Animas yard, BNSF has proposed that this yard be moved from Las Animas Jct. ("Las Animas") to Amarillo, and that one relay/inspection track be added to the yard. The ostensible reason for moving the Las Animas yard to Amarillo is that trains will run out of fuel and the 1,500-mile maximum interval between car inspections will be exceeded if the yard is located at Las Animas. For the reasons set forth at pp. III-B-34 to 50, *infra*, Mr. Reistrup does not agree that the Las Animas yard needs to be moved to Amarillo – in fact, the TNR's operations would be rendered less efficient by moving the yard to Amarillo. However, given the volume of traffic moving through Las Animas Jct. and the number of daily trains requiring inspection and fueling at Las Animas Yard, and on the basis of AEP Texas' Rebuttal RTC simulation, Mr. Reistrup has determined that two additional relay/inspection tracks are needed at this yard. The additional tracks are shown in red color on page 16 of Rebuttal Exhibit III-B-6.¹⁶

BNSF appears to have effectively included both of the additional Las Animas Yard tracks by (1) leaving a siding at the location of the Las Animas Yard, as shown on page 16 of BNSF Reply Exhibit III-B-1, and (2) configuring its proposed Amarillo Yard with four relay tracks instead of the three proposed by AEP Texas for its Las Animas Yard (*see* pp. 16 and the last page 20 of BNSF Reply Exhibit III-B-1). Thus,

¹⁶ As noted, *infra*, Mr. Reistrup and AEP Texas' principal engineering witness, Mr. Stone, have accepted BNSF's proposal to install permanent fuel racks at the Las Animas yard rather than using direct-to-locomotive ("DTL") tanker-truck service.

the addition of two yard tracks at Las Animas does not cause any significant change in the total yard track miles as calculated by BNSF.

It is also noteworthy that BNSF has not disputed AEP Texas' Opening evidence demonstrating that there is no need for additional staging yards for empty trains near the PRB mines. BNSF proposed (and the Board accepted) two such staging yards in the predecessor *West Texas Utilities* proceeding. However, these yards are no longer needed because of changes in the railroads' method of serving the PRB mines since the original *West Texas Utilities* decision was issued in 1996. See AEP Texas Op. at III-B-24 to 25. In addition, the TNR has sidings at Reno, South Logan and on the Campbell Branch where empty trains can be staged.

The net result of continuing to include eight yard tracks at Alliance that BNSF proposed to remove and adding two yard tracks at Las Animas is to increase AEP Texas' Opening yard track miles from 69.41 to 72.92. The remaining net difference between the parties' calculation of total yard track length is thus 10.68 miles. That difference arises primarily from the parties' disagreement with respect to the size of the TNR's coal traffic group, which drives the Alliance Yard configuration.

d. Interchange, Helper and Set-Out Tracks

The TNR's other tracks include interchange tracks at the TNR's interchange locations other than Alliance and Las Animas Junction, helper locomotive storage or

“pocket” tracks, and set-out tracks for bad order cars which also will be used for the storage of maintenance-of-way equipment.

Interchange tracks. BNSF has accepted AEP Texas’ Opening TNR interchange locations as well as the number and length of its interchange tracks, with one very minor exception. Although it does not appear to be reflected in BNSF’s calculation of track miles, BNSF proposes to add a crossover track in the vicinity of the Oklaunion interchange with the residual BNSF “to facilitate the efficient movement of trains into and out of the Oklaunion plant.” BNSF Reply at III.B-27 and 31 and Reply Exhibit III-B-1, page 20 (last of three pages with that number). Mr. Reistrup accepts the addition of this crossover and it has been included for purposes of AEP Texas’ Rebuttal RTC simulation. The crossover is shown in red on page 20 of Exhibit III-B-6.

Helper tracks. BNSF accepted the locations of AEP Texas’ helper tracks for the TNR, but proposed to extend the length of the helper track at Crawford, NE and double-end it, as well as double-end the helper track at MP 15.4 on the Orin Subdivision. See BNSF Reply at III.B-31. AEP Texas generally accepts these two minor changes in order to minimize the areas of dispute between the parties. However, Mr. Reistrup notes that Sheet 1 of BNSF’s two track diagrams for the Butte Subdivision (Reply Exhibit III-B-1, page 5) inexplicably shows two intermediate turnouts on the Crawford helper track, which begins at Milepost 422.9. These switches are not connected to any other tracks, and serve no apparent purpose. Accordingly, Mr. Reistrup has removed them

from AEP Texas' revised configuration of the Crawford helper track. *See* Rebuttal Exhibit III-B-6, p. 5.

Set-out tracks. BNSF accepted AEP Texas' proposed set-out track locations (one on either side of each failed-equipment detector, or FED, and one at each interchange point). However, BNSF disputes the length of AEP Texas' set-out tracks. Specifically, BNSF proposes that one of the two set-out tracks at each FED location be extended from 600 feet to 2,000 feet, to allow additional room for storage of maintenance-of-way equipment. BNSF also suggests that the other set-out track at each FED location be extended from 600 feet to 951 feet to allow for 600 feet of clearance. *See* BNSF Reply at III.B-31 and Section III.F-3. AEP Texas agrees that all of the 600-foot FED set-out tracks should be lengthened to provide 600 feet in the clear, but disagrees that this requires a total length of 951 feet between switches. AEP Texas also disagrees that half of the set-out tracks need to be lengthened to 2,000 feet.

With respect to the required distance between switches needed to provide 600 feet in the clear, AEP Texas has provided #10 turnouts for the set-out tracks, which BNSF has accepted. A #10 turnout has a 10:1 ratio in terms of the angle between the main track and the diverging track measured from the P.I.T.O.¹⁷ This means that, using the railroad industry standard 12.5-foot clearance point, 125 feet are needed from the

¹⁷ The P.I.T.O. is the "point of intersection of turnout," which is the point where the track centers for the two tracks intersect within the turnout.

P.I.T.O. to the clearance point. If 125 feet are added to both ends of a 600-foot, double-ended track, the result is a total length between P.I.T.O.'s of 850 feet. AEP Texas has added an additional five feet at each end to provide a comfort margin, producing a total set-out track length of 860 feet. This length is used in AEP Texas' Rebuttal statement of track miles and road property investment costs.

The TNR does not need to increase the length of one set-out track at each FED location to 2,000 feet, as proposed by BNSF.¹⁸ The TNR has a minimal need for work trains to perform routine, day-to-day maintenance. Mr. Reistrup has provided for two work trains, each with one locomotive and no more than 10 cars of ballast or other material. There is ample room to store this TNR work equipment on the 860-foot set-out tracks.

In most areas, contractor-provided work equipment such as rail or ballast trains used for program (capital) maintenance work can be stored temporarily (*i.e.*, overnight) either on the 860-foot set-out tracks, passing sidings, helper tracks, or in yards. However, Mr. Reistrup has concluded that the TNR does not have adequate trackage on which to store contractor work equipment when a major track program is in progress on the busy Black Hills and Butte Subdivisions between Donkey Creek and Alliance. There

¹⁸ Mr. Reistrup's examination of BNSF's track charts for the lines being replicated reveals that the real-world BNSF does not have the kind of regular, double-ended set-out track configuration on either side of each FEDs that he has designed for the TNR – much less the longer set-out track configuration at every other FED proposed by BNSF.

is trackage that can be used temporarily for this purpose at Donkey Creek, Crawford and Alliance, but not between those points, where the TNR is all double-track without extra passing sidings. Mr. Reistrup has therefore lengthened two FED set-out tracks in this area from 600 feet to 2000 feet. One of these tracks is located at Milepost 533 between Donkey Creek and Edgemont on the Black Hills Subdivision, and the other is located at Milepost 451 between Edgemont and Crawford on the Butte Subdivision. These longer set-out tracks are shown in red on pages 2 and 5 of Rebuttal Exhibit III-B-6.

The locations (other than the standard 869-foot set-out tracks on either side of each FED) where contractor work equipment can be stored overnight are described in Mr. Reistrup's workpapers. *See* AEP Texas Rebuttal Workpapers Vol. 2, pp. 00285-286.

3. Yards – Las Animas vs. Amarillo

AEP Texas and BNSF agree that the TNR needs two yards for fueling locomotives and performing 1,500-mile car inspections: one at Alliance, NE, and a second at a location south of Pueblo, CO. AEP Texas' Witness Reistrup located the second yard at Las Animas Jct., CO. BNSF proposes to move this yard to Amarillo, TX; *see* BNSF Reply at III.B-33 to 38. After reviewing BNSF's evidence on this issue, Mr. Reistrup disagrees that the Las Animas yard needs to be moved to Amarillo.

BNSF's reason for moving the yard is that "TNR trains moving beyond Las Animas on the TNR will run out of fuel and exceed FRA-mandated 1,500-mile inspection requirements before they would return to a fueling or inspection facility on the TNR." *Id.*

at III.B-33.¹⁹ However, this statement erroneously assumes that all fueling and car inspections for the TNR's cross-over coal trains moving beyond Las Animas must be performed by the stand-alone railroad and that neither of these activities should be performed by the residual BNSF anywhere on its own system. This assumption ignores what occurs on the real-world BNSF, and it is at odds with BNSF's acceptance of the TNR's fueling and car-inspection procedures for coal trains interchanged at Alliance and for non-coal overhead trains moving between Amarillo and Oklaunion.

Locomotive fueling locations and procedures and car inspection locations and procedures were discussed at pp. III-B-27, III-C-41 to 46 and III-D-4 of AEP Texas' Opening Narrative. With respect to the choice of a fueling/inspection location south of Pueblo, Mr. Reistrup selected Las Animas rather than Amarillo (the present BNSF fueling location) after careful consideration of the destinations for all TNR coal trains moving east or south of that point and the locations on the residual BNSF where cross-over trains either are or reasonably could be fueled and inspected. The following discussion constitutes Mr. Reistrup's response to BNSF's proposal to move the Las Animas Yard to

¹⁹ "There is no dispute that empty coal trains fueled at Alliance have sufficient fuel to travel to PRB mine origins for loading, return to Alliance, and continue along the TNR route to Las Animas before needing additional fuel." BNSF Reply at III.B-34. There is also no dispute that empty coal trains inspected at Alliance can travel to the mines for loading and then return loaded through Alliance to Las Animas within the maximum 1,500-mile limit between car inspections.

Amarillo and explains why Las Animas Yard is the most efficient and logical point to fuel and inspect all TNR coal trains that move east/south of Las Animas Jct.

The principal assumptions used by Mr. Reistrup in analyzing the fueling and inspection needs for trains moving east/south of Las Animas are the maximum distance the TNR's road locomotives can travel between fuelings and the maximum allowable distance between car inspections under FRA rules.

With respect to fueling, all of the TNR road locomotives are SD70MACs. Mr. Reistrup accepts BNSF's statement that the capacity of a SD70MAC's fuel tank is 4,800 gallons (BNSF Reply at III.B-35). In calculating fuel consumption for purposes of its Amarillo-vs.-Las Animas yard discussion, BNSF used AEP Texas' system-average fuel consumption assumption (*Id.* at III.B-34), which is 3.24 gallons per diesel unit-mile (*see* AEPCO Op. at III-D-4 to 5). 4,800 gallons ÷ 3.24 gallons per diesel unit-mile equals a locomotive range of 1,481.5 miles between fuelings. This maximum distance between fuelings was used by Mr. Reistrup.²⁰

²⁰ In Reply Part III.D BNSF argues that the Board should accept TNR locomotive fuel consumption rates based on a special fuel study in another rate case. For the reasons set forth in Part III-D-1-d, *infra*, AEP Texas strongly disagrees that fuel consumption from a special study in another case, which did not involve the same route, locomotive mix or train sizes, should be used to determine fuel consumption for SARR trains in this proceeding. BNSF's use of system-average fuel consumption rates in its discussion of relocating the Las Animas Yard to Amarillo implicitly acknowledges this. However, even if BNSF's improperly-imputed "special study" fuel consumption rates were used in the calculations presented below in the text, the end results would not be different. BNSF's imputed fuel consumption rate for road locomotives south of Las Animas/

(continued...)

With respect to car inspections, the parties are in agreement that the TNR coal trains can be designated as Extended Haul Trains, and that the maximum interval between car inspections for these trains is 1,500 miles under FRA rules. *See* AEP Texas Op. at II-C-40 and BNSF Reply at III.B-33 and III.C-19. Mr. Reistrup used the 1,500-mile inspection interval in developing the locations for the TNR's yards.

All of the off-SARR mileages used by Mr. Reistrup in the discussion below were determined using PC*Miler Rail, a commercially-available computer program widely used to determine rail mileages. Specifically, Mr. Reistrup used the BNSF routes specified for "Coal/Bulk" trains in the PC*Miler Rail program. An example of a BNSF mileage calculation (Las Animas to Holcomb) using PC*Miler Rail is set forth in Rebuttal Workpapers Vol. 2, pp. 00273-274. Mr. Reistrup has compared several of the BNSF mileages produced by the PC*Miler Rail program with the mileages shown in BNSF' track charts and has determined them to be very similar. *See* Rebuttal Workpapers Vol. 2, pp. 00275-277.

The coal trains included in the TNR traffic group that travel beyond Las Animas move to or beyond the following discrete points:

²⁰ (...continued)
Amarillo is 3.40 gallons per diesel unit mile. *See* BNSF.RP.WP.III.D-1209. Using this figure results in a maximum distance between fuelings of 1,411.8 miles. As shown below in the text, the maximum distance between fuelings for TNR coal trains moving east/south of Las Animas never reaches 1,411.8 miles.

Local Movements (power plants served by the TNR)

1. Xcel/SPS's Harrington plant near Amarillo, TX.
2. AEP Texas' Oklaunion power plant near Oklaunion, TX.

Interline Movements (power plants served by the residual BNSF)

1. The Sunflower Electric power plant at Holcomb, KS (interchange point is Las Animas).
2. Xcel/SPS's Tolk power plant at Mill, TX (interchange point is Amarillo).
3. Power plants in Arizona (interchange point is Amarillo).
4. Power plants east/south of Fort Worth, TX (interchange point is Oklaunion).

With respect to the two local movements, there is no need for either fueling or inspection of TNR trains south of Las Animas. With respect to the four categories of interline movements, fueling is presently performed on the comparable real-world trains at off-SARR points and inspections either are or can easily be performed (without additional cost to the residual BNSF) at off-SARR points, such that the maximum distances between fuelings and inspections do not exceed either the locomotives' capability or allowable limits under FRA rules.

a. Local Movements

Harrington, TX. The Harrington power plant is located just north of Amarillo, on a spur which is owned by the TNR as far as the beginning of the power plant loop track. *See* AEP Texas Op. Exhibit III-A-1, p. 5. The spur connects with the TNR main line at Milepost 3.10 on the Boise City Subdivision and is 5.11 miles in length. *Id.* Thus, adding one mile in each direction to account for the approximate length of the

Harrington loop track, the total one-way distance from Las Animas to the Harrington plant is approximately 238.6 miles.²¹ Loaded Harrington trains are fueled and inspected in the loaded direction at Las Animas. The total distance between Las Animas and Harrington, back to Las Animas, and on to Alliance (where all empty coal trains are fueled and inspected) is 918.4 miles.²² This is well within both the 1,481-mile range of a SD70-MAC locomotive between fuelings and the maximum interval of 1,500 miles between car inspections for TNR coal trains.

Oklaunion, TX. The distance from Las Animas to the Oklaunion power plant is 416.12 miles in the loaded direction and 416.52 in the empty direction.²³ Adding the distance from Las Animas to Alliance in the empty direction (441.17 miles) produces a total distance of 1,273.8 miles from Las Animas to the Oklaunion plant and back through Las Animas to Alliance. This is also well within both the 1,481-mile range of the TNR's road locomotives between fuelings and the 1,500-mile maximum interval between inspections.

²¹ Las Animas to Amarillo = 235.55 miles - 3.10 miles between connection with Harrington Spur and Amarillo + 6.11 miles for Harrington Spur including ½ of loop track = 238.56 miles.

²² Las Animas-Harrington-Las Animas = 238.6 x 2 = 477.2 miles + 441.17 miles (Las Animas to Alliance - *see* AEP Texas Op. Table III-B-1 at p. III-B-7) = 918.37 miles.

²³ Las Animas to Oklaunion = 411.42 miles. *See* AEP Texas Op. Table III-B-1 at III-B-7; add 4.7 miles for the destination spur/loop track in the loaded direction and 5.1 mile for the destination spur/loop track in the empty direction (*see* AEP Texas Reply Exhibit III-A-84, p. 1; destination spur/loop track miles reflect the parties' stipulated agreement resulting from the March 29, 2004 Technical Conference).

b. Interline Movements

There are two interline coal movements (Holcomb, KS and Mill, TX) that involve a short distance on the residual BNSF – about 125 miles in each direction. There is no need to fuel or inspect trains destined to these points while on the residual BNSF, as these trains are fueled and inspected at Las Animas in the loaded direction. In the case of the movement to the Sunflower Electric power plant at Holcomb, KS, the total distance from Las Animas to the plant and thence back to Alliance is 690.4 miles.²⁴ In the case of the movement to Xcel/SPS's Tolk power plant at Mill, TX, the total distance from Las Animas to the plant and back to Alliance is 1,163.3 miles.²⁵ These distances are well within the 1,481-mile re-fueling range of the TNR's SD70MAC locomotives and the maximum 1,500-mile interval between car inspections.

With respect to the Tolk trains, Mr. Reistrup also notes that BNSF inspects these trains at Amarillo, and could continue to do so notwithstanding the presence of the TNR. BNSF's Amarillo yard is located adjacent to its Hereford Subdivision main line,

²⁴ The BNSF distance from Las Animas to Holcomb is 124.6 miles. The distance from Las Animas Jct. to Alliance is 441.17 miles (*see* AEP Texas Op. at III-B-7). Thus, the total distance from Las Animas (where loaded TNR coal trains are fueled) to the TNR empty-train fueling location at Alliance is $124.6 + 124.6 + 441.17 = 690.37$ miles.

²⁵ The distance on the TNR from Las Animas to the BNSF interchange point at Amarillo is 235.55 miles, and the distance on the residual BNSF from Amarillo to Mill is 125.5 miles. Thus the total distance from Las Animas to Muleshoe and back to Alliance is $235.55 + 125.5 + 125.5 + 235.55 + 441.17 = 1,163.27$ miles.

south and west of the interchange point with the TNR which is located on the north side of Amarillo on the Boise City Subdivision. *See* AEP Texas Op. Exhibit III-B-1, p. 17, Workpapers Vol. 17, p. 08504, and Workpapers Vol. 16, pp. 08163-8172 and 08184. BNSF moves loaded Tolk trains out of Amarillo toward the power plant at Mill, TX, via the Hereford Subdivision. However, because of the short distance from Amarillo to the Tolk plant and return (a total of 251 miles), Mr. Reistrup has assumed that the TNR will perform all of the fueling and inspection functions for these trains at Las Animas and Alliance.

There are two other categories of TNR-originated interline coal movements: those to utility destinations in Arizona and those to utility destinations in Texas and Louisiana located south/east of Fort Worth, TX. These movements include the movements listed in Tables III.B-6 and III.B-7 on pp. III.B-34 and 35 of BNSF's Reply Narrative. The distances for these movements on the residual BNSF are such that additional fueling and car inspections need to be performed by BNSF.

BNSF's unstated assumption underlying the numbers in Tables III.B-6 and 7 is that all locomotive fueling and car inspections for coal trains moving to the specified Arizona and Texas/Louisiana destinations must be performed by the TNR, and that BNSF should not be required to fuel these interline coal trains after they leave the TNR system at Amarillo (in the case of the Arizona movements) or Oklaunion (in the case of the Texas/Louisiana coal movements). This assumption is incorrect for several reasons.

First, BNSF's assumption that the TNR must perform all fueling and inspection functions on these trains is inconsistent with BNSF's acceptance of the fact that coal trains that leave the TNR system at other interchange points, particularly Alliance, NE, would have to be fueled and inspected on the residual BNSF. Coal trains interchanged with the residual BNSF at Alliance are fueled and inspected on the TNR in the empty direction only, at the TNR's Alliance Yard. *See* AEP Texas Op. at III-B-26, III-C-15 and 41 to 43, and III-D-4. BNSF accepted this aspect of AEP Texas' operating plan for the TNR (BNSF Reply at III.B-32). Trains interchanged to BNSF at Alliance move to BNSF-served destinations or interchange points as far east as Illinois, and the round-trip distance from Alliance to these points is well over 1,500 miles. Yet BNSF has not claimed that the TNR must arrange or pay for inspections and fueling of these trains east of Alliance.

BNSF's position with respect to Arizona and Texas/Louisiana coal trains interchanged at Amarillo and Oklaunion also is inconsistent with BNSF's acceptance of the fact that the TNR's non-coal (merchandise) trains that move overhead on the TNR between Oklaunion and Amarillo do not need to be either fueled or inspected while they are on the TNR system. Under AEP Texas' operating plan, these trains would be fueled and inspected only on the residual BNSF. *See* AEP Texas Op. at III-C-43 to 44 and III-D-4. BNSF has not challenged this aspect of the TNR's operating plan. BNSF generally accepted the inspection procedures established by AEP Texas (BNSF Reply at

III.C-19), and in its discussion of locomotive fueling BNSF did not mention the fueling of the overhead merchandise trains. *Id.* at III.B-34 to 35 and III.D-9 to 11.

Finally, as demonstrated below, BNSF itself either presently inspects or reasonably could inspect coal trains moving to power plants located in Arizona and Texas/Louisiana at off-SARR locations. There is no valid reason why BNSF cannot inspect these trains off-SARR as necessary to supplement the performance of this function at two different locations on the TNR.

Power Plants in Arizona. The TNR interchanges coal trains with the residual BNSF at Amarillo that are destined to several power plants in Arizona, as shown in Tables III.B-6 and 7 of BNSF's reply Narrative. Both of the listed destinations (Cholla and Springerville, AZ) are served by BNSF via its main line extending from Amarillo through northern New Mexico and Arizona to the West Coast. In listing fuel consumption and cumulative mileages for these movements, BNSF neglects to mention the fact that it presently fuels and inspects PRB coal trains destined to these points (as well as merchandise trains that move over this line) at its yard at Belen, NM.²⁶

Belen is located 345.2 miles west of Amarillo. Thus, the distance from Las Animas (where the loaded Arizona coal trains are fueled and inspected) to Belen is 580.8 miles (235.55 miles from Las Animas to Amarillo on the TNR + 345.2 miles on BNSF

²⁶ On Opening AEP Texas stated that BNSF inspects trains at Belen (*see* Op. Narrative at III-C-44). It also stated that BNSF inspects merchandise trains at Fort Worth (*id.*). BNSF did not dispute either of these statements.

from Amarillo to Belen. In fact, BNSF could inspect these Arizona coal trains at Belen in the empty direction only, as the additional round-trip distance from Belen to destination and return to Belen is 491.4 miles in the case of Cholla and 537.0 miles in the case of Springerville. Thus, the maximum distance from Las Animas to destination and return to Belen is 1,117.8 miles. The distance from Belen to Alliance, where the empty trains are again fueled and inspected, is 1,022.0 miles. This is also well within the range of SD70MAC locomotives (1,481 miles between fuelings) and the maximum permissible distance between car inspections (1,500 miles). Mr. Reistrup's plan to fuel and inspect all empty TNR coal trains at Alliance and all loaded TNR coal trains at Las Animas is clearly feasible with respect to the Arizona coal trains listed by BNSF.

Power Plants in Texas/Louisiana. BNSF's Tables III.B-6 and 7 (BNSF Reply at III.B-34 and 45) also list coal movements to several destinations in Texas and Louisiana. These destinations are all located east/south of Fort Worth. The BNSF line that connects with the TNR at Oklaunion extends to Fort Worth, and all of these coal trains move via Fort Worth at least in the loaded direction.²⁷ BNSF states that the coal trains moving to these destinations are fueled and inspected at Amarillo, and that none of

²⁷ As discussed below in the text, BNSF does move some empty trains returning to the PRB from Entergy's Nelson power plant in Louisiana via Temple and Lubbock, TX, thus by-passing Fort Worth as well as Oklaunion.

them presently receive inspections at Fort Worth.²⁸

As BNSF notes (*id.*), in locating the TNR's southerly yard at Las Animas, Mr. Reistrup assumed that TNR-originated coal trains destined to BNSF-served points in Texas and Oklahoma would be fueled and inspected at Fort Worth, in addition to Las Animas. The distance from Las Animas to Fort Worth is 567 miles, so empty trains can easily travel from Fort Worth back to Alliance without the need for intermediate fueling or inspections. *See* AEP Texas Op. at III-C-43.

Mr. Reistrup acknowledges that BNSF does not presently inspect coal trains at Fort Worth. However, he notes that BNSF easily could inspect coal trains at Fort Worth, and he notes that BNSF has not stated that it would cost any more to inspect coal trains at Fort Worth than it does at Amarillo.

BNSF has substantial yard facilities at Fort Worth, and as noted earlier BNSF apparently inspects at least some non-coal trains at Fort Worth. AEP Texas Rebuttal Workpapers Vol. 2, pp. 00278-283 contain pages from BNSF's Wichita Falls Subdivision track charts showing the location and layout of BNSF's North Yard located just west of Fort Worth. (The Wichita Falls Subdivision is used by coal trains operating

²⁸ BNSF Reply at III.B-35 and fn. 36. It should be noted that BNSF was careful to limit its comment about Fort Worth to *inspections*; it carefully avoided stating that coal trains are not *fueled* at Fort Worth. Indeed, Mr. Reistrup confirms that BNSF has locomotive fueling facilities at Fort Worth.

between Oklaunion and Fort Worth.) According to the BNSF yard diagram, North Yard has 23 relay tracks plus car repair facilities and storage tracks.

There is no reason why BNSF could not inspect the TNR Texas/Louisiana coal trains at Fort Worth/North Yard instead of Amarillo, nor is there any apparent reason why doing so would result in any increase in BNSF's cost of inspecting these trains compared with the cost of inspecting them at Amarillo. Insertion of the TNR into the route means that BNSF would no longer have any need to inspect these trains at Amarillo. The TNR traffic group includes all of the BNSF unit-train coal traffic moving through Amarillo, so the BNSF personnel and equipment presently used for coal-train inspections at Amarillo could be moved to Fort Worth and perform the same inspection functions there. Under stand-alone theory, the TNR is a replacement for the incumbent, not its competitor, which means the incumbent would want to continue to handle the cross-over coal traffic interchanged at Oklaunion and modify its remaining operations and procedures as necessary to continue to handle that traffic (particularly when it can do so without any apparent increase in its costs).

There is one TNR cross-over coal movement that is routed primarily via Fort Worth that warrants additional discussion. This is the movement to Entergy's Nelson plant near Sulphur, LA. At page 57 of its Reply Narrative, BNSF acknowledges that it would have to fuel empty coal trains returning from Nelson off-SARR. In footnote 57 on the same page, BNSF states that these trains are usually fueled at Temple, TX and

asserts: “Most [Nelson] TNR trains could not be fueled at this location because {
}.”

In light of this assertion, AEP Texas’ experts conducted a further review of BNSF’s 2002 train movement records and confirmed that in 2002 {

}³⁰ BNSF has not objected to AEP Texas’ proposal to move all of the empty Nelson trains as well as all of the loaded trains via Fort Worth – nor has BNSF claimed that this causes any increase in the off-SARR costs it would incur to handle the Nelson traffic as cross-over traffic. BNSF has permanent fueling facilities at Fort Worth and it could easily fuel the empty trains at Fort Worth.

AEP Texas also notes that, given the actual real-world routes used by the Nelson trains, it would have been justified in routing the loaded trains and { } of the empty trains via Oklaunion and { } of the empty trains via Amarillo (which is the

²⁹ Some Nelson coal trains {are interlined with KCS at Kansas City. The TNR interchanges these trains with the residual BNSF at Alliance}.

³⁰ See AEP Texas Rebuttal electronic workpaper files “sulphurloads texas.xls” and “sulphurempties texas.xls.”

point where this percentage of empty Nelson trains returns to the TNR system in the real world). However, since BNSF has not objected to routing all of the empty trains via Oklaunion, and to avoid a possible charge that it has improperly changed its operating plan on Rebuttal, AEP Texas continues to route both the loaded and empty Nelson trains via Oklaunion (and thus Fort Worth).

The foregoing discussion demonstrates that Mr. Reistrup's chosen location for the TNR's southerly fueling and inspection yard (Las Animas) is feasible and that BNSF has not presented any valid reason why the yard should be relocated to Amarillo. In fact, Mr. Reistrup notes that locating the yard at Las Animas results in more efficient operations than locating it at Amarillo, as BNSF proposes.

First, BNSF proposes to locate the Amarillo Yard adjacent to the Red River Valley Subdivision, between Mileposts 757.59 and 765.61. *See* BNSF Reply Exhibit III.B-1, page 20. However, BNSF acknowledges that this would necessitate the installation of an additional crossover "to allow Tolk and Springerville [*i.e.*, Arizona] trains interchanged from the residual BNSF to access the fueling facilities in the Amarillo Yard." BNSF Reply at III.B-38. BNSF does not say how or where these trains would be interchanged between the TNR and BNSF, but it seems to assume that the empty trains, at least, would be interchanged at Milepost 757.62 just west of (and on the opposite side of the main line from) the west end of its proposed Amarillo Yard. *See* BNSF Reply Exhibit III.B-1, page 20. This would require the Tolk and Arizona coal trains to cross the main

line to get to the interchange, thus potentially interfering with the TNR's high-priority manifest trains which are also interchanged with BNSF at this same location.

Mr. Reistrup notes that there is a disconnect between BNSF's Reply Narrative, which states that all coal trains are fueled in both directions at Amarillo except the Oklaunion trains (BNSF Reply at III.C-15), and BNSF's Reply RTC simulation of the TNR's operations. On Opening, Mr. Reistrup provided for two interchanges at Amarillo. The northerly one (on the Boise City Subdivision) is for coal trains and the southerly one (on the Red River Valley Subdivision, just west of BNSF's proposed location for the TNR Amarillo yard) is for manifest trains. *See* AEP Texas Op. Exhibit III-B-1, pp. 17 and 20 and Op. Workpapers Vol. 17, pp. 08503-8504.

In BNSF's Reply simulation, the loaded coal trains are interchanged to BNSF at the northern location, and are not fueled at Amarillo (contrary to the statements in BNSF's Reply Narrative). However, the empty coal trains are received from BNSF at the southern interchange location and then pull into the fueling facility, pause for fuel, reverse direction, proceed backward to the connection between the Red River Valley and Boise City subdivisions, and then proceed north.³¹ Not only is this an inefficient

³¹ Inexplicably, BNSF's Reply version of the TNR track diagrams continue to show a TNR/BNSF interchange at Boise City Subdivision Milepost 1.0, as well as the associated interchange sidings located just north of that point, notwithstanding BNSF's stated assumption that the Tolk and Arizona coal trains would be interchanged at the Red River Valley Subdivision location. *See* BNSF Reply Exhibit III-B-1, p. 17.

operation, but it causes the Red River Valley Subdivision main line to be blocked at a location where it is used by the TNR's high-priority manifest trains.

Mr. Reistrup's TNR configuration/operating plan avoids these problems by (1) locating the fueling/inspection yard at Las Animas rather than Amarillo, and (2) providing separate interchange facilities for coal trains and manifest trains at Amarillo. As previously noted, under Mr. Reistrup's operating plan only the overhead manifest trains are interchanged with BNSF at the Red River Valley Subdivision location (shown on page 20 of both AEP Texas Op. and BNSF Reply Exhibit II-B-1). The Tolk and Arizona coal trains are interchanged at MP 1.00 on the Boise City Subdivision, which is north of the connection between the Boise City and Red River Valley Subdivision. This procedure, combined with the performance of fueling and inspection operations at Las Animas rather than Amarillo, avoids the need for any reverse train movements at Amarillo and keeps all trains (including the manifest trains) moving fluidly through Amarillo.

Finally, Mr. Reistrup notes that BNSF proposes to install fuel racks at its relocated Amarillo Yard, rather than using tanker trucks ("DTL" fueling in BNSF's terminology). Notwithstanding Mr. Reistrup's retention of Las Animas as the proper location for this yard, after reviewing BNSF's evidence on this issue, and considering the substantial quantity of diesel fuel used at Las Animas (about 23 million gallons in 2000), Mr. Reistrup has concluded that BNSF's proposal is well-founded and that TNR

locomotives should be fueled at permanent fuel racks rather than using DTL service at Las Animas. However, since only the locomotives on loaded coal trains would be fueled at Las Animas, the number of fuel racks proposed by BNSF (four sets of racks, each capable of fueling trains on two adjoining tracks) can be cut in half. The cost of constructing these fueling facilities at Las Animas is addressed in Part III-F, *infra*. (Essentially, AEP Texas has adopted BNSF's cost but cut it in half because the number of racks is halved.)

4. Signal/Communications System

BNSF has accepted AEP Texas' proposal to equip all of the TNR's main lines (including BNSF's dark territory between Amarillo and Oklaunion) and the two branch lines with a CTC traffic control system, including power switches that are controlled by centralized dispatchers located at the railroad's Alliance headquarters, and for a microwave-based communications system. BNSF Reply at III.B-39 to 40. This provides the TNR with a better traffic control system than BNSF has on several portions of the TNR system, particularly between Amarillo and Oklaunion where most of BNSF's line is presently dark, *i.e.*, unsignaled.

BNSF does point out that, contrary to AEP Texas' Opening assumption, the UP trackage rights segment between Sterling and Union, CO does not have CTC. Rather, this line segment is equipped only with ABS (automatic block signals). *Id.* at III.C-19. This means that the single passing siding between Sterling and Union is

unlikely to have power switches. AEP Texas accepts this correction and has reflected the Sterling-Union segment as ABS territory with hand-throw switches for the one intermediate passing siding in its Rebuttal RTC simulation.

BNSF has accepted AEP Texas' turnout specifications and the locations and functions of the TNR's defective-equipment detectors (FEDs). BNSF has raised a few issues concerning the components of the TNR's CTC and microwave/radio communications systems in Part III.F.6 of its Reply Narrative. AEP Texas responds to these issues in Part III-F-6, *infra*.

III. C. OPERATING PLAN

AEP Texas' operating plan for the TNR was developed by Paul Reistrup and is described in detail in Part III-C of AEP Texas' Opening Narrative. On Reply BNSF states that its operating witness, Loren Mueller, "accepts many of AEP Texas' operating assumptions" but "provides corrected assumptions whenever he determined that AEP Texas' witnesses failed to take account of certain operating realities." BNSF Reply at III.C-1. These operating assumptions are inputs for the parties' simulations of the TNR's operations using the RTC Model.

In the introduction to Part III-B, *supra*, AEP Texas described seven areas of agreement between the parties with respect to RTC inputs that relate to the TNR system configuration as well as its operating plan (*e.g.*, the TNR's crew districts and crew-change points). Areas of agreement between the parties that relate specifically to the operating plan (and thus to Part III-C of the Board's outline for the presentation of SAC evidence) include the following eight items:¹

- TNR train sizes and types.
- Locomotive consists and types, including the use of a distributed-power ("DP") locomotive configuration for all coal trains.
- Helper consists, type and number of helper locomotives required, and time required to add and detach helpers.

¹ See Rebuttal Exhibit III-B-4 for sources in BNSF's Reply Evidence for each of the listed areas of agreement.

- Type and number of switch locomotives required.
- Crew districts and assignments, and time required for crew changes.
- Time required for interchange.
- Car inspection intervals and procedures.
- Dispatching districts and procedures.

Areas of disagreement between the parties with respect to the TNR's operating plan and inputs to the RTC Model will be addressed below.

1. General Parameters

The general parameters of the TNR's operating plan as developed by Mr. Reistrup are described at pp. III-C-3 to 24 of AEP Texas' Opening Narrative. BNSF's evidence on these parameters is set forth at pp. III.C-1 to 10 of its Reply Narrative. Mr. Reistrup comments below on the principal substantive areas addressed in the TNR's operating plan.

a. Traffic Flow and Interchange Points

BNSF "generally accepts the traffic flow and interchange points assumed by AEP Texas" (BNSF Reply at III.C-1). However, as described in Part III-A, *supra*, BNSF proposes to reduce the TNR's coal traffic volume from 236.9 million tons in the peak year (2020), as reflected in AEP's Opening Evidence, to 173.5 million tons – a reduction of 63.4 million tons or nearly 27 percent. Most of the reductions are accounted for by BNSF's proposed elimination of coal traffic originating at the three geographically

southernmost mines served by the Orin Subdivision (Antelope, North Antelope/Rochelle and North Rochelle) due to AEP Texas' internal rerouting of that traffic between these mines and Alliance or Northport and points south.

As AEP demonstrates in Parts III-A-1-b, *supra* and III-C-1-b, *infra*, the coal traffic originating at these three mines should continue to be included in the TNR's traffic group because there will be no diminution of service to the involved shippers. Although AEP Texas has made a few minor changes to the TNR's traffic group in response to BNSF's Reply Evidence, the end result is peak-year (2020) coal traffic volume very close to the peak-year volume shown by AEP Texas on Opening – 231.3 million tons vs. the original 236.9 million tons. *See* Table III-A-13 on page III-A-57, *supra*.

This decrease in total peak-year coal traffic volume translates to a reduction of six loaded and six empty coal trains during the TNR's peak traffic week, of which four are loaded on the peak day (July 4, 2020). For purposes of matching the TNR's operating plan to its adjusted peak-week traffic and responding to BNSF's limited criticisms of that plan, AEP Texas' experts have removed six trains from the 15-day modeling period used by both parties in their RTC simulations. These six trains are identified in red color on Rebuttal Exhibit III-B-5. Otherwise, the same peak-period trains have been used in the Rebuttal RTC simulation of the TNR's operations (albeit with some changes in train size and weight and empty interchange train arrival times at the TNR interchange points, as described in Part III-B-1-b, *supra*).

b. Re-Routed Traffic

In order to maximize traffic densities and operating efficiencies consistent with the stand-alone concept, AEP Texas' experts selected one of BNSF's two alternative BNSF routes from the PRB origin mines to Alliance and/or Northport, NE. The route selected replicates BNSF's "northern" route via Edgemont, SD and Crawford, NE, rather than its "southern" route via Guernsey, WY. In its Opening Evidence AEP Texas included all of the costs of handling the TNR's coal traffic via the northern route through Edgemont in the TNR's annual operating expenses. AEP Texas also demonstrated (in its RTC simulation) that the TNR suffers no increase in transit times from any mine via its northern route through Edgemont compared with the real-world BNSF transit times via Guernsey due to the TNR's ability to move trains faster than BNSF. *See* AEP Texas Op. at III-A-9 to 13, III-C-8 to 11, and Exhibit III-A-5.

On Reply, BNSF did not object to using the route via Edgemont, but it did object to including coal traffic originating at the three southernmost PRB mines served by the Orin Subdivision because that traffic normally moves via Guernsey and re-routing it via Edgemont increases the distance it must travel. *See* BNSF Reply at III.A-33 to 34. BNSF also objected to including coal traffic that moves to Georgia Power's Plant Scherer beginning in 2004 because that traffic is moving from the five southernmost Orin Subdivision mines, BNSF moves these trains via Guernsey, and "AEP Texas has not met

its burden of establishing that the longer reroute [via Edgemont] is at least as efficient as the real world route.” *Id.* at III.A-34 to 35.

AEP Texas responded to most of BNSF’s arguments on this issue in Part III-A-1-b-i, *supra*. With respect to comparative transit times, AEP Texas has developed revised round-trip transit times for the TNR’s peak-period coal trains between each O/D pair, using its Rebuttal RTC simulation. The results are displayed in Rebuttal Exhibit III-C-2. This exhibit demonstrates that the TNR cycle times via Edgemont for coal trains originated by the TNR continue to be lower than the corresponding real-world BNSF 2002 cycle times via Guernsey.² This includes, in particular, trains originating at the five southernmost mines served by the Orin Subdivision.

Table III-C-6 below compares BNSF’s real-world 2002 average cycle times via Guernsey with the TNR’s peak-period average cycle times via Edgemont for all coal trains originating at each of the three southernmost mines (North Antelope/Rochelle, North Rochelle and Antelope) during the 15-day study period. Table III-C-6 also shows the comparative 2002 BNSF and TNR peak-period average cycle times from Jacobs Ranch and Black Thunder for trains interchanged with BNSF at Alliance. These Jacobs Ranch and Black Thunder movements are shown because most of the “rerouted” Georgia Power trains discussed by BNSF at pp. III.A-34 to 36 of its Reply Narrative have

² This is not surprising since, unlike the real-world BNSF, the TNR is entirely double-tracked between Donkey Creek and Alliance and has triple track in the Crawford helper district.

originated at these two mines since BNSF began handling the Georgia Power traffic in 2004. See Table III.A-5 on page III.A-35 of BNSF's Reply Narrative. These trains are interchanged between the TNR and BNSF at Alliance. Although the Georgia Power trains represent new traffic that did not move via BNSF in 2002 (the last full year for which BNSF has provided train movement data), there is no reason why the Georgia Power trains should experience cycle times on the TNR that are any different from the average cycle times for other coal trains interchanged at Alliance.

TABLE III-C-6 Comparative Coal Train Cycle Times (Hours:Minutes:Seconds) For Selected Movements from PRB Mines Served by the TNR				
<u>Origin</u>	<u>Destination</u>	<u>BNSF 2002 Cycle Time</u>	<u>TNR Peak Cycle Time</u>	<u>Difference</u>
NacJct, WY ^{1/}	Alliance, NE	{ }	22:05:24	{ }
NacJct, WY	Denver, CO	{ }	40:28:12	{ }
NacJct, WY	HarPowPla, TX	{ }	93:04:48	{ }
NRocMine, WY ^{2/}	Alliance, NE	{ }	19:31:12	{ }
ConJct, WY ^{3/}	Alliance, NE	{ }	21:19:12	{ }
ConJct, WY	HarPowPla, TX	{ }	86:42:36	{ }
JacJct, WY ^{4/}	Alliance, NE	{ }	20:40:48	{ }
ThuJct, WY ^{5/}	Alliance, NE	{ }	20:31:48	{ }
<u>Source:</u> Rebuttal Exhibit III-C-2 and AEP Texas Reb. electronic workpaper file "Transit Times TNR Rebuttal.xls." BNSF cycle times shown are via Guernsey, WY. ^{1/} North Antelope/Rochelle Mine. ^{2/} North Rochelle Mine. ^{3/} Antelope Mine. ^{4/} Jacobs Ranch Mine. ^{5/} Black Thunder Mine.				

Table III-C-6 demonstrates that the TNR's internal "reroute" of coal traffic via Alliance instead of using the BNSF route via Guernsey does not result in any diminution of service for any shipper that purchases coal from one of the southernmost PRB mines. This includes Georgia Power, notwithstanding BNSF's statement (Reply at III.A-36) that "there is no basis on which AEP Texas could demonstrate that its calculated transit times for the Georgia Power trains are faster than the real-world transit times for those trains." BNSF could have introduced evidence of actual transit times for the Georgia Power trains between the mines and Alliance via Guernsey for the period January 1 through May 16, 2004, but chose not to do so. Absent such evidence (or evidence indicating that the Georgia Power trains are somehow different from the other trains moving between these mines and Alliance), the Board should credit AEP Texas' evidence showing that the TNR's average transit times for all trains moving between these mines and Alliance are faster than BNSF's actual 2002 transit times.

c. Trains and Equipment

As BNSF states at pp. III.C-2 to 3 of its Reply Narrative:

BNSF generally accepts the parameters established by AEP Texas in its Narrative concerning trains and equipment. BNSF accepts that the TNR will have only two types of trains: (1) unit coal trains; and (2) run-through trains for non-coal overhead traffic between Amarillo and Oklaunion. BNSF also accepts that train sizes would be the same as those used by BNSF in 2002, that non-coal trains would remain the same throughout the DCF period, and that growth in coal traffic would be accounted for by adding additional coal trains.

BNSF also accepts the types of road, helper and switch locomotives proposed by AEP Texas, the number of road locomotives to be used on each train (including the use of a DP configuration, with two locomotives at the front of the train and one at the rear), the number of helper and switch locomotives required, and the helper districts, helper assignments, and number of helper consists specified by AEP Texas Witness Reistrup. *Id.* at III.C-3 and 7 to 8. BNSF also generally agrees with the car types for the TNR's customers and that the TNR would supply cars to the extent that BNSF customers use carrier-supplied cars rather than private cars. *Id.* at III-C-8 to 9.

Notwithstanding these significant areas of agreement between the parties, there are disagreements as to the number of road locomotives and coal cars that the TNR would have to provide to accommodate its traffic group. These disagreements are addressed below.

i. Locomotives

As indicated above, the parties are in agreement on the TNR's helper and switch locomotive requirements. They also agree on the type of road locomotive power to be used (SD70MACs) and that each TNR coal train would have three locomotives in a 2/1 DP configuration.³ The parties part company with respect to the number of road locomotives required to enable the TNR to handle its traffic group.

³ BNSF notes at Reply III.C-3 n.6 that in its Opening RTC simulation AEP Texas dropped a locomotive from an empty train in a few instances. In its Rebuttal simulation AEP Texas was careful to use three locomotives on all empty trains.

(a) Road locomotives

On Opening, AEP Texas specified that the TNR would need a total of 321 SD70MAC locomotives to meet its road locomotive requirements in its peak traffic week in 2020. This number was based on the train cycle times developed from AEP Texas' simulation of the TNR's peak-period operations using the RTC model and a spreadsheet analysis based on the number of train movements by line segment, using three road locomotives per train (a number BNSF has accepted).

Although BNSF claims that it does not know how AEP Texas' peak-period road locomotive number was calculated,⁴ BNSF does not dispute this number. However, BNSF develops its own TNR peak-year road locomotive requirement based on its assumed smaller traffic group and a formula employed in the *TMPA* case which involves total annual locomotive unit hours (developed from BNSF's RTC simulation), locomotive spare margin, and a peaking factor. *See* BNSF Reply at III.C-4 to 7.

BNSF acknowledges that AEP Texas applies a "peaking factor" of 5.6 percent and a spare margin of 5 percent to the locomotives required by the TNR in the base year. BNSF Reply at III.C-3 to 4. BNSF claims, however, that AEP Texas' peaking factor, combined with the use of a 5 percent spare margin, fails to provide sufficient locomotives to handle the volume of traffic moving over the TNR during the peak period.

⁴ AEP Texas explained in detail how the number of road locomotives was calculated in a response to a request for BNSF for additional workpapers relating to the RTC analysis. *See* AEP Texas Reb. Workpapers Vol. 1, pp. 00289-293.

In contrast, BNSF proposes the use of a 22 percent peaking factor combined with a 7.9 percent spare margin applied to the average TNR locomotive requirement in order to meet the demand in the TNR's peak period.⁵ BNSF's locomotive peaking factor and spare margin both overstate the TNR locomotive requirements.

(i) Peaking Factor

BNSF also discusses the peaking factor at the beginning of Part III.D of its Reply Narrative, where it opens with a vitriolic tirade regarding AEP Texas' method of calculating base year operating statistics and TNR equipment requirements. AEP Texas' response to these arguments is set forth in this section because the difference between AEP Texas' method and BNSF's method is related primarily to the peaking factor that is applied to the TNR's equipment requirements to ensure that the TNR has sufficient locomotives and railcars to handle its volumes during peak traffic periods.

BNSF argues that AEP Texas' method of determining the locomotive, railcar and crew requirements for the peak week in the peak year (2020), and then reducing these requirements to the base year (2000), is "intentionally calculated to understate base-year costs and thereby significantly improve the apparent performance of the SARR." BNSF Reply at III.D-3. BNSF's arguments are no more than clever semantics designed to obfuscate the central difference in how AEP Texas and BNSF

⁵ BNSF's peak period is based on the *single day* in the 2020 peak year when the TNR handles the greatest number of loaded trains.

calculate base year operating statistics for the TNR. In reality the difference in the parties' methodologies is related to their respective calculation and application of peaking factors.

AEP Texas Witness Reistrup develops locomotive unit miles, locomotive units, railroad provided car hours and crew starts for the peak week in the peak year. AEP Texas Witness Crowley then annualizes the peak-week statistics to yield a full year of operating statistics for the peak year, and then reduces the annualized peak week statistics to the base-year average statistics by multiplying the annualized peak week statistics by the ratio of base year 2000 tons to annualized peak week tons, or in this instance, 71.2 percent (a 28.8 percent reduction from the annualized peak week of the 2020 peak year). Mr. Crowley then increases the resulting base-year equipment requirements by both a spare margin and a peaking factor.

BNSF calculates operating statistics and equipment requirements for all trains moving in the 2020 peak year rather than determining operating statistics for only that traffic moving in the peak week of the peak year. As such, BNSF produces a full year of operating statistics without regard to the volume of traffic moving in the peak week of the peak year. BNSF then increases these equipment requirements by both a spare margin and its peaking factor, which is based on the peak day in the peak year. BNSF then reduces the 2020 peak *day* equipment requirements to the 2000 base year

requirements by multiplying them by the ratio of base year tons to peak year tons, or in the case of its proposed traffic base, a ratio of 93 percent, or a reduction of 7 percent.⁶

At this point, both parties have produced equipment requirements including a spare margin and peaking factor. The difference is not that AEP Texas has intentionally understated the equipment requirements, as BNSF would have the Board believe. Instead, the parties disagree on how to calculate a peaking factor to account for the equipment needed to handle peak volumes.

To ensure that the TNR will have sufficient locomotives and railcars to handle the volume of traffic moving during higher than average volume periods, AEP Texas determined the aggregate number of trains that exceeded the average trains per day on any given day and increased the number of locomotives and railroad provided cars by the percentage of trains that exceed the average trains.

Stated differently, AEP Texas accumulated the number of trains greater than the average number of trains on each day throughout the base year (2000). This equaled 1,075 trains, or 5.6 percent of the aggregate of 19,104 trains moving on days when the average or less than the average number of trains are moving. AEP Texas then assumed that the additional 5.6 percent of the base locomotive units required in any given year are acquired on a short-term basis, either through a short-term lease from an

⁶ See BNSF Reply electronic workpaper file “LUMs and Carmiles (AEPTX-BNSF).xls.”

equipment supplier or from other connecting carriers, which have a temporary surplus of locomotive power.

At this point, AEP Texas has determined the equipment requirements to meet the volumes handled in the base year, including an allowance for handling volumes that exceed the average daily volume through the use of short-term equipment rentals. AEP Texas' approach is similar to that which would be used by any company that has a temporary need for additional resources, *i.e.*, it would acquire the resources on a short-term basis to match its short-term need. As discussed later, this is common practice in the railroad industry.

In contrast, BNSF determined its peaking factor by dividing the number of trains moving on the peak day in the peak year by the average number of trains per day moving on the TNR in the peak year, thereby producing a peaking factor of 22 percent. BNSF then multiplies its calculated locomotive and railcar requirements by a spare margin and its peaking factor in order to determine the equipment needed to handle the traffic on the peak day of the year.⁷ In effect, BNSF has reduced the 2020 peak *day* requirements to the 2000 peak *day* requirements, which has nothing to do with the TNR's equipment requirements for every other day of the year. BNSF's approach requires the

⁷ As discussed later, BNSF's 22 percent peaking factor is based on a combination of both coal and non-coal trains moving on the TNR in the peak year. Because the TNR acquires only coal railcars, AEP Texas uses a peaking factor developed only from coal trains moving on the TNR to apply to the peak railcar requirements.

TNR to have on hand at all times the locomotives and railcars required to handle the peak day's traffic volume throughout the entire 20-year DCF period.

BNSF's peaking factor is fatally flawed for both theoretical and technical reasons. First, BNSF's locomotive peaking factor is theoretically incorrect. Basing the number of locomotives required on the *peak day* requirements in the peak year is an unreasonable constraint on a least-cost, most-efficient TNR.⁸ No efficient company, and even few inefficient companies, would ever acquire a fleet of equipment to meet its single peak-day needs, as BNSF advocates, only to have that equipment sit idle for the remaining 364 days of the year. Based on the experience of AEP Texas Witness Reistrup, it is common practice in the industry for railroads to acquire enough equipment to meet their average or normal needs and then acquire additional equipment on a short-term basis to meet their peak-period needs. The equipment is leased on a short term basis from other carriers, equipment manufacturers or leasing companies.⁹

⁸ AEP Texas utilizes operating statistics developed from peak-week operations to develop locomotive and railcar requirements, but adjusts the peak week statistics to an annual average.

⁹ For example, beginning in 1987 General Motors' Electromotive Division leased locomotives to U.S. Railroads on a short term basis to meet peak demand. *See* AEP Texas Reb. Workpapers Vol. 2, pp. 00362-363. Locomotive Leasing Partners leases locomotives for short term leases of a few months and Montana Rail Link also provides short term leases to other carriers. *See* Reb. Workpapers Vol. 2, pp. 00368-370. *See also* BNSF's Recent Leasing of Additional Cars and Locomotives to Handle the Bumper North Dakota Wheat Harvest, Forbes, Nov. 5, 2003, included in Rebuttal Workpapers Vol. 2, pp. 00360-361.

In fact, review of the locomotive leases provided by BNSF in discovery demonstrates that BNSF itself leases locomotives on a short term basis. Included in AEP Texas' Rebuttal workpapers is a locomotive lease between BNSF and First Union Rail Corporation ("First Union") entered in July 3, 2003, which extends from the date BNSF receives locomotives under the term of the lease to November 30, 2003, or a maximum term of six months.¹⁰

Further, the flexible nature of even long-term leases is evident by review of the equipment lease that is the basis for the annual lease cost of SD70MAC locomotives used by both AEP Texas on Opening and BNSF on Reply.¹¹ Section 8.3 of that lease provides that BNSF can sublease the locomotives acquired through the lease to another railroad incorporated in North America, without the prior written consent of the Lessor. The significance of Section 8.3 of this agreement is twofold. First, it is evident from this section that BNSF (and therefore the TNR) is free to sublet locomotives subject to this lease to other carriers in those instances when its traffic volumes are low. Second, the

¹⁰ See AEP Texas Op. Workpapers Vol. 17, pp. 8768-8794. According to Item 6 of the First Union lease, the term of the lease extends from the "Acceptance Date", *i.e.*, the date BNSF receives each locomotive governed by the lease, and terminates on November 30, 2003. As BNSF did not provide the Acceptance Certificates for each of the locomotives subject to this lease, it is not possible to determine the actual length of the lease term for each of the locomotives. However, it is evident that the maximum lease term for any given locomotive is from July 3, 2003 (the date the agreement was entered into) to November 30, 2003, or slightly less than six months.

¹¹ The lease itself is included in AEP Texas Reb. Workpapers Vol. 2, pp. 00371-410. The lease is part of a Participation Agreement which was included in Vol. 17, pp.08746-8796 of AEP Texas Op. Workpapers, and which sets out the actual lease rates.

corollary is that BNSF (and the TNR) are also free to lease locomotives from other carriers on a short-term basis when additional locomotives are required to handle peak volume levels.¹²

In addition, a rail carrier that participates in run-through agreements frequently holds on to another carrier's locomotives that are on its system to meet its peak period needs. In Mr. Reistrup's experience, horsepower hours between carriers with run-through agreements are often substantially out of balance because one carrier has had an increase in demand for power. When this occurs, the balance is restored either by loaning power back to the other carrier at a later time or by making a cash settlement at year's end for use of the other carrier's equipment. This is also consistent with Section 8.2 of the BNSF/First Union lease agreement, which contemplates that locomotives subject to that lease will move over the lines of other carriers that are party to run-through agreements with BNSF.

BNSF's procedure of requiring the TNR to have on hand all equipment necessary to meet the single "peak" day requirement throughout the year is totally unrealistic and a waste of resources when equipment is available on a short-term basis to meet peak traffic requirements. BNSF's peaking procedure requires the TNR to have equipment on hand to meet peak day demand even when less than the average trains per

¹² A review of the lease indicates that there is nothing in it that prohibits BNSF from leasing additional locomotives.

day are moving on the TNR system. This makes no rational economic sense when the TNR can meet its peak equipment requirements by means of the various methods discussed above. BNSF's proposal is belied by recent remarks by its own CEO, Matthew K. Rose, who was quoted as follows in the January 12, 2004 issue of *Business Week* in reference to BNSF's not buying new railcars to meet peak traffic demand: "We won't build a church just for Easter Sunday."¹³

A similar BNSF-proposed procedure for developing a peaking factor for SARR equipment needs was recently rejected by the Board in the *PSCo/Xcel* proceeding. There, BNSF attempted to base the required annual number of train crews on the SARR's needs on three days during its peak traffic week. The Board rejected BNSF's crewing proposal, indicating that it "is the equivalent of a retail store staffing for the December holiday season levels throughout the entire year. BNSF has failed to justify its peak-week analysis." *PSCo/Xcel* at 62. BNSF's peaking factor in the instant proceeding, based on the requirements for the peak day of the peak year, is even more objectionable and should be rejected for the same reason that the Board rejected BNSF's proposal in *PSCo/Xcel* to base crew requirements on a peak-week analysis.

BNSF's own practice also demonstrates that BNSF's proposed 22 percent peaking factor is unrealistic. Examination of BNSF's Opening electronic workpaper file "Spare Margin.xls" shows the number of SD70MAC locomotive hours for the Alliance

¹³ See AEP Texas Reb. Workpapers Vol. 2, p. 00359.

pool that were available but not utilized in 2002. These locomotive hours, which equaled 11.9 percent of utilized hours in 2002, represented the coal locomotive fleet that BNSF had in place to meet greater than normal traffic demand. BNSF locomotives were available but idle only 11.9 percent of the time, contrasted to the 22 percent of the time BNSF proposes for the TNR.

BNSF even acknowledges in its Reply Narrative that the SD70MAC locomotive hours that are available but not utilized represent a “peaking factor:”

BNSF did not include in its spare margin time during which BNSF SD70MACs were available but unused. BNSF excluded this component in order to avoid any concern that application of both a spare margin and a peaking factor would result in a double-counting. As a result BNSF’s approach conservatively assumed that any “available” locomotive could be used on peak days.

Id. at III.C-6. The excessive nature of BNSF’s 22 percent peaking factor is further evidenced in the book titled *Burlington Northern & Santa Fe Railway 2000-2001 Locomotive and Business Car Review*, published by Great Northern Pacific Publications. This book describes BNSF’s “Surge Fleet” of locomotives which was comprised of 527 locomotives or 9.7 percent of BNSF’s total fleet in the year 2000.¹⁴ The 9.7 percent Surge Fleet, which BNSF maintained in order to meet peak traffic demands throughout the system, is far less than what it proposes for the TNR.

¹⁴ An excerpt from this publication describing the “Surge Fleet” is reproduced in AEP Texas Reb. Workpapers Vol. 2, pp. 00364-367.

BNSF's peaking factor is also fatally flawed for a technical reason.

BNSF's peaking factor is distorted because it assumes that equal weight should be given to both coal trains and non-coal trains moving on the TNR, rather than considering the number of locomotive unit-hours that are generated by these two different train types.

BNSF determined the number of locomotive units required by the TNR on the basis of the locomotive unit hours generated by these two train types.¹⁵ Therefore, the number of locomotive unit hours must be factored into the application of the peaking factor.

However, BNSF's peaking factor ignores the fact that coal trains generate far more locomotive unit hours than do the non-coal trains, thus resulting in a significant overstatement of the peaking factor. Table III-C-7 below demonstrates the method that BNSF uses to calculate its peaking factor as well as the fact that it ignores locomotive unit-hours which is the basis for determining the locomotive requirements.

¹⁵ At page III.C-4 of its Reply Narrative BNSF states that "the number of locomotives required is calculated using the following formula:

TNR Locomotive Requirement = Total TNR Annual Locomotive Unit Hours/Number of Hours in a Year * Locomotive Spare Margin * Peaking Factor".

Table III-C-7
BNSF Calculation of Locomotive Peaking Factor

<u>Item</u>	<u>Coal Trains</u>	<u>Non-Coal Trains</u>	<u>All Trains</u>
1. Peak Day Trains	37	13	50
2. Average Trains/Day	33	8	41
3. Peaking Factor ^{1/}	1.121	1.625	1.220

^{1/} Line 1/Line 3

To correct BNSF's technical flaw, its peaking factor must be weighted based on the locomotive unit-hours generated by each of the coal and non-coal trains. This is so because the number of locomotive unit-hours per train generated by the two train types differs substantially.¹⁶ Table III-C-8 below corrects BNSF's technical error by weighing the components of the peaking factor based on the locomotive unit-hours that BNSF calculates for each train type in its Reply workpapers.

¹⁶ Coal trains produce over 90 percent of the locomotive unit hours on the TNR. See Table III-C-8 below, line 4, col. 2/line 4, col. 4. See BNSF Reply electronic workpaper file "LUMs and Carmiles (AEPTX-BNSF).xls."

Table III-C-8
BNSF Locomotive Peaking Factor Corrected to
Include Weighting Based On Locomotive Unit Hours by Train Type

<u>Item</u>	<u>Coal Trains</u>	<u>Non-Coal Trains</u>	<u>All Trains</u>
(1)	(2)	(3)	(4)
1. Peak Day Trains	37	13	50
2. Average Trains/Day	33	8	41
3. Peaking Factor	1.121	1.625	1.220
4. Annual Locomotive Unit Hours	1,539,926	117,612	1,657,538
5. Peak Day Hours	1,726,257	191,120	1,917,376
6. Overall Peaking Factor	--	--	1.157

Sources:

Line 3 = Line 1/Line 2

Line 4 = BNSF Reply electronic workpaper file "LUM and Carmiles
(AEPTX-BNSF).xls"

Line 5 = Line 4 x Line 3

Line 6 = Line 5, col. 4/Line 4, col. 4

As shown in Table III-C-8, simply correcting BNSF's peaking factor to account for the fact that non-coal trains generate only 7.1 percent of the total locomotive unit hours reduces it by 15.7 percent, or nearly 30 percent less than that proposed by BNSF.

(ii) Spare Margin

BNSF is critical of AEP Texas' use of a five percent spare margin to calculate the total number of road locomotives needed by the TNR. *See* BNSF Reply at

III.C-5. AEP Texas included a five percent spare margin based on the terms of a locomotive maintenance agreement between BNSF and General Motors Electromotive Division (“EMD”) which provides for EMD to pay BNSF a penalty whenever more than five percent of BNSF locomotives serviced under the contract are unavailable. *See* AEP Texas Op. at III-C-17 and Op. Workpapers Vol. 6, pp. 02537-2559.

BNSF claims that AEP Texas’ use of a five percent spare margin is inaccurate and on Reply uses a 7.9 percent spare margin for SD70MAC locomotives, allegedly based on its actual experience. *See* BNSF Reply at III.C-6 and BNSF Op. electronic workpaper file “Spare Margin.xls.” However, the 7.9 percent spare margin for SD70MAC locomotives reflects BNSF’s actual experience with its Alliance pool based on the average age and BNSF’s average utilization of these locomotives, rather than that of the TNR’s fleet of brand new, late generation SD70MAC locomotives.¹⁷ BNSF’s calculation of the spare margin represents an improper attempt to impose its historical experience on the TNR.

BNSF also argues that EMD’s contractual guarantee that locomotives will be available 95 percent of the time is not an adequate basis for a five percent spare margin. To support its contention, BNSF posits a number of scenarios under which a

¹⁷ BNSF’s fleet of SD70MAC locomotives is comprised, in part, of first-generation SD70MACs delivered in the mid-1990’s. It is likely that these first-generation models experienced initial production problems, which no doubt contributed to the amount of time these locomotives were unavailable for use by BNSF.

locomotive could be considered available under the EMD agreement but not available for service. These include times while locomotives are: deadheading as excess power on trains, being serviced, awaiting placement onto trains, unavailable due to an accident, or undergoing quarterly, semi-annual, or annual maintenance. However, for the most part, these components are already factored into the TNR's operating plan. Time spent for sanding, fueling and servicing (at Alliance) and fueling (at Las Animas) is already reflected in AEP Texas' train cycle times, as is time spent awaiting placement onto trains. Accidents are sufficiently rare that they should not have a material impact on spare margin. According to the FRA, railroads nationwide averaged 3.71 train accidents per million train miles in 2002. BNSF did better with 3.25 train accidents per million train miles.¹⁸ As for the time spent on quarterly/semi-annual/annual maintenance, the EMD contract clearly states that scheduled maintenance is part of the availability guarantee. *See* AEP Texas Op. Workpapers Vol. 17, p. 08805.

On Rebuttal, AEP Texas continues to utilize a five percent spare margin for road locomotives as it represents the best evidence of record. AEP Texas also continues to follow the same procedures used on Opening to calculate the required number of TNR road locomotives. AEP Texas calculates that 221 SD70MAC road locomotives are required for the TNR in the first year of operations (2000). This includes 209 "base"

¹⁸ *See* AEP Texas Reb. Workpapers Vol. 2, pp. 00418-419.

locomotives plus 12 “peak” locomotives. In addition, 49 SD40-2 locomotives are required for helper, switch and work-train service. *See* Rebuttal Exhibit III-C-3.

(b) Helper and Switch Locomotives

As described earlier, the parties are in general agreement on the size of the TNR’s helper consists and the type (SD40-2) and number (42) of helper locomotives required. *See* AEP Texas Op. at III-C-17 to 19 and BNSF Reply at III.C-8. The parties also agree that the TNR requires five SD40-2 locomotives for switch service at its Alliance and Las Animas yards. However, there is a question concerning the need for helper assistance on the Campbell Branch for certain loaded coal trains. In addition, there is an inconsistency in one of the helper consists BNSF says it has agreed to in its Narrative and the consist used in its RTC simulations.

Helpers on Campbell Branch. AEP Texas’ Opening RTC model simulation indicated that TNR coal trains, with three SD70MAC locomotives in a 2/1 DP configuration, do not require helper assistance on the Campbell Branch. At III.B-11 to 12 of its Reply Narrative, BNSF asserts that “using a BNSF coal train that is heavier than the standardized train used by AEP Texas confirms that the TNR does require helpers for certain trains on the Campbell Subdivision.” Later in its Narrative, at III.C-7 to 8, BNSF states: “In Mr. Wheeler’s RTC model, BNSF provides helper assistance to loaded trains with 112 cars or more on the Campbell Subdivision” (but nevertheless acknowledges that

helper needs for these trains “can be met by the helper consists already specified by AEP Texas”).

A careful review of BNSF’s RTC simulation train file reveals that BNSF did not, in fact, use the 112-car standard for when trains need helper assistance on the Campbell Branch referred to in its Reply Narrative.¹⁹ However, AEP Texas’ Rebuttal RTC simulation, which (like BNSF’s Reply simulation) uses the actual size and weight for each loaded coal train originating at a mine on the Campbell Branch, confirms that helpers are needed on a total of 17 loaded trains that moved on the Campbell Branch during the simulation period, or about one train per day. *See* AEP Texas Rebuttal electronic workpaper file “TNR Rebuttal.Train.” This confirms the wisdom of Mr. Reistrup’s provision, on Opening, for a “roustabout” two-unit helper consist to be stationed at Campbell/Donkey Creek for use on the Campbell Branch as needed. *See* AEP Texas Op. at III-C-18. As noted above, BNSF agrees that the helper consists specified by Mr. Reistrup on Opening are adequate to meet the limited need for helper assistance on the Campbell Branch.

¹⁹ AEP Texas’ RTC expert, Mr. Schuchmann, discovered numerous instances in which loaded trains exceeding 112 cars exiting the Campbell Branch in BNSF’s simulation did not require helper locomotives for assistance. For example, Train “36CEBMCLO022A_D1,” a loaded train that moved from Eagle Butte Mine to Alliance, was one of several trains that exceeded 112 cars (128 cars in this case) that did not receive helper assistance in BNSF’s RTC simulation. It appears from Mr. Schuchmann’s review of BNSF’s simulation that helpers were used for all loaded Campbell branch trains exceeding 19,000 gross tons.

Helper consists used in BNSF's RTC simulation. AEP Texas specified two-unit helper consists for the Campbell/Donkey Creek/Orin and Big Lift helper districts, and three-unit consists for the Crawford helper district. Notwithstanding BNSF's agreement with AEP Texas' helper districts and consists in its Narrative, in its RTC simulation BNSF used a three-unit helper consist to assist all loaded coal trains between Big Lift and Palmer Lake, CO. AEP Texas used a two-unit helper consist in this district, except for trains destined to Xcel/PSCo's Comanche power plant, which have three helpers with the third helper continuing beyond Big Lift as a second DP unit. *See* AEP Texas Op. at III-C-19. AEP Texas' Opening RTC simulation indicated that only two helpers are required on all other trains. AEP Texas Witness Schuchmann corrected the BNSF train file used for the Rebuttal RTC simulation to reflect the correct number of helpers for each loaded train moving over the Big Lift to Palmer Lake helper district.

(c) Locomotives for Work Trains

On Opening, AEP Texas did not provide any locomotives for work-train service. Under the TNR's operating and maintenance-of-way ("MOW") plans, work trains will be provided primarily by the contractors who perform maintenance programs (rail, tie and ballast renewals, etc.)

On Reply BNSF equipped the TNR with four work trains, each of which would have two SD40-2 locomotives for a total of eight locomotives dedicated to work-train service. *See* BNSF Reply at III.C-8 and III.D-225 to 226. BNSF's Reply

Workpapers indicate that BNSF proposes to have the TNR supply work trains to be used in connection with program maintenance work such as unloading rail, ties and ballast. BNSF Reply Workpapers Vol. III, p. III.D.4-0274.

BNSF has not provided any evidence demonstrating the necessity of having the TNR provide work trains to be used in connection with program maintenance work. Under AEP Texas' MOW plan, the contractors provide all equipment used for replacement programs, including work trains. This is a common approach for several real-world railroads, including CP and UP. BNSF may provide work trains to be used in connection with track programs (just as its in-house maintenance forces also perform some program work, especially in the summer work season), but this does not mean another efficient, low-cost railroad must follow the same approach. BNSF has not demonstrated that this aspect of AEP Texas' MOW plan is infeasible in any way.

On Opening, AEP Texas did provide for some work train service in connection with operating/maintenance work, such as "hauling and unloading ballast and riprap for repairs for slow orders and emergency slip outs, picking up scrap rail, ties, etc." (See BNSF Reply Workpapers Vol. III, p. III.D.4-0275.) After conferring with AEP Texas' MOW experts (Messrs. Krestinski and Blackwell), Mr. Reistrup has concluded that the TNR needs two work trains to be used for this kind of "spot" (operating-expense) work. One work train would be based at Alliance and would cover the northern part of the railroad, and the other would be based at Las Animas and would cover the southern

part of the railroad. Each work train would normally carry a maximum of ten cars at a time.²⁰ Given the small size of the TNR's work trains a single SD40-2 locomotive is perfectly adequate to power each of these trains. Accordingly, Mr. Reistrup has added two SD40-2 locomotives to the TNR's fleet to assure an ample supply of these locomotives for work-train service, thus increasing the total number of SD40-2 locomotives required from 47 to 49. Mr. Reistrup notes that no particular locomotives would be assigned to work-train service; these locomotives would be pulled from the pool of SD40-2s used for helper and switching service as needed. This is a common practice on all railroads.

ii. Railcars

BNSF has accepted AEP Texas' leasing and maintenance costs for the cars used to transport the non-coal overhead traffic between Amarillo and Oklaunion. *See* BNSF Reply at III.C-8. With respect to coal cars, BNSF accepts AEP Texas' general approach to determining the TNR's railcar requirements but states that AEP Texas understated those requirements "by failing to include in its calculations all of the railcars

²⁰ BNSF's Witness Albin suggests in his workpapers that AEP Texas' work trains would carry 50 cars of ballast at a time (BNSF.Reply Workpapers Vol. III, p. III.D.4-0274), but that is incorrect. Fifty-car ballast trains would be used only for ballast/resurfacing programs and would be supplied by the contractor. To the extent the TNR needs to provide locomotives for such trains, it can use either the extra SD40-2 locomotives or spare SD70MAC locomotives. Incidentally, AEP Texas Witness Blackwell notes that an entire 50-car ballast train can be unloaded in three hours with modern equipment.

the BNSF actually supplies for each customer.” *Id.* at III.C-9. BNSF goes on to calculate revised TNR coal car requirements based on total TNR coal car hours using its RTC-generated average 2020 transit times and applying the percentage of cars for each destination plant for which BNSF allegedly was responsible in 2002. *Id.* at III.C-9 to 10.

On Opening, AEP Texas designated nine TNR coal customers that use railroad-provided railcars based on the ownership field appearing in BNSF’s traffic tapes. On Reply, BNSF adjusted the traffic-tape designation of car ownership for several destinations and thereby concludes that the TNR must provide 10 percent or more of the railcars for movements to 33 TNR destinations. A comparison of the percentages of railcars provided by the TNR as designated by AEP Texas on Opening and by BNSF on Reply is set forth in BNSF Reply electronic workpaper file “car ownership percentage comparison summary.xls.”

In evaluating BNSF’s response, AEP Texas’ experts reviewed the transportation contracts governing each of the movements where the parties disagree on whether BNSF currently provides the railcars to determine which party has the responsibility for providing railcars and whether the rates being charged are based on shipper-provided or railroad-provided railcars.²¹ Based on this review, AEP Texas

²¹ The transportation contract that provides the rate authority for each movement is designated in BNSF’s traffic file. AEP Texas’ review was limited to those destinations appearing in BNSF’s Reply electronic workpaper file “car ownership percentage comparison summary.xls” where the number in the “change” column is equal to or greater
(continued...)

determined that there are movements to six destinations, in addition to those designated on Opening, where BNSF is responsible for providing some or all of the railcars. *See* AEP Texas Reb. electronic workpaper file “Check Contracts for Car Ownership.xls.”

On Rebuttal, AEP Texas assumes that the TNR will provide railcars for movements to these six additional destinations. The percentage of railcars to be provided is based on either 100 percent, if the contract states that the railroad provides the cars, or the percentage specified by BNSF on Reply if the contract specifies that either the shipper or BNSF provides the cars. In addition to these six destinations, there were four instances where the transportation contract governing the movement was not provided in discovery. In these instances, AEP Texas also accepted BNSF’s designation of car ownership. *Id.*

For several destinations, BNSF designated shipments as moving in railroad-provided cars even though both the transportation contract and the traffic tape specifies that the shipper is to provide the cars. BNSF’s adjustment most often occurs where the cars used in the service bear car initials designating ownership by a leasing company.²² While BNSF may lease cars bearing these initials, so do other companies, including some shippers served by BNSF (and the TNR). As a result, BNSF’s use of these car initials to

²¹ (...continued)
than 10 percent.

²² These include CEFX (CIT Group), COAX (Trinity Rail Management), FURX (First Union Rail), GEAX (Trinity Rail Management) and NCUX (Transport Capital Partners).

designate ownership leads to inaccurate results. On Rebuttal, AEP Texas relied on its review of the underlying transportation contract to determine the car ownership for movements to destinations that use cars with leasing company initials rather than accepting BNSF's faulty assumption that it provides the railcars. *See* AEP Texas Rebuttal electronic workpaper file "Check Contracts for Car Ownership.xls."

Finally, BNSF's assumption that shipments to Western Farmers Electric Cooperative move in railroad-provided cars is contrary to BNSF's agreement with Western Farmers. That agreement is described as follows at pp. II-62 to 63 of BNSF's Reply Narrative:

{

}

As stated by BNSF, BNSF and Western Farmers {

} In

developing car requirements and costs for the TNR it is therefore appropriate to assume

that Western Farmers provides railcars for its movement, just as both AEP Texas and BNSF have assumed that the TNR provides the cars for the Oklahoma movement.

Peaking factor. BNSF also increases the TNR-provided railcars for coal service by its coal train peaking factor. This is the same theoretically-flawed peaking factor previously discussed with respect to locomotives at pp. III-C-10 to 21, *supra*. The BNSF coal-train peaking factor is inappropriate for an additional reason: it is determined based on the relationship of all coal trains moving on the peak day of the peak year to the average number of coal trains moving per day on the TNR in the peak year. These coal trains include volumes in both shipper-provided cars and railroad-provided cars, and because the volume of coal moving in shipper-provided cars is far higher than the volume moving in railroad-provided cars, the peaking factor bears little relationship to the number of TNR-provided cars moving on the peak day.

To demonstrate the flaw in BNSF's application of a coal-train peaking factor to TNR-provided railcars, AEP Texas determined, from its Opening evidence, that the average number of trains consisting of TNR-provided cars moving in the peak year equals 2.57 trains per day. In contrast, only two trains consisting of TNR-provided railcars move on the peak day of the peak year.²³ BNSF's increase in the number of TNR provided railcars based on its coal-train peaking factor thus inappropriately overstates the TNR's coal railcar requirements.

²³ See AEP Texas Reb. electronic workpaper file "Coal Car peaking Rebuttal.xls."

Spare margin. On Opening, AEP Texas increased the TNR's coal railcar requirement by a spare margin of 5 percent. On Reply BNSF used a spare margin of 10 percent. This excessive spare margin is inconsistent with the spare margins required under BNSF's coal transportation contracts and should be rejected.

In its Opening Exhibit II-A-24 AEP Texas listed 25 BNSF coal transportation contracts where the shipper provides the railcars. The spare margins required by these contracts range from { } percent to { } percent, with an average spare margin of { } percent. { } of the 25 contracts have a spare margin of { } percent or less, and { } have a spare margin of { } percent. Based on the spare margins in existing BNSF transportation contracts, AEP Texas' 5.0 percent spare margin is justified and AEP Texas continues to use it in its Rebuttal evidence.

2. Cycle Times and Capacity

The parties agree that it is appropriate to simulate the TNR's peak-period operations and train cycle times using the RTC Model in order to determine the feasibility of the TNR's system configuration and operating plan and confirm the SARR's ability to accommodate its peak-period traffic while meeting its shippers' service requirements. Thus a major area of dispute between complainants and defendants in recent SAC rate cases with respect to SARR feasibility has been eliminated at the outset.

As noted earlier, BNSF has accepted most of the parameters used by AEP Texas in executing its Opening RTC simulation of the TNR's system and operations,

including most of the inputs used by AEP Texas' experts. BNSF has objected to some inputs, and developed its own alternative inputs. BNSF's objections to AEP Texas' inputs were discussed in Part III-B, *supra*. In response to those objections AEP Texas has modified some of the assumptions/operating inputs used on Opening and used the revised inputs in its Rebuttal RTC simulations, as described in Part III-B-1-b-ii, *supra*.

a. Operating Inputs to the RTC Model

i. Operating Inputs as to Which There is No Dispute

The parties have agreed on the 14 RTC operating inputs listed below.

Where the agreement results from a change made by AEP Texas on Rebuttal, the change is noted in *italicized font*.

1. Route, including mileage (except for modifications resulting from the inclusion or exclusion of several yard tracks at Alliance) and the locations of yards (other than the Las Animas Yard) and interchange points.
2. Maximum train speeds, including restrictions due to particular operating conditions that are reflected in the track speed limits in the RTC Model.
3. Loading/dwell times at PRB mines (*including mines served by the Campbell Branch*).
4. *Unloading/dwell times at all local TNR utility destinations except AEP Texas' Oklaunion plant.*
5. Crew-change locations and times at points other than interchange/destination points where no TNR crew change is required.
6. Interchange times (*AEP has corrected the inputs to its Opening RTC simulation by changing the 15 minutes of interchange time allotted at Oklaunion to 30 minutes which both parties agree is appropriate*).

7. Starting point of interchange train cycle (*including use of BNSF's train movement records and RTC train file and methodology to determine when empty coal trains arrive at the TNR interchange point*).
8. Starting point of local coal train cycle (*release of first empty train for each O/D pair during the study period at the power plant, then cycle train continuously to avoid "disappearing train" problem*).
9. *The use of actual train sizes and weights for the equivalent real-world BNSF trains whose operations are being simulated, as well as for growth trains, rather than using standardized train sizes for each O/D pair.*
10. Dwell time and functions to be performed at Alliance Yard (except that BNSF would fuel loaded Holcomb coal trains at Alliance in addition to fueling all empty trains there).²⁴
11. Dwell time and functions to be performed at Las Animas Yard (assuming the Board accepts Las Animas as a feasible location for the TNR's southerly fueling and inspection yard rather than Amarillo) and at South Logan.
12. Helper districts and time to add and remove helpers (*AEP Texas has corrected the inputs to its Opening RTC simulation so that 20 minutes are allocated to add helpers and 15 minutes are allocated to remove helpers in all instances*).
13. No program maintenance-of-way will be performed during the peak period.
14. FRA-required track inspections will be worked around the peak traffic period without interfering with train operations.

These inputs (including the changes/corrections made by AEP Texas on Rebuttal to incorporate inputs used by BNSF in its Reply RTC simulation) are described

²⁴ BNSF's exception is rendered moot if the Board accepts AEP Texas' evidence that Las Animas is an appropriate and feasible location for the TNR's southerly fueling and inspection yard rather than Amarillo. See pp. III-B-34 to 50, *supra*.

in detail in Part III-B, *supra*. That discussion will not be repeated here. References to points in BNSF's Reply Evidence where BNSF agrees with AEP Texas' Opening RTC inputs are set forth in Part III-B and in Exhibit III-B-4.

ii. Operating Inputs as to Which There Remains a Dispute

The parties continue to disagree as to the following seven inputs for the RTC Model simulation of the TNR's operations:

1. The TNR's peak-year coal traffic and peak-period train counts.
2. The TNR's main-track configuration (in a single instance involving BNSF's proposed removal of a passing siding on the Red River Valley Subdivision due to its proposed reduction in peak-year coal traffic volume).
3. The TNR's Alliance Yard configuration (again due only to differences in the TNR's peak-year coal traffic volume).
4. The location of the TNR's southerly fueling/inspection yard at Las Animas rather than at Amarillo.
5. The propriety of including additional time to accommodate the presence of UP coal trains at various mines.
6. The proper unloading/dwell time to be allocated at AEP Texas' Oklaunion plant.
7. Provision of track outages for random failures during the 15-day peak simulation period.

AEP Texas discussed each of these items in Part III-B, *supra*. It expands on that discussion here where appropriate to respond to additional material in Part III-C of BNSF's Reply Evidence.

Three of the seven listed areas of dispute relate to the size of the TNR's peak-year coal traffic group (# 1 above) and are easily and briefly addressed. In Part III-A, *supra*, AEP Texas presented evidence demonstrating that most of the peak-year coal traffic removed by BNSF was appropriately included in the TNR's traffic group. The Rebuttal peak-year traffic revisions described in part III-A result in a restoration of all but six of the TNR coal trains whose operation was originally simulated by AEP Texas in the 15-day RTC study period. The restoration of all but six study period trains means that BNSF's proposed elimination of one passing siding on the Red River Valley Subdivision (# 2) is inappropriate, as is BNSF's proposed elimination of eight tracks in the Alliance Yard (# 3).²⁵

AEP Texas' Witness Reistrup addressed three additional areas of dispute (## 4, 5 and 6 above) in Part III-B, *supra*. Mr. Reistrup demonstrated the feasibility of the Las Animas yard location (# 4) in great detail at pp. III-B-33 to 50. The presence of UP coal trains at mines served by the Orin Subdivision and Reno Branch (# 5) is already accounted for by the allowance of 5.5 hours of dwell time at each of these mines (a number BNSF does not dispute); adding additional time when the mine leads might be unavailable due to UP's presence double-counts for this possible delay factor (*id.* at pp.

²⁵ As noted in Part III-B, *supra*, AEP Texas has agreed to add a third passing siding on the Campbell Branch, a crossover near the location of the TNR/BNSF interchange at Oklaunion, and one relay/inspection track at the Las Animas Yard. Mr. Reistrup notes that this additional track is needed regardless of whether the yard is located at Las Animas or Amarillo.

III-B-8 to 10). Mr. Reistrup also explains that his allocation of six hours of unloading/dwell time at the Oklaunion plant (# 6) is conservative given that AEP Texas' actual experience (an average of 5.5 hours from arrival of the loaded train to the release of the empty train), and that BNSF's proposed Oklaunion dwell time of 14 hours includes an average of at least eight hours of waiting time between the release of the empty train after unloading has been completed and the arrival of a BNSF crew to move the train from the plant – time that the TNR would not occur (*id.* at III-B-14).

Item # 7, BNSF's provision of specific times for track outages during the 15-day RTC simulation period, warrants a more extended discussion.

iii. Track Outages/Maintenance Windows

In its Opening RTC simulation of the TNR's operations AEP Texas did not make specific provision for track inspections, maintenance windows or "random failures" during the peak 15-day study period. In its Reply RTC simulation BNSF, similarly, did not include specific times to conduct track inspections or for planned maintenance windows. *See* BNSF Reply at III.C-16. BNSF did, however, take TNR tracks out of service at various locations and times to simulate random failures which "will occur on every railroad." *Id.* BNSF criticizes AEP Texas for not doing the same in its Opening RTC simulation. *Id.* at III.B-5 to 6.

AEP Texas Witness Reistrup, who has a wealth of railroad experience in field engineering/maintenance of way as well as in operations at the field, supervisory and managerial levels, responds to BNSF's evidence on random failures.

As a preliminary matter, Mr. Reistrup acknowledges that random events that affect track and operations are a part of everyday railroading, and can occur during peak periods. However, Mr. Reistrup observes that many of the incidents which BNSF's witnesses describe as random failures are not actually "failures," in that trains continue to operate albeit at restricted speed (often for a very brief period of time).

It is also important to understand that time for track maintenance – including time to repair defects observed during the twice-weekly track inspections required by FRA – is allocated by dispatchers and therefore does not occur randomly. Dispatchers usually have discretion to work maintenance windows around periods when train traffic is heavy. Some problems such as a broken rail, excessive heat failure, or a wildfire encroaching near the track zone are indeed random and must be attended to immediately. However, since random problems are by definition random, it is impossible to predict exactly when they might occur during the TNR's peak traffic week in 2020.

In the discussion below Mr. Reistrup describes BNSF's approach to simulating random outages during the TNR's peak traffic period and the problems with that approach. He then describes his own approach as well as the outages he believes are appropriate to include in the RTC simulation of the TNR's peak period operations. As

shown in AEP Texas Rebuttal Exhibit III-C-4, Mr. Reistrup concluded that the TNR would be likely to incur 13 of the outages simulated by BNSF. Those 13 outages are reflected in AEP Texas' Rebuttal RTC simulation.

**(a) Problems With BNSF's Approach
to Simulating Random Outages**

Implicitly acknowledging the problem of attempting to determine when random outages would occur during the TNR's 2020 peak traffic period, BNSF's operating and maintenance-of-way witnesses, Messrs. Mueller and Albin, attempted to develop a "proxy" for such outages. The "proxy" was developed by reviewing BNSF's records for "actual operating and track failures" on the lines replicated by the TNR that occurred during the same 15-day period in 2002 as the period used by AEP Texas for its Opening RTC simulation of the TNR's peak-period operations in 2020.²⁶ BNSF's witnesses then "determined which failures required that track be taken out of service and which failures required movements at a restricted speed" and "the appropriate amount of time for each outage or restriction." This information was provided to BNSF Witness

²⁶ BNSF's track "outages" during the 15-day period in 2002 corresponding to the Opening RTC simulation period are summarized in BNSF Reply electronic workpaper file "June to July Engineering Data.xls." Copies of the accompanying BNSF "Daily Performance Reports" are provided in BNSF Reply Workpapers Vol. I, pp. III.B-0005-116.

Wheeler, “who added track outages and restricted train speeds to the TNR simulation.”

Id. at III.C-16 to 17.²⁷

Mr. Reistrup has carefully reviewed the track outages and speed restrictions BNSF used in its Reply RTC simulation, and has concluded that BNSF’s witnesses have greatly exaggerated the extent to which the kinds of problems that actually occurred in 2002 would be likely to affect the TNR’s peak-period operations. First, random failures are less of a problem with a new, state-of-the art railroad design than they are with existing rail lines that were originally built to different standards, particularly in terms of subgrade, side-slopes, drainage structures and signal system. The TNR is built to better standards, and thus is less likely to incur track and subgrade-related failures, than many of the existing BNSF lines being replicated particularly south of Las Animas Jct.

Thus, the fact that certain failures occurred on the BNSF lines being replicated in 2002 does not mean any of those failures will be repeated in the equivalent time period in TNR’s peak traffic year (2020). Again, Mr. Reistrup notes that the existing BNSF lines south of Las Animas (the Boise City and Red River Valley Subdivisions), in particular, were not constructed to the same standards as the TNR. During his field trip in October-November 2003, Mr. Reistrup observed these lines at numerous locations and

²⁷ The outages used in BNSF’s RTC simulation are summarized in BNSF Reply electronic workpaper files “RTC Track failure-maintenance summary.xls” and “BNSF Reply Final-AEP2.FORM_B,” which is referred to herein as the “Form B file.” The Form B file is the input file actually used in BNSF’s RTC runs.

noted that, while rail, ties and ballast have been replaced and upgraded over the years, much of the original substructure remains intact. This includes subgrade side slopes that are less than 1.5:1, substandard ditches and culverts (including temporary shoring and patching in poor drainage areas), old signal equipment and wiring (with no CTC for 94 miles of the replicated portion of the Red River valley Subdivision), and old trestles and bridges that were not originally constructed to handle 286,000-pound loaded cars.

Such conditions are also demonstrated by the photographs of the replicated BNSF lines taken by the Stone Consulting & Design engineers during their field trips to the area in the fall of 2003, which are included in AEP Texas' Opening workpapers. *See* AEP Texas Op. electronic workpapers for Part III-F, Folder "Photos," and in particular files "AEP TEXAS NORTH BOISE CITY 10-27.pdf," "[Same] 10-28.pdf," "[same] 10-29.pdf," "AEP TEXAS NORTH-LA JUNTA 10-28-03.pdf," AEP TEXAS NORTH RED RIVER VALLEY.pdf" and "AEP TEXAS NORTH RED RIVER VALLEY 2.pdf."

Mr. Reistrup identified several other problems with BNSF's assumptions concerning time allowances for "random" track outages in its RTC simulation. They include a notable lack of any supporting documentation for the criteria BNSF's witnesses used to determine which 2002 BNSF failures affected train operations, or the extent to which the failures actually resulted in any train delays.

BNSF's Witnesses Mueller and Albin did not specify the criteria they used to "determine[] which [2002] failures required that track be taken out of service and

which failures required movements at restricted speed.” (BNSF Reply at III.C-17). Nor did they identify the criteria they used to “determine[] the appropriate amount of time for each outage or restriction” that was provided to Mr. Wheeler for input into his RTC simulation. *Id.* Moreover, BNSF has provided no workpaper support for these determinations. Thus the decision as to which outages and track speed restrictions to include apparently was made on the basis of the subjective judgement of Witnesses Mueller and Albin, neither of whom is either an active or a recent BNSF employee.²⁸

The only backup data provided by BNSF to support the track outages on the replicated BNSF lines during the period in 2002 equivalent to the simulation (peak) study period (BNSF Reply Workpapers Vol. I, pp. III.B-00005-116) consists of BNSF’s “Daily Performance Reports” for that period. Those reports appear to be summaries of information provided to BNSF dispatchers or other supervisors by field personnel. The outages were further summarized in BNSF’s Reply electronic workpaper file “June to July Engineering Data.xls.” Although the duration of the reported events is shown, BNSF has not provided any evidence of the extent to which any trains were actually delayed by these events. In Mr. Reistrup’s experience, including experience at CSXT as recently as 2003, all railroads record information on the extent of train delays in the form of conductor delay reports, dispatcher train sheets, or the equivalent. BNSF’s failure to

²⁸ BNSF’s operating witness, Mr. Mueller, retired from BNSF in 1996. *See* BNSF Reply at IV-48. BNSF’s maintenance-of-way witness, Mr. Albin, retired from BNSF in 1995. *Id.* at IV-01.

provide any information on the extent of its actual 2002 train delays renders its witnesses' delay-time estimates suspect and perhaps result-driven.

Given the lack of explanation or supporting documentation for Messrs. Mueller's and Albin's track outage delay estimates, Mr. Reistrup performed his own analysis of the track outages used in BNSF's RTC simulation as described in the BNSF workpapers that were provided. Mr. Reistrup's analysis indicates that most of the track outage events used in BNSF's RTC simulation (*see* BNSF Reply electronic workpaper file "BNSF Reply Final-AEP2.FORM_B") would not be likely to occur on the TNR during the 2020 peak study period; that the outages that would be likely to occur on the TNR would have minimal impact on train operations; and that the effect of the delays caused by the outages likely to occur on the TNR is overstated.

BNSF's 2002 random failure event summary file (Reply electronic workpaper file "June to July Engineering Data.xls") is the BNSF equivalent of what is known in the railroad industry as a "trouble desk failure log." Each line item on the log is the product of a trouble call received by a dispatcher from the field. The log reflects the time the call is logged, and either a very brief summary of what was reported or a simple categorization of the event. In some cases the person or department involved in investigating and correcting the reported event is identified. The log also reflects the actions taken to address the reported event, if any; the time the failure was cleared (either

by repair or by determination that there was no need for repair); and the duration of the time between the opening of the item and the closing of the log.

The log does not, however, include any information relating to train speed restrictions that may have resulted from the reported event; nor does it convey the actual period of time (if any) that a train or trains were delayed due to any event. Rather, the log merely gives an indication of what types of failures occurred, where they occurred, and the duration of the fault as an open item, *i.e.*, the period between the reporting of the problem and the reporting that the problem had either been fixed or determined not to require remedial action (which is a common occurrence). Therefore, this data is not indicative of any actual train delays that may have been incurred during the period in which the event was open.

Since it is impossible to determine the extent of train delays caused by the events listed in BNSF's 2002 random failure file, it is also impossible to determine the extent of the actual train delays caused by the events that BNSF's witnesses lifted out of the 2002 file and used in the simulation of the TNR's operations in 2020 (without any explanation of the criteria used to do so). Nor have BNSF's witnesses demonstrated that any of the failures that actually occurred in 2002 would be likely to occur on the TNR in 2020, or that they would occur on similar dates and at similar times.

**(b) Mr. Reistrup's Conclusions Concerning
Appropriate Random Outages to be
Included in the RTC Simulation**

Mr. Reistrup analyzed the 2002 “random” outages BNSF’s witnesses used as inputs in BNSF’s RTC simulation, as set forth in BNSF’s “Form B” file, by subdivision, day, and type of outage. He also considered how a real-world dispatcher would be likely to handle each situation presented. His analysis indicated that most of the events consisted either of delays caused by the presence of UP trains at jointly served mines on the Orin and Reno Subdivisions, or “Track Maintenance” events that probably resulted from minor defects noted during the twice-weekly track inspections mandated by the FRA.

BNSF provided no details as to what the “Track Maintenance” outages entailed, but such outages usually are discretionary in terms of their timing in that real-world dispatchers provide temporary work windows during periods when few trains are operating in a particular area.²⁹ For example, a BNSF dispatcher may have seen a “good” work window between Milepost X and Milepost XX for one hour beginning at 1000 hours (10:00 AM) on a particular date, and granted field MOW forces track and time access accordingly. This specific window was granted because no BNSF trains were in

²⁹ On the other hand, where a specific maintenance-type event was identified that required more immediate attention, such as a signal failure, BNSF’s “Form B” outage file so indicated. Mr. Reistrup included these as the kinds of random events that could affect the TNR’s peak-period operations; *see* Rebuttal Exhibit III-C-4.

the area and thus the dispatcher knew that no trains would be delayed during the one-hour work period.

On the other hand, a one-hour window beginning at 1000 hours on the comparable date in 2020 may be a bad time for a work window on the TNR, and the TNR dispatcher would not allow track and time then. But the TNR may have a good one-hour work window at another time, *e.g.* 1500 to 1600 hours on the same date, when the same work could be performed without interfering with any TNR trains.

The Form B file lists a total of more than 400 “random” outage events. The vast majority of these (334 events) involved the presence of UP trains at jointly-served mines on the Orin and Reno Subdivisions during the comparable period in 2002. The next largest category (56 events) was the “Track Maintenance” outages.³⁰ Another large category was train stoppages resulting from locomotive failures and train handling problems (21 events).

³⁰ Mr. Reistrup notes that many of the events listed in BNSF’s Form B file appear to involve the same or related problems because they occurred at the same location and the same (or close to the same) time. For example, on Day 9 of the simulation two “Track Maintenance” outages are listed for Milepost 556.25 to Milepost 556.30 on the Black Hills Subdivision, both for Track 1. One outage is from 15:53 to 18:39 and the other is from 18:54 to 20:07. There was a brief, 15-minute gap between the two outages, which means this was probably a single event. Another example is the two outages listed on Day 12 of the simulation between Mileposts 56.33 and 57.83 on the Angora Subdivision. One outage is for “Switch Points” on the passing siding at this location and the other is for “Track Maintenance” on the main track (Track 1). Both outages clearly involved the same problem.

Mr. Reistrup's review of the Form B file indicated that only a small fraction of the events listed are of a kind that require immediate action affecting train operations (as opposed to events that either should not be included at all, such as time waiting for a UP train to leave a mine, or events for which the dispatcher has discretion to schedule track time to effect repairs in a manner that does not impede train operations – such as failures described as for “Switch Points”). The kinds of events that immediately affect train operations are a wayside fire, a burned-out signal bulb (which does not actually halt train operations as the dispatcher can talk the train crew past the signal at temporary restricted speed), a broken rail or derailment, or activation of a FED detector alarm (which merely requires the crew to stop the train long enough to inspect the car involved and set it out if necessary).

Mr. Reistrup determined that 13 of the outages listed in BNSF's Form B file should be included in the Rebuttal RTC simulation because they are the result of truly “random” events of a kind that could be incurred by the TNR in the 2020 study period. *See* Rebuttal Exhibit III-C-4. This determination was based on Mr. Reistrup's analysis of the causes listed by BNSF in its Form B file and its Reply electronic workpaper describing the 2002 outages on the lines replicated by the TNR (“June to July Engineering data.xls”).³¹ Mr. Reistrup excluded all other outages. As previously noted, the excluded

³¹ Mr. Reistrup notes that there is one other event listed in the Form B file (a “wayside fire” that occurred on the Campbell Subdivision on Day 12 and that had an
(continued...)

outages fall into three broad categories: (1) the presence of a UP train at one of the jointly-served PRB mines, (2) track and signal maintenance, and (3) locomotive failures/train handling problems. The reasons for excluding specific outages are noted in Mr. Reistrup's workpapers; *see* Rebuttal Workpapers Vol. 2, pp. 00337-349.

(1) *Presence of UP trains at jointly-served PRB mines.* Most of the mines served by the Orin Subdivision and the Campbell Branch are served jointly by the TNR and UP. The many outages listed in the Form B file as resulting from the presence of a UP train at a particular mine at a particular time were excluded for two reasons. First, UP trains will not arrive at the PRB mines in 2020 at the same times they arrived in 2002. Second, AEP Texas has provided an allowance for the presence of UP trains by increasing the average mine loading/dwell time for TNR coal trains at the jointly served mines from two hours or less (the time it actually takes to load a train) to 5.5 hours. Adding additional outage time effectively double-counts for delays caused by the presence of UP trains. A more detailed discussion of this issue is set forth at pp. III-B-8 to 11, *supra*.

³¹ (...continued)
outage time of 1 hour and 30 minutes) that is the kind of "random" event that could occur on the TNR. However, BNSF did not include outage time for this event in its RTC simulation (see screen display, link properties dialog box, Form B display for link C302-C320 in "BNSF Reply Final-AEP2" RTC case), which indicates that the event did not affect train operations. Mr. Reistrup reviewed the rebuttal RTC simulation of TNR trains during the affected period and did not observe any trains at this particular location during the time covered by this outage. Accordingly, and because BNSF did not include time for this outage, Mr. Reistrup did not include time for it either.

(2) Track Maintenance Outages. The outages listed in the Form B file for “Track Maintenance” were excluded because, as noted earlier, the dispatcher has discretion as to when to schedule a short maintenance outage so as to avoid interfering with train operations. TNR dispatchers would not allow MOW track time during the busiest traffic periods when train operations would be impeded.³² It is necessary to distinguish between such optional outages, which are neither “random” nor “failures” and should not be used as specific inputs to the RTC model, and truly significant random problems that must be corrected immediately. Only the latter should appropriately be modeled in the RTC simulation.

Because BNSF did not identify any of the specific maintenance needs for the “Track Maintenance” outages listed in the Form B file, Mr. Reistrup concluded that all of them were likely to involve dispatcher discretion, and thus that none of them should be included in the Rebuttal RTC simulation. On the other hand, the Form B file did identify other maintenance-related outages that resulted from an immediate need to fix a problem (*e.g.*, a dark signal light). These other outages were included by Mr. Reistrup because they appeared to be “random” in the sense that the dispatcher probably did not have discretion to schedule the repairs at a time of his choosing.

³² If a dispatcher defers a maintenance window a temporary slow order may be imposed until the repairs are made. BNSF has not provided evidence of the extent to which slow orders may have resulted from its “Track Maintenance” outages in 2002.

Most signal outages were also excluded, depending on the location, because they appeared to be the product of old wiring and signal hardware that will not exist on the TNR with its state-of-the-art CTC, signal and communications system. This condition exists on all of the BNSF lines being replicated by the TNR except the Orin Subdivision, the Campbell and Reno Branches, the Crawford area where the track has recently been realigned, and the Pikes Peak Subdivision between Denver and Pueblo. The signal system is of more recent vintage in these areas.

(3) Locomotive failures/Train handling Problems. Outages resulting from locomotive failures and train handling problems (*i.e.*, broken knuckles and stalls) were excluded because BNSF operates different types of locomotives on the lines replicated by the TNR, many of which are older models. During his two field trips to inspect the BNSF lines being replicated Mr. Reistrup observed a wide variety of power on BNSF coal trains, some of which were leased from other entities. Many of these locomotives were obviously quite old DC models, with peeling paintwork and likely in various stages of repair and operating efficiency as well as lower horsepower/tractive effort compared with the SD70MAC AC-traction locomotives the TNR is using. It is likely that some outages resulting from train handling problems (such as a broken knuckle or a stall) were the result of the age and condition of the locomotives and the fact that DC locomotives cannot operate for sustained periods at low speeds without burning up the traction motors. In addition, Mr. Reistrup notes that the widespread use of DP power on coal trains is a

relatively recent phenomenon, and that some BNSF engineers may not have been experienced in the handling of this power. (For example, DP was not used on the Boise City Subdivision – or extensively on the Red River Valley Subdivision – until the Fall of 2003, when BNSF began running loaded (southbound trains) south of Pueblo via La Junta and Las Animas Jct. instead of via Trinidad.)

(c) Train Speed Restrictions

Mr. Reistrup also determined the appropriate train speed restriction that would result from each outage, both on the track directly affected by the outage and on adjoining tracks if the outage occurred in an area with two main tracks or a passing siding.

Mr. Reistrup notes that BNSF Witnesses Mueller and Albin specified only two speed restrictions for all of the outages listed in the Form B file: 0 mph (meaning train operations stopped completely on the affected track) or 10 mph (*i.e.*, restricted speed). The 10 mph speed restrictions, in particular, appear to be completely arbitrary. A 10 mph speed restriction is the equivalent of FRA Class I track. It is not appropriate for the TNR's Class IV track. For Class IV track "restricted speed" means that trains may operate at 20 mph unless specific conditions warrant a lower (or higher) speed.

Mr. Reistrup assessed each of the 13 outages included in AEP Texas' Rebuttal RTC simulation in terms of the appropriate speed for the affected track(s). If an outage occurred on one of two or more adjoining tracks, Mr. Reistrup provided for an

appropriate speed restriction on the adjacent track even if it was not directly affected by the outage. The speed restrictions are shown in Column (5) of Exhibit III-C-4. Each speed restriction is governed by the specific condition that caused the outage. Where an outage was a signal failure affecting one track, trains maintained normal speed on the adjacent track. In only one instance were two tracks shut down; specifically the main track and passing siding at Mileposts 35.84 to 37.34 on the Pikes Peak Subdivision where the outage was due to a fire. (In both BNSF's simulation and AEP Texas' Rebuttal simulation the railroad recovered rapidly after this complete shut-down of both tracks.)

The speed restrictions provided by Mr. Reistrup are consistent with FRA requirements for a railroad such as the TNR that has 15-foot track centers. Under the FRA's Roadway Worker Safety Rules (49 C.F.R. Part 214), in work areas involving one track where there is an adjacent track with less-than-25-foot track centers trains ordinarily must operate on the adjacent track at restricted speed, usually 20 mph. However, the rules permit the supervisor in charge of the maintenance crew to assume control of all tracks in the work area from the dispatcher and to authorize trains to move through the work area on an adjoining track at a higher speed (§ 214.321). In practice, the dispatcher puts out an order describing the work limits and instructing all locomotive engineers to contact the foreman of the work crew before arrival at the work area. Unless the crew is fouling the adjacent track, which requires operation at restricted speed, the foreman will instruct the engineer to operate his train at normal track speed (or whatever lower speed

the foreman specifies). Usually the foreman will require restricted speed only if the crew's people cannot get clear of the adjoining track while the train passes; roadway machines can be left in place. Mr. Reistrup has observed this procedure many times while riding in the head end of both freight and passenger trains.

In fact, on July 20, 2004 (one week before the due date for Rebuttal evidence in this case), while riding as a passenger in an Amtrak train on the Northeast Corridor between Washington and Newark, Mr. Reistrup observed a concrete-tie program in progress between the Susquehanna River Bridge in northeastern Maryland and Wilmington, DE. The work equipment was spread out over nearly a mile on the track adjacent to the track on which Mr. Reistrup's train was traveling, and crew members were standing on the other side of that track while the train passed. Mr. Reistrup knows that the Northeast Corridor has as close as 12/13 feet between main-track centers in this area. Mr. Reistrup timed the Amtrak train through the work zone and it operated at 60 mph, meaning the supervisor on the ground in charge of the concrete-tie work gang authorized that as a safe speed in accordance with the procedures described in the preceding paragraph.

* * * *

In summary, after reviewing BNSF's "Form B" outage list for the RTC study period, Mr. Reistrup determined that 13 of the events listed were "random" in the sense that they would be likely to occur on the TNR and probably would require

immediate remedial action – as opposed to problems that involved dispatcher discretion in terms of scheduling track time and therefore were appropriate for including as RTC model inputs. These 13 events are identified in AEP Texas Rebuttal Exhibit III-C-4, and additional details are provided in AEP Texas Rebuttal Workpapers Vol. 2, pp. 00350-357. Mr. Reistrup instructed AEP Texas Witness Schuchmann to include these 13 events, together with the track speed restrictions shown in Exhibit III-C-4, as inputs for his Rebuttal RTC simulation of the TNR’s peak-period operations.

b. Adjustments to Simulation

Messrs. Reistrup and Schuchmann note that in the process of conducting the Rebuttal simulation, there were occasions where traffic congestion was too intense at certain locations on the TNR system to permit the program to efficiently dispatch the trains. When that occurred, Messrs. Reistrup and Schuchmann used the simulation to determine what trains were “snarled” and the time and location. They would then select one of the trains involved and hold it on the TNR system for an amount of time sufficient to remove it from the snarl and permit the program to continue dispatching the trains. The adjustments made are identified in AEP Texas Rebuttal electronic workpaper file “Rebuttal Dispatching Adjustments.doc.”

Such adjustments amounted to an average of about one train per day over the 19 days simulated. Mr. Reistrup notes that such adjustments, which are analogous to setting back a train’s call time, are routine dispatching decisions that occur much more

frequently than once per day on a busy railroad. This includes railroads such as CSXT and BNSF that have computerized dispatching systems; human dispatchers monitor the computer's decisions and occasionally override them when they see a potential problem developing.

c. Results of RTC Analysis

As described previously, AEP Texas' Witness Schuchmann has performed a revised RTC simulation of the TNR's operations during the 2020 peak 15-day study period. The revised simulation incorporates all of the modifications to the original RTC inputs described above and in Part III-B-1-b-ii, *supra*. The results of the Rebuttal RTC analysis are shown in Part III-B electronic workpaper folder "Rebuttal RTC." The analysis confirms that, with the modified operating inputs (including appropriate "random" track outages) and procedures developed by AEP Texas Witnesses Reistrup and Schuchmann in response to the few valid criticisms raised by BNSF, the TNR operating plan is feasible and its peak-period trains operate at transit times below those for the corresponding BNSF 2002 real-world trains.

In particular, AEP Texas Rebuttal Exhibit III-C-2 compares BNSF 2002 coal train cycle times with the TNR's 2020 peak-period cycle times and shows that the TNR cycle times are faster even though they involve the busiest period of the peak traffic year. Table III-C-6 on page III-C-6, *supra*, shows that the TNR coal trains originating at the five southernmost PRB mines have faster transit times operating via Edgemont, SD

than the comparable 2002 BNSF trains that operated over a shorter route via Guernsey. This provides a further demonstration of the feasibility of the TNR system and operating plan, notwithstanding the TNR's use of the "northern" route out of the PRB rather than the "southern" route.³³

In Table III.C-4 on page III.C-18 of its Reply Narrative, BNSF compares the TNR's peak-period average transit times in each direction over the various TNR mainline segments from AEP Texas's Opening RTC simulation with transit times from NSF's Reply RTC simulation. The transit times shown are very similar, and in fact BNSF's transit times for some route segments are lower than AEP Texas' Opening transit times notwithstanding the over-stated input times BNSF used in its simulation. This resulted from the fact that BNSF's Reply transit times were developed for a smaller peak-year traffic group, and thus a smaller number of peak-period trains, than AEP Texas' Opening transit times.

A comparison of the TNR transit times shown in AEP Texas Rebuttal Exhibit III-C-2 with the TNR transit times shown in AEP Texas Opening Exhibit III-A-5 indicates that the Rebuttal transit times are comparable to the Opening transit times. Thus, with the revised inputs and the TNR track enhancements used in the Rebuttal RTC

³³ As previously noted, part of the reason for these results is that whereas BNSF's "northern" route between Donkey Creek and Alliance consists of a mix of single track with passing sidings and double-track segments. The TNR is entirely double-tracked between Donkey Creek and Alliance, with over 17 miles of triple track in the area of the Crawford helper district as well as numerous crossovers. See Reb. Exhibit III-B-6.

simulation, the TNR's trains continue to experience transit times that are similar to those in BNSF's simulation – and considerably faster than the real-world BNSF transit times. This is further confirmation of the feasibility of the TNR's system configuration and operating plan.

3. Other

a. Crew Districts and Assignments

Although BNSF agrees with the TNR's crew districts and crew-change locations, it has pointed out an inconsistency between AEP Texas' Opening Narrative and its operating-expense calculations for one crew assignment. Specifically, BNSF notes that in AEP Texas' Opening Narrative (at III-C-32), AEP Texas stated that the Orin Subdivision mines would be served by turn crews based at South Logan, whereas AEP Texas' operating-statistics spreadsheet indicated that taxis would be provided for the crews passing through South Logan. BNSF Reply at III.C-13 n.23 and III.D-21. BNSF therefore assumed that AEP Texas intended to serve the Orin Subdivision mines with turn crews based at Donkey Creek rather than at South Logan.

Mr. Reistrup confirms that BNSF's assumption is correct and that the statement on page III-C-32 of AEP Texas' Opening Narrative is incorrect. Mr. Reistrup intended that the Orin Subdivision (and Reno Branch) mines be served by Donkey Creek turn crews, and that when a Donkey Creek-based crew takes a loaded train to the BNSF interchange at South Logan a taxi trip will be required either to or from the crew's home

terminal at Donkey Creek. This is consistent with the way crew taxi expenses were calculated. AEP Texas thus acknowledges that the Opening III-C Narrative text (unlike the operating-expense spreadsheets) did not properly reflect this aspect of Mr. Reistrup's operating plan for the TNR.

Mr. Reistrup notes an additional error in AEP Texas' Opening Narrative description of the TNR's crew districts. Specifically, in the description of the TNR's straightaway crew assignments on page III-C-32, a single home terminal is listed for each crew district.³⁴ This is incorrect; in fact both end points of these crew districts serve as home terminals, with half of the crew personnel based at each terminal. This is reflected in AEP Texas' Opening crew taxi and lodging spreadsheet (*see* AEP Texas Op. electronic workpaper file "TNR Operating Statistics.xls," tab "Crew Starts.")

At page III.D-22 of its Reply Narrative, BNSF states that in its RTC simulation some TNR train crews are unable to complete their runs within the 12 hours permitted by federal hours-of-service rules. Messrs. Reistrup and Schuchmann reviewed the Rebuttal RTC runs and observed several instances where train transit time between crew-change points exceeded the 12-hour limit, particularly on the long crew district between Alliance and Englewood (Denver), CO. The observed train with the longest transit time in this crew district was a loaded train bound from Belle Ayr Mine to the

³⁴ For example, the first straightaway crew assignment lists "Alliance" as the home terminal for crews operating between Campbell or Donkey Creek and Alliance.

Comanche power plant at Minnequa, CO, which took 13 hours for the run between Alliance and Englewood. However, Messrs. Reistrup and Schuchmann noted that a crew called at Englewood to move a northbound empty train bound for Cordero Mine could easily be taxied to relieve the crew on the nearby loaded Comanche train, bring it into Englewood, and then transfer to the empty train (which in the simulation had several hours' cushion in its run between Englewood and Alliance).

A similar procedure can be used to relieve other "outlawed" crews. For example, a crew called at Englewood for a southbound loaded train can be taxied a few miles north of Englewood to board the outlawed train and bring it into Englewood before continuing its scheduled run between Englewood and Las Animas. The TNR has greater flexibility to do this kind of thing than a Class I carrier such as BNSF because it is not subject to rigid union work rules and is not required to call a crew for the sole purpose of "dog-catching" an outlawed train.

b. Car Inspections

The car-inspection aspects of Mr. Reistrup's operating plan are described in detail at pp. III-C-40 to 46 of AEP Texas' Opening Narrative. BNSF's witnesses have not challenged Reistrup's proposed car inspection procedures, locations (with one exception) or time allocations (again with one exception).³⁵

³⁵ In particular, BNSF concurs in Mr. Reistrup's designation of Alliance, NE as the location of the TNR's principal inspection and fueling and inspection point, as well as in
(continued...)

The exceptions involve BNSF's contention that TNR's interchange trains moving south or east of Las Animas should be inspected at Amarillo instead of Las Animas to avoid exceeding the FRA-mandated 1,500-mile interval between car inspections. Mr. Reistrup responded in detail to BNSF's contention, and demonstrated the feasibility of locating the TNR's southerly inspection and fueling yard at Las Animas, at pp. III-B-34 to 50, *supra*.

Mr. Reistrup allotted five hours at Las Animas Yard for fueling and inspecting loaded TNR coal trains, as well as the removal of bad order cars and the insertion of spare/repaired cars. BNSF proposes to fuel and inspect these trains at Amarillo, in both directions, and states that this will permit a reduction of the dwell time at Amarillo from five to three hours. BNSF Reply at III.B-37 to 38. Because Mr. Reistrup's operating plan for the TNR continues to provide for fueling and inspection of trains at Las Animas rather than Amarillo, and in the empty direction only, Mr. Reistrup continues to use five hours as the appropriate dwell time for loaded trains at Las Animas Yard.

In the empty direction, the only functions performed at Las Animas are interchange (in the case of Holcomb coal trains received from BNSF) and a crew change (in the case of all other trains). Mr. Reistrup continues to allot 30 minutes for interchange

³⁵ (...continued)
Mr. Reistrup's allotment of six hours of total dwell time for empty trains at Alliance.

and 15 minutes for crew change at Las Animas. BNSF generally concurs with these time allotments for the interchange and crew-change functions.