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**BEFORE THE
SURFACE TRANSPORTATION BOARD**

ARIZONA ELECTRIC POWER
COOPERATIVE, INC.,

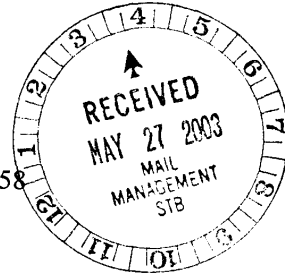
Complainant,

v.

THE BURLINGTON NORTHERN AND
SANTA FE RAILWAY COMPANY and
UNION PACIFIC RAILROAD COMPANY,

Defendants.

Docket No. 42058



**COMPLAINANT ARIZONA ELECTRIC POWER COOPERATIVE, INC.'S
REPLY EVIDENCE**

NARRATIVE AND EXHIBITS

PUBLIC VERSION – INFORMATION SUBJECT TO
PROTECTIVE ORDER HAS BEEN REDACTED

ARIZONA ELECTRIC POWER
COOPERATIVE, INC.

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MAY 27 2003

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Public Record

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I Summary and Argument

ARIZONA ELECTRIC POWER	)	
COOPERATIVE, INC.,	)	
	)	
Complainant,	)	
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v.	)	Docket No. 42058
	)	
THE BURLINGTON NORTHERN AND	)	
SANTA FE RAILWAY COMPANY and	)	
UNION PACIFIC RAILROAD COMPANY,	)	
	)	
Defendants.	)	
	)	

COUNSEL'S REPLY ARGUMENT AND SUMMARY OF EVIDENCE

This filing presents the Reply Evidence of Complainant Arizona Electric Power Cooperative, Inc. (“AEPCO”), in support of its challenge to the common carrier rates established by Defendants The Burlington Northern and Santa Fe Railway Company (“BNSF”) and Union Pacific Railroad Company (“UP”) (collectively the “Defendants” or the “Railroads”) for application to the movement of coal from McKinley and Lee Ranch Mines in New Mexico to AEPCO’s Apache Generating Station near Cochise, AZ.

In theory, the purpose of a shipper's "Reply" Evidence is to respond to the Opening Evidence submitted by the defendant railroad, which normally covers quantitative market dominance, i.e., variable cost/jurisdictional threshold issues. AEPCO's ability to respond here is substantially impaired by the gaps and omissions in the Railroads' Opening Evidence on these issues. Indeed, it appears that the Railroads made only a nominal Opening evidentiary presentation on variable costs, with the likely purpose of saving their more complete showing for their "Reply" submission. Such tactics will serve to exacerbate AEPCO's burdens for its Rebuttal filing.

For example, the Railroads' Opening Evidence did not contain any variable cost information for AEPCO's movements in high-capacity (aluminum) rail cars, which AEPCO has used exclusively since the fourth quarter of 2002, and which AEPCO expects to use exclusively in the future.¹ Moreover, the Railroads' cost evidence was limited to movements from Lee Ranch Mine, and did not reflect any movements from McKinley Mine (coal began moving from McKinley under the challenged tariff rates in the second quarter of 2002). Thus, the Railroads submitted data for just one O-D combination (Lee Ranch-Apache) over six quarters, amounting to a total of six O-D quarter combinations, whereas AEPCO submitted data for fifteen such combinations.

¹ In December of 2002, AEPCO acquired a new train set of high-capacity aluminum railcars, for which it traded in its old low-capacity (steel) railcars. AEPCO has previously leased additional trainsets, and expects to continue to do so in the future, but those trainsets have in recent years been high-capacity, and that practice should continue.

As shown in Part II-A, infra, AEPCO developed costs for movements from McKinley Mine and for periods subsequent to 2Q02 from both mines using data provided by the Railroads in discovery, which extended through August of 2003, and train movement data from AEPCO's own records (including freight bills). Discovery in this case closed on December 16, 2002, and Opening Evidence was filed on February 7, 2003. AEPCO thus has met the standards of the TMPA decision for submitting evidence for rates under challenge.² Shipments moved from McKinley Mine well before development of the record started, and data is available for shipments from both mines for periods after 2Q02. See pp. II-A-12 to 14, infra.

AEPCO also notes that the Railroads' Opening Evidence, as originally filed, claimed that the Lee Ranch rates fell below the jurisdictional threshold in all six of the calendar quarters addressed by the Railroads' evidence. However, on February 26, 2003, the Railroads submitted an Errata filing that lowered their variable costs and conceded quantitative market dominance for three of those six quarters.

It thus seems apparent that the Railroads' Reply Evidence will introduce much additional variable cost information, as to which AEPCO's only chance to respond will be in its Rebuttal Evidence. AEPCO's task of filing Rebuttal Evidence will be complicated by the shorter interval between the Reply and Rebuttal due dates (just over

² Docket No. 42056, Texas Municipal Power Authority v. Burlington Northern & S.F. Ry., Decision served March 24, 2003, at 10 ("TMPA").

five weeks as opposed to the three and a half month interval that the Railroads demanded for their Reply Evidence) and the fact that AEPCO will also be responding to the Railroads' stand-alone cost submission at the same time.

In short, the procedural tactics adopted by the Railroads detract from the orderly and efficient development and resolution of the issues facing the Board. Nonetheless, in this Reply Evidence, AEPCO will respond to the various assertions made by the Railroads in their Opening Evidence. To the extent the Railroads introduce new material on Reply (or Rebuttal) that addresses matters they elected not to address on Opening, AEPCO reserves the right to move to strike such material under the standards of the Board's decisions served March 25, 2002, in Docket No. 42069, Duke Energy Corp. v. Norfolk Southern Ry. Co., and Docket No. 42070, Duke Energy Corp. v. CSXT Transportation, Inc.

Another matter revealed by the Railroads' Opening evidentiary filing also warrants a brief discussion. The Railroads have relied on system-average URCS costs for a number of items for which, historically, movement-specific costs adjustments have been made. They have also attempted to denigrate some of the movement-specific or line-specific material they provided to AEPCO in discovery, particularly in the areas of road property investment return/depreciation and roadway maintenance costs. It is clear that BNSF and UP are engaged in a concerted effort to force the Board to rely on system-average costs, notwithstanding the agency's recognition in numerous prior rate cases that

movement-specific costs are preferred where they can be developed and that movement-specific costs are often lower than system-average costs for unit-train coal movements over high-density rail lines.³

The effect of requiring a variable cost component (e.g., road property, maintenance-of-way, etc.) to be calculated on a system-average basis when a movement-specific calculation that would result in a lower and more precise cost figure could otherwise be determined is to force the shipper to absorb costs that are attributable to non-issue traffic. The resultant cost-shifting is simply a form of cross-subsidy. It would be inconsistent for the Board to impose stringent tests (e.g., PPL Montana⁴ and TMPA) for preventing shippers from including cross-subsidies in their stand-alone presentations, while permitting defendant carriers to create cross-subsidies in the variable cost context by refusing to maintain data. Indeed, the cross-subsidies in the variable context are more pernicious because for every dollar that is mis-assigned, the captive shipper has to pay an extra \$1.80 (to the extent the rate is set by the jurisdictional threshold and not by stand-alone costs).

³ See, e.g., TMPA, Decision served February 9, 2001 at 3 (“adjustments to a defendant carrier’s system-average costs are appropriate to reflect the economies and efficiencies that are associated with high-volume, repetitive movements such as the unit-train service at issue here”); Rate Guidelines – Non-Coal Proceedings, 1 S.T.B. 1004, 1037 n.104 (1996) (“movement-specific adjustments are more likely to arise with unit-train traffic (because those train operations are more discrete and dissimilar from the carrier’s general operations).”).

⁴ Docket No. 42054, PPL Montana, LLC v. Burlington Northern & S.F. Ry., Decisions served August 20, 2002 and March 24, 2003 (“PPL Montana”).

**B. AEPCO’S REPLY EVIDENCE DEMONSTRATES THAT
THE RAILROADS POSSESS QUANTITATIVE MARKET
DOMINANCE OVER THE TRANSPORTATION IN ISSUE**

The evidence presented in Part II-A of this Reply filing establishes the variable costs for the issue movements and the level of the Board’s jurisdictional threshold for the two origin-destination pairs involved. This evidence (like AEPCO’s Opening Evidence) uses methodologies to develop the Railroads’ variable costs that are consistent with the procedures and findings of the Board and its predecessor in numerous prior coal and other maximum rail rate cases.

AEPCO’s Part II-A evidence also notes the differences between the variable costs calculated on Opening by AEPCO and by the Railroads. AEPCO has carefully reviewed and analyzed the Railroads’ variable cost data as presented in their Opening Evidence. Where the Railroads’ evidence demonstrates a more accurate treatment of a cost item, AEPCO has made appropriate Reply adjustments to its own cost calculations. Where the Railroads’ proffered cost data is inaccurate and/or unsupported with any relevant workpapers and/or discovery data, AEPCO has declined to adopt it, but instead, has identified the many methodological and empirical errors that have resulted in the Railroads’ overstatement of the actual costs of providing coal transportation service to AEPCO.

AEPCO’s Reply restatement of variable costs, rates, jurisdictional-threshold rate levels, and R/VC ratios for the movements from McKinley and Lee Ranch Mines to

the Apache Generating Station for each quarter from 1Q00 to 1Q01 is set forth in Table II-A-29 on page II-A-103, infra. For convenience, this table is reproduced below.

TABLE I-2 Summary of AEPCO's Reply Restatement of Variable Cost Evidence							
Qtr.	Origin	Type of Cars (capacity)	Variable Cost	Rate Per Ton	BNSF/UP Revenue Per Ton^{1/}	J.T.^{2/}	R/VC Ratio
1Q01	Lee Ranch	Low	\$4.31	\$9.35	\$9.35	\$7.76	217%
2Q01	Lee Ranch	Low	3.91	9.35	9.35	7.04	239%
3Q01	Lee Ranch	Low	4.21	9.35	9.35	7.58	222%
4Q01	Lee Ranch	Low	3.64	9.35	■	■	■
1Q02	Lee Ranch	Low	3.35	9.54	■	■	■
2Q02	Lee Ranch	Low	3.56	9.54	■	■	■
	McKinley	Low	4.03	9.54	■	■	■
3Q02	Lee Ranch	Low	3.51	9.54	■	■	■
		High	3.01	9.23	■	■	■
	McKinley	Low	3.92	9.54	■	■	■
		High	3.54	9.23	■	■	■
4Q02	Lee Ranch	High	3.02	9.23	■	■	■
	McKinley	High	3.73	9.23	■	■	■
1Q03	Lee Ranch	High	3.17	9.23	■	■	■
	McKinley	High	3.82	9.23	■	■	■
^{1/} ■ ^{2/} For 1Q01-3Q01, the jurisdictional threshold equals variable cost x 180%. For 4Q01-1Q03, the jurisdictional threshold equals ■ ■							

The major areas of cost difference between the parties include the treatment of the Southwestern Railroad ("SWRR") lease (), fuel (), other GTM/LUM costs (), locomotive capital (), return on road property investment and depreciation (), and locomotive maintenance (). Collectively, these items account for approximately of the total per car difference between the variable costs as calculated by the Railroads on Opening and by AEPCO on Reply for 2Q02. These items are treated in detail in Part II-A.

The SWRR lease issue is the largest single area of cost difference between the parties, accounting for of the difference between the Railroads' Opening variable cost and AEPCO's reply variable cost. This issue arises because BNSF leased the 54-mile portion of its lines used to transport the issue traffic between Deming and Rincon, NM, to the SWRR on September 7, 2001 – i.e., during the pendency of this proceeding. As described at pp. II-A-7 to 10, infra, the Board's published notice of exemption the SWRR to assume the common carrier responsibility to provide service between Deming and Rincon, .
.
.
.
 . The Railroads, on the other hand have attempted to "game" the variable-cost and jurisdictional-threshold calculations .

[REDACTED]
[REDACTED]. Id. at II-A-8 to 10. BNSF should not be allowed use its ability to dictate the form of the SWRR lease transaction [REDACTED]
[REDACTED].

Another large area of cost difference between the parties (accounting for [REDACTED] of the difference between the Railroads' Opening variable cost and AEPCO's reply variable cost) involves locomotive capital costs. AEPCO demonstrates at pp. II-A-88 to 100, infra, that its treatment of these costs, which reflects the actual locomotives used in the Apache service, is superior to the Railroads' treatment.

The other major areas of difference are discussed at pp. II-A-30 to 33 (yard and road switching), II-A- 52 to 64 (road property investment), II-A-64 to 68 (locomotive maintenance), and II-A-69 to 87 (crew wages). AEPCO demonstrates that its costs for these items (as well as for others where the difference between the parties is less), as restated on Reply, represent the best evidence of record and, accordingly, should be accepted by the Board.

C. CONCLUSION

AEPCO has demonstrated that the Railroads have market dominance over the coal transportation service to which the rates AEPCO challenges in this proceeding apply. Based on the evidence presented in AEPCO's Opening Evidence, this Reply Evidence, and that which will be presented in Rebuttal Evidence, the challenged rates

exceed a maximum reasonable level as determined under the SAC constraint of the Coal
Rate Guidelines.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 27th day of May 2003, I caused copies of Complainant's Reply Evidence, including the Narrative and associated exhibits and workpapers, to be served by hand upon counsel for Defendants, as follows:

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Andrew B. Kolesar III

II-A Quantitative Market Dominance

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

ARIZONA ELECTRIC POWER	)	
COOPERATIVE, INC.,	)	
	)	
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v.	)	Docket No. 42058
	)	
THE BURLINGTON NORTHERN AND	)	
SANTA FE RAILWAY COMPANY and	)	
UNION PACIFIC RAILROAD COMPANY,	)	
	)	
Defendants.	)	

PART II

MARKET DOMINANCE

A. QUANTITATIVE EVIDENCE

1. Variable Costs

AEPCO's Reply Evidence on variable costs addresses differences between AEPCO's and the Railroads' Opening cost calculations, and, where appropriate, restates AEPCO's variable costs.

a. General Cost Estimation Procedures

Both AEPCO and BNSF/UP generally utilized the STB's final 2001 BNSF and UP Uniform Railroad Costing System ("URCS") unit costs, and indexed those costs for subsequent quarters. Both AEPCO and BNSF/UP made movement-specific

adjustments to various URCS unit costs and applied those unit costs to movement-specific traffic and operating (“T&O”) parameters. The differences in the pertinent T&O factors, and the different movement-specific cost adjustments, are discussed below. As described in detail infra, the parties also differ in their treatment of Account 90 and Account 76, and most significantly, in their treatment of BNSF’s Lease with the Southwestern Railroad Company.

b. Summary of the Parties’ Variable Cost Evidence

(1) Overview

AEPCO submitted variable cost evidence for movements from both the McKinley Mine and the Lee Ranch Mine to the Apache Generating Station. AEPCO’s evidence encompassed movements in both high capacity (aluminum) cars and low capacity (steel) cars for nine calendar quarters (1Q01 through 1Q03), and demonstrated that quantitative market dominance exists for each movement at issue:

TABLE II-A-12
Summary of Movements Costed in
AEPCO's Opening Evidence^{1/}

Quarter	Origin	Type of Cars	Rate Per Ton	BNSF/UP Revenue Per Ton ^{2/}	Var. Cost	J.T. ^{3/}
1Q01	Lee Ranch	Low Capacity	\$9.35	\$9.35	\$4.26	\$7.67
2Q01	Lee Ranch	Low Capacity	9.35	9.35	3.85	6.93
3Q01	Lee Ranch	Low Capacity	9.35	9.35	3.97	7.15
4Q01	Lee Ranch	Low Capacity	9.35	■	3.44	■
1Q02	Lee Ranch	Low Capacity	9.54	■	3.12	■
2Q02	Lee Ranch	Low Capacity	9.54	■	3.33	■
	McKinley	Low Capacity	9.54	■	3.87	■
3Q02	Lee Ranch	Low Capacity	9.54	■	3.32	■
		High Capacity	9.23	■	2.84	■
	McKinley	Low Capacity	9.54	■	3.70	■
		High Capacity	9.23	■	3.34	■
4Q02	Lee Ranch	High Capacity	9.23	■	2.92	■
	McKinley	High Capacity	9.23	■	3.59	■
1Q03	Lee Ranch	High Capacity	9.23	■	2.95	■
	McKinley	High Capacity	9.23	■	3.54	■

^{1/} The cost and jurisdictional threshold figures set forth in this Table regarding McKinley service reflect the changes made by AEPCO in its Third Errata filing dated April 7, 2003. Those changes increased AEPCO's cost calculations for movements from McKinley by \$0.06 to \$0.16 per ton. AEPCO's Errata did not change its cost calculations for Lee Ranch movements.

^{2/} ■

^{3/} For 1Q01-3Q01, the jurisdictional threshold equals variable cost x 180%. For 4Q01-1Q03, the jurisdictional threshold equals ■.

The Railroads' Opening Evidence was far more limited in scope. As discussed in greater detail infra, the Railroads submitted no evidence whatsoever regarding the variable costs associated with movements from the McKinley Mine. The Railroads' refusal to submit evidence regarding McKinley traffic is entirely inconsistent with governing precedent.

The Railroads similarly declined to submit any evidence regarding movements from the Lee Ranch Mine occurring after 2Q02 (i.e., a cut-off date more than seven months before the due date for Opening Evidence).

In any event, while the Railroads initially contested the Board's jurisdiction as to movements from Lee Ranch occurring in each of the six quarters from 1Q01 through 2Q02, the Railroads' Errata filing dated February 26, 2003 made substantial reductions to the Railroads' cost calculations.¹ As a result, the Railroads now concede quantitative market dominance as to three of the six quarters for which they have submitted cost evidence, as shown in Table II-A-13 below.

¹ The Railroads' Errata filing modified the Railroads' cost calculations regarding: (i) fuel; (ii) crew expense; (iii) carload handling; (iv) yard switching; and (v) road switching.

TABLE II-A-13 Impact of Railroads' Errata Filing on Railroads' Calculation of Variable Costs and R/VC Ratios						
Quarter	Origin	Railroads' Opening Evidence		Railroads' Errata		Difference (col. 5- col. 3)
		\$/ton	R/VC	\$/ton	R/VC	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1Q01	Lee Ranch	\$5.84	160%	\$5.37	174%	\$0.47
2Q01	Lee Ranch	5.32	176%	4.90	191%	\$0.42
3Q01	Lee Ranch	5.70	164%	5.18	180%	\$0.52
4Q01	Lee Ranch	6.07	154%	5.34	175%	\$0.73
1Q02	Lee Ranch	5.61	170%	4.96	192%	\$0.65
2Q02	Lee Ranch	5.83	164%	5.09	187%	\$0.74
Source: BNSF/UP Op. at II-46; BNSF/UP's February 26, 2003 Errata at Attachment 1.						

Although the Railroads' Errata filing reduced the disparity between the parties' cost calculations by an amount ranging from \$0.42 to \$0.74 per ton (thus reducing by approximately 30% the cost difference between the parties), the Railroads' evidence continues to reflect significantly higher variable costs than AEPCO's evidence:

TABLE II-A-14
Comparison of Movements Costed in
Parties' Opening Evidence
(as adjusted by each side's Errata)

Quarter	Origin	Type of Cars	AEPCO Var. Costs	Railroad Var. Costs	Difference (col. 5- col. 4)
(1)	(2)	(3)	(4)	(5)	(6)
1Q01	Lee Ranch	Low Capacity	\$4.26	\$5.37	\$1.11
2Q01	Lee Ranch	Low Capacity	3.85	4.90	1.05
3Q01	Lee Ranch	Low Capacity	3.97	5.18	1.21
4Q01	Lee Ranch	Low Capacity	3.44	5.34	1.90
1Q02	Lee Ranch	Low Capacity	3.12	4.96	1.84
2Q02	Lee Ranch	Low Capacity	3.33	5.09	1.76
	McKinley	Low Capacity	3.87	—	—
3Q02	Lee Ranch	Low Capacity	3.32	—	—
		High Capacity	2.84	—	—
	McKinley	Low Capacity	3.70	—	—
		High Capacity	3.34	—	—
4Q02	Lee Ranch	High Capacity	2.92	—	—
	McKinley	High Capacity	3.59	—	—
1Q03	Lee Ranch	High Capacity	2.95	—	—
	McKinley	High Capacity	3.54	—	—

See AEPCO's Reply Exhibit II-A-20² for details and a comparison of the parties' revenue/variable cost ratios. Variable cost differences by causal factor are shown in AEPCO Reply Exhibit II-A-21.

(2) The Southwestern Railroad Lease Issue

On September 7, 2001, BNSF entered into a Lease Agreement (the "SWRR Lease") with the Southwestern Railroad Company, Inc. ("SWRR"), under which SWRR leased and assumed common carrier responsibility to provide service over the approximately 54-mile former BNSF rail line from Deming to Rincon, NM. The SWRR Lease is included in AEPCO's Reply Workpapers at pp. 0003-0059. Under the SWRR Lease, BNSF pays SWRR [REDACTED] for moving the Apache trains between Deming and Rincon. For the period after September 7, 2001, the parties' disparate treatment of this Lease generates the single largest variable cost difference in this case. In fact, the direct impact of this single issue constitutes approximately [REDACTED] of the difference (depending upon the specific quarter) between the parties' variable cost calculations for the affected periods.³

[REDACTED]

[REDACTED]

² Exhibits II-A-1 through II-A-19 were included with AEPCO's Opening Evidence.

³ The SWRR Lease has additional ramifications in terms of [REDACTED]

[REDACTED]

[REDACTED]

In contrast, the Railroads have characterized [REDACTED]

[REDACTED]

[REDACTED]. See BNSF/UP Op. at II-4 and 44. Additionally, the Railroads include all locomotive costs (i.e., capital, maintenance, and other LUM) associated with operations between Deming and Rincon, [REDACTED]

[REDACTED].⁴ The Railroads' cycle time calculations also include the Deming-Rincon segment, [REDACTED]

[REDACTED]

[REDACTED]. See BNSF/UP Op. II-33 to 34.

BNSF/UP's treatment of [REDACTED] is manifestly erroneous. [REDACTED]

⁴ See BNSF/UP Opening electronic workpaper file "BNSF-AEPCO-Open PRG FEB.123" at II-A-6, 7, and 12.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

In other words, [REDACTED]

[REDACTED]

[REDACTED]. The Railroads' treatment might be appropriate if BNSF were still providing the common carrier service over the line. However, the Board's published notice of SWRR's acquisition of the line under exemption, Finance Docket No. 34072, Southwestern R.R. – Acquisition, Lease, and Operation Exemption – The Burlington

⁵ See AEPCO Reply Workpapers, p. 0048.

⁶ See AEPCO Reply Workpapers, pp. 0048, 0007, and 0045.

⁷ See AEPCO Reply Workpapers, p. 0047.

Northern and Santa Fe Ry., Decision served September 21, 2001, makes clear that SWRR has become the common carrier operating the Deming to Rincon segment.⁸

If BNSF wanted to receive a 180% mark-up for the costs of service along the Deming-Rincon segment, then it should have, at a minimum, included information as to SWRR's actual variable costs, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. BNSF/UP's proposed treatment [REDACTED]

[REDACTED]. Such contrivances

should not be countenanced.

The absurdity of the BNSF/UP approach can be illustrated by considering a hypothetical whereby the current BNSF/UP joint through movement is converted into an

⁸ BNSF's claim in response to AEPCO's discovery request that [REDACTED]

[REDACTED]. See BNSF's January 4, 2002 Response to Complainant's Second Supplemental Interrogatories and Requests for Production of Documents, set forth in AEPCO's Reply Workpapers at p. 0062. Similarly, the observation in BNSF/UP Op. at II-4 that [REDACTED]

[REDACTED]

See AEPCO Reply Workpapers at p. 0044-0045.

arrangement where [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]. Such a result would represent a clear manipulation of costing principles.

In short, the treatment sought by BNSF/UP [REDACTED] would result in a perverse outcome, as it would mean that [REDACTED]
[REDACTED]
[REDACTED]. Such an approach is neither reasonable nor equitable. Moreover, if the variable cost/jurisdictional threshold treatment were simply a function of [REDACTED]
[REDACTED], the defendants could dictate the result by controlling whether or not the short-line [REDACTED]. Such “gaming” of the system should be discouraged, not encouraged.

c. Traffic and Operating Characteristics

AEPCO’s procedures for ascertaining T&O characteristics are described below and in AEPCO Op. at II-A-8 to 17. AEPCO used the same procedures and data sources for both Lee Ranch and McKinley movements.

The principal differences in the T&O factors calculated by AEPCO and BNSF/UP in their Opening Evidence (shown in AEPCO Reply Exhibit II-A-22) are discussed below. Where appropriate, AEPCO is restating its T&O characteristics, on Reply, in light of its review of BNSF/UP's Opening Evidence. Exhibit II-A-23 sets forth the T&O characteristics used by AEPCO in this Reply.

(1) **Origins**

The Railroads did not include any McKinley movements in their Opening Evidence. On the contrary, the Railroads contended – without the benefit of any governing precedent – that since no complete cycles involving McKinley service occurred before the end of the discovery data cut-off period in this case, there is no obligation for them to defend their rates on McKinley traffic:

[T]here were no complete train cycles between the North Tipple Mine [i.e., McKinley] and Apache Station before June 30, 2002, the end of the period for which variable cost data were available to the parties. Therefore, the only movements of New Mexico coal from January 1, 2001, to June 30, 2002, that are covered by AEPCO's complaint are movements originating at Lee Ranch Mine.

BNSF/UP Op. at I-2 (emphasis added). Similarly, the Railroads stated that:

[T]here were no complete train movements between North Tipple and Apache Station before June 30, 2002, the end of the period for which variable cost information was available to the parties.

BNSF/UP Op. at II-2 (emphasis added). The Railroads' self-appointed deadline for McKinley traffic that is subject to STB challenge is without merit, and their consequent

failure to submit cost evidence on such traffic constitutes a waiver of their right to contest the issue of quantitative market dominance.

The Board's recent TMPA decision indicates that the appropriate cut-off date is the close of the record, not the end of discovery:

Initially, we note that no shipments moved under the challenged rate from either the Antelope or Jacobs Ranch mines before the record was developed in this case. Thus, there is insufficient information to develop the variable costs associated with serving these two origins, although TMPA's complaint and SAC analysis embrace movements from the Antelope and Jacobs Ranch mines. If TMPA should originate coal from either the Antelope or Jacobs Ranch mine in the future, the parties should use the procedures and findings in this appendix to calculate the variable costs associated with serving these mines to determine whether that service is subject to our rate regulation and our rate prescription.

See Docket No. 42056, Texas Municipal Power Agency v. The Burlington Northern and Santa Fe Ry., Decision served March 24, 2003 ("TMPA") at 38 (emphasis added).⁹

AEPCO received a total of 291,704 tons of McKinley Mine coal between June 29, 2002 and the date on which Opening Evidence was filed in this case (i.e., February 7, 2003).

It is also worth noting that the Railroads' reliance on the discovery cut-off date¹⁰ is a particularly irrelevant consideration in determining whether cost analysis can

⁹ AEPCO understands that a party has sought reconsideration of the TMPA decision on the grounds, inter alia, that rate prescription should be available before the date of first movement from a given mine.

¹⁰ The discovery period in this case actually ended on December 16, 2002, with the understanding that only documents generated prior to the end of 2Q02 would be subject (continued...)

be undertaken. It is the Railroads themselves that possess the data required to calculate variable costs.

Despite the 2Q02 discovery data cut-off, AEPCO nevertheless was able to develop T&O factors and variable costs for movements from the McKinley Mine (and the Lee Ranch Mine) for post-discovery periods. In preparing its "post-2Q02" evidence, AEPCO used BNSF's and UP's train movement files, which provided the following T&O data: (1) locomotive units per train; (2) loaded transit time; (3) empty transit time; (4) time at McKinley; and (5) time at Apache Station.¹¹ The Railroads' train movement files included data for 2Q02 and part of 3Q02. AEPCO averaged the 2Q02 and 3Q02 data from the train movement file to generate information for 4Q02 and 1Q03. In addition, AEPCO used both the Railroads' freight bills (sent in the ordinary course of business) and loading reports from its own records to obtain information regarding: (1) cars per train; (2) lading weight; and (3) tare weights.¹² The freight bill and loading report information were available through the end of calendar year 2002. Data for 1Q03 represents an average of 3Q02 and 4Q02 data.

¹⁰(...continued)
to production.

¹¹ See AEPCO Opening electronic files "bnsf train movement summary T&O.123" and "UP Trn Mvmnt 2002 Deming-Cochise.xls."

¹² See AEPCO Opening electronic workpaper file "T&O DATA PROVIDED BY AEPCO.123" and AEPCO Opening Workpapers, Vol. 2, p. 00563 to Vol. 3, p. 01520.

(2) Weight of Lading Per Car

Table II-A-15 below compares the lading weights AEPCO and BNSF/UP developed in their Opening Evidence:

Table II-A-15 Weight of Lading Per Car (Lee Ranch to Apache) (Tons)			
Quarter	AEPCO Opening Evidence	BNSF/UP Opening Evidence	Difference
1Q01	■	■	0.7
2Q01	■	■	0.5
3Q01	■	■	2.0
4Q01	■	■	1.5
1Q02	■	■	1.2
2Q02	■	■	0.5
3Q02	■ ■ ■	—	—
4Q02	■	—	—
1Q03	■	—	—
Source: AEPCO Reply Exhibit II-A-22.			

AEPCO's lading weight calculations are based upon the freight bills that AEPCO received from UP and from AEPCO's own mine loading reports.¹³ For each shipment, the freight bills and loading reports provide the following information: (1)

¹³ See AEPCO Reply electronic file "T&O REPLY DATA PROVIDED BY AEPCO.123."

train id; (2) waybill number; (3) shipment date; (4) freight bill number; (5) car id; (6) origin; (7) destination; (8) shipment tons; (9) number of railcars; (10) rate per ton; and (11) total freight charges.¹⁴ BNSF/UP, on the other hand, indicate that they also developed their lading weights from the freight bills, which are summarized in their Opening workpapers. The difference between AEPCO's and the Railroads' lading tons per car results from the Railroads' use of an incorrect number of cars per train.¹⁵ (The Railroads divided tons per train by cars per train to derive tons per car.)¹⁶ Because of this Railroad error, the Board should adopt AEPCO's lading weight per car as the best evidence of record.

(3) Tare Weight of Car

Table II-A-16 below compares the tare weights per car developed by AEPCO and BNSF/UP in their Opening Evidence. The Railroads' tare weight estimates exceed AEPCO's in all but one quarter for shipments originated at the Lee Ranch Mine.

¹⁴ Copies of these freight bills and loading reports were included in AEPCO's Opening Workpapers Vols. 2 and 3 of 11, pp. 00563 to 01520.

¹⁵ See T&O Item 6, infra (cars per train).

¹⁶ See BNSF/UP.OP.WPII-A-145 to 434, and Opening electronic file "Deming-Cochise AEPCO Rate Waybills.xls."

Table II-A-16 Tare Weight of Cars (Lee Ranch to Apache) (in Tons)			
Quarter	AEPCO Opening Evidence	BNSF/UP Opening Evidence	Difference
1Q01	■	■	(0.1)
2Q01	■	■	0.7
3Q01	■	■	0.8
4Q01	■	■	0.5
1Q02	■	■	1.4
2Q02	■	■	0.3
3Q02	■	—	—
4Q02	■	—	—
1Q03	■	—	—
Source: AEPCO Reply Exhibit II-A-22.			

AEPCO based its tare weight calculations on mine loading reports.¹⁷ The Railroads source their tare weights to the trailing tons for empty trains, as reported in the train movement data.¹⁸ Because accurate tare weights are an essential part of the loading process, it is reasonable to conclude that the mine loading reports used by AEPCO in its Opening Evidence present the relevant tare weights with accuracy. AEPCO therefore continues to rely on its Opening tare weight calculations.

¹⁷ See AEPCO Reply electronic workpaper file “T&O REPLY DATA PROVIDED BY AEPCO.123.”

¹⁸ See BNSF/UP Op. electronic workpaper file “AEPCO UP Tare Weights.xls.”

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(4) Identity of Car Owner

AEPCO provides nearly all of the cars used in the subject service. See BNSF/UP Op. at I-2 (“[a]ll of the relevant movements occurred in trains of shipper-provided cars.”). BNSF/UP, however, provide substitute cars for the AEPCO movement on an as needed basis. In its Opening Evidence, AEPCO determined the appropriate car substitution ratio for these railroad-provided cars on a quarterly basis, whereas BNSF/UP determined their car substitution ratio on an annual or semi-annual basis.¹⁹ Because AEPCO’s determination is more specific, it constitutes the better evidence of record, especially as the variable costs are calculated on a quarterly basis.

AEPCO has continued to use its quarterly car substitution ratios in this Reply. See AEPCO Op. electronic workpaper file “T&O Data Provided by AEPCO.123.”

(5) Locomotive Lease Rental

AEPCO based its locomotive lease costs on the locomotive lease rate for the specific costing period. BNSF/UP, on the other hand, calculated their locomotive lease rental expenses using the average lease rate over the life of the locomotive leases.

¹⁹ AEPCO determined the railroad car substitution ratio from the Railroads’ freight bills and reported those ratios by quarter in Opening Exhibit II-A-2. BNSF/UP developed a [REDACTED] BNSF car substitution ratio for 2001 and a [REDACTED] BNSF car substitution ratio for the first two quarters of 2002 and applied those ratios to the movements from Lee Ranch to Apache. See BNSF/UP Op. at II-24 and BNSF/UP.OP.WP.II-A-440-441 and electronic workpaper “Cochise Car Info.xls.”

As is described in more detail, infra, in AEPCO's discussion of Locomotive Capital Costs, the Board's precedent favors AEPCO's approach.

(6) **Cars Per Train**

Table II-A-17 below compares the parties' Opening calculations of the average number of cars per train.

TABLE II-A-17 Comparison of Evidence Regarding Cars Per Train (movements from Lee Ranch)			
Quarter	AEPCO Opening Evidence	BNSF/UP Opening Evidence	Difference
1Q01	■	■	0.6
2Q01	■	■	0.6
3Q01	■	■	1.8
4Q01	■	■	2.1
1Q02	■	■	1.5
2Q02	■	■	1.4
3Q02	■ ■ ■	—	—
4Q02	■	—	—
1Q03	■	—	—
Source: AEPCO Op. Exhibit II-A-2; BNSF/UP Op. at II-21.			

As stated at page II-A-14 of AEPCO's Opening Narrative, AEPCO developed the average number of cars per train for each movement for each quarter based

on the freight bills for the movements at issue.²⁰ BNSF/UP stated at page II-20 of their Opening Evidence that they also developed the number of cars per train from freight bills.²¹

While the Railroads did use the same basic source data, they used the number of cars shown in the “Equipment ID” block on the freight bill. This block shows the first car initial and number plus the number of additional cars. However, in many cases, this is not the total number of cars actually in the train or the number represented by the freight charges on the bill. When the charges on freight bills are corrected, the number of cars shown on the original freight bill is not changed. In contrast, AEPCO tied the freight bill information to the loading reports, which include the actual cars loaded in AEPCO trains and for which payment was made. An example is Freight Bill 880516, which appears in AEPCO Op. Workpapers Vol. 2, at pp. 00913 to 00917, and in BNSF/UP.OP.WPII-A-231 to 232. The Equipment ID block on this freight bill shows “[REDACTED].” The Railroads used [REDACTED] cars for this train. AEPCO included [REDACTED] cars for this train based on the loading report tonnage and the tons to which the rate of

²⁰ See AEPCO Reply electronic workpaper file “T&O REPLY DATA PROVIDED BY AEPCO.123.” Copies of these freight bills and loading reports were included in AEPCO’s Opening Workpapers, Vols. 2 and 3, pp. 00563 to 01520.

²¹ See BNSF/UP.OP.WPII-A-145 to 434, and Opening electronic file “Deming-Cochise AEPCO Rate Waybills.xls.” Also, the Railroads presented no evidence with regard to the time periods 3Q02 through 1Q03.

\$9.35 was applied. See AEPCO Opening Workpapers Vol. 2, at p. 00917. The tonnage paid for matches the amount shown on the loading report for ■ cars.

On Reply, AEPCO has continued to rely on the average number of cars per train that it presented in its Opening Evidence. The Board should adopt AEPCO's cars per train as the better evidence of record because the Railroads did not make the proper adjustments to reflect the cars actually on the train and for which AEPCO paid.

(7) Loaded Miles

In its Opening Evidence, AEPCO developed the miles in the loaded direction from the New Mexico Origin Mines to Apache Station using BNSF and UP timetables produced by BNSF and UP in discovery. AEPCO totaled the miles between stations as shown in the BNSF and UP timetables for the line segments utilized by the loaded AEPCO coal movements. In contrast, the Railroads calculated distance between mileposts using track chart mileposts and adjusting for equalization. In most cases, the difference between the two methods is minor.

AEPCO has discovered two errors in its Opening mileage calculation. AEPCO's Opening miles for the Baca to Deming segment began with West Baca rather than East Baca. In addition, AEPCO's Opening miles had a discrepancy in the connection at Deming between BNSF and UP. In its Reply restatement, AEPCO adopts the Railroads' miles for the Lee Ranch Mine to Apache Station route. AEPCO's

restatement also reflects the same revisions with respect to the loaded miles between McKinley Mine and Apache.

Even though the parties now agree regarding loaded miles for the Lee Ranch movement during the "pre-SWRR" time period, they do not agree on the assignment of the SWRR miles. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] AEPCO's treatment of the SWRR miles is correct, and the Board should adopt AEPCO's loaded miles as the best evidence of record.

(8) Empty Miles

The Opening Evidence submitted by AEPCO and the Railroads reflects the same route of movement in the empty and loaded directions. In this Reply, AEPCO adjusts its Opening empty miles for the two corrections identified in the discussion of loaded miles and is adopting the Railroads' empty miles for the Lee Ranch movement. The Railroads did not calculate empty miles for the movement from McKinley Mine to AEPCO's Apache Station.

As was the case with loaded miles, the Railroads have treated SWRR empty miles [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] AEPCO's treatment of the SWRR miles is correct, and the Board should adopt AEPCO's empty miles as the best evidence of record.

(9) Length of Origin Loop Track

Both AEPCO and the Railroads developed the origin loop track miles at Lee Ranch Mine using the Railroads' timetables and track charts and USGS Topographic Maps.²² A review of the Railroads' Opening Evidence shows no difference between the parties in the treatment of loop track miles at Lee Ranch Mine. The origin loop track miles included by AEPCO in Opening for McKinley Mine remain unchanged for Reply.²³

(10) Length of Destination Loop Track

A review of the Railroads' Opening Evidence shows slight differences between the parties in the treatment of loop track miles at Apache Station. In this Reply, AEPCO has accepted the Railroads' destination loop track miles.

(11) Number of Locomotive Units

AEPCO and the Railroads agree that [REDACTED] locomotives per train generally are used for Apache train movements from the New Mexico Origin Mines. AEPCO's Reply Exhibits II-A-22 and II-A-23, Line 11, show that the average locomotives per train are virtually the same in each quarter between 1Q01 and 2Q02 for

²² Both parties' loop track miles are shown in AEPCO Reply Exhibit II-A-23, which compares AEPCO's Reply and the Railroads' Opening Evidence.

²³ See AEPCO Reply electronic workpaper file "AEPCO Miles Reply.123."

trains originated at Lee Ranch Mine. Both AEPCO's and the Railroads' data were drawn from the Railroads' train movement files.²⁴ The train movement files provided by the Railroads included train-related data through August of 2002. AEPCO used data from this file for July and August of 2002 to compute locomotives per train for 3Q02 for both Lee Ranch Mine and McKinley Mine. The locomotive information in the train dispatch reports was used to develop data for 4Q02 and 1Q03 for Lee Ranch Mine.²⁵ For McKinley Mine shipments in 4Q02 and 1Q03, AEPCO used an average of the locomotives per train in 2Q02 and 3Q02 from the train movement file.²⁶

In this Reply AEPCO continues to use its Opening Evidence calculation of the number of locomotives per train.

(12) Cycle Time

Table II-A-18 below summarizes the parties' Opening Evidence regarding cycle times for movements from Lee Ranch and reports AEPCO's Reply cycle times:

²⁴ See AEPCO Opening electronic workpaper file "bnsf train movement summary T&O.123," and the Railroads' Opening electronic workpaper file "AEPCO Trains 1Q01-2Q02.xls."

²⁵ See AEPCO Opening electronic workpaper file "Train Dispatch Reports.123."

²⁶ See AEPCO Reply electronic workpaper file "T&O Summary Reply.123."

TABLE II-A-18 Comparison of Locomotive Cycle Time Evidence (in hours)					
Quarter	Origin	AEPCO		BNSF/UP Opening Evidence	Difference (vs. AEPCO Reply)
		Opening	Reply		
1Q01	Lee Ranch	■	■	■	6.2
2Q01	Lee Ranch	■	■	■	7.1
3Q01	Lee Ranch	■	■	■	2.9
4Q01	Lee Ranch	■	■	■	13.1
1Q02	Lee Ranch	■	■	■	17.5
2Q02	Lee Ranch	■	■	■	4.6
3Q02	Lee Ranch	■	■	—	—
4Q02	Lee Ranch	■	■	—	—
1Q03	Lee Ranch	■	■	—	—
Source: AEPCO Reply Exhibits II-A-22 and II-A-23.					

AEPCO's Reply cycle times, while higher than its Opening times, are nevertheless lower than those used by the Railroads. BNSF/UP presented no evidence with respect to shipments for the periods 3Q02 through 1Q03.

In its Opening Evidence, AEPCO developed cycle times from the train movement data the Railroads provided in discovery. These cycle times were developed by adding four components: Loaded Transit Time, Empty Transit Time, time at the mine, and time at Apache Station. However, after reviewing the Railroads' Opening Evidence,

AEPCO realized it had omitted dwell time for its trains at Deming, NM. (Deming was the interchange point between UP and BNSF prior to September 7, 2001, and between UP and the SWRR commencing September 7, 2001, when BNSF leased its Deming-Rincon line to that carrier). This omission resulted from how the Railroads recorded cycle times, that is, neither BNSF's nor UP's component records included the Deming dwell time.

AEPCO was able to determine the train dwell time at Deming by matching the arrival and departure times at Deming for each loaded and empty train during the period from January 1, 2001 through September 6, 2001.²⁷ AEPCO has calculated that

[REDACTED]

[REDACTED]

[REDACTED].²⁸ However, neither the Railroads' records nor their Opening Evidence indicates which carrier is responsible for the dwell time. The customary operating procedure for run-through trains at interchange points such as Deming is that the delivering carrier delivers the train to a designated point on the receiving carrier's tracks.²⁹ Once the train is delivered, the delivering carrier's crew departs the train and it becomes the sole responsibility of the receiving carrier. This means that dwell time at an

²⁷ See AEPCO Reply workpaper electronic file "Time at Deming.xls."

²⁸ The Deming dwell time thus constitutes a substantial portion (between [REDACTED] of the total cycle time for Apache trains.

²⁹ See the discussion at p. III-C-25 of AEPCO's Opening Narrative; see also Docket No. 42078, Norfolk Southern Ry. – Petition for Declaratory Order – Interchange With Reading Blue Mountain & Northern R.R., Decision served April 29, 2003, at 4-5.

interchange point is likely to occur after the train has been delivered to the receiving carrier.

In the absence of better information, and consistent with the preceding discussion, AEPCO has charged UP as the receiving carrier for loaded trains with the average Deming dwell time in the loaded direction, and BNSF (or the SWRR beginning September 7, 2001) as the receiving carrier for empty trains with the average Deming dwell time in the empty direction. This is a conservative approach, as it may well be that all post-September 7, 2001 Deming dwell time is attributable to the SWRR, which means it should be excluded from the BNSF/UP cycle time altogether. In any event, on Reply, AEPCO has added Deming dwell time in the loaded direction for all periods and in the empty direction for periods prior to September 7, 2002. The revised cycle times have been reflected in AEPCO's Reply restatement of variable costs.

In contrast to AEPCO's procedure, the Railroads calculated the overall average round trip cycle time for all shipments originating at Lee Ranch and terminating at Apache and included the empty time without regard to the mine at which the subsequent loading occurred.³⁰ The error of the Railroads' approach is that it fails to recognize that trains do not always cycle between the same mine origin and the Apache Station. The Railroads' cycle frequently included time from Apache to a subsequent mine

³⁰ The Railroads have also included all of the dwell time at Deming, despite their failure to present evidence as to which carrier was responsible for this dwell time.

origin (such as York Canyon) that is different than the origin/destination pair that is being evaluated. Because of the Railroads' error, the Board should adopt AEPCO's cycle time as the best evidence of record.

(13) Crew Districts

The parties agree regarding this item. See AEPCO Op. at II-A-15 to 16 and BNSF/UP Op. at II-23.

**(14) Locomotive Units Required
(by Type and Horsepower)**

The parties also agree regarding this item. See AEPCO Op. at II-A-16 and BNSF/UP Op. at II-24.

(15) Spare Margin for Locomotives

In its Opening Evidence, AEPCO calculated a locomotive spare margin of 5.4%. See AEPCO Op. at II-A-16 and Op. electronic workpaper "Composite Loco Inputs.123." BNSF/UP, on the other hand, advocated the use of a spare margin of [REDACTED] for 2001 and [REDACTED] for the first two quarters of 2002. See BNSF/UP Op. at II-24. BNSF/UP's calculation reflects an attempt to change the Board's definition of locomotive spare margin, and is directly contradicted by BNSF's locomotive lease agreements. AEPCO describes in detail, infra, in its discussion of Locomotive Capital Costs, why the Railroads' approach – which has been rejected in prior rate cases – is incorrect and should be rejected here.

(16) Yard and Road Switching Minutes

AEPCO Reply Exhibits II-A-22 and II-A-23 identify the differences between the Railroads' and AEPCO's T&O characteristics associated with Switching by Yard Locomotives (line 13), Switching by Road Locomotives - Non Yard (line 14), and Switching by Road Locomotives - Yard (line 15). The switching minutes developed by the Railroads overstate both the yard and road switching minutes required for AEPCO service.

AEPCO developed yard and road switching minutes based on concrete data from BNSF and UP Train Dispatcher Reports provided by the Railroads in discovery. See AEPCO's Opening Narrative at II-A-17 (Items 36 and 37) and II-A-51 to 52, and the workpapers referred to therein. Based on this hard data, AEPCO included [REDACTED] per train for road switching on yard tracks for both the BNSF and UP. This time was developed using a conservative estimated switch time of [REDACTED] per car and the number of cars switched from the Train Dispatch Reports for AEPCO trains between September 3, 2002 and December 31, 2002. These reports revealed that only [REDACTED] [REDACTED] trains recorded any switching activity.³¹ To be conservative, the [REDACTED] per train was applied separately to both the BNSF portion of the movements and the UP

³¹ See AEPCO Opening Workpapers Vol.3, p. 01521 through Vol .4, p. 01930 and Opening electronic workpaper file "Train Dispatch Records.123."

portion of the movements. The total time per train included by AEPCO for road switching on yard tracks thus is [REDACTED]

In developing their yard and road switching minutes for AEPCO trains, the Railroads did not use any of the information in their own Train Dispatch Reports, and they did not perform any current studies of actual switching activity related to the AEPCO trains. See BNSF/UP Op. at II-10 to 14, II-25, and II-29 to 32.³² Instead, the Railroads relied exclusively on the opinions and estimates of their witnesses, and have failed to provide documentation supporting those estimates, even when asked to do so in response to AEPCO's supplemental workpaper requests. See AEPCO's Reply Workpapers at pp. 0070-0071.

The subjective nature of the switching time requirements for AEPCO trains developed by the Railroads is demonstrated by the following excerpts from their Opening Narrative. At II-11, BNSF/UP state:

[REDACTED]

³² The Railroads' calculation of road switching minutes on yard and non-yard tracks per train is summarized at BNSF/UP Op. II-A-31 and 32, Tables II.A.13 and II.A.14. The source for the data in these tables is "BNSF/UP.OP.WP.II-A-544-555." These workpapers consist of: track charts, time table pages, a track profile, a printout of information on through trains out of Tucson, a questionnaire on operations at Apache Station (which is only partially answered), and some handwritten notes. There is nothing to indicate that the Railroads performed a controlled study at each of the relevant locations to develop actual switching operations and representative switching minutes for AEPCO trains. In addition, there is nothing to support the Railroads' arbitrary assignment of bad order cars per train to AEPCO's trains.

[REDACTED]

Total time for this operation as “estimated” by Mr. Ellis and applied by BNSF/UP

Witness Fisher includes [REDACTED]

[REDACTED]. Id. at II-12, Table II.A.2.

Next, BNSF/UP discuss switching at Gallup:

[REDACTED]

BNSF/UP Op. at II-12 (emphasis added). The Railroads similarly [REDACTED]

[REDACTED]. Id. at II-12 to 13. The discussion of switching time for AEPCO trains while on UP trackage is based on [REDACTED]. Id. at II-13 to 14.

In short, the Railroads have provided only approximations, averages, estimates, and impressions rather than concrete data, with estimated switching time varying from [REDACTED] depending on the location. The lack of concrete

data on switching time is exacerbated by the Railroads' similar use of approximations in determining how many AEPCO bad-order cars are "normally" set out, picked up, or switched at each of the locations where the Railroads have included switch time. At some locations, the Railroads apportion time [REDACTED]

[REDACTED]

[REDACTED].⁹

These allocations are made without supporting documents or studies.

In TMPA, the Board rejected BNSF's evidence on switching time because it was not based on current, empirical observations. Id. at 45-46. In this case, the Railroads have likewise failed to provide any empirical evidence of the kind the Board required for acceptance of switching minutes in TMPA. AEPCO's switching costs, which are based on the Railroads' Train Dispatcher Reports, constitute the best evidence of record.

(17) Joint Facility Payments

BNSF/UP included system-average road operating expenses for each of BNSF's and UP's portions of the AEPCO route. See BNSF/UP Op. at II-26. AEPCO excluded joint facility payments because the movements to Apache do not use any joint

⁹ See BNSF/UP OP at II-31 and 32, Tables II.A.13 and 14. Additionally, the Railroads' Witness Fisher costed all Road Switching on Non-Yard Tracks [REDACTED]

facilities. See AEPCO Op. at II-A-17. AEPCO's approach is the best evidence of record as it is based on the actual route of movement, whereas the Railroads' approach plainly is not.

d. Variable Cost Calculations

Table II-A-19 below compares AEPCO's and BNSF/UP's opening cost calculations (as modified through errata filings), and AEPCO's restated cost calculations for an illustrative movement: Lee Ranch to Apache (2Q02) in low capacity (steel) cars.

TABLE II-A-19 Comparison of AEPCO Opening, BNSF/UP Opening, and AEPCO Reply Variable Costs Per Ton for Lee Ranch to Apache Movement (2Q02)				
ITEM	AEPCO Opening	BNSF/UP Opening	Difference (col. 3 - col. 2)	AEPCO Reply
(1)	(2)	(3)	(4)	(5)
1. Carload O/T Clerical Expense	■	■	■	■
2. Carload Handling – Other Expense	■	■	■	■
3. Switching Exp – Yard Locomotives	■	■	■	■
4. Switching Exp – Road Locos (Non-Yard)	■	■	■	■
5. Switching Exp – Road Locos (Yard)	■	■	■	■
6. Gross Ton-Mile Expense (GTM)	■	■	■	■
7. Loop Track Expense – Origin & Destination	■	■	■	■
8. Train-Mile Expense – Other than Crew	■	■	■	■
9. Train-Mile Expense – Train & Engine Crew	■	■	■	■
10. Helper Service Expense – Other than Crew	■	■	■	■
11. Helper Service Expense – T&E Crew	■	■	■	■
12. Locomotive Unit-Mile Expense	■	■	■	■
13. Locomotive Ownership Expense	■	■	■	■
14. User Responsibility For Car Repair Expense	■	■	■	■
15. Car Ownership Expense	■	■	■	■
16. Car Operating Expense	■	■	■	■
17. Caboose & EOTD Ownership Expense	■	■	■	■
18. Loss and Damage Expense	■	■	■	■
19. SWRR Payment (including overheads)	■	■	■	■
20. Total Variable Cost Per Carload	■	■	■	■
21. Tons Per Car	■	■	■	■
22. Variable Cost Per Ton	■	■	■	■
23. RFA-URCS Linking Factor	■	■	■	■
24. Linked Variable Cost Per Ton (L.22 x L.23)	■	■	■	■
25. Jurisdictional Threshold ■	■	■	■	■
26. Rate Per Ton	■	■	■	■
27. R/VC Percentage ■	■	■	■	■

Each cost item where there is a difference between the parties is discussed below.¹⁰

(1) Carload Originated or Terminated – Clerical Expense

In their Opening Evidence, the parties used the same procedures to develop station clerical expenses. See AEPCO Op. at II-A-51; BNSF/UP Op. at II-28 to 29. The parties' use of different indexing procedures, however, produced a slight cost difference. In its Reply restatement, AEPCO has adopted BNSF/UP's index and therefore has eliminated almost all of the difference from Opening regarding station clerical expenses.

(2) Carload Handling – Other Expense

On Opening, AEPCO adjusted system average costs for this item to remove those portions inapplicable to unit train coal movements, that is: (1) cleaning car interiors; (2) car loading devices and grain doors; and (3) adjusting and transferring loads. See AEPCO OP. at II-A-53 to 54. In FMC, WPL I, and TMPA, the STB accepted this adjustment.¹¹ BNSF/UP do not incur these costs when handling the AEPCO coal movements, but did not make the requisite adjustment. See BNSF/UP Op. at II-29. Therefore, the Board should adopt AEPCO's costs as the best evidence of record.

¹⁰ Where relevant, AEPCO has noted costing issues regarding service from the McKinley Mine, as well.

¹¹ See Docket No. 42022, FMC Wyoming Corp. v. Union Pacific R.R., Decision served May 12, 2000 ("FMC") at 73; Docket No. 42051, Wisconsin Power and Light Co. v. Union Pacific R.R., Decision served September 13, 2001 ("WPL" or "WPL I"), at 48; TMPA at 53.

(3-5) Switching Expense

AEPCO explained its development of switching costs at AEPCO Op. at 51-52,¹² and the Railroads explained theirs at BNSF/UP Op. at 29-33.¹³

Most of the switching cost difference between the parties' Opening Evidence resulted from the divergent service units (i.e., switch engine minutes ("SEM's")) used by the parties. See column (6) of lines 3-5 of AEPCO's Reply Exhibit II-A-21, page 6 of 15. AEPCO explained the superiority of its SEM's, supra, in T&O item (16), page II-A-29 through II-A-32.

Because of the superiority of AEPCO's SEM's, the Board should adopt AEPCO's switching costs as the best evidence of record.

(6) Gross-Ton-Mile Expenses

The differences between AEPCO's and BNSF/UP's GTM expense (per car) for a representative movement (Lee Ranch-to-Apache 2Q02) are shown in Table II-A-20.

¹² See AEPCO Opening electronic workpaper files "VC AEPCO BNSF Opening.123" for BNSF and "VC AEPCO UP Opening.123" for UP.

¹³ See BNSF/UP Opening electronic workpaper files "BNSF-01-Switch Split.123" for BNSF and "UP-01-Switch Split.123" for UP.

TABLE II-A-20 Comparison of GTM Expense Per Car Lee Ranch to Apache (2Q02)					
<u>Item</u> (1)		<u>AEPCO</u> <u>Opening</u> (2)	<u>BNSF/UP</u> <u>Opening</u> ¹ (3)	<u>Difference</u> ² (4)	<u>AEPCO</u> <u>Reply</u> (5)
1.	Maintenance-of-Way	████	████	████	████
2.	Return on Road Property	████	████	████	████
3.	Road Property Depreciation	████	████	████	████
4.	Fuel	████	████	████	████
5.	Locomotive Maintenance	████	████	████	████
6.	Other GTM	████	████	████	████
7.	Total	████	████	████	████
¹ The costs shown for BNSF/UP reflect the changes made by the Defendants in their February 26, 2003 Errata filing. ² Column (3) - Column (2)					

a. Maintenance-of-Way

In its Opening Evidence, AEPCO developed variable maintenance-of-way (“MOW”) costs for both the BNSF and UP portions of the Apache coal movement using the Speed Factored Gross Ton (“SFGT”) formula. See AEPCO Op. at II-A-20 to 35. In their Opening Evidence, on the other hand, BNSF/UP used system average MOW costs for each carrier.

In every western railroad rate case beginning with the 1986 San Antonio decision and ending with the 2002 WPL II decision on reconsideration, the Board has

calculated variable MOW costs using the SFGT formula.¹⁴ In several mid-1990's cases, both parties agreed that the SFGT formula should be used. More recently, railroad defendants have claimed that the SFGT formula is outdated and no longer produces reliable estimates of MOW costs. See WPL I at 50-53. The Board rejected these criticisms, however, and continued to use the SFGT formula. Id. The Board then stated that this issue was settled. See Ex Parte No. 347 (Sub-No. 3), General Procedures for Presenting Evidence in Stand-Alone Coal Rate Cases, Decision served March 12, 2001 ("General Procedures") at 6. In the recent TMPA case, however, the Board ignored both its precedents and its General Procedures admonition by rejecting the SFGT formula in favor of system average MOW costs.¹⁵

In their Opening Evidence, BNSF/UP raised two primary arguments against the continued use of the SFGT formula, which are similar to the arguments made by BNSF in the TMPA case. First, BNSF/UP asserted that the SFGT formula fails to predict actual BNSF and UP system MOW costs. Second, BNSF/UP stated that the SFGT formula fails to predict BNSF/UP's total MOW expenses because of its "reliance on outdated operating, maintenance, and accounting practices" (Exhibit BNSF/UP II.A.5 at 1). According to BNSF/UP, two such changes over the last 25 years that have

¹⁴ See Docket No. 36180, San Antonio, TX v. Burlington Northern R.R., ICC served April 11, 1986 ("San Antonio"); Docket No. 42051, Wisconsin Power and Light Co. v. Union Pacific R.R., Decision served May 14, 2002 ("WPL II").

¹⁵ TMPA at 54-56. AEPCO understands that reconsideration has been sought regarding this aspect of the TMPA decision.

“undermined whatever predictive value SFGT once had” (id. at 5) are that: (1) average density of the San Antonio route is a fraction of the density of the AEPCO route today; and (2) the SFGT formula used in San Antonio “predicted MOW expenditures to actual expenditures under replacement, retirement, and betterment (‘RRB’) accounting,” which the ICC instructed the railroads to discontinue in 1983. Id., Exhibit BNSF/UP II.A.5 at 5. In this Reply, AEPCO addresses both of these arguments against the use of SFGT. It also addresses the Board’s statement in TMPA that the MOW expenses produced by the SFGT formula have not been shown to be comparable to current actual MOW costs for any specific rail line.

**i. Correlation of SFGT Results With
Actual Maintenance-of-Way Costs**

At page 3 of Exhibit BNSF/UP II.A.5, the carriers assert that variable costs using the SFGT fail to reflect the same distribution of costs between roadway, ties, rails and ballast as actually occurred on railroads in the year 2001. This analysis is irrelevant for two reasons. First, the MOW costs calculated by the SFGT formula replace all URCS variable MOW costs that are allocated to the gross ton-mile component (i.e., URCS locations D1L157C2 and D1L157C3), not just the four categories cited by BNSF/UP. Second, BNSF/UP fail to recognize that the variability percentage for the MOW components differs between the SFGT formula and URCS. Stated differently, AEPCO’s calculation of variable MOW costs follows the Board’s accepted procedures for

determining variability using the SFGT formula, which is not intended to equal the variabilities derived using URCS.

In TMPA, the Board agreed with BNSF that the SFGT model should no longer be considered reliable, absent a showing that the model produces MOW expenses that are comparable to “current actual MOW” costs for any rail line. Id. at 56. However, in this proceeding, there is no “current actual MOW” cost data to be analyzed in order to make the comparison. While BNSF/UP criticize the SFGT model for being a poor predictor of BNSF/UP’s actual MOW costs, their Opening Evidence is devoid of any discussion or actual examples of BNSF’s or UP’s internal records that identify the direct MOW expenditures (and accompanying service units) over the route traversed by AEPCO trains. Moreover, AEPCO specifically requested actual MOW expense and service unit data during the discovery phase of the case, but the responses by BNSF and UP to AEPCO’s initial and follow-up requests were insufficient to allow the analysis to be performed. The Railroads, of course, did analyze the direct costs for several other cost components, such as crew wages and locomotive capital.

Under the circumstances, it is highly unfair, in light of the Board’s TMPA decision, for BNSF/UP on the one hand not to provide current actual MOW costs to AEPCO in discovery, or to the Board in their Opening Evidence, and on the other argue that the SFGT model should not apply in this case because it produces results that may

not be comparable to current actual MOW costs.¹⁶ Accordingly, under the circumstances of this case, the Board should apply the SFGT model in the absence of a demonstration by the Railroads that the SFGT model, as applied to the AEPCO coal movement, does not produce MOW expenses that are comparable to their current actual MOW costs.

**ii. SFGT Formula Revisions to Recognize
Changes in the Rail Industry**

As the Board recognized in TMPA, MOW costs determined using the SFGT formula have been found to correlate closely with actual maintenance-of-way costs for high-density rail lines in the West.¹⁷ Since that finding was made in the 1986 San Antonio decision, the SFGT formula has been revised and updated several times in light of experience and scientific advances, including updates to the inputs and the engineering equations to reflect more current railroad maintenance practices. Those changes did not invalidate the findings in San Antonio and continue to demonstrate that the SFGT formula correlates to actual costs. The version of the SFGT formula utilized by AEPCO to calculate variable maintenance-of-way costs in this proceeding incorporates modifications that were first accepted by the ICC as part of its OPPD decision.¹⁸ The

¹⁶ In WPL I at 52 n.99, the Board stated: “We question why such [actual MOW] evidence has not been offered, as the railroads surely have the cost data available to make such a comparison.”

¹⁷ See TMPA at 55 (citing San Antonio).

¹⁸ Omaha Public Power District v. Burlington Northern R.R., 3 I.C.C.2d 123, 150-151 (1986) (“OPPD”) (affirming an ALJ decision served January 15, 1986, revising the (continued...))

changes in the formula since it was designed in 1975 were all made to address criticisms raised by the railroads and include: (1) modification to reflect heavy wheel loading commodities; (2) modification of the rail and other track material equation to recognize the impact of curves over two degrees; (3) development of the R-Factor to calibrate the SFGT costs to the actual costs incurred by the railroad studied; (4) development of an updated equation for ties; and (5) modifications to the ballast and surfacing components of the equation. Thus, the SFGT methodology has been updated and refined over the years, and, as recently as the 2002 WPL II decision,¹⁹ was considered an appropriate means by which movement-specific MOW costs could be estimated in coal rate cases.

iii. Amtrak Decision

BNSF/UP's arguments rely heavily on the ICC's 1995 Amtrak decision.²⁰

The SFGT formula used by AEPCO is not the SFGT formula rejected by the ICC in Amtrak. In Amtrak, a "modified" version of the SFGT formula was presented and that version was the only SFGT formula reviewed by the ICC. The ICC stated in that

¹⁸(...continued)

SFGT formula and resolving earlier criticisms of the formula concerning an alleged lack of documentation regarding several components).

¹⁹ See WPL II at 4-6. In WPL I (at 51 n.98), the Board addressed essentially the same arguments made by BNSF/UP in this case concerning whether the SFGT formula was outmoded and concluded that those arguments were meritless.

²⁰ See BNSF/UP Op. Exhibit BNSF/UP II.A.5 at 6-7; National Railroad Passenger Corp. – Application Under Section 402(a) of the Rail Passenger Service Act for an Order Fixing Just Compensation, 10 I.C.C.2d 863 (1995) ("Amtrak").

proceeding that the “main issue before us is whether Amtrak’s updated and revised version of SFGT, or Conrail’s WSAC model, is the more appropriate methodology for this case.”²¹

Furthermore, the Amtrak proceeding dealt with the allocation of actual maintenance expenses and depreciation between two users of a rail line rather than the calculation of variable MOW costs for the line. In other words, actual line specific MOW expenses were available in Amtrak and the only issue was the methodology to allocate the actual monies (on an incremental basis) between freight and passenger service. The SFGT formula presented here by AEPCO is utilized to calculate line-specific MOW costs because the actual expenses are not available.

In summary, as the STB has itself concluded,²² the Amtrak decision is of no relevance to the calculation of line specific maintenance-of-way costs for a freight movement like AEPCO’s coal movements to the Apache plant.

²¹ See Amtrak at 872 (emphasis added). In its recent TMPA decision, the Board purports to distinguish the precedential support for SFGT in railroad rate cases by noting that, for the first time, a railroad argued for the use of URCS system-average MOW costs, rather than the WSAC formula. This is a distinction without a difference; the railroads’ obsolescence argument has been the same in all of the recent rate cases.

²² FMC at 75-77.

iv. Changes in Accounting Procedures

BNSF/UP argue that SFGT should be rejected because the “data used in the San Antonio analysis reflect RRB accounting.”²³ According to the Railroads, the change in accounting procedures render the SFGT formula invalid because the SFGT formula has not been compared to the “maintenance activities that are expensed in today’s railroad environment.” See Exhibit BNSF/UP II.A.5 at 11. These arguments are without merit.

The ICC and STB have used SFGT in conjunction with URCS, which relies on depreciation accounting rather than RRB accounting, in numerous proceedings subsequent to the adoption of URCS, including such recent proceedings as WTU,²⁴ APS,²⁵ FMC, and WPL. Indeed, BNSF itself used the SFGT formula to calculate variable MOW costs in the WTU case, notwithstanding the fact that the parties submitted their evidence in WTU six years after the change from RRB to depreciation accounting.²⁶

v. Changes in Density

BNSF/UP complain that some of the components of the SFGT formula overstate economies of density at high traffic density levels, and point to two selected

²³ Exhibit BNSF/UP II.A.5 at 8.

²⁴ West Texas Utilities Co. v. Burlington Northern R.R., 1 S.T.B. 638, 724 (1996), aff’d sub nom. Burlington Northern R.R. v. STB, 114 F.3d 206 (D.C. Cir. 1997) (“WTU”).

²⁵ Arizona Public Service Co. v. Atchison, Topeka and Santa Fe Ry., 2 S.T.B. 367 (1997) (“APS”).

²⁶ Id., 1 S.T.B. at 723.

engineering studies claiming to show track structure degradation to be linear with usage.²⁷

In WPL I, the Board responded to this same railroad argument as follows: “[T]he engineering studies, however, only support the proposition that wear rates vary directly with tonnage changes on high-density lines. We have no evidence that wear rates and maintenance costs are directly related.” Id. at 51. In other words, the Railroads’ argument confuses physical wear and tear with maintenance costs; the two are not the same. Even if one assumes that there is a linear relationship between increases in traffic and increases in track damage, this does not mean that there is a linear relationship between increases in traffic and increases in MOW operating costs.²⁸ BNSF/UP assume this crucial missing link.

Economies of scale are real in the railroad environment, especially for large, high-density railroads such as BNSF and UP. These economies of scale would lead one to expect that rail lines with greater than system average densities would have unit costs for MOW that are less than system average. This is confirmed by Table II-A-21 below,

²⁷ See Exhibit BNSF/UP II.A.5 at 7.

²⁸ BNSF/UP assert that

[REDACTED] (Exhibit BNSF/UP II.A.5 at 7). A copy of this study was provided in the Railroads’ workpapers. The study is self-serving. The article cited by BNSF/UP was presented by the designers and supporters of the discredited Weighted System Average Cost (“WSAC”) model. The study never addressed actual cost changes, but rather changes in wear due to changes in density. As addressed above, the two are not the same. In addition, the study did not address the difference between operating expenses and capitalized monies, an issue on which BNSF/UP fault the SFGT formula.

which presents an overview of how BNSF/UP's total maintenance costs and average densities have changed for 1983 (the first year of depreciation accounting), 1995 (before the BNSF/ATSF and UP/SP mergers), and 2001.

TABLE II-A-21
Changes in Density and Maintenance Cost Per Gross Ton-Mile -- BNSF and UP

Item	Source	1983	1995	2001	Percent Change From	
					1983 to 2001	1995 to 2001
(1)	(2)	(3)	(4)	(5)	(6)	(7)
BNSF ^{1/}						
1. Total MOW Costs (000)	R-1 Schedule 410, Line 151	\$906,033	\$1,339,738	\$1,234,906	+36%	-8%
2. Total GTM- Excluding Locomotives (millions)	R-1 Schedule 755, L99 + L100 + L101	461,421	690,223	895,936	+94%	+30%
3. Route Miles	R-1 Schedule 755, Line 1	40,138	31,288	33,025	-18%	+6%
4. Average Density Per Mile (millions GTM)	L2 ÷ L3	11.50	22.06	27.13	+136%	+23%
5. MOW Costs Per Million GTM	L1 ÷ L2	\$1,964	\$1,941	\$1,378	-30%	-29%
UP ^{2/}						
6. Total MOW Costs (000)	R-1 Schedule 410, Line 151	\$1,018,461	\$1,336,947	\$1,455,291	+43%	+6%
7. Total GTM-Excluding Locomotives (millions)	R-1 Schedule 755, L99 + L100 + L101	435,358	830,622	959,426	+120%	+16%
8. Route Miles	R-1 Schedule 755, Line 1	44,213	38,366	33,586	-24%	-12%
9. Average Density Per Mile (millions GTM)	L7 ÷ L8	9.85	21.65	28.57	+190%	+32%
10. MOW Costs Per Million GTM	L6 ÷ L7	\$2,339	\$1,646	\$1,517	-35%	-8%

^{1/} Values for 1983 and 1995 reflect the combination of BNSF and ATSF.

^{2/} Values for 1983 to 1995 values reflect the combination of UP, CNW, DRGW, SP, WP, MKT, SSW, and MP.

Source: Spreadsheet titled "Table II A 21.xls" in AEP CO's Reply electronic workpapers.

As shown in Table II-A-21, the average density per route-mile increased 136 percent on BNSF and 190 percent on UP between 1983 and 2001 (Column (6), Line 4 and Line 9). Since 1995, density per route-mile increased 23 percent on BNSF and 32 percent on UP (Column (7), Line 4 and Line 9). From 1983 to 2001, maintenance-of-way costs per million GTM declined 30 percent on the BNSF and 35 percent on the UP. From 1995 (when density was already at a high level, more than 22 million GTM per mile on the BNSF and 22 million GTM per mile on the UP) to 2001, maintenance-of-way costs per million GTM declined 29 percent on the BNSF and 8 percent on the UP.²⁹ Moreover, the values in Table II-A-21 reflect actual (nominal) dollars. If the maintenance-of-way costs were expressed on a constant (real) dollar basis, the decline in the cost per million GTM would be substantially greater.

Table II-A-21 above demonstrates that economies of scale as well as density do, in fact, exist for a railroad such as BNSF. In particular, route miles for the BNSF increased by 6 percent between 1995 and 2001 while maintenance-of-way costs decreased 29 percent (Table 21, Column (7), Lines 3 and 5). This refutes any claim that the SFGT formula is outdated because of changes in operating/maintenance practices.³⁰

²⁹ See Line 5 and Line 10, Columns (6) and (7).

³⁰ WPL I (at 48 n.98) discusses the same trends that were shown comparing the railroad's 1983 data to 1999. This comparison led the Board to state "We do not agree with UP [that MOW cost per MGTM increase as density increases]. There is no evidence from which we can conclude that the introduction of new technologies or higher densities make the 1983-1999 comparison developed by WPL unreliable."

The SFGT formula, which does recognize these economies of scale, is appropriate for use in this proceeding.

The characteristics of the route traversed by AEPCO's unit trains is far different than that of the BNSF and UP system average characteristics. Table II-A-22 below compares the system average track and traffic characteristics for BNSF and UP with the statistics for the AEPCO route. As the table shows, the AEPCO route is a high density route that shows little similarity to the Railroads' system densities or track characteristics.³¹

³¹ The statistics for the AEPCO route exclude the Rincon to Deming line segment where service is provided by the SWRR.

TABLE II-A-22
Comparison of Track and Traffic Characteristics --
BNSF & UP System Average v. AEPCO Route (2001)

Item (1)	System Average		Statistics for AEPCO Route (4)
	BNSF (2)	UP (3)	
1. Percent of miles with density (MGT per track mile)			
a. Greater than 20 MGT	████	████	████
b. From 5 to 20 MGT	██	██	██
c. From 1 to 5 MGT	██	██	██
d. Less than 1 MGT	██	██	██
2. Average density per track mile (MGT)			
a. Unit train	██	██	██
b. Other Traffic	██	██	██
c. Total (L2a + 2b)	██	██	██
3. Tracks per mile	██	██	██
4. Percent of welded rail	██	██	██

Source: "BNSF Rfactor for AEPCO Reply.123," and "UP Rfactor for AEPCO Reply.123" and "Table II A 22.xls" included in AEPCO's Reply electronic workpapers.

For example, █████ of the route traversed by AEPCO's unit trains has densities █████ million gross tons ("MGT") with an average density of █████ MGT (Table II-A-22, Column (4), Line 2c). For BNSF, █████ of the system has densities █████ and █████ of the BNSF system has densities █████. For UP, █████ of the system has densities █████ and █████ of the UP system █████. Overall, the BNSF and UP system

average densities of 31 MGT (BNSF) and 34 MGT (UP) [REDACTED]
[REDACTED]

The track characteristics on the AEPCO route are also far different than those for the BNSF and UP systems. The AEPCO route has [REDACTED] tracks per mile ([REDACTED]) and [REDACTED] welded rail than the BNSF and UP system averages, respectively. In summary, the system average MOW variable costs proposed by BNSF and UP are reflective of very different circumstances and operations than those relevant to the route traversed by AEPCO's unit coal trains.

The SFGT formula has been repeatedly revised and improved since its original development, and it reflects the real world in terms of measuring economies of density. The Board should revisit its rejection of SFGT in TMPA in light of the evidence presented herein by AEPCO, and accept AEPCO's Opening determination of MOW costs for the AEPCO movement using the SFGT formula.

**b. Return on Investment and Depreciation
for Road Property**

In its Opening Evidence, AEPCO developed variable costs for return on investment and depreciation of investment in road property ("road property capital costs") differently for the UP and BNSF portions of the Apache coal movement. Consistent with the Board's long-standing preference for movement-specific variable costs where data to make movement-specific adjustments is available, AEPCO prepared a special study to

calculate movement-specific road property capital costs for the UP portion of the movement based on valuation records provided by UP in discovery. However, because of inadequacies in the line-specific valuation data provided by BNSF in response to a Board order, AEPCO had to use system-average road property capital costs for the BNSF line segments used to transport the issue traffic.³²

The Railroads used system-average road property return and depreciation data to calculate road property capital costs for both the UP and BNSF portions of the movement, notwithstanding the availability of reliable movement-specific data for the UP line segments involved. The gist of their contentions is that neither BNSF's nor UP's internal records are sufficiently accurate or detailed to permit the parties (or the Board) to develop movement-specific road property return and depreciation costs. See BNSF/UP Op. at II-33 to 34 and Exhibit BNSF/UP II.A.6.

AEPCO's Reply Exhibit II-A-21, page 6 of 15, Line 6(d), compares AEPCO's Opening road depreciation cost calculations with the Railroads' comparable

³² See the Board's Decision in this proceeding served September 11, 2002, at 6-7, and p. II-A-37 of AEPCO's Opening Narrative. In prior coal rate cases involving high-density rail lines, road property capital costs have been determined to be substantially lower (on a per gross ton-mile basis) than road property capital costs calculated on a system-average basis. In WTU, BNSF itself presented movement-specific costs for return on road property/depreciation. Id., 1 S.T.B. at 724. In the recent TMPA case, BNSF provided information in discovery that enabled the complainant to calculate movement-specific road property capital costs that were accepted by the Board. The instant case reveals a determined effort by BNSF and UP to force the Board to rely on system average costs for road property and in a number of other areas rather than lower movement specific adjustments that the Board and the ICC have relied on for many years.

calculations. Line 6(e) of this exhibit makes the same comparison for return on road property investment costs. Column (16) of the exhibit shows that the total 2Q02 difference between the parties is [REDACTED] for road depreciation and [REDACTED] for return on road property investment, or a total of [REDACTED].³³

AEPCO notes that the Railroads' position in this case that road property capital costs must be calculated for both UP and BNSF on a system-average basis is inconsistent with the way such costs have been calculated in numerous coal rate cases from the 1986 San Antonio case (1 I.C.C.2d at 584-86) to the 2003 TMPA case (id. at 56-57). Indeed, UP's position in this case constitutes a departure from its position in the recent WPL rate litigation, where UP itself relied upon its own internal records (including its valuation records) in presenting movement-specific road return and depreciation costs. UP's transparent effort in this case to impeach the kind of records it relied upon in the WPL case is not credible.

The Railroads' Opening Evidence on road property capital costs (presented by its Witnesses Fisher, Bendon, and Elliott primarily in Exhibit BNSF/UP II.A.6) assumed that AEPCO would attempt to develop movement-specific costs for both BNSF and UP, and a considerable part of their evidence on this issue is devoted to arguing that

³³ Of the total [REDACTED] difference, [REDACTED]. The difference for BNSF is attributable to the parties' different treatment of Accounts 76 and 90 [REDACTED].

system-average costs should be used for BNSF due to problems with the line-specific valuation data maintained by BNSF and belatedly provided to AEPCO pursuant to the Board's September 11, 2002 order. Because AEPCO (like the Railroads) used system-average road property capital costs for the BNSF portion of the movement, it will not address the BNSF issues further except to state that its silence should not be interpreted as agreement with the Railroads' conclusion that movement-specific road property capital costs cannot and should not be developed for any BNSF lines. Instead, AEPCO will focus on Messrs. Fisher and Bendon's statements concerning the alleged shortcomings of the UP line-specific road property return and depreciation information produced in discovery.

i. AEPCO's UP Road Property Costing Procedure

AEPCO's Reply Exhibit II-A-25 describes how AEPCO determined road property capital costs for the UP portion of the Apache coal movements. This exhibit explains that AEPCO assigned UP line-specific road property capital costs only to the traffic that used the associated investments. It also explains how AEPCO allocated road property capital costs for those UP investments that were not assigned to the specific UP line segments.

Both AEPCO and the Railroads placed UP road property investments into two categories: (i) those that UP assigns to specific line segments and (ii) those that UP does not assign to specific line segments. AEPCO treated the first category on a

movement-specific basis, assigning the costs associated with those investments to the traffic that uses those investments. AEPCO treated the second category on a system-average basis, just as the Railroads did. In other words, AEPCO did not make a segment-specific adjustment to UP road property investments that are not assigned to individual line (valuation) sections. Rather, AEPCO treated these unassigned investments on a system average basis (as did the Railroads).

**ii. Defendants' Objections to the use of UP
Investment Data produced in Discovery**

The Railroads detail their objections to using UP data for making movement-specific road property cost calculations at pp. 4-13 of Exhibit BNSF/UP II.A.6. The exhibit starts with the proposition that in WPL, the Board rejected movement-specific adjustments to road property capital costs because:

The Board correctly recognized that UP's valuation section records cannot be used to develop valid line-specific ownership costs, because they provide an incomplete and distorted measure of UP's measure of UP's investment in road property used to serve the complainant's traffic.

Id. at 5. In fact, however, the Board made no such finding in WPL. The Board's stated reasons for using system average road property capital costs instead of movement-specific costs were threefold: (i) WPL inappropriately presented the separate prices for each former WRPI and CNW line segment³⁴ for the first time on rebuttal; (ii) WPL's evidence

³⁴ WPL involved PRB lines that UP acquired in 1995. AEPCO's case does not
(continued...)

incorrectly assumed that its traffic used all of the former WRPI lines; and (iii) neither party “appropriately accounted for unassigned investment costs.” See WPL II at 16.

None of these reasons applies to the UP lines used to provide service for the Apache coal traffic, which does not use any former WRPI or CNW lines. As AEPCO indicated at p. II-A-37 of its Op. Narrative, its calculation of UP movement-specific road property capital costs addresses the problems that led the Board to default to system average costs in WPL.

The arguments in Exhibit BNSF/UP II.A.6 essentially reduce to an attack on UP’s own accounting data for the valuation sections used by the AEPCO trains that was produced in discovery. The attack centers around three points:

[1] The valuation section records do not fully reflect the investment costs associated with assets UP acquired when it merged with Southern Pacific Rail Corporation and its railroad subsidiaries (collectively, “SP”).

[2] The valuation section records do not reliably assign all investments necessary to serve AEPCO traffic to valuation sections that include the AEPCO route.

[3] The valuation section records cannot distinguish whether specific assets within a valuation section are used for AEPCO traffic.

³⁴(...continued)

involve those lines. The UP lines involved here are former Southern Pacific lines, and AEPCO has reflected the value of these lines as reflected in the accounting for the UP/SP merger transaction.

Id. at 5. In fact, AEPCO's evidence (which uses line-specific data developed by UP using its internal accounting procedures) deals with these factors in a manner that produces movement-specific road property capital costs that are "demonstrably superior" to the use of system average costs.³⁵

Investment costs associated with former SP lines. UP's valuation section records produced in discovery reflected the line-specific, pre-acquisition book values for the SP line between Deming and Cochise that UP uses to transport AEPCO's coal traffic, and Mr. Fisher does not question the accuracy of these records. UP also produced information concerning the value of the system-wide SP write-up resulting from the acquisition. AEPCO's Reply Exhibit II-A-25 shows how AEPCO distributed that system-wide write-up to the Deming to Cochise line segment. AEPCO submits that while its allocation procedure may not produce a "perfect" valuation estimate, it is a reasonable procedure that is far more appropriate than the Railroads' approach that weights road property in Seattle (and every other location on the combined UP/SP system) equally with the Deming to Cochise road property in deriving the Deming to Cochise investment values. The claim in Exhibit BNSF/UP II.A.6 (at 7) that because UP's records [REDACTED], "UP's URCS

³⁵ As Defendants correctly note on page 6 n.9 of Exhibit BNSF/UP II.A.6, this is the standard used by the Board in WPL and other cases to determine whether proposed movement-specific cost adjustments should be accepted in preference to system average costs.

system-average costs are the only appropriate source of roadway ownership costs,” thus is baseless.

Allocations of investment from default valuation sections to specific valuation sections. At pages 8-12 of Exhibit BNSF/UP II.A.6, the Railroads describe the accounting procedures UP uses to allocate investments from default valuation sections to specific valuation sections. Although these procedures appear reasonable [REDACTED]

[REDACTED], the Railroads argue that the resulting valuation records are not perfect and thus that the Board should default to system averages. UP should not now be heard to complain that [REDACTED]

[REDACTED] somehow produce “arbitrary” results that are not “demonstrably superior” to system averages when used to develop line-specific road property investment costs in a rate case. UP’s actions belie the Railroads’ litigation-driven conclusions, and again they have made no attempt to show that use of the valuation section investments resulting from UP’s allocation procedures produces results that are not “demonstrably superior” to system average results.

AEPCO’s traffic benefits from specific assets assigned to valuation sections that are not a part of the AEPCO route. AEPCO’s procedures for determining movement-specific UP road property capital costs recognize and account for the fact that, as the Railroads note (Exhibit BNSF/UP II.a.6 at 12), AEPCO’s traffic benefits from assets

assigned to valuation sections that are not a part of the route used by UP to transport that traffic. AEPCO's Reply Exhibit II-A-25 explains the procedures used by AEPCO to charge the Apache traffic with its fair share of such UP investments.

The only specific example cited by the Railroads for this category involves

[REDACTED]. The Railroads note that "[n]one of that investment appears in the valuation sections associated with AEPCO's route" (BNSF/UP Exhibit II.A.6 at 12). However, UP's investment [REDACTED]. AEPCO's special study of road property capital costs did not address [REDACTED] costs. [REDACTED] are included in the URCS general overhead ratio applicable to return on investment. AEPCO's costs include an overhead ratio that encompasses the URCS-assigned system average share of [REDACTED] costs, and [REDACTED] is thus included in AEPCO's calculation of road property capital costs.

UP's valuation section records cannot distinguish whether specific assets within a valuation section are used for AEPCO traffic. At pp. 12 of BNSF/UP Exhibit II.A.6, the Railroads note that UP's valuation sections for the Deming-Cochise route sometimes include track segments that are not used by the Apache coal traffic. However, when this occurs, AEPCO has charged the Apache traffic with a pro-rata share of the

related investment, not the entire investment in the valuation section. Even if AEPCO were unable to make an appropriate adjustment, the Railroads' observation would imply that the movement-specific costs were too high compared to actual costs, which is hardly a reason to use still higher system average costs.

AEPCO's Reply Exhibit II-A-25 explains the procedure used by AEPCO to charge Apache traffic with its fair share of such investments. This procedure is based on the Board's WPL and TMPA procedures,³⁶ which allocate the investment based on usage. This allocation procedure properly allocates investment and depreciation in each valuation section based on the traffic that actually uses the facilities. For example, assume a valuation section includes 50 miles of track of which AEPCO trains utilized only 20 miles. The return on investment and depreciation for the entire 50 mile section are converted to costs per gross ton-mile and the unit costs are applied to the gross ton-miles generated by AEPCO's coal traffic. This procedure allocates a disproportionately higher share of the total costs to heavy loading commodities, such as AEPCO's coal traffic.

While this procedure does not produce "perfect" results, it is consistent with the procedures approved in WPL and TMPA and it is thus "demonstrably superior" to the

³⁶ In its recent TMPA, decision, the Board did not require the shipper to identify specific assets used for specific traffic. The procedure approved in TMPA only identified assets in particular valuation sections used by the issue traffic and distributed the related road property costs using URCS procedures. Id. at 56-57. URCS procedures spread an asset's capital cost to the traffic using the asset on a pro rata (gross ton-mile) basis.

Railroads' system average estimate.³⁷ That estimate is debased by consideration of UP line-specific investments in geographic regions of the country far away from the line used for the Apache traffic, including many parts of the UP system that have traffic densities [REDACTED] UP's line between Deming and Cochise.

**iii. Effect of Traffic Density on Road
Property Capital Costs**

Dividing expenses (i.e., the numerator, in this instance represented by road property return on investment or depreciation) by traffic density (i.e., the denominator) produces unit costs. The Railroads base both their numerator and their denominator on system averages when calculating unit cost for road property return on investment and depreciation. AEPCO has demonstrated that its line-specific numerator for UP, that is, UP's road property investment expenses for the Deming-Cochise line, is superior to a system-average numerator. AEPCO's denominator, UP's line-specific traffic density, in millions of gross ton-miles per mile ("MGTM/M"),³⁸ is also superior to system average MGTM/M. System average density does not accurately capture UP's actual movement-specific road property capital costs.

³⁷ Moreover, any imperfections redound to the benefit of the Railroads, not AEPCO.

³⁸ AEPCO used the line-specific gross ton-miles UP provided during discovery (UP file "gtm2001.xls"). See computer file "Rd Inv UP AEPCO Reply.123," sheet "gtm 2001" in AEPCO's Reply electronic workpapers.

UP's system average road property capital costs are representative of average traffic, but average traffic and average costs are irrelevant in this case, which is focused on heavy unit coal trains moving over a high density route – not “average traffic.” Economies of scale made possible by high volume traffic have allowed UP (and BNSF) to realize greatly reduced road property capital costs relative to system average for the lines involved. A demonstration of this fact for BNSF's high-density lines serving the Powder River Basin is set forth in AEPCO's Reply Exhibit II-A-26.

The traffic density on the Deming-Cochise line segment used by the Apache trains is more than double UP's system average density.³⁹ However, in addition to arguing that a movement-specific adjustment cannot be made to UP's system average road property capital costs because of data deficiencies, they also argue that the variable portion of total costs should increase as density increases, and thus, that if a movement-specific adjustment is made, the URCS 50% variability factor for road property capital costs should also be adjusted upward. See Exhibit BNSF/UP II.A.6 at 14-17.

BNSF appears to have made the same argument regarding variability of movement-specific road property investment costs in TMPA. However, the Board refused to rule on the issue because it was “not fully supported” and was made for the first time on rebuttal. Id. at 56 n.94. While BNSF and UP have raised the issue on

³⁹ BNSF/UP Exhibit II.A.6, p. 15 n.18 (density on the Deming-Cochise segment is [REDACTED], [REDACTED] the UP system average density of [REDACTED]).

Opening, they again have failed to support their argument with facts but rather resort to assumptions, hypotheticals and analogies related to other cost components. The argument should again be rejected for the reasons set forth in AEPCO's Reply Exhibit II-A-26.

c. Locomotive Fuel

AEPCO calculated locomotive fuel costs in its Opening Evidence on the basis of a prior study of the same movement at issue in this case. See AEPCO Op. at II-A-41 to 43. For the reasons set forth therein, AEPCO continues to rely upon those fuel costs, rather than upon the system average costs utilized by BNSF/UP in their Opening Evidence.

d. Locomotive Maintenance

AEPCO explained its development of locomotive maintenance costs at pp. II-A-38 to 41 of its Opening Narrative. AEPCO based its evidence on the maintenance costs included in BNSF's contracts with vendors providing locomotive repair services at the full service contract maintenance rates for the locomotives used in AEPCO service.⁴⁰ AEPCO explained that this calculation methodology was necessary because the Railroads' refused to produce the actual locomotive maintenance data that AEPCO requested in discovery.⁴¹

⁴⁰ See AEPCO Op. Workpapers, Vol. 1 at pp. 00221-00533. AEPCO used UP's special study "2000 Fully Allocated Locomotive Repair Costs by Model" as the basis for its calculation of the UP locomotive maintenance costs.

⁴¹ See AEPCO Op. at II-A-39 n.34 and n.36.

In their Opening Evidence, the Railroads determined locomotive maintenance costs merely by using system average figures.⁴² The parties' Opening calculations of locomotive maintenance cost differed by [REDACTED] per car or [REDACTED] per ton for 2Q02.⁴³

TABLE II-A-23		
Comparison of Costs Regarding Locomotive Maintenance for Lee Ranch Movements (per car) (2Q02)		
AEPCO Opening Evidence	BNSF/UP Opening Evidence	AEPCO Reply Evidence
[REDACTED]	[REDACTED]	[REDACTED]
See AEPCO Reply Exhibit II-A-21, page 6 of 15, line 6(f) and 11(e).		

The major factor contributing to the difference between the parties was AEPCO's special study regarding the BNSF-provided locomotive maintenance agreements for the equipment used in the Apache service.⁴⁴

⁴² See BNSF/UP Op. at II-34 (stating only that system average costs were used).

⁴³ Columns (5) through (15) of AEPCO Reply Exhibit II-A-21, page 6 of 15, detail the factors causing or contributing to that difference.

⁴⁴ Variable locomotive maintenance costs were addressed in AEPCO's Op. at II-A-38 to 41, Exhibits II-A-7A and II-A-7B, at pages 5 and 6 of 12 of each of the variable cost detail exhibits (see AEPCO Opening Exhibits II-A-13 through II-A-16), and lines 6 and 12 of the variable cost summaries (see AEPCO Opening Exhibits II-A-11 through II-A-12 and II-A-17 through II-A-18). For UP locomotive maintenance, AEPCO used UP's
(continued...)

In the TMPA decision, the Board rejected the use of a special study regarding BNSF's locomotive maintenance costs – and defaulted to system average – because the Board believed that TMPA had not properly accounted for “non-routine costs” such as costs incurred due to “wrecks, derailments, vandalism, abuse, or running out of fuel.” Id. at 58. AEPCO's determination of locomotive maintenance costs addresses the Board's TMPA concerns by identifying the locomotive maintenance costs that reflect “costs incurred due to wrecks, derailments, vandalism, abuse, or running out of fuel” and treating those costs on a system average basis.⁴⁵

“Routine” locomotive maintenance costs remain specific to the locomotive maintenance agreements that BNSF has with the locomotive manufacturers. Using this method, AEPCO has captured movement-specific costs where the underlying records will allow such a determination to be made, but AEPCO has utilized system average costs to properly compensate the Railroads where the Board has specifically found the use of a

⁴⁴(...continued)
special study “2000 Fully Allocated Locomotive Repair Costs by Model” as a basis for its calculations. See AEPCO Op. at II-A-39.

⁴⁵ The URCS accounts adjusted by the special study ratio are Diesel Road Locomotive Repairs (03L101), Loco Machine Repairs (03L135), and Loco Damages Billed to Others (credit) (03L145). Other repairs which are not part of normal maintenance are charged to accounts such as Clearing Wrecks, Locomotive Equipment Damaged and Other Locomotive Casualties and are included in the residual “other” GTM and “other” LUM costs, which are not adjusted by the special study locomotive maintenance ratio.

movement-specific special study to be inadequate. As such, AEPCO's locomotive maintenance costs are superior to the system average costs submitted by BNSF/UP.

The simple system average approach used by BNSF/UP, on the other hand, ignores all the differences in maintenance costs between the locomotives used to provide service to AEPCO and the balance of the locomotives used by BNSF. To that end, the locomotives used in Apache service [REDACTED]; i.e., [REDACTED] for locomotives used in AEPCO service,⁴⁶ compared with [REDACTED] for BNSF's system-average locomotives.⁴⁷ The Board's precedent recognizes that newer locomotives need repairs less frequently than older locomotives. See San Antonio, TX v. Burlington Northern, Inc., 362 I.C.C. 161, 163 (1979); see also Increased Rates on Coal, BN, Montana to Superior, Wisconsin, 362 I.C.C. 625, 665 (1980) (noting in its discussion of locomotive maintenance costs that "[a]ccording to BN, DE made a fundamental mistake by comparing new locomotives to significantly older system average locomotives.").

Additionally, as AEPCO pointed out on Opening,⁴⁸ locomotives used in New Mexico Origin coal service experience a much higher level of utilization than the BNSF and UP system average. Such a high level of dedicated road utilization confirms

⁴⁶ See AEPCO Opening file "Composite Loco Inputs.123."

⁴⁷ See AEPCO Opening file "BNSF and UP System Loco Age.123." UP's system average locomotive age is [REDACTED].

⁴⁸ See AEPCO Op. at II-A-40 to 41.

that these locomotives experience far less maintenance per locomotive unit-mile than the system average.

AEPCO's service-specific locomotive maintenance costs are "demonstrably superior" to the Railroads' system average locomotive maintenance costs that are not service-specific. The Board should adopt AEPCO's costs as the better evidence of record.

e. Other Gross Ton-Mile

As shown in Table II-A-20 above, gross ton-mile costs are comprised of (1) maintenance of way/joint facilities; (2) return on road property; (3) road property depreciation; (4) fuel; (5) locomotive maintenance; and (6) other expenses. The differences between AEPCO and BNSF/UP on items (1) through (5) were discussed above. The difference in other expense is caused primarily by the impact on the overhead costs of the fuel and locomotive maintenance adjustments.⁴⁹

(7) Loop Track Expenses

Loop track costs include the added GTM's and LUM's accumulated while the train moves through the loading and unloading loops. AEPCO explained its development of loop track costs in AEPCO Op. at II-A-14 to 15 and 52, and the Railroads explained theirs in BNSF/UP Op. at 32-33. Differences in loop track costs result from

⁴⁹ A small portion of the difference is also attributable to differences in the applicable lading and tare weight per car, and locomotives and cars per train.

AEPCO's use of the special study of locomotive maintenance and of fuel consumption.
(AEPCO has adopted the Railroads' loop track miles.)

Because AEPCO's locomotive maintenance and fuel costs are more specific to AEPCO's movements, AEPCO's loop track costs are "demonstrably superior" to BNSF/UP's, and the Board should adopt AEPCO's costs as the best evidence of record.

(8) Train-Mile Expense – Other than Crew

Both parties used the same procedures to determine train mile – other costs. See AEPCO Op. at II-A-47; BNSF/UP Op. at 35. In its Reply restatement, AEPCO has adopted BNSF/UP's index, and, thus, has eliminated the difference between the parties' train-mile – other costs.

(9) Train-Mile Expense – Train and Engine Crew

On Opening, AEPCO developed crew wage costs on a movement-specific basis using information provided by BNSF and UP in discovery. AEPCO developed the straight-time, overtime, and train-related constructive allowances applicable to AEPCO trains and applied a mark-up ratio to account for non-train-related crew wages.⁵⁰ In their Opening Narrative, BNSF and UP also developed movement-specific crew wages based on information that they provided during discovery.⁵¹

⁵⁰ See AEPCO's Opening Narrative at pages II-A-45 to II-A-46, Exhibit II-A-9, Line 9 of Exhibits II-A-11-12 and II-A-17-18, and at page 6 of 12 of each of Exhibits II-A-13 through II-A-16.

⁵¹ See BNSF/UP Op. at II-35 to 37.

The cost difference between the parties' Opening Evidence regarding crew wages amounts to approximately [REDACTED] of the total variable cost difference in the case (i.e., [REDACTED] per car for movements from Lee Ranch to Apache in 2Q02).⁵² In order of significance, the factors driving the [REDACTED] difference include: (a) special studies of crew wages; (b) the mark-up ratio to be applied to base wages; and (c) cars per train.⁵³

For the reasons set forth below, AEPCO is restating its crew wage cost calculations in this Reply. For movements from Lee Ranch to Apache during 2Q02, this restatement increases AEPCO's calculation of crew wage costs by [REDACTED] per car ([REDACTED] per ton):

TABLE II-A-24 Comparison of Crew Wage Costs for Lee Ranch Movements (per car) (2Q02)		
AEPCO Opening Evidence ^{1/}	BNSF/UP Opening Evidence ^{1/}	AEPCO Reply Evidence ^{2/}
[REDACTED]	[REDACTED]	[REDACTED]
^{1/} See AEPCO Reply Exhibit II-A-20, page 6 of 15, line 9. ^{2/} See AEPCO Reply electronic workpaper file "Reply vc difs Lee Ranch Low 2Q02 BN&UP.123."		

⁵² See Exhibit II-A-21, page 6 of 15, line 9, col. 5 through 16.

⁵³ AEPCO discussed the parties' differences regarding cars per train in the Traffic & Operating section, supra.

AEPCO describes the crew wage cost differences for each Defendant in greater detail below, and explains the modifications that AEPCO is making to its crew wage costs in this Reply.

a. BNSF

i. Train Related Wages

The Railroads' calculation of BNSF crew costs is overstated because they have included [REDACTED].⁵⁵ Their Opening Evidence included [REDACTED] even though BNSF's payroll database did not contain [REDACTED]
[REDACTED]⁵⁶

In addition, BNSF's methodology of calculating the per train wages by train number failed to eliminate erroneous data. BNSF's methodology aggregated wages for each occupation code by train initial and number. This consolidation of the data prohibits detailed review of the crew districts captured and masks misroutes. For example, BNSF's methodology failed to identify the fact that [REDACTED]
[REDACTED]; i.e., crew districts that are not

⁵⁴ See AEPCO Reply electronic workpaper file "BN Reply Compare wages by trn,occ,dist.xls," tab "reply data pivot," columns (k)-(o).

⁵⁵ Id. at tabs "engineers," "conductors," "occ 5 Bmen," and "occ 4 Bmen." Misrouted movements are identified by specific train and/or crew district.

⁵⁶ Id. at tab "reply data pivot," columns (k)-(o).

located along the route traveled by the AEPCO trains in issue. BNSF's calculation included data for these misrouted trains.

AEPCO is making certain adjustments to its train related wage calculation for BNSF crews in this Reply. First, although AEPCO requested in discovery that BNSF provide all applicable decoders accompanying the payroll data it had produced, the information provided by BNSF failed to describe the field used by the BNSF payroll system to correct payroll payments. AEPCO has determined on the basis of BNSF/UP's Opening Evidence that the BNSF payroll system [REDACTED]

[REDACTED]. To capture the amount of monies paid, [REDACTED]

[REDACTED]. AEPCO's Reply identifies and applies these payroll corrections.

On Reply, AEPCO also is making the following adjustments to its calculations of BNSF crew wages: (a) AEPCO is eliminating certain road crew wages identified by BNSF in the Railroads' Opening Evidence as not being applicable to the AEPCO trains; (b) AEPCO is adjusting its costs for the differences in train counts used to calculate wages per train; and (c) AEPCO is adopting BNSF's methodology of [REDACTED], thus eliminating this difference between the parties. See AEPCO Reply electronic workpaper file "BN Reply

Compare Wages by trn,occ,dist.xls.” All of the adjustments made by AEPCO are shown in Table II-A-28, infra.

ii. Non-Train Related Mark-up Ratio

The Railroads’ development of the non-train related mark-up ratio for BNSF crews also is flawed in terms of both the time period from which the data was selected and the classification of certain constructive allowance payments as train related, non-train related, or non-taxable (i.e., expense reimbursements).

In STB costing practice, a mark-up ratio is applied to the train related crew wages to allocate payments for “activities such as vacations, holidays, personal days, training, testing, and safety meetings.”⁵⁷ AEPCO’s calculation of an appropriate mark-up ratio was based on the [REDACTED] payroll data file provided by BNSF in discovery,⁵⁸ which includes [REDACTED].

The mark-up calculation involves segregating the wage payments based on the various constructive allowance payment codes in the BNSF payroll system. Each payment is classified as [REDACTED]

[REDACTED]
[REDACTED].

⁵⁷ See BNSF/UP Op. at II-36.

⁵⁸ Data downloaded from BNSF “Tape G22966,” files “CO.NEWMEX.ALL2001” and “CO.NEWMEX.ALL2002.”

In their Opening Evidence, BNSF/UP calculated one mark-up ratio for BNSF crew wage costs to apply to 2001 wages, and calculated a separate mark-up ratio to apply to 2002 wages.⁵⁹ Review of BNSF/UP's development reveals several significant differences. First, BNSF/UP erred by using 15 months of data (i.e., January 2001 through March 2002) to calculate the year 2001 BNSF mark-up ratio, rather than limiting the calculation to only the year 2001 constructive allowances and train related wages.

Additionally, BNSF/UP and AEPCO differ in the classification of [REDACTED] constructive allowances [REDACTED]. AEPCO has investigated these differences by reviewing the detailed payroll records, and is adjusting the classification of [REDACTED] Constructive Allowance Codes, [REDACTED] of which related to payments under codes incorrectly classified by AEPCO [REDACTED]
[REDACTED].

BNSF/UP, however, erred in their classification of the remaining BNSF constructive allowance codes [REDACTED]

⁵⁹ Because BNSF/UP failed to explain their methodology for developing these mark-up ratios, AEPCO submitted supplemental workpaper requests specifically requesting all underlying queries and workpapers associated with the mark-up data presented by BNSF in Opening. In response, BNSF provided a COBOL program which extracts the data, but failed to provide the criteria used to select the study data. In spite of this, AEPCO succeeded in deciphering the methodology used by BNSF to develop the 2001 mark-up ratios.

AEPCO was unable to reproduce BNSF/UP's 2002 mark-up ratio calculation for BNSF crew wage costs. BNSF/UP's unexplained "selections" of the data made their development of the 2002 BNSF mark-up ratios indecipherable.

[REDACTED]

[REDACTED]. Specifically, the Defendants included several BNSF Constructive Allowances as

[REDACTED]

[REDACTED]

[REDACTED] Conversely, BNSF [REDACTED]

[REDACTED]

[REDACTED]⁶⁰

In this Reply, AEPCO also is adopting BNSF's practice of consolidating similar occupation codes. BNSF's practice [REDACTED]

[REDACTED]. [REDACTED]

[REDACTED]. Similarly, BNSF [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. AEPCO's Reply combines

[REDACTED]

[REDACTED].

AEPCO's Reply adjustments to BNSF's train crew wages are summarized in Table II-A-25 below, and detailed in Reply electronic workpaper files "BN Reply

⁶⁰ AEPCO Reply electronic workpaper MS Access file "BNAeptotwagesReply.mdb," Query "Reply Investigate BN code 1, AEPCO code 2 ca's," and Query "Reply Investigate BN code 1, AEP code 2 ca's - 2002."

Compare Wages by trn,occ,dist.xls,” “BN-AEP Reply 2001 Markups-BN methodology.xls,” and “BN-AEP Reply 1q02 Markups-BN methodology.xls.” As noted in these electronic workpapers, BNSF failed to include McKinley Mine train specific wages,⁶¹ included firemen, and failed to identify erroneous data.

⁶¹ In its Opening Evidence, AEPCO calculated wages associated with McKinley Mine trains by developing the average straight time and overmile rates of pay for AEPCO trains from the payroll data that BNSF did provide. These rates were then applied to the specific movement parameters associated with shipments from McKinley Mine.

TABLE II-A-25						
AEPCO's Reply Crew Wage Adjustments to BNSF Crew Wages Unit Coal Trains From McKinley Mine and Lee Ranch, NM to AEPCO's Apache Plant at Cochise, AZ						
	Opening	Reply Adjustments				
Quarter	Total Crew Wages per Round Trip Train ^{1/}	Train Related Base Wages ^{2/}	Adjustments to Mark-Up Percent ^{3/}	Total Adjustments	Sp. Study, Dept OH & URCS Variability factors	Total Reply Wages per Round Trip Train
	(1)	(2)	(3)	(4) = (2)+(3)	(5)	(6)=((4)*(5))+(1)
LEE RANCH MINE						
1Q01	■	■	■	■	■	■
2Q01	■	■	■	■	■	■
3Q01	■	■	■	■	■	■
4Q01	■	■	■	■	■	■
1Q02	■	■	■	■	■	■
McKINLEY MINE						
1Q02	■	■	■	■	■	■
^{1/} See AEPCO Reply electronic workpaper file "BN Reply Compare Open Wages Summary.xls," tab "Summary." ^{2/} See AEPCO Reply electronic workpaper file "BN Reply Compare Wages by trn,occ,dist.xls," tab "per train." ^{3/} See AEPCO Reply electronic workpaper file "BN Reply Wages Summary.xls."						

These wages reflect actual wage data. AEPCO calculated wages for subsequent quarters using standard indexing procedures.

b. Union Pacific

AEPCO and BNSF/UP differ in the calculation of UP's train crew wages in three areas: (1) the inclusion by UP of multiple engineers and/or conductors in AEPCO

train specific crew wages; (2) the inclusion of an additional train not identified by UP in discovery, yet included by BNSF/UP in UP's crew wage calculations in Opening evidence; and (3) errors in BNSF/UP's calculation of the non-train related mark-up ratio for UP crews. In Reply, AEPCO has adjusted the per train crew wage expense relating to the latter two differences: (1) the addition of [REDACTED], not identified by UP in discovery; and (2) changes in the classification of certain wage categories, impacting the non-train related mark-up ratio applied to the train crew wages. Each of these differences is discussed in greater detail below.

i. Multiple Engineers

BNSF/UP's calculation of UP train specific crew wages for AEPCO trains is overstated because it includes [REDACTED]

At page II-6 of BNSF/UP's Opening Evidence, the Defendants state that "the [UP] crew, consisting of an engineer and a conductor (and, on occasion, a second engineer on a training run) . . ." will operate the AEPCO trains. In their explanation of the methodology used to calculate the UP train crew wages (see BNSF/UP Op. at II-36), the Defendants indicate that mark-up ratios are applied to the train specific wages for "activities such as [REDACTED] [REDACTED]. In other words, the Defendants recognize that [REDACTED] must be allocated over all traffic, not assigned to a specific train or specific

shipper. However, BNSF/UP have made no effort to adjust the UP train-specific wages to identify [REDACTED]
[REDACTED], thus yielding a double-count.

AEPCO reviewed the records in the payroll database provided by UP in discovery⁶² in detail and, in its Opening Evidence, adjusted the per train wage data to include only one engineer per AEPCO train per crew district. No further adjustment is made by AEPCO in this Reply.

ii. [REDACTED]

In discovery, UP produced electronic data claiming to include all payroll records for train and engine service employees on AEPCO trains. AEPCO used this data to calculate the train crew wages for AEPCO trains.

On Opening, the Railroads stated that “Mr. Fisher compiled the ‘AEPCO trains’ wage files that BNSF and UP provided in discovery to identify the actual wages paid to train crews working AEPCO trains.”⁶³ However, BNSF/UP also included wages for three trains not identified by UP in discovery as AEPCO trains; i.e., [REDACTED]
[REDACTED]. As noted in BNSF/UP Op. at II-35 n.42, the discovery data

⁶² UP provided payroll data to AEPCO during discovery in electronic files “aep_crewages.year2001.txt” and “aep_crewages.1-8-2002.txt.” AEPCO imported these text files into MS Access database “aepcoUP.mdb” for analysis.

⁶³ See BNSF/UP Op. at II-36.

“sought to include all wage data for trainmen and enginemen for each AEPCO train. UP recently determined that its response did not include wages paid to trainmen and enginemen that worked on AEPCO trains designated with the symbol [REDACTED].”

The Railroads developed the wages for these trains from data in the “full wages” file which is used to calculate the non-train related mark-up ratio. This file, also provided in discovery, contains all payroll records for trainmen and engineers who had previously been identified as having worked on AEPCO trains, and was used in the development of the non-train related mark-up by both the Railroads and AEPCO in their Opening Evidence. The Railroads explain that “Mr. Fisher used the ‘full wages’ files that BNSF and UP provided in discovery to determine the factors, or ‘mark-up ratios.’”⁶⁴ In its Opening Evidence, AEPCO used the “full wages” file only to calculate the non-train related mark-up and relied on the “AEPCO train” wages files provided by UP in discovery to calculate the train related crew wages.

In this Reply, AEPCO has added wages for these [REDACTED] train crews to the base crew wages calculated on Opening.

Recognizing that some AEPCO trains required relief crews, AEPCO has included the wages where UP’s payroll records show two complete crews on an AEPCO train in a single crew district. However, as discussed above, UP’s payroll data [REDACTED]

⁶⁴ See BNSF/UP Op. at II-36.

[REDACTED]. Through a detailed review of the UP's payroll records, AEPCO has identified [REDACTED]

[REDACTED]. Obviously, this payroll data is erroneous and AEPCO has made the appropriate adjustment. (Note that occasional [REDACTED] also work on AEPCO trains. These wages are also included in AEPCO's per train calculations.)

BNSF/UP's Mr. Fisher, on the other hand, includes the wages for the [REDACTED] in the per train wages. Mr. Fisher made no effort to adjust the wage data to remove [REDACTED] wages and, as a result, overstated the per train wages.

AEPCO's calculation of the added crew wages associated with the previously unidentified train is detailed in Reply electronic workpaper file "UP-Wage by train - AEPCO Reply .xls" and summarized in Table II-A-26 below:

TABLE II-A-26			
Addition of Wages for ████████ Trains Not Previously Identified by UP as Related to AEPCO Traffic			
Quarter	AEPCO Opening Base Wages	Adjustment adding trains ██████	AEPCO Reply Base Wages
	(1)	(2)	(3) = (1)+(2)
1Q01	██████	██	██████
2Q01	██████	██	██████
3Q01	██████	██	██████
4Q01	██████	██	██████
1Q02	██████	██	██████
2Q02	██████	██	██████
3Q02	██████	██	██████

iii. Non-Train Related Mark-up Ratio Calculation

In discovery, UP provided wage records for all train and engine service employees that worked on AEPCO trains for the period January 2001 through August 2002 in the MS Access database “AEPCO Jan01 - Aug02.mdb,” in tables “AEPCO Payroll 2001” and “AEPCO Payroll Jan-Aug 2002” (referred to as the “full wages” files in BNSF/UP Op. at II-36). This data was utilized by both AEPCO and BNSF/UP to calculate the non-train related “mark-up ratios” to capture the UP’s “full wage expenses . . . that crewmen who work AEPCO trains earn for activities such as vacations, holidays, personal days, training, testing, and safety meetings.” Id.

A line by line review of UP's mark-up calculation provided in Opening evidence⁶⁵ identifies several Constructive Allowances (CA Codes) mistakenly classified by UP as non-train related, where UP's own payroll data includes valid Train Symbols as part of the payment record. For example, UP claims payments [REDACTED] [REDACTED] are not train related, when in fact [REDACTED] of all the UP's straight time payments [REDACTED] also had a corresponding payment for this CA Code.⁶⁶ When isolating only payments made [REDACTED] straight time payments made to [REDACTED] had a corresponding payment for the [REDACTED].⁶⁷

Similarly, UP has classified [REDACTED] as a non-train related wage expense. Yet payments for this CA Code are only made for [REDACTED] [REDACTED]. In fact, not a single payroll record for this CA Code existed in the UP's payroll data [REDACTED] [REDACTED]. Classifying this CA Code as non-train related flies in the face of attempting to accurately identify the crew wage costs directly attributable to AEPCO's operation.

⁶⁵ BNSF/UP Opening electronic workpaper file "markup01&02 UP-AEPCO.xls."

⁶⁶ AEPCO Reply electronic workpaper file "UP-ST and Eng Certification by train & Date-Reply.xls" TAB "Tot 2001."

⁶⁷ AEPCO Reply electronic workpaper file "UP-ST and Eng Certification by train & Date-Reply.xls," tab "Coal Only."

Another CA Code that should be classified as train related is [REDACTED]

[REDACTED]. Payments under this CA Code are only made to crews working

[REDACTED]. Furthermore, [REDACTED]

[REDACTED].⁶⁸

The last significant CA Code that BNSF/UP have misclassified as non-train related is [REDACTED]. Payments for this constructive allowance are [REDACTED]

[REDACTED]. Once again, this activity is directly related to specific train activity.

On Opening, AEPCO identified all payroll record payments for CA Codes classified as train related but missing train symbols and included these payments in the non-train related allocation. Thus, any payments for any CA Code that was missing a train symbol have, in fact, been included in the mark-up ratio. To the extent that specific data (i.e., train ID) were available, however, AEPCO has identified it as such to more accurately represent the costs directly related to AEPCO's train operations.⁶⁹

The four CA Codes discussed above account for [REDACTED] of the difference in classification of train related versus non-train related wage payments. The remaining

⁶⁸ AEPCO Opening electronic workpaper MS Access database "aepco UP.mdb," Query "Group by CA, OCC & TRNID."

⁶⁹ AEPCO Opening electronic workpaper file "UP AEP Markups.xls," tab "No Trn ID."

difference between Mr. Fisher's and AEPCO's classification as train related versus non-train related is accounted for in [REDACTED], none of which amounts to more than [REDACTED] of the total payments in the UP's payroll file. Each of these was analyzed in detail, and as discussed above, all payments under any of these CA Codes lacking a train symbol were allocated with non-train related wages. Only those payments which included a train symbol were captured as train related.

AEPCO concurs with Mr. Fisher on the assignment of [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED], and has adjusted the non-train related mark-up accordingly.⁷⁰

These adjustments to the mark-up calculation are detailed in Reply electronic workpaper "UP-CA Comp Reply.xls." Their impact on train crew wages is summarized in Table II-A-27 below:

⁷⁰ AEPCO Reply electronic workpaper file "UP CA Comp Reply.xls."

TABLE II-A-27						
Adjustment to AEPCO's UP Train Crew Wage Expense Resulting from Modifications to Non-Train Related Mark-up Calculation						
Quarter	Opening ^{1/}		Reply ^{2/}		Adjustments	
	Base Wages	Wages incl. Mark-Up	Base Wages	Wages incl. Mark-Up	to Base Wages	Resulting from Mark-Up
	(1)	(2)	(3)	(4)	(5)=(3)-(1)	(6)=(4)-(2)-(5)
1Q01	■	■	■	■	■	■
2Q01	■	■	■	■	■	■
3Q01	■	■	■	■	■	■
4Q01	■	■	■	■	■	■
1Q02	■	■	■	■	■	■
2Q02	■	■	■	■	■	■
3Q02	■	■	■	■	■	■
^{1/} See AEPCO Opening electronic workpaper file "UP Wages Summary.xls." ^{2/} See AEPCO Reply Exhibit II-A-30, page 2.						

AEPCO's Reply adjustments to the calculated UP train crew wages are summarized in Table II-A-28 below:

TABLE II-A-28 Reply Adjustments to Train Crew Wages As Calculated in Opening Evidence <u>Unit Coal Trains from McKinley and Lee Ranch to Cochise, AZ</u>							
	Opening	Reply					
Quarter	Total Crew Wages per Round Trip Train ^{1/}	Addition of Train █████ ^{2/}	Adj. for wages reclassified as train related ^{2/}	Adj. for mark-up ratio ^{3/}	Total Reply Adjustments	Sp. Study, Dept OH & URCS Variability factors ^{2/}	Total Reply Wages ^{2/}
	(1)	(2)	(3)	(4)	(5) = (2) + (3) + (4)	(6)	(7)
1Q01	████	█	█	█	█	█	████
2Q01	████	█	████	█	████	█	████
3Q01	████	█	█	█	████	█	████
4Q01	████	█	█	█	█	█	████
1Q02	████	█	█	█	█	█	████
2Q02	████	█	█	█	█	█	████
3Q02	████	█	█	█	█	█	████
^{1/} See AEPCO Opening electronic workpaper file "UP-Wages Summary.xls." ^{2/} See AEPCO Reply electronic workpaper file "UP Wages Summary Reply.xls." ^{3/} See Table II-A-27, <u>supra</u> .							

(10-11) Helper Service

Since no helpers are used in the AEPCO service, these items are not relevant to the instant case.

(12) Locomotive Unit-Mile Expense

Locomotive unit-mile expense (excluding locomotive ownership)⁷¹ is comprised of (1) fuel; (2) locomotive maintenance; (3) other return and depreciation; and (4) other expenses. The difference between AEPCO and BNSF/UP on fuel is caused by the difference in the fuel adjustment discussed previously. The difference in locomotive maintenance costs is due to AEPCO's locomotive maintenance special study adjustment. The difference in other expenses is caused primarily by the impact on the overhead costs of the fuel and locomotive maintenance adjustments.

(13) Locomotive Ownership Expense

The parties' Opening calculations of locomotive capital cost differed by [REDACTED], which accounts for [REDACTED] of the total cost difference between the parties for 2Q02.⁷² The major factors contributing to that difference, in order of significance, include: (a) locomotive cycle time; (b) BNSF/UP's use of a normalized lease rate as opposed to the lease rates currently in effect; and (c) BNSF/UP's use of [REDACTED] locomotive spare margins.⁷³

⁷¹ Locomotive ownership costs are discussed in the next section.

⁷² AEPCO addressed locomotive capital costs at page II-A-44 of its Opening Narrative, line 13 of each of its Opening Exhibits II-A-11, 12, 17 and 18, and at pages 6 and 10 of each of AEPCO Opening Exhibits II-A-13 through II-A-16. BNSF/UP addressed the subject at pages II-38 to 44 of their Opening Narrative.

⁷³ A small difference arises in the equipment life, salvage value and depreciation rate column due to the Railroads' failure to reflect any UP locomotives in their costs.

AEPCO's Reply Exhibit II-A-21, page 6A, detailing BNSF costs, shows that the BNSF portion of the move contributes [REDACTED] of the difference between the parties regarding locomotive capital, and Page 6B, detailing UP costs, shows that the UP portion of the move contributes [REDACTED] of the difference at the 2Q02 cost level. The disparity in the calculation of the carriers' relative cost shares arises from differences in the treatment of the sources of the locomotives. AEPCO's costing reflected the fact that BNSF provided [REDACTED] of the locomotives used in the Apache service in 2001, but [REDACTED] in 2002, with the remainder being UP locomotives. In contrast, BNSF/UP treated locomotive capital costs as if BNSF provided all the locomotives, thus ignoring the [REDACTED] of the actual locomotive hours provided by UP for Apache service in the first eight months of 2002.

AEPCO's treatment of these capital costs is consistent with the manner in which URCS records both expenses and traffic and operating statistics. BNSF locomotives operating over UP tracks develop LUM's. Those LUM's are reported in UP, not BNSF, traffic and operating statistics and in UP's R-1. To the extent that BNSF incurs costs for locomotive capital when BNSF locomotives run on UP tracks, UP reimburses BNSF through run-through agreements.⁷⁴ Other locomotive expenses

⁷⁴ The run-through agreements are generally based on the relative number of horsepower-hours each railroad incurs while operating over the other railroad.

incurred while BNSF locomotives are on UP tracks are UP expenses, not BNSF expenses, so BNSF/UP's treatment of all LUM's as BNSF LUM's mishandles those expenses.

a. Cycle Times

The difference in the parties' cycle time calculations was addressed earlier in the Traffic and Operating Characteristics section of this Reply Narrative. As discussed there, the Railroads' cycle times for AEPCO coal trains are flawed. AEPCO has adjusted its Opening cycle times to include the dwell times at Deming (with the exception of the empty direction dwell times attributable to SWRR). The revised locomotive cycle times for each quarter from 1Q01 through 1Q03 are shown in AEPCO's Reply Exhibit II-A-23. The cycle times listed as "AEPCO Reply" in Exhibit II-A-23 are the cycle times used in AEPCO's Reply restatement of locomotive capital costs.

b. Special Study of Locomotive Lease Costs

The Railroads make two basic errors in their calculation of locomotive capital costs in their opening evidence. First, as indicated previously, the Railroads improperly ignored the UP locomotives used in AEPCO's service and based the average lease cost on only those BNSF locomotives identified as moving in AEPCO trains. Second, the Railroads calculated the annual lease cost at the annual average of the lease payments made over the life of the lease, and not on the actual lease payment for a given year.

In WPL I, the Board rejected UP's calculation of locomotive lease costs "based on the average lease rate over the life of the lease agreement." Id. at 57-58. In the instant proceeding, the Railroads have also based locomotive lease costs on the average lease rate over the life of the lease agreement – i.e., the exact procedure rejected by the Board in WPL I. The Board's rationale for rejecting this approach was that the lease rates should be those applicable for the time period being costed and that using the average over the life of the lease "would likely produce a different lease cost from that actually incurred" during the time period being costed. Id. at 58.

The Railroads attempt to convince the Board to overturn its WPL I ruling by arguing that their treatment is consistent with how BNSF accounts for leases in its system R-1 and that their treatment is thus consistent with BNSF's system-average URCS. However, neither the Railroads nor AEPCO used URCS for the determination of this cost component. Both parties eliminated the URCS measurement of this cost and substituted their own "special study" estimate of the cost. What BNSF does for its system-wide accounting is thus irrelevant for costing AEPCO's movement in this regard.

The Railroads further rationalize their use of the average annual lease payment by [REDACTED] that they claim have [REDACTED] (BNSF/UP Op. at II-39 and n.49). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. Use of an average lease

payment thus fails to reflect the differences in the economic value of those leases in those years and thus results in inaccurate costing.

c. The Railroads' Invalid Locomotive Spare Margin

AEPCO calculated a locomotive spare margin [REDACTED], as shown in AEPCO's Opening Narrative at p. II-A-16 (Item 33). Details concerning the calculation of this spare margin were provided in AEPCO Opening electronic workpaper files

“Composite Loco Inputs.123” and “BN Loco Maint.123.” The Railroads calculated a [REDACTED] locomotive spare margin, as shown in BNSF/UP Op. at II-40 through II-44.

AEPCO’s Reply Exhibit II-A-21, page 6 of 15, column 11, line 12 shows that the difference in the parties’ locomotive spare margins causes [REDACTED] of the difference in the total variable costs for the 2Q02 movement from Lee Ranch in steel cars. The [REDACTED] of the [REDACTED] total difference per carload in the variable costs estimates for this movement.

The Railroads claim the locomotive spare margin should be [REDACTED] for 2001 and [REDACTED] for 1Q02 and 2Q02, compared to the [REDACTED] spare margin for the actual locomotives used in Apache coal service calculated by AEPCO. The spare margin difference arises because AEPCO’s spare margin is based upon the actual locomotives used in Apache service, whereas the Railroads based their spare margin upon [REDACTED] [REDACTED].⁷⁵ The Railroads thus effectively ignored the terms of their locomotive acquisition contracts, in which [REDACTED]

i. AEPCO’s Development of its [REDACTED] Spare Margin

Through the use of contracts provided to AEPCO in discovery, AEPCO developed [REDACTED]

⁷⁵ See BNSF/UP Op. at II-41.

[REDACTED]

[REDACTED].⁷⁶ AEPCO used a [REDACTED] spare margin for all of the other UP locomotives used by the Railroads to provide the Apache service that were not covered by these contracts. Weighting the spare margin requirement for each locomotive type based on its hours of usage in Apache service, AEPCO developed a [REDACTED] composite spare margin that it believes is appropriate for use in this proceeding.⁷⁷

[REDACTED] the Board's ruling at page 61 of the recent TMPA decision that a 5% spare margin requirement is appropriate for the BNSF SD70MACs used to provide the service in issue in that case, based on a 95% availability guarantee in the locomotive contract between BNSF and EMD. AEPCO has used [REDACTED] for the SD70MACs used in the Apache service in the instant proceeding ([REDACTED] of total hours in 2001) as well as the contractual guaranteed-availability percentages for the other types of locomotives used in the Apache service.

⁷⁶ The numbers of locomotives shown in the text reflect the number of each type of locomotive covered by the locomotive acquisition agreements provided in discovery. A summary of the maintenance provisions of these agreements as they pertain to calculation of the spare margin is provided in AEPCO's Reply Exhibit II-A-28.

⁷⁷ See AEPCO's Reply Exhibit II-A-28 and AEPCO Reply electronic workpaper files "Composite Loco Inputs Reply.123" and "BN Loco Maint.123."

ii. **The Railroads Have Incorrectly Defined Spare Margin**

The Railroads have attempted to expand the concept of a spare margin far beyond its established meaning as long accepted by the Board and its predecessor. The Railroads' expanded definition results in proposed spare margins for BNSF locomotives of [REDACTED]. These spare margins far exceed 10%, the highest spare margin ever accepted by the Board or its predecessor agency.

A spare margin for locomotives is generally defined as the proportion of locomotives necessary to replace units removed from service for repairs and/or maintenance.⁷⁸ The Railroads' calculation would re-define spare margin as the ratio of time in which a locomotive is not directly utilized in train service to the hours the unit is in direct train service. In other words, the Railroads would convert the spare margin into a general recovery of locomotive capital costs, regardless of the level of locomotives actually needed for the movement at issue.⁷⁹

[REDACTED] BNSF and its predecessors have been urging their re-defined "spare margin," and the use of locomotive

⁷⁸ See ICC Docket No. 40581, Georgia Power Co. v. Southern Ry. and Norfolk Southern Corp., Decision served November 8, 1993 (Cross, ALJ) at 29 n.11 ("Spare margin is the number of diesel units a railroad keeps in reserve to cover diesel units that have power failures or require maintenance. The spare margin is expressed as a percentage of the total diesel units in a particular pool.").

⁷⁹ The Railroads have developed their BNSF locomotive spare margin using the concepts of "Utilization," "Non-Utilized," and "Availability." See BNSF/UP Op. at II-41 and II-44.

spare margins [REDACTED]. Yet their position has never been accepted.⁸⁰ The discussion in the Arkansas Power & Light case is particularly instructive in this regard:

However, BN challenges the 10% figure [used in other ICC proceedings], arguing that a spare margin of approximately 30% is a more accurate estimate for the APL movements based upon studies from its Alliance Pool. As in Omaha, supra, we conclude that BN's studies are not sufficiently reliable to depart from the 10% figure applied by APL.

One issue in this context concerns whether the spare margin should include all locomotives that are not in active service. . . . BN states that its study results reflect all non-cycle hours in functions supporting in-cycle operations.

There is a problem with including all non-cycle hours from the Alliance Pool, as BN has done, and attributing that figure to the APL movements. The non-cycle factor appropriate to coal pool locomotives may reflect not only the traffic patterns of the various coal movements which draw power from the pool, but also the overall level of line congestion influenced by non-coal movements. For example, a decline in non-coal movements may have the effect of decreasing coal train running times. Whether such decrease would translate into a reduction in pool locomotive units would depend upon the ability of the mine or utility to handle the train at the origin or destination terminal upon arrival. However, the record does not disclose whether trains involved in the APL movements that arrive at a terminal ahead of

⁸⁰ See, e.g., Annual Volume Rates on Coal—Wyoming to Flint Creek, Arkansas, 361 I.C.C. 533, 569-70 (1979); Increased Rates on Coal, BN, Montana to Superior, WI, 362 I.C.C. 625, 661 (1980); Arkansas Power & Light Co. v. Burlington Northern R.R., 3 I.C.C.2d 757, 792-93 (1987) ("Arkansas Power & Light"); OPPD at 152 & n.51; WTU, 1 S.T.B. at 728.

schedule are handled immediately or must await scheduled loading/unloading times. . . .

In sum, applying to an individual movement the average cycle experience for a pool serving numerous coal movements may result in significant distortion. For example, when an individual movement experiences an increase in cycle times, with no such increase occurring generally, the likelihood is that the relatively fixed number of non-cycle hours identifiable with that movement would constitute a smaller than average proportion of total cycle hours. Hence, in the absence of compelling reasons otherwise, the pool non-cycle factor would be inappropriately high for such a movement. Here, we cannot test the BN study's reliability as applied to the pool as a whole or to the subject movement.

Id., 3 I.C.C.2d at 792-93. The ICC's ruling in Arkansas Power & Light applies equally to the results of the Railroads' purported BNSF locomotive spare margin study in this proceeding. The Railroads' study does not measure spare margin, and it does not identify the extent to which the pool locomotives involved were used in or available for use in other coal or non-coal freight service.

The Railroads' locomotive spare margin study⁸¹ has other shortcomings in addition to those cited by the ICC in Arkansas Power & Light:

- The data universe used to compute the spare margin ratio includes [REDACTED]
[REDACTED]
After developing all of the locomotive capital factors based solely on the specific locomotives in AEPCO trains, BNSF uses the characteristics of [REDACTED] to calculate its spare margin, regardless of whether they were used in AEPCO service.

⁸¹ See BNSF/UP.OP.WP.II-A-567 to 575.

- The Railroads' study ignores the fact that the locomotives used on AEPCO trains [REDACTED] a large number of non-AEPCO trains operate daily through Belen, NM, which is a major 1,000-mile inspection and servicing point on BNSF's transcontinental main line. When a BNSF locomotive being used on an AEPCO train [REDACTED]. The Railroads' mathematical calculations fail to account for this practice.
- BNSF's calculation of "Available Hours"⁸² [REDACTED] We do not know the extent of the [REDACTED] in this calculation. From the title it would appear that BNSF [REDACTED]
- If the shop time results in an availability percent for the locomotives that is less than the level included in the maintenance agreements with EMD, GE and the other contractors, [REDACTED]. The maintenance agreements with the locomotive manufacturers [REDACTED].
- [REDACTED]

⁸² See BNSF/UP Opening electronic workpaper file "BNSF-AEPCO Loco Spare Margin.xls" and BNSF/UP.OP.WP.II-A-567.

- [REDACTED]
- According to the data included in the Railroads' Opening electronic workpaper file "BNSF-AEPCO Loco spare margin.xls," [REDACTED]

[REDACTED]. This is not reflected in the Railroads' locomotive capital calculations.

- [REDACTED]
[REDACTED]. The series of multiplications used in the Railroads' spare margin calculation procedure accounts for a portion of this time, but not all. All of the hours [REDACTED]

- The [REDACTED] category includes elements that by their identification show that the locomotives [REDACTED]

⁸³ See BNSF/UP.OP.WP.II-A-568.

[REDACTED]

* * *

In summary, the BNSF spare margin study is flawed in many ways and should be rejected. AEPCO utilized the methodology adopted by the Board in TMPA to derive a [REDACTED] spare margin for the locomotives actually used to provide the Apache service. The Board should adopt AEPCO's [REDACTED] spare margin as the better evidence of record.

(14) User Responsibility for Repairs to Shipper-Owned Cars

The parties costed Car Repairs-User Responsibility expense using the same procedures. See AEPCO Op. at II-A-50; BNSF/UP Op. at II-37 to 38.

(15) Car Ownership Expense

In its Reply restatement of variable costs, AEPCO has modified its Opening treatment of this item⁸⁴ and has adopted BNSF/UP's treatment, which includes both car expenses and ownership related to the Railroads' provision of substitute cars. See BNSF/UP Op. at II-37 to 38. Remaining cost differences result from the parties' differing calculation of the frequency of railroad freight car substitution. Because

⁸⁴ See AEPCO Op. at II-A-50.

AEPCO calculated and applied this frequency on a quarterly basis⁸⁵ – corresponding to the quarterly costs being calculated – the Board should adopt AEPCO’s costs as the best evidence of record. The Railroads determined their substitution frequency percentage in a manner that is averaged over the entire year.⁸⁶

(16) Car Operating Expense

See the immediately preceding variable cost discussion, which addresses both car ownership and operating expenses for cars substituted by the Railroads.

(17) Caboose & EOTD Ownership Expense

The parties costed Caboose and EOTD expenses using the same procedures. See AEPCO Op. at II-A-47; BNSF/UP Op. at II-44. There is no difference in the parties’ results for this item because the difference that arises from BNSF/UP’s use of inaccurate cycle times (see pp. II-A-24 through II-A-28, supra) is offset by the difference that arises from the parties’ EOTD capital cost calculations. See AEPCO Op. electronic workpaper files “BNSF EOTD.123” for BNSF and “UP EOTD.123” for UP; see also BNSF/UP Op. electronic workpaper file “BNSF EOTD DATA 2001.123.”

(18) Loss and Damage Expense

Loss and Damage costs were addressed in AEPCO Op. at II-A-53 and BNSF/UP Op. at II-38. Because AEPCO’s costs are based on an analysis of actual

⁸⁵ See AEPCO Reply electronic workpaper file “T&O Reply Data Provided by AEPCO.123.”

⁸⁶ See BNSF/UP Op. electronic workpaper file “Cochise Car Info.xls.”

AEPCO loss and damage experience during the years 1998 through 2000 (as provided by BNSF and UP during discovery), the Board should accept AEPCO's costs as the best evidence of record.

(19) SWRR Payment

BNSF's payments to the SWRR are discussed by AEPCO at pages II-A-7 to 11, supra. For the reasons set forth in that discussion, the Board should reject BNSF/UP's treatment of this payment and adopt AEPCO's treatment as the best evidence of record.

(20) Indexing

AEPCO discusses indexing in AEPCO Op. at II-A-54, and the Railroads discuss the subject in BNSF/UP Op. at 45. In this Reply, AEPCO has adopted the Railroads' treatment of the fuel index and removed the cause of the difference that existed in Opening.

2. Rates and Resulting R/VC Calculations

Table II-A-29 below summarizes AEPCO's Reply restatement of its evidence regarding variable costs per ton, and the resulting revenue-variable cost ratios, for the 1Q01 through 1Q03 time periods for all subject movements.

TABLE II-A-29
Summary of AEPCO's Reply
Restatement of Variable Cost Evidence

Qtr.	Origin	Type of Cars (capacity)	Variable Cost	Rate Per Ton	BNSF/UP Revenue Per Ton ^{1/}	J.T. ^{2/}	R/VC Ratio
1Q01	Lee Ranch	Low	\$4.31	\$9.35	\$9.35	\$7.76	217%
2Q01	Lee Ranch	Low	3.91	9.35	9.35	7.04	239%
3Q01	Lee Ranch	Low	4.21	9.35	9.35	7.58	222%
4Q01	Lee Ranch	Low	3.64	9.35	■	■	■
1Q02	Lee Ranch	Low	3.35	9.54	■	■	■
2Q02	Lee Ranch	Low	3.56	9.54	■	■	■
	McKinley	Low	4.03	9.54	■	■	■
3Q02	Lee Ranch	Low	3.51	9.54	■	■	■
		High	3.01	9.23	■	■	■
	McKinley	Low	3.92	9.54	■	■	■
		High	3.54	9.23	■	■	■
4Q02	Lee Ranch	High	3.02	9.23	■	■	■
	McKinley	High	3.73	9.23	■	■	■
1Q03	Lee Ranch	High	3.17	9.23	■	■	■
	McKinley	High	3.82	9.23	■	■	■

^{1/} ■

^{2/} For 1Q01-3Q01, the jurisdictional threshold equals variable cost x 180%. For 4Q01-1Q03, the jurisdictional threshold equals ■

IV Witness Qualifications

ARIZONA ELECTRIC POWER	)	
COOPERATIVE, INC.,	)	
	)	
Complainant,	)	
	)	
v.	)	Docket No. 42058
	)	
THE BURLINGTON NORTHERN AND	)	
SANTA FE RAILWAY COMPANY and	)	
UNION PACIFIC RAILROAD COMPANY,	)	
	)	
Defendants.	)	
	)	

WITNESS QUALIFICATIONS AND VERIFICATIONS

Statements of qualifications for these witnesses are set forth in Part IV of AEPCO's Opening Evidence in this proceeding filed on February 7, 2003.

VERIFICATION

COMMONWEALTH OF VIRGINIA)
)
CITY OF ALEXANDRIA)

JOSEPH J. PLAISTOW, being duly sworn, deposes and says that he is the same Joseph J. Plaistow whose Statement of Qualifications appears in Part IV of the Narrative portion of AEPCO's Opening Evidence in this proceeding; that he is responsible for the portion of AEPCO's Reply Evidence in this proceeding related to variable costs (except for roadway maintenance costs, which are sponsored by Roger C. Prescott), rate levels and the jurisdictional threshold (Reply Narrative, Part II-A and related exhibits) and knows the contents thereof, and that the same are true as stated to the best of his knowledge, information and belief.

Joseph J. Plaistow
Joseph J. Plaistow

Sworn and Subscribed before me
this 23 day of May, 2003.

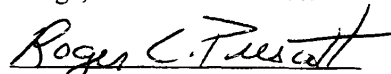
Al Washam Jr
Notary Public for the State of Virginia

My Commission expires September 30, 2003.

VERIFICATION

COMMONWEALTH OF VIRGINIA)
)
CITY OF ALEXANDRIA)

ROGER C. PRESCOTT, being duly sworn, deposes and says that he is the same Roger C. Prescott whose Statement of Qualifications appears in Part IV of the Narrative portion of AEPCO's Opening Evidence in this proceeding; that he is responsible for the portion of AEPCO's Reply Evidence in this proceeding in Part II-A relating to variable maintenance-of-way costs and knows the contents thereof, and that the same are true as stated to the best of his knowledge, information and belief.


Roger C. Prescott

Sworn and Subscribed before me
this 23 day of May, 2003.



Notary Public for the State of Virginia

My Commission expires September 30, 2003.

Exhibits

LIST OF EXHIBITS

EXHIBIT
II-A-^{1/}
(1)

TITLE
(2)

- | | |
|----|--|
| 20 | Comparison of AEPCO and BNSF/UP Opening Evidence Rate, Variable Cost and Rate to Variable Cost Ratio for AEPCO Coal Movements from New Mexico Origins to Apache Station -- 1Q01 through 1Q03 |
| 21 | Variable Cost Differences by Causal Factor - AEPCO Opening vs BNSF/UP Opening -- 1Q01 through 1Q03 |
| 22 | Comparison of AEPCO and BNSF/UP Opening Evidence Traffic and Operating Characteristics for Movements from New Mexico Origins to Apache Station -- 1Q01 through 1Q03 |
| 23 | Comparison of AEPCO Reply and BNSF/UP Opening Evidence Traffic and Operating Characteristics for Movements from New Mexico Origins to Apache Station -- 1Q01 through 1Q03 |
| 24 | The Correct Regulatory and Economic Treatment of Accounts 76 and 90 |
| 25 | AEPCO's Road Capital Costing Procedure |
| 26 | Effect of Traffic Density on Road Property Investment Costs |
| 27 | Reply Road Return and Depreciation for the Movement over UP from Deming to AEPCO's Apache Generating Station |

EXHIBIT
II-A-^{1/}
(1)

TITLE
(2)

- | | |
|----|---|
| 28 | Effect of BNSF Locomotive Maintenance Contracts on Spare Margin |
| 29 | Development of Reply Crew Wages for AEPCO Coal Trains |

^{1/} Exhibit II.A-1 through Exhibit II.A-19 were included with AEPCO's Opening Evidence filed in this proceeding on February 7, 2003.

Exhibit Nos. 20-23
Redacted

**THE CORRECT REGULATORY AND
ECONOMIC TREATMENT OF ACCOUNTS 76 AND 90**

**(1) The ICC's 1978 Revenue Adequacy Decisions do not
Define Current Agency Policy on Variable Costs**

In alleged support of the proposition that ICC/STB policy historically has favored the inclusion of Account 90 monies, the Railroads invoke the ICC's 1978 decisions in the proceeding to set standards for measuring railroad revenue adequacy.¹ The Railroads argue that because the ICC agreed that Account 90 dollars should be recognized for revenue adequacy purposes, it also must have intended to include them in the calculation of variable costs for ratemaking purposes. See, e.g., Exhibit BNSF/UP II.A.4, pp. 1-2. In fact, as the agency's Revenue Adequacy and subsequent URCS decisions make clear, the opposite is true.

As the Railroads repeatedly have emphasized in other contexts, revenues and variable costs are different and distinct. Likewise, the governing statutory provisions and interpretive agency rulings consistently have established that determinations of railroad revenue adequacy, on the one hand, and movement-specific variable costs on the other, serve very separate and different purposes. Compare 49 U.S.C. §§ 10704 (a) (2) and 10707 (d) (1) (A).

¹ Ex Parte No. 338 Standards and Procedures for the Establishment of Adequate Railroad Revenue Levels, 358 I.C.C. 844 and 359 I.C.C. 270, decided January 31, 1978 and June 6, 1978, respectively (hereinafter "Revenue Adequacy").

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Conceptually, revenue adequacy speaks to a general measure of a railroad's overall financial health (judged by the relationship of its systemwide rate of return to the industry cost of capital), while the primary function of the variable cost determination is to establish a minimum level of profit that a carrier (regardless of its financial health) will be permitted to extract from a particular shipper's traffic without fear of regulatory intervention. It is hardly surprising, then, that in the same decision in which the ICC opted to include Account 90 monies for revenue adequacy purposes, it specifically declined to encompass variable cost determinations within the scope of its ruling:

Cost of capital in variable costs. - Some of the petitions included comments on the question of whether cost should be measured in such a way as to include the full current cost of capital. As we indicated in our report, this is a question that will be taken up in another context. Some of the parties emphasize that the only appropriate context would be a rulemaking proceeding where all affected persons can be heard. We fully agree, and it is our intention to follow rulemaking procedures in resolving this question.²

Revenue Adequacy, 359 I.C.C. at 275-76.

² In TMPA in contravention of its own declaration of its "...intention to follow rulemaking procedures in resolving this question...", the Board ignored its commitment and adopted inclusion of Account 90 without a rulemaking open to all parties affected by the TMPA ruling. In fairness to AEPCO, TMPA should not be controlling in the instant proceeding regarding Account 90.

**THE CORRECT REGULATORY AND
ECONOMIC TREATMENT OF ACCOUNTS 76 AND 90**

That “appropriate . . . rulemaking proceeding” culminated in the series of decisions over the 1989-1993 time frame in which the ICC adopted URCS as the governing system for variable cost determinations. Relying upon its extensive “URCS Studies”,³ the agency articulated a comprehensive series of costing policy decisions which included, inter alia, the determination that for variable cost purposes, Construction Work in Progress (Account 90) monies would be excluded, and Interest During Construction (Account 76) would be included. Presumptively, the ICC was well aware that some ten years earlier it had made a different policy decision for the very different purpose of revenue adequacy determinations.

Accordingly, the Railroads’ suggestion (Exhibit BNSF/UP II.A.4, p. 1) that the decision to exclude Account 90 from variable cost determinations for ratemaking purposes was merely an “oversight” strains credulity. In the ICC’s “Introduction to URCS”,⁴ the agency made it clear that it gave exhaustive consideration to a wide variety of costing

³ The “URCS Studies” refer to the work that was instituted under Section 307 of the Railroad Revitalization and Regulatory Reform Act of 1976 (The 4-R Act). The URCS Studies involved more than fifteen years of evaluating countless competing costing configurations proffered by the railroads, the shipping community, academia and the accounting community. This work culminated in the ICC’s Ex Parte No. 431 (Sub-No. 1) decision Adoption of the Uniform Railroad Costing System as a General Purposes Costing System for All Regulatory Costing Purposes (Adoption of URCS), 5 I.C.C.2d 894 (1989). Included in the URCS Studies is the work culminating in Modifications to General Purpose Costing System - GPCS, 5 I.C.C.2d 880 (1989) and Ex Parte No. 431 (Sub. No. 2), Review of the General Purpose Costing System, Decision served July 31, 1993.

⁴ “An Introduction to The Uniform Rail Costing System: Its Development, Functions and Regulatory Role,” Interstate Commerce Commission, Bureau of Accounts, introductory page.

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methodologies before settling on URCS as it has come to be defined in the Board's Phase II costing programs. At page 6 of the Introduction, the agency said: "Title III of the Staggers Act established a new framework for the continuing development of the railroad cost determination process." The agency went on to state that "[t]he Act served in this context only to heighten the importance of the cost determination process and to provide a forum and procedures for the consideration and evaluation of future changes in the present costing procedures." At page 7 of the Introduction the agency stated, "[u]sing the funding authorized under the 4R Act, the Commission assembled a project team which, over the ensuing four years, produced both the revised USOA and the new costing methodology, URCS."

The URCS Studies determined that a railroad's costs should be allowed to include a return on the debt the railroad has invested in construction projects, even though those assets cannot be used by the transportation services-using public until those assets are put into service by the railroad. By doing so, the URCS Studies also determined that a railroad's costs should not be permitted to reflect a level of profits above costs on Construction Work in Progress investments until shippers can actually use those investments. The ICC's Phase II URCS programs implemented the agency's conclusions and each railroad closely scrutinized the Phase II programs to insure that each railroad concurred in the ICC's

**THE CORRECT REGULATORY AND
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determinations. The fact that one of those determinations makes it harder today for railroad defendants to justify higher rates on captive coal traffic does not mean that the determination was an “oversight” at the time it was made.

The Railroads’s claim that the ICC intended its treatment of Account 90 in the revenue adequacy context to apply “broadly to all railroad costing procedures” (Exhibit BNSF/UP II-A-4, p. 4) is simply wrong. Page 1 of Exhibit BNSF/UP II.A.4 references a November 28, 1978 decision that refers to Schedule C from Ex Parte No. 290, Procedures Governing Rail General Increase Proceedings, which in turn relates to the calculation of revenue-to-variable cost ratios for specific commodity groups in general rate increase cases. Not only is the general rate increase procedure outdated and irrelevant in today’s market, but the average costs addressed in Schedule C rely on the discontinued Rail Form A, which was replaced by URCS some eleven years after the snippet quoted by the Railroads was published.

Prior to TMPA, all coal rate proceedings decided by the full ICC and Board since the adoption of URCS excluded Account 90 monies from the variable cost calculations and included Account 76 monies. See WPL I at 39.

**THE CORRECT REGULATORY AND
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**(2) Exclusion of Account 90 Monies From
Variable Cost is Economically Rational**

As noted above, the variable cost determination in a maximum rate case, used to calculate the jurisdictional threshold, effectively serves to establish the minimum level of monopoly profit that a rail carrier is entitled to collect from a captive shipper. See 49 U.S.C. § 10707(d)(1)(A). It was (and is) entirely rational for the Board to conclude that in this specific context, a rail carrier will not be guaranteed a return on investments that have not yet been placed in service for use by the shipper paying the rates. The railroad is not being denied the opportunity to earn that return on a systemwide basis (the essence of the revenue adequacy determination); it simply will not be built into the base service cost used to determine the scope of the Board's jurisdiction over a particular traffic movement. Account 76 monies, by comparison, represent current interest payments actually made, and rationally can be considered appropriate for inclusion in that calculation.

In their Opening Evidence, the Railroads assumed that just because there are amounts recorded in Account 90, they should receive the same treatment as investments that are used and useful, that is, investments that are currently being used to benefit the public using the railroad's transportation services. The Railroads admitted that amounts in Account 90 are not currently being used to benefit the transportation public, yet they advocated forcing

**THE CORRECT REGULATORY AND
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captive shippers to provide railroads profits on investments that those shippers cannot even use. Permitting the railroads to reflect Account 76 and, thus, to recoup the interest charges incurred on Construction Work in Progress investments, strikes a fair and reasonable policy balance between the interests of the railroads and their customers.

AEPCO'S ROAD CAPITAL COSTING PROCEDURE

Road property return and depreciation expenses for the UP portion of the AEPCO coal movements were developed using the following steps. Each step of the process and applicable source documents is described below. Sheet references are to AEPCO's Reply electronic workpaper "Rd Inv UP AEPCO Reply.123."

- i. System Average Return and Depreciation
 - URCS Gross Investment and Annual Depreciation
 - URCS System GTM
 - Calculation of System Investment and Depreciation per GTM
- ii Valuation Sections Traversed by AEPCO
 - Identification of Track Segments Included in Each Val Sec
 - Total Investment and Depreciation for each Val Sec
 - Adjustments for SP Purchase Accounting Write-up
 - Adjustments for Addition of Unassigned Investment and Depreciation
 - Calculation of GTM for each Valuation Section
 - Calculation of Average Investment and Depreciation per Valuation Section
- iii AEPCO Route Specific Average Investment and Depreciation Weighted on AEPCO GTM's
 - Track Segments utilized for AEPCO's Movement
 - AEPCO Specific Gross Ton Miles
 - Calculation of Weighted Average Investment for AEPCO Specific Movement
- iv Ratio of AEPCO Route Specific Investment and Depreciation to System Average Return and Depreciation

i. System Average Return and Depreciation

URCS Gross Investment and Annual Depreciation - URCS investment and depreciation calculations are shown on the sheet 'URCS Inv'. Gross Investment comes from the A4 Table, Lines 101 through 138, and the Annual Depreciation comes from the A3 Table, Lines 701 through 725.

Gross investment rather than net investment was used to calculate the ratio of segment-specific to system because UP only provided gross investment for valuation sections. AEPCO included only the accounts reported in the valuation section data to insure that like expenses are included in both the numerator and denominator when AEPCO calculated a ratio to the system average. For example, Accounts 37 and 57 were excluded from the system totals because they were not reported in the valuation section data. Gross investment and depreciation for 2001 are shown on the 'URCS Inv' sheet, line 16, columns (4) and (6), respectively.

URCS System GTM - GTM for Car, Contents, & Cabooses - come from the URCS A1 table, L122. GTM including locomotives are used as the divisor because the density used in calculating valuation section investment and depreciation includes locomotives.

Calculation of System Investment and Depreciation per GTM - gross investment and depreciation are divided by the GTM service units in URCS to derive system gross investment and depreciation expenses per gross ton-mile.

ii. Valuation Sections Traversed by AEPCO

Identification of Track Segments Included in Each Val Sec - valuation sections, track segments and milepost ranges were identified from the “Consolidated Val Sec Master” (UP Discovery document U-A-C 027417-027422).

Total Investment and Depreciation for each Val Sec - detailed investment and depreciation expenses for each valuation section provided in UP discovery file “aep01.xls,” were brought into sheet ‘2001 Inv.’ Total investment and depreciation for the valuations sections traversed by the AEPCO trains were summarized in sheet ‘ValSec,’ columns (5) and (8), for the accounts included in the URCS road return and depreciation unit costs based on the lookup table on the ‘Accounts Used’ sheet.

Adjustments for SP Purchase Accounting Write-up - the SP purchase accounting adjustment for accounts other than land are not pushed down to the valuation section level by UP. In discovery, UP provided the Price Waterhouse workpapers regarding the SP Purchase Accounting write-up. On sheet ‘Premium’ AEPCO calculated the premium paid (that is, the difference between fair market value and book value) by account per track-mile and annual depreciation on that premium by account per track-mile, based on the total SP track-miles shown in Price Waterhouse workpapers. Track-miles for the valuation sections traversed by AEPCO are shown on sheet ‘Inv_GTM’. The additional investment and depreciation for each account related to the SP premium, based on the track-miles in each

valuation section, is shown on sheet 'ValSec,' columns (6) and (7), respectively. Total investment and depreciation including the SP premium is shown in columns (9) and (10).

Adjustments for Addition of Unassigned Investment and Depreciation - Detailed investment for accounts not assigned to a specific valuation section were provided in UP discovery file "unal.xls," which was included as sheet 'Unassigned.' Depreciation related to the unassigned investment was calculated based on the depreciation rates by account reported in UP's 2001 R-1 Schedule 332. The ratio of unassigned investment and depreciation to system investment and depreciation is calculated on sheet 'URCS Inv' and is shown on sheet 'ValSec,' columns (11) and (12). Total road investment and depreciation including adjustments for SP Premium and unassigned investment are shown on Sheet 'ValSec,' columns (13) and (14), respectively.

Calculation of GTM for each Valuation Section - UP's gross ton-miles and gross tons per mile by segment were provided in discovery file "gtm2001.xls" and imported into sheet 'GTM2001.' Gross tons per mile were identified for each track segment on sheet 'Inv_GTM,' column (14). Gross ton-miles for each track segment and the total for the valuation section is shown in column (15).

Average Investment and Depreciation per GTM - total road investment and depreciation calculated on sheet 'ValSec' for each valuation section is shown in columns (16) and (18), respectively. Average road investment per GTM and average road depreciation per GTM are shown on sheet 'ValSec,' columns (17) and (19), respectively.

URCS road investment and depreciation include the SP write-up and investment not assigned to specific valuation sections. The segment-specific valuations sections traversed by AEPCO, as adjusted to include an allocation of the SP write-up and unassigned investment, are on an equal basis with the URCS investment.

iii. **AEPCO Route Specific Average Investment and Depreciation Weighted on AEPCO GTM's**

UP Track Segments Utilized for AEPCO Movement are itemized in column (1) of sheet 'route.' State, valuation section, segment name, miles, investment per GTM, and depreciation per GTM are imported from sheet 'Inv_GTM' based on the column (1) line segment.

AEPCO Specific Gross Ton Miles, based on tons and tare shown in "AEPCO T&O Opening.123," are shown in column (10) and are multiplied by the miles by track segment to calculate GTM in column (11).

Weighted Average Investment and Depreciation for AEPCO Specific Movements are calculated by multiplying the investment and depreciation in columns (12) and (13), respectively, by AEPCO's GTM's from column (14).

iv. **Ratio of AEPCO Route Specific Investment and Depreciation to System Average Return and Depreciation**

This ratio is calculated by dividing AEPCO's weighted average investment and depreciation cost per GTM by the UP system average investment and depreciation per GTM

which has been adjusted to include the SP purchase accounting write-up and unassigned expenses not included at the valuation section level.

EFFECT OF TRAFFIC DENSITY ON ROAD PROPERTY INVESTMENT COSTS

AEPCO believes, and the Board and its predecessor have held in previous cases, that road property investment costs per gross ton-mile decrease as traffic density increases, and that movement-specific road property costs are lower than system-average road property costs for high-density rail lines of the kind used to transport AEPCO's Apache coal traffic.¹ The Railroads dispute this, and in Exhibit BNSF/UP II.A.6, pp. 14-17, their Witness Fisher argues that the variable portion of total return and depreciation on road property investment ("road property investment costs") should increase as traffic density increases. This exhibit demonstrates the fallacies in the Railroads' argument and the lack of any specific evidence to back it up.

I. Road Property Costs on High-Density Lines Are Lower than System Average Costs

Support for the principle that road property unit costs on high-density lines are significantly lower than system-average costs is found by examining some of the Railroads' highest density/highest investment lines: BNSF's lines emanating from the Powder River Basin ("PRB"). BNSF's investments in its PRB lines can be used to illustrate why Mr. Fisher's conclusions are wrong.

Table I below compares BNSF's PRB road property investment with "system average" road property investment:

¹ See, e.g., the Board's Decision in this proceeding served September 11, 2002, at 6 (granting AEPCO's motion to compel production of information from BNSF regarding line-specific road property investment and depreciation).

EFFECT OF TRAFFIC DENSITY ON ROAD PROPERTY INVESTMENT COSTS

Table I Comparison of 2001 Fixed Investment on PRB Valuation Section vs. BNSF System			
Item (1)	BNSF PRB ^{1/} (2)	System ^{2/} (3)	PRB Percent of System ^{3/} (4)
1. Gross Investment	██████████	\$20,402,861,000	
2. Accumulated Depreciation	██████████	\$3,276,658,000	
3. Net Investment	██████████	\$17,126,203,000	
4. Route Miles	████	33,025	
5. Gross Ton-Miles (Millions)	████	895,936	
6. GTM's per Route Mile (Millions)	████	27.1	████
7. Net Investment per Mile	██████████	\$518,583	████
8. Net Investment per GTM	████	0.019115	████
^{1/} BNSF's Powder River line from Cordero Jct., WY to Shawnee Jct., WY, Valuation Sec. WY18, Range 1862. ^{2/} Source BNSF 2001 URCS and Annual Report Form R-1. ^{3/} Column (2) / Column (3).			

Line 7, Column (2) of Table I shows BNSF's net investment per route mile in a major, high-density portion of its lines in the PRB. Consistent with Mr. Fisher's point, as shown on Line 7, Column (4) of the table, BNSF's investment per route mile in this major PRB coal route is █████ of BNSF's average investment in its system as a whole. Thus, as should be intuitively obvious, BNSF has invested heavily in its high-density coal routes. However, BNSF has also realized enormous economies of scale in connection with these investments – a point that Mr. Fisher ignores in his analysis.

Line 6, Column (2) of Table I above shows that traffic density stated in millions of gross ton-miles per route mile ("MGTM/M") over the specified BNSF coal route is █████

EFFECT OF TRAFFIC DENSITY ON ROAD PROPERTY INVESTMENT COSTS

of the average density for the BNSF system, as shown on Line 6, Column (4). Considering investment per route mile together with the higher traffic density per route mile demonstrates the economies of scale achieved by BNSF on its PRB coal route. Even though BNSF's coal route investment is [REDACTED] of its system-average investment per route-mile, its PRB investment per GTM is [REDACTED] its average investment per GTM over its entire system (compare Line 7, Column (4) with Line 8, Column (4)).

These relationships are quite consistent with those observed for the UP portion of the route used by the Apache trains between Deming, NM and Cochise, AZ, using the movement-specific road property costs developed by AEPCO. UP's evidence shows that the density on this route is [REDACTED], compared with UP's system average density of [REDACTED].² The investment per GTM for the Deming-Cochise line is [REDACTED] of UP's system average investment per GTM.³ These results contradict Mr. Fisher's implicit view that road property investment costs on a unit (per-GTM) basis should be higher than system average costs for high investment/high density lines.

II. Variability of Road Property Costs

The Railroads' Witness Fisher argues in Exhibit BNSF/UP II.A.6 that the 50% variability factor provided in the URCS formula for road property investment and

² Exhibit BNSF/UP II.A.6, p. 15 n.18.

³ See AEPCO Reply Exhibit II-A-27, page 1 of 6 and electronic file "Rd Inv UP AEPCO Reply.123".

EFFECT OF TRAFFIC DENSITY ON ROAD PROPERTY INVESTMENT COSTS

depreciation costs should not be used if such costs are developed on a line-specific basis and that the variability of such costs should increase as density increases. This argument lacks any factual support and is fallacious for a number of reasons.

First, the 50% variability factor for road property costs has been used by the Board and its predecessor since the 1940's, and has been consistently applied regardless of whether road property costs have been developed (and approved) on a system average or a movement-specific basis. It is perhaps the longest-standing "settled issue" of all issues arising in railroad rate cases, and BNSF has presented no valid reason why the Board should depart from its established precedent.⁴

Mr. Fisher's attack on the URCS variability factor for road property costs is based on the following claim presented at pp. 14-15 of Exhibit BNSF/UP II.A.6:

There can be no doubt that the percentage of total costs that are variable increases as density on a line increases. Increasing volumes of traffic generate additional costs, and, by definition, these are variable costs. If fixed costs remain constant (as they do by definition), while variable costs increase with the addition of more traffic, then the ratio of variable costs to total costs will increase with increased traffic density.

However, the Railroads have presented no facts supporting Mr. Fisher's hypothesis regarding the variability of road property costs and the relationship between those costs and density.⁵

⁴ See Ex parte No. 347 (Sub-No. 3), *General Procedures for Presenting Evidence in Stand-Alone Cost Rate Cases*, Decision served March 12, 2001, at 6 ("the parties to SAC cases are cautioned not to attempt to relitigate issues that have been resolved in prior cases").

⁵ Mr. Fisher submits only a "Variability Example" graph at page 16 of Exhibit BNSF/UP II.A.6. No workpapers or other materials were submitted in support of this graph. It is purely

EFFECT OF TRAFFIC DENSITY ON ROAD PROPERTY INVESTMENT COSTS

Such facts are needed to support a finding that the use of the Rail Form A and URCS 50% variability ratio is incorrect for movements over high-density lines.

The subject of variability of road property investment costs was addressed by the ICC during the proceeding in which the agency considered and adopted the URCS formula.⁶ In that proceeding, the railroad industry argued that the 50% variability ratio for road property costs that was the default value in the Rail Form A formula “significantly understates true variability, because the economic depreciation of investment represented by those accounts is far more variable with volume than indicated by the Rail Form A coefficient.”⁷ In the same proceeding the AAR’s Witness Rawert went on to advocate using variabilities determined by reference to other roadway accounts:

In contrast to equipment return, discussed above, there is less than 100% direct cause and effect relationship in the case of road property since *such assets cannot as easily be purchased or sold in response to changing traffic requirements*. Consequently, for the reason given in our previous discussion of road property depreciation, we recommend applying the same variability ratios developed for the running track maintenance expense category, since a major portion of road property investment consists of running track components.

hypothetical in nature, and not backed up by any empirical study.

⁶ Ex Parte No. 431 (Sub-No. 1), *Adoption of the Uniform Rail Costing System as a General Purpose Costing System for All regulatory Costing Purposes*, 5 I.C.C.2d 894 (1989) (“*Adoption of URCS*”).

⁷ Comments of the Association American Railroads dated March 20, 1989, page 8.

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Verified Statement of AAR Witness Rawert submitted with AAR Comments of March 20, 1989, at 17-18 (emphasis supplied).⁸ The ICC rejected the AAR's position and adopted the same 50% variability factor for road property costs for URCS that had been used in Rail Form A. *Id.*, 5 I.C.C.2d at 919-20.

The highlighted portion of Mr. Rawert's testimony in *Adoption of URCS* is significant. As he appeared to recognize, road property assets by definition are fixed assets.⁹ The railroad industry is noted for having particularly long-lived assets, with the average life of the assets reflected in AEPCO's movement-specific road property investment costs for UP being more than 30 years. Road property assets are not fungible¹⁰ like equipment. Once a railroad makes road property investments, those investments are sunk. If volume is reduced, there is little a railroad can do about liquidating the assets. The lack of liquidity results from the assets' lack of fungibility and from regulations requiring railroads to obtain regulatory (abandonment) authority before they are allowed to dis-invest in road property.

⁸ Relevant excerpts from the AAR's March 20, 1989 Comments in the *Adoption of URCS* proceeding, including Mr. Rawert's verified statement, are contained in AEPCO's Reply Workpapers at pp. 114-120.

⁹ Fixed assets are "... tangible property used in the operation of a business, but not expected to be consumed or converted into cash in the ordinary course of events." See *Dictionary of Finance and Investment Terms*, Third Ed., c. 1991 by Barron's Educational Services, Inc.

¹⁰ Webster's *Encyclopedic Unabridged Dictionary of the English Language* defines fungible as "... being of such nature or kind as to be freely exchangeable or replaceable, in whole or in part, for another like nature or kind."

EFFECT OF TRAFFIC DENSITY ON ROAD PROPERTY INVESTMENT COSTS

Costs related to road property are step functions in that, once the investment is made, the road property is capable of handling enormous increases in traffic volume before the next capacity-expanding road property investments have to be made. The variability of road property investments bears no resemblance to the variability of equipment investments, as equipment investments are fungible, shorter-lived, and can be made in much smaller increments than road property investments. For example, BNSF had to invest billions of dollars in road property in order to permit the development of the Powder River Basin mines and the initial movement of PRB coal to the electric utility markets across the nation. That was a huge sunk investment. By contrast, BNSF could increase its coal-hauling equipment capacity by a car (or at least a unit trainset) at a time. This suggests that the variability of road property investment costs is far less than the variability of equipment investment costs.

AEPCO's economic consultants (who participated in the *Adoption of URCS* proceedings) believe that the variability of road property costs is much closer to 0% than it is to 100%. However, nobody has ever successfully documented the functional variability relationship for road property investment return and depreciation. Certainly the Railroads' Witness Fisher has not done so in this proceeding.

In *Adoption of URCS*, the ICC's expert, Dr. Daniel Westbrook, described the econometric techniques that should be applied to develop acceptable new cost relationships for application in URCS as follows:

EFFECT OF TRAFFIC DENSITY ON ROAD PROPERTY INVESTMENT COSTS

Specification and estimation of an econometric model depends upon three things: (i) a clear definition of the theoretical construct that is to be estimated; (ii) a theoretical model, including clearly stated assumptions, that relates the object of interest to an appropriate data set in a meaningful way; and (ii) an appropriate data set with which to carry out the estimation. Previous documentation bearing on the URCS is not clear on items (i) and (ii). In my judgment clarification of these issues is required before the regression equations can be meaningfully examined.¹¹

In its *Adoption of URCS* decision, the ICC concluded that it would continue to rely on Rail Form A variability for road property and return (*id.* at 919) because, unlike most cost components for which Dr. Westbrook was able to develop regression equations with strong regression statistics and explanatory power (*id.* at 910), neither Dr. Westbrook nor any other party was able to develop a functional relationship for road property costs that was demonstrably superior to Rail Form A's 50% variability assumption.

Certainly the Railroads' Witness Fisher has not carried out the kind of rigorous econometric analysis called for by the ICC's Dr. Westbrook in the *Adoption of URCS* proceeding. Mr. Fisher does not even refer to any "data set with which to carry out the estimation," but instead relies on assumptions and hypothetical numbers.

Mr. Fisher improperly assumes that even though the 50-percent variability factor for road property depreciation and investment in URCS was not established directly on the basis of a regression equation, it is nonetheless appropriate to treat it as the proportion of road

¹¹ Dr. M. Daniel Westbrook, PhD, "Research Report on URCS Regression Equations," October 17, 1998, page 2 (*see Adoption of URCS* at 897 n.7. A copy of this page of Dr. Westbrook's report is included in AEPCO's Reply Workpapers at p. 122.

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property ownership costs that the Board would deem to be variable at the average density of the railroad in a particular year, based on a linear cost function. Mr. Fisher's assumption has no econometric foundation. He assumes a functional relationship (embodied in the numbers in his graph on page 16 of Exhibit BNSF/UP II.A.6) and then ignores the fact that the basis for his functional relationship does not exist. He then goes on to claim, based on his assumed regression relationship and hypothetical graph, that it would be impermissible for AEPCO to make line-specific adjustments on the denser-than-average UP line segment its movements traverse without also increasing the URCS variability ratio. In essence, he assumes away decades of precedents indicating that economies of scale, scope and density exist in the rail industry at least with respect to this cost item.

URCS has always applied a 50% variability factor to road property costs. Mr. Fisher's proposal for something other than a 50% variability factor was rejected during the *Adoption of URCS* proceeding and the Board should reject it now as it has not been even partially supported, much less "fully supported" (*TMPA* at 56 n.94).

Exhibit Nos. 27-29
Redacted