

BEFORE THE
SURFACE TRANSPORTATION BOARD

DOCKET NO. EP 661 (Sub-No. 2)

RAIL FUEL SURCHARGES (SAFE HARBOR)

COMMENTS OF
ARKANSAS ELECTRIC COOPERATIVE CORPORATION

236395
ENTERED
Office of Proceedings
August 4, 2014
Part of
Public Record

Michael A. Nelson
101 Main Street
Dalton, MA 01226
(413) 684-2044

Transportation Consultant

Eric Von Salzen
McLeod, Watkinson & Miller
One Massachusetts Avenue, N.W.
Suite 800
Washington, DC 20001
(202) 842-2345

Counsel for Arkansas Electric Cooperative
Corporation

Dated: August 4, 2014



BEFORE THE
SURFACE TRANSPORTATION BOARD

DOCKET NO. EP 661 (Sub-No. 2)

RAIL FUEL SURCHARGES (SAFE HARBOR)

COMMENTS OF
ARKANSAS ELECTRIC COOPERATIVE CORPORATION

In accordance with the Board's decisions served May 29, 2014 and July 8, 2014, Arkansas Electric Cooperative Corporation (AECC) ^{1/} submits these comments regarding needed modifications of the fuel surcharge program established by the Board in Rail Fuel Surcharges, Docket No. EP 661, served Jan. 26, 2007 ("Fuel Surcharges").

^{1/} AECC is a membership-based generation and transmission cooperative that provides wholesale electric power to electric cooperatives, which in turn serve over 500,000 customers, or members, located in each of the 75 counties in Arkansas and in surrounding states. In order to serve its 17 member distribution cooperatives, AECC has entered into arrangements with other utilities within the state to share generation and transmission facilities. For example, AECC holds ownership interests in the White Bluff plant at Redfield, AR and the Independence plant at Newark, AR, each of which typically uses in excess of 6 million tons of Powder River Basin (PRB) coal each year. In addition, AECC holds ownership interests in the Flint Creek plant at Gentry, AR and the Turk plant at Fulton, AR, each of which typically uses on the order of 2 million tons of PRB coal each year. Because of the large volume of coal consumed by these plants, the need for long-distance rail transportation to move this coal, and the rail captivity of three of these plants, AECC has a direct interest in Board actions that may affect the price and service characteristics of coal transportation options.

INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

The Board initiated this proceeding to address problems with the Board's fuel surcharge rules that came to light in Cargill, Inc. v. BNSF Railway Co., Docket No. NOR 42120, served Aug. 12, 2013 ("Cargill"). The principal problem in Cargill involved the use of the HDF Index as a measure of changes in diesel fuel prices under the "safe harbor" provision the Board adopted in Fuel Surcharges. However, the Board also made clear in Cargill that a railroad could be found to have engaged in an unreasonable practice if its fuel surcharge "lack[ed] a reasonable nexus to fuel consumption". ^{2/} Although the Board in Cargill ultimately found no problem with the fuel use estimates considered in that proceeding, those estimates were based on a formula different from those applied to PRB unit coal train movements. Therefore, AECC's comments encompass the accuracy of the index procedure with respect to diesel fuel prices, as well as fuel use issues for PRB coal movements (which may also apply to other traffic).

AECC's specific recommendations include the following:

- AECC supports the concept of a "safe harbor" provision for fuel prices, and is not aware of any index that would serve that purpose better than the HDF Index. However, as the Cargill case demonstrates, HDF may not always track adequately the variations in fuel prices experienced by railroads. Therefore, the Board should establish a "true-up" mechanism as needed to provide conformity between the fuel price index portion of the surcharge mechanism and variations in the unit fuel prices actually paid by the railroads. For administrative simplicity, the "true-up" adjustment could be applied prospectively only.
- The Board should establish a procedure to exclude mileage associated with circuitry introduced at the discretion of the railroad.

^{2/} Cargill at 6.

- The Board should exclude from the surcharge categories of fuel costs not directly variable with issue traffic, and treat them in the manner called for under Constrained Market Pricing (CMP).
- The Board should establish periodic reviews of fuel use estimates embedded in surcharge formulae to ensure their conformity with demonstrated fuel efficiency improvements achieved by rail carriers.
- The Board should establish an “exception” procedure to be used when the actual fuel use of a given movement is outside of a reasonably narrow range around the value implicit in the surcharge formula.

The details of AECC’s comments and recommendations are presented in the following sections.

BACKGROUND: THE CHANGING CIRCUMSTANCES OF PRB COAL SHIPPERS

In assessing the need for modifications of its fuel surcharge standards, the Board should give careful consideration to the changing circumstances facing PRB coal shippers. The uncertainties being created for owners of coal-fired generation assets by environmental issues are, for the first time in memory, undermining, or realistically threatening to undermine, the role of coal as a dominant and largely inelastic component of the traffic bases of the major railroads. In this context, the Board needs to sharpen its focus on ensuring that its practices, including those pertaining to fuel surcharges, do not create unnecessary burdens or uncertainties for coal users that may threaten continued investment in and operation of coal-fired generation assets.

Like many other PRB coal users, AECC’s interests in matters that come before the Board stem from its longstanding need for rail transportation to move, with reliability and economy, large volumes of coal over long distances to a small number of fixed generation facilities. AECC has held its large percentage interests in the Flint Creek, White Bluff, and Independence plants for 30 years or more. Regular PRB coal movements to these plants have

been well in excess of 10 million tons annually for decades, and have formed a portion of the heavy primary flow of PRB coal toward Kansas City and points beyond enjoyed by the Class I railroads.

During that time, AECC and at least one of its facility co-owners have appeared before the Board in several proceedings affecting, directly or indirectly, the price and service characteristics of rail transportation for coal moving to its plants. For example, during the major service problems precipitated by implementation of the Union Pacific (UP)-Southern Pacific (SP) merger, Entergy (co-owner of the White Bluff plant) sought emergency service to mitigate the substantial economic harms stemming from UP's failure to deliver even the minimum tonnage needed to prevent costly and disruptive burn restrictions at White Bluff. Notwithstanding the fact that the Board's approval of that merger explicitly acknowledged that the plant was entitled to access by a carrier other than UP, the Board nevertheless declined to order emergency service, so the plant's owners and customers – not UP – bore the impacts of UP's inadequate service.

Similarly, in Docket No. NOR 42104, Entergy (also co-owner of the Independence plant) sought, and AECC intervened in support of, Board removal of "paper barrier" interchange restrictions that prevent establishment of a through route involving BNSF Railway (BNSF) and the Missouri & Northern Arkansas Railroad (MNA, a UP shortline spin-off) to compete with the incumbent UP route for service to Independence. In accordance with the Board's guidance, Entergy and AECC sought relief through a competitive access application. Yet despite the history of chronic UP service problems involving this plant, and the weight of the evidence that

the statutory criteria for competitive access relief were satisfied, the Board refused to grant competitive access.

AECC recognizes that, pursuant to Section 10704(a)(2), the Board has operated under a statutory mandate to assist the Class I rail industry in achieving revenue adequacy, and that this mandate in the past may have contributed to the Board's apparent reticence to ensure that shippers receive levels of service and pricing that are fully consistent with competitive market standards. AECC also recognizes that the Board already has begun the essential process of reviewing its practices vis-à-vis the revenue adequacy status of the railroads (in Docket No. EP 722), and AECC intends to submit comments in support of that process.

Above and beyond those considerations, however, AECC submits that ongoing changes in the marketplace for PRB coal transportation now should be causing the Board to devote new and careful attention to ensuring that rail service and pricing for such traffic – including fuel surcharges – are fully consistent with competitive market standards. Particularly during the first 25 years after the Staggers Act, competition yielded a combination of lower rates for shippers, robust returns for carriers ^{3/} and sustained investment thought to be

^{3/} Even before the industry as a whole surpassed the revenue adequacy threshold, in rate cases involving PRB coal it routinely was found by the Board or stipulated by the parties that Stand-Alone Cost (SAC) test results would produce rate prescriptions below the jurisdictional threshold. See, for example, Docket Nos. 42051 (WPL Edgewater); 42095 (KCPL Montrose); and, 42111 (OGE Muskogee). Because the jurisdictional threshold prevents the Board from prescribing rates that low, the carriers in those cases were able to systematically capture supracompetitive earnings from portions of their networks that serve PRB coal traffic.

impossible even by railroad CEOs. ^{4/} At the heart of this “miracle” were improvements in productivity that greatly reduced the costs of moving PRB coal. Such productivity improvements resulted in large part from investments made by coal shippers, including AECC, in such improvements as trainsets of lightweight aluminum cars, extended loop tracks to accommodate increased train lengths, efficient unloading facilities, etc.

Now, the continued willingness of shippers like AECC to make such investments is being jeopardized by the growing uncertainties regarding the future of coal-fired generation. It is no secret that actions by EPA have created uncertainties for owners of coal-fired generation facilities. Such uncertainties involve not only issues related to the costs of compliance with specific regulatory requirements, but also, more broadly, the risks associated with continued reliance upon and investment in coal-fired generation assets.

To protect the soundness of the national rail system, the Board should ensure that environmental uncertainties regarding coal-fired generation are not compounded unnecessarily by transportation uncertainties. ^{5/} In the specific context of fuel surcharges, the Board here should be ensuring as definitively as possible the correspondence between fuel

^{4/} For example, the combination of improved capacity, improved service, and lower rates was cited as an ostensibly unattainable ideal by then-NS Chairman and CEO Charles “Wick” Moorman at the April 11, 2007 public hearing in Docket No. EP 671, Rail Capacity and Infrastructure Requirements.

^{5/} Even without considering revenue adequacy, for example, it likely would benefit the rail industry and the health of the rail system as a whole for the Board to define better and more tightly the limits it will enforce on the provision of inadequate service by railroads. AECC’s experiences to date cause us to bear what we view as unnecessarily high inventory carrying costs, as well as uncertainty as to whether even the high inventories we maintain will be sufficient to withstand future rail service problems. Likewise, the types of reforms the Board should consider in Docket Nos. EP 722 and EP 664 will tend to narrow the range of uncertainty regarding transportation costs associated with future operation of coal-fired generation assets.

surcharges and actual fuel cost changes, so that fuel surcharges perform their intended function without introducing fictitious costs for shippers that unduly and unpredictably burden the operating costs of coal-fired generation assets. This will help to ensure the preservation of whatever coal flows remain economically rational under evolving environmental requirements, and the willingness of coal shippers to continue to invest in their future.

SPECIFIC RECOMMENDATIONS

The Board in this proceeding “seek[s] comments from the public on whether the safe harbor provision of Fuel Surcharges should be modified or removed.” Parties have been encouraged to comment on any other matter bearing on “whether the safe harbor should be modified or removed.” 6/

The reasonableness of a fuel surcharge program depends on both the fuel price issue that raised the Board’s concerns in Cargill, and on the degree of consistency between assumed vs. actual fuel use by the traffic to which the program is applied. It is the combination of these factors that determines the level of fuel surcharge payments made by shippers, and the correspondence of those payments to the fuel cost changes experienced by carriers.

In Fuel Surcharges, the Board, in its rejection of rate-based surcharge methods, affirmed the central importance of this correspondence. Indeed, achieving such correspondence was cited by the Board as being needed for consistency with the rail transportation policy “to encourage honest and efficient management of railroads” 49 U.S.C. §10101(9). 7/ While the Board in Cargill did not find material inaccuracy in the fuel use factors

6/ May 29, 2014 Decision at 3.

7/ Fuel Surcharges at 7.

used in that proceeding, it certainly did nothing to alter or repudiate the fundamental need for fuel surcharge methods to possess accuracy in both fuel use and fuel price factors. Moreover, the fuel use estimates considered by the Board in Cargill were based on a formula different from those applied to PRB unit coal train movements. As a result, it still is the combination of fuel price and fuel use factors – and not fuel price alone – that must be considered “in judging the reasonableness of fuel surcharge programs” as they apply to PRB coal movements.

AECC’s specific comments on fuel price and fuel use factors are presented separately below.

Fuel Price

Although the HDF Index appears to be a reasonable choice as a measure of changes in railroad fuel prices, the Cargill case demonstrates that actual railroad fuel price changes may differ significantly from changes in the Index. To address this issue, AECC recommends that the Board establish a “true-up” procedure to compare and reconcile HDF Index results with prices actually paid by railroads.

AECC understands that the Board already collects information from the Class I railroads regarding fuel expenditures and the gallons of fuel purchased or used. Changes in price per gallon shown by these data could be compared after-the-fact with changes shown by the HDF Index to provide the basis for a “true-up” procedure. Where this comparison reveals a significant discrepancy between the Index and the prices paid by the railroads, whether higher or lower, an appropriate adjustment could be made to the safe harbor price.

AECC further suggests that this true-up adjustment be made prospectively. While it would be possible to apply the true-up to fuel surcharge amounts that shippers have

already paid -- i.e., the railroad could issue refunds if the true-up reduced the surcharge or supplemental invoices if the true-up increased the surcharge -- for administrative simplicity it likely would be preferable to "carry forward" the deviation and use it prospectively to adjust permissible recovery of fuel price fluctuations in the following year.

AECC suggests that industry-level fuel price data rather than carrier-level data be used for the true-up. Use of industry-level data would tend to preserve economic incentives and rewards for efficient carrier management, and protect shippers against hedging losses and other possible consequences of inefficient management on the part of individual carriers.

Fuel Use

The PRB coal unit trains that currently move to AECC's plants are among the longest and heaviest trains moved by the Class I railroads. With 132 or more cars each loaded close to the 286k GWR limit, the trailing weight moved in each train is close to 19,000 tons. These extremely large trains have unique fuel use characteristics, and on the western railroads accrue fuel surcharges under formulae different from those applicable to other traffic.

The reasonableness of those formulae depends in part on their treatments of the portions of fuel use that cannot be associated with specific movements, and of productivity improvements. Also, use of a single cents-per-car-mile surcharge factor by those formulae overlooks the variations in fuel use intensity that occur among PRB coal movements. These issues are addressed in further detail below.

Route Length and Circuity Issues

To the extent that fuel surcharges are calculated based on the length of the actual line of travel for the loaded movement, it is important to account for the fact that

railroads sometimes elect to move traffic over routes that are circuitous relative to the shortest or most efficient route. It would be inconsistent with established pricing principles for shippers to be charged for fuel costs based on the railroad's decision to use a circuitous route for reasons related to, for example, the needs of other traffic and/or application of the carrier's market power.

Where competition is effective for PRB unit train movements, circuitry tends to be negligible, because the carrier providing the shortest route tends to experience the lowest costs and can earn the highest contribution from a given rate level. All else equal, market forces, where present, cause traffic to gravitate to the most efficient routes. It is where competition is ineffective that circuitry associated with the actual route is most troublesome.

For example, for the BNSF route to the White Bluff plant, the loaded movement is significantly longer than the empty return movement in part because of UP's implementation of directional operations over parallel former MP and SP lines in Arkansas. As a result, it is understood that a loaded BNSF train would move circuitously (via Jonesboro and Pine Bluff on the former SP line, rather than via Hoxie and Little Rock on the former MP line) to reach the plant. However, this circuitry results from decisions of the carrier that owns those lines, UP, 8/ presumably based on the needs of UP's traffic, and is not necessitated by any characteristic of the movement itself, or even under the control of the carrier moving it. Moreover, the circuitry for the BNSF routing created by UP's directional running protocol has the effect of weakening BNSF's competitive capability and strengthening UP's market power over movements to this plant.

8/ BNSF's movements over the subject lines are made pursuant to trackage rights.

Analogous issues arise when the route used by UP to move loaded trains to the Independence plant is considered. South of Kansas City, UP uses a circuitous routing via Wagoner, OK that results in the plant being served from the east, over a segment of the former UP (MP) main line between Kansas City and Memphis now operated by MNA. Although MNA still provides direct service between Independence and its connection with UP at Kansas City, and although MNA moves loaded PRB unit coal trains received from UP at Kansas City to another powerplant, ^{9/} and although MNA moves the empty Independence coal trains back to Kansas City for UP, UP nevertheless elects to move loaded coal trains to Independence via its route through OK, which adds approximately 167 miles to the length of the loaded movement.^{10/} While this type of mileage differential normally would render the circuitous route noncompetitive with the direct movement, UP is able to rely on its market power to use the circuitous routing at its discretion.

Where competition is ineffective, the Board relies on the theory of Constrained Market Pricing (“CMP”) to guide its determination of maximum reasonable rates. In practice, for PRB coal moves, CMP typically is implemented using the Stand-Alone Cost (“SAC”) test. To allow carriers, such as UP and BNSF in the above examples, to be reimbursed for “actual mile” fuel costs on circuitous routes that reflect the application of carrier market power and/or the

^{9/} The KCPL Montrose facility at Ladue, MO, which was the subject of Docket No. 42095.

^{10/} See Docket No. NOR 42104, Entergy Arkansas, Inc. and Entergy Services, Inc. v. Union Pacific Railroad Company and Missouri & Northern Arkansas Railroad Company, Inc., “Rebuttal Comments and Evidence of Arkansas Electric Cooperative Corporation” (September 2, 2008) at 5.

needs of other traffic would violate fundamental aspects of CMP, as reflected in well-established elements of SAC.

Under SAC, to establish the maximum level of rate reasonableness where competition is ineffective, a shipper is entitled to assume market entry by an efficient new carrier operating a route designed to meet the needs of the issue traffic. As part of this process, the shipper – not the railroad – specifies the route and the non-issue traffic to include in the analysis. The defendant railroad’s authority to engage in differential pricing ends at a bright line drawn where the shipper-designed efficient railroad generates sufficient contribution to cover its cost of capital.

Differential pricing above the level that just covers the cost of capital is impermissible because it would produce earnings above the competitive market standard, which would be demonstrably harmful to the economy (so-called “supracompetitive” earnings). Moreover, differential pricing above that level cannot be justified on the basis of the needs of other facilities or traffic, because that would constitute a “cross-subsidy” undermining the carriers’ incentives to rationalize their operations, again in violation of competitive market standards.

The bottom line is that, under standards the Board already acknowledges and applies where competition is ineffective, the maximum rate the defendant carrier is permitted to collect reimburses the carrier only for the direct costs (including fuel) of operation by an efficient carrier designed to meet the needs of the issue traffic, plus the contribution such a carrier would require to cover its fixed costs and cost of capital. Any formula for reimbursing variations in any direct cost (including fuel) must be limited to the level incurred by an efficient

carrier designed to meet the needs of the issue traffic. Otherwise, it may allow the total payments received from the shipper by the defendant carrier to exceed the level permitted under CMP. To ensure that fuel surcharges don't provide such a mechanism for circumventing CMP limits, the Board should provide an effective process for shippers to limit or eliminate the collection of fuel surcharges associated with route circuitry, at least in circumstances where competition is ineffective.

Joint and Common Costs

The treatment of circuitry issues described above would create a category of fuel expenses not subject to direct recovery through the surcharge mechanism. In Cargill, the Board examined categories of fuel costs (locomotive unattributable and non-locomotive fuel costs) that similarly "cannot be attributed to any particular shipper or group of shippers", and concluded that "[a]llowing a rail carrier to recover these incremental fuel costs . . . through a fuel surcharge mechanism does not present the sort of substantial unfairness to one set of shippers that motivated the Board to act in Fuel Surcharges." ^{11/} In fact, contrary to the Board's assertion, charging shippers for these categories of fuel costs would result in even greater unfairness than what the Board condemned in Fuel Surcharges.

In Fuel Surcharges, captive shippers faced a likelihood of paying more than the costs associated with the fuel actually used to serve them, while other shippers paid less. The Board disapproved this practice as unfair. Charging shippers for unattributable and non-locomotive fuel costs manifests an even broader and more fundamental unfairness because it would assign to shippers as a group the responsibility to reimburse carriers for increased fuel

^{11/} Cargill at 13.

expenses that bear no causal relationship to any specific shippers or shipments. This would create for essentially all shippers the problem that the Board previously disapproved for captive shippers – i.e., paying more than the costs associated with the fuel they use.

AECC recognizes that heavy PRB coal trains use a lot of fuel. Nevertheless, there are some categories of fuel use that cannot be associated with specific shippers or shipments, and the Board has fundamental obligations pursuant to several sections of the national Rail Transportation Policy to refrain from directly imposing such fictitious costs on shippers, including Sections 10101(2) (“fair and expeditious regulatory decisions”); 10101(5) (“sound economic conditions in transportation”); 10101(6) (“maintain reasonable rates where there is an absence of effective competition and where rail rates provide revenues which exceed the amount necessary to maintain the rail system and to attract capital”); 10101(9) (“encourage honest and efficient management of railroads”); and 10101(13) (“ensure the availability of accurate cost information in regulatory proceedings”). On its face, a category that is designated as “unattributable” should be treated as unattributable. The same goes for non-locomotive fuel use and fuel use associated with the circuitry issues discussed previously. For unit coal trains and potentially other services, there also is the issue of fuel expended waiting in and accelerating from passing sidings to accommodate the dispatching priority afforded to premium services. All of these categories have in common the fact that the fuel use is caused by considerations external to specific issue traffic.

The rail industry faces numerous cost categories that are not fully variable with volume, and it survives them without having the Board arbitrarily allocate them to shippers. Indeed, the entire economic rationale for differential pricing rests on the proposition that it is

less harmful from a public interest perspective for the railroads to recover their costs that aren't directly attributable to individual shipments through the limited exercise of market power INSTEAD OF allocation of such costs by the Board or other regulatory body. The Board's treatment of these types of fuel costs is flagrantly inconsistent with CMP, and should be replaced with an even-handed application of well-established costing principles.

Productivity

Over time, railroads have demonstrated a sustained and ongoing ability to reduce the quantity of fuel needed to move a given shipment. While such changes may appear to be minor or even imperceptible, AAR has demonstrated that from 1980 to 2011 U.S. freight railroads increased by 99 percent (from 235 to 469) the number of net ton-miles produced by each gallon of fuel used, and has described how this resulted from several specific innovations and improvements, including the following:

- Increasing by 59 percent the amount of freight in an average rail car;
- Acquiring thousands of newer and more fuel-efficient locomotives, and retiring older, less fuel-efficient ones;
- Installing new idling-reduction technologies for locomotives, including "stop-start systems";
- Developing and implementing advanced computer systems to optimize the efficiency of planned movements and monitor real-time performance;
- Offering employee training and incentive programs to support the development and implementation of best practices pertaining to fuel-use efficiency;
- Expanding the use of distributed power to reduce total horsepower requirements; and,

- Improving rail lubrication to reduce friction, thereby saving fuel and wear. ^{12/}
Over this entire 31-year period, the railroads sustained an annual average improvement in fuel use efficiency of approximately 2.2 percent per year.

If fuel surcharges are to reflect actual fuel use, they must be adjusted periodically to reflect such sustained reductions in fuel use intensity that are achieved in practice. Otherwise, over time, any fuel surcharge program that assumes the quantity of fuel associated with a given movement is fixed will unavoidably overstate the quantity of fuel it uses, and therefore the magnitude of the fuel surcharge that should be associated with any given fuel price level.

Variations in Fuel Use Intensity

Substantial variations in fuel use intensity can be seen in the study of fuel use associated with movements to two of AECC's plants (White Bluff and Independence) submitted to the Board by AECC at the invitation of then-Chairman Buttrey. ^{13/} For convenience, a copy of this study is attached hereto as Exhibit A.

As shown in the chart on page 7 of AECC Fuel Study, fuel use for the same loaded PRB coal train varies widely according to the terrain it traverses. For example, fuel use per mile for a loaded PRB coal train moving over the arduous profile of the PRB Joint Line north of

^{12/} See Association of American Railroads, "The Environmental Benefits of Moving Freight by Rail" (June 2012) at <https://www.aar.org/keyissues/Documents/Background-Papers/The%20Environmental%20Benefits%20of%20Rail.pdf>.

^{13/} Nelson, Michael A., "Rail Fuel Use and Surcharges for White Bluff and Independence Plants", prepared for Arkansas Electric Cooperative Corporation (May 15, 2006) ("AECC Fuel Study").

Shawnee Junction is approximately 4.6 times the fuel use of the same train moving over a smooth “riverside” downgrade.

This is important because, as shown in Table 2 on page 11 of AECC Fuel Study, different routes may differ substantially with respect to the mix of profile types they encompass. While the western railroad fuel surcharges for PRB coal implicitly assume a carload can be moved 6 miles on a gallon of fuel, actual fuel economy for moves via BNSF to the White Bluff plant at the time of the study was 6.88 mpg. ^{14/} Actual fuel economy for moves via UP to White Bluff was 6.89 mpg, and via UP to Independence was 7.28 mpg (due in part to UP’s use of the more direct routing via MNA to return empty trains from the plant as far as Kansas City). Put another way, any surcharge formula that is based on an assumed 6 mpg will overstate actual impacts of fuel price changes on the AECC moves addressed in AECC Fuel Study by 14.7-21.3 percent.

The same data from AECC Fuel Study can be used to estimate the fuel economy associated with analogous PRB coal unit train movements to other locations along the routes studied. For example, movement to a hypothetical plant situated on the PRB Joint Line north of Shawnee Junction would only achieve fuel economy of about 3.52 mpg, approximately half of the fuel economy of a movement to a hypothetical plant situated on UP near Gibbon, NE (7.02 mpg), or a movement to a hypothetical plant in Kansas City served by UP (7.03 mpg) or BNSF (7.07 mpg). All of these movements differ materially from the 6 mpg assumption embedded in the surcharge formulae.

^{14/} Calculated based on total fuel use and loaded movement mileage.

Overall, use of a single parameter to represent the fuel economy of all PRB coal unit train movements is virtually certain to produce material errors and discrepancies between the fuel surcharges computed by the formula for specific movements and the actual impact of fuel price changes on the fuel costs associated with those movements. The Board already affirmed that the public interest requires a reasonable degree of consistency between those measures. ^{15/} To be reasonable, a fuel surcharge mechanism for PRB coal trains therefore needs to allow for “exceptions” that enable a shipper or carrier to amend the original formula upon a demonstration that the actual fuel economy for a given movement deviates by more than a given (small) percentage from the default level embedded in the formula. ^{16/} If this does not occur, the surcharge will not correspond to actual fuel use.

CONCLUSION

The Board should set aside whatever past view it may have held of coal as an inelastic cash cow. It should consider more carefully the evolving uncertainties faced by coal shippers, and the importance that the price and service performance of rail transportation may have in retaining investment in and operation of coal-fired generation assets.

For PRB coal traffic, and for other traffic to the extent relevant, the Board should implement the following refinements to ensure the legitimacy of fuel surcharges:

^{15/} To do otherwise would ultimately harm the economy by distorting the pricing signals needed to ensure efficiency in the allocation of resources. Market forces generally favor production by low-cost producers, but such “natural selection” is undermined if the costs of different producers are averaged together to produce an appearance of uniformity where such uniformity in fact does not exist.

^{16/} Over time, documentation associated with such exceptions would support much-needed refinement of URCS costing of unit train fuel use.

- Implement a true-up mechanism to correct for discrepancies that may arise between changes in actual unit fuel costs paid by railroads and unit prices indicated by the price index used to calculate fuel surcharges;
- Allow exclusion of the mileage associated with circuitry attributable to such factors as nonissue traffic and carrier market power;
- Exclude categories of fuel costs not directly variable with issue traffic;
- Ensure implicit fuel economy estimates are adjusted over time to reasonably reflect ongoing fuel use efficiency improvements; and,
- Allow exceptions for demonstrated variations in fuel-use intensity.

Respectfully submitted,



Eric Von Salzen
McLeod, Watkinson & Miller
One Massachusetts Avenue, N.W.
Suite 800
Washington, DC 20001
(202) 842-2345

Counsel for Arkansas Electric Cooperative
Corporation

Michael A. Nelson
101 Main Street
Dalton, MA 01226
(413) 684-2044

Transportation Consultant

Dated: August 4, 2014

EXHIBIT A

1001 G Street, N.W.
Suite 500 West
Washington, D.C. 20001
tel. 202.434.4100
fax 202.434.4646

May 15, 2006

Vernon A. Williams
Secretary
Surface Transportation Board
1925 K Street, N.W.
Suite 700
Washington, DC 20423

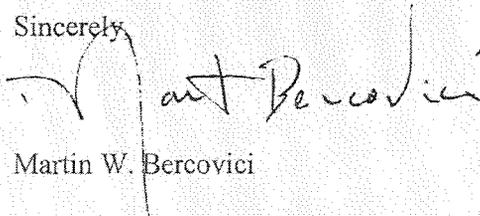
Writer's Direct Access
Martin W. Bercovici
(202) 434-4144
bercovici@khlaw.com

Re: Rail Fuel Surcharges, STB Ex Parte No. 661

Dear Secretary Williams:

At the Board's hearing on May 11, 2006, Steve Sharp of Arkansas Electric Cooperative Corporation stated that he had just the day before received a report analyzing the extent of over-recovery of increased fuel expense for the movement of coal from the Powder River Basin to the Independence and White Bluff power plants. Chairman Buttrey invited Mr. Sharp to submit the report to the Board. That report is associated herewith.

Sincerely,



Martin W. Bercovici

Enclosure

**Rail Fuel Use and Surcharges for White Bluff and
Independence Plants**

Prepared for Arkansas Electric Cooperative Corporation by:

**Michael A. Nelson
Transportation/Management Consulting
131 North Street
Dalton, MA 01226**

May 15, 2006

Rail Fuel Use and Surcharges for White Bluff and Independence Plants

I. Introduction

This report presents an analysis of rail fuel use and surcharge practices as they relate, or would prospectively relate, to shipments of Powder River Basin (PRB) coal moving to the White Bluff plant at Redfield, AR and to the Independence plant at Newark, AR.¹ Using representative information for these two plants, this report examines the degree to which fuel surcharges differ from the actual fuel cost changes experienced by the railroads (i.e., “over-recovery”). This includes consideration of the basic surcharge mechanisms, surcharge values and actual fuel costs.

It is important to note that this analysis does not disclose, discuss or depend upon any confidential information regarding any actual coal transportation contract or surcharge payments. Rather, it relies on publicly available information regarding the railroads’ surcharge practices and the circumstances of the subject movements. In some instances, the analysis may reflect the current actual situation. In other circumstances, the analysis may reflect the situation that is expected to exist upon the expiration of existing contracts.

II. Surcharge Mechanisms

The White Bluff plant is able to take delivery of coal from Union Pacific Railroad (UP) and from BNSF Railway (BNSF), while the Independence plant is effectively

¹ This report addresses normal operating conditions at these plants. It specifically does not address issues related to the actual or potential movement of coal from other sources (i.e., “substitute coal”) in response to the PRB throughput problems that arose in May 2005.

captive to UP.² This analysis therefore focuses primarily on the UP and BNSF surcharge mechanisms as they relate to these two movements.

UP's fuel surcharge is applied on a percentage basis. As described more fully in General Rule Item 690 in UP Circular 6603-C, the percentage amount is determined from the value of the Retail On-Highway Diesel Fuel (HDF) index maintained by the U.S. Department of Energy. There is no surcharge when the value is below \$1.35/gallon. At \$1.35/gallon, a surcharge of 1.5 percent is applied. The surcharge is increased by 0.5 percent for each increment of 5 cents up to \$1.60/gallon. At that level and above, the surcharge is increased by 0.75 percent for each increment of 5 cents in the index. As of April 2006, the UP surcharge was 17.0 percent, based on an index value (from February 2006) of \$2.475/gallon.³ It was scheduled to increase to 18.5 percent in May, based on an index value (from March 2006) of \$2.559/gallon.

BNSF relies on the same DOE index, but applies its fuel surcharge on the basis of car-miles.⁴ BNSF applies no surcharge when the index value is below \$1.25/gallon. At \$1.25/gallon, a surcharge of \$0.01 per car-mile is applied. Above \$1.25/gallon, the surcharge is increased by \$0.01/car-mile for each increment of \$0.06/gallon in the index value. As of April 2006, the BNSF surcharge was \$0.21/car-mile. It was scheduled to increase to \$0.22/car-mile in May.

² UP makes use of a short segment of the Missouri & Northern Arkansas Railroad (MNA) to serve the plant from its main line at Diaz, AR. UP's commercial control of this movement is discussed at length in documents presented to the Surface Transportation Board in Ex Parte No. 575. See, for example, "Comments of Arkansas Electric Cooperative Corporation" (March 8, 2006).

³ In general, the index value for a given month is applied to rail movements occurring in the second month after the month represented by the index value.

⁴ See http://www.bnsf.com/tools/prices/fuelsurcharge/pdf/coal_mileage.pdf.

III. Surcharge Values

The exact amount of the surcharge applied by BNSF for a movement to White Bluff is determined by the mileage from the origin mine. Using the Black Thunder Mine as a common point of reference, BNSF bases its surcharge for the movement to White Bluff on a distance of 1,417 miles. Assuming an average train length of approximately 132 cars, this leads to a surcharge of $(\$0.21 \times 1,417 \times 132 =)$ \$39,279 per train.

Because the UP surcharges are calculated on a percentage basis, it is necessary to specify a base rate in order to determine the surcharge amount for each movement. For the purposes of this analysis, the base rates will be approximated based on the competitive situations at the two plants.

White Bluff is a large plant (normal annual volume over 6 million tons) that is able to be served competitively by UP and BNSF. Holding aside the recent Joint Line throughput problems and fuel price levels, plants with the characteristics of White Bluff have frequently been able to achieve competitive rates in the vicinity of 8.0 mills per ton-mile. This would normally lead to an estimated rate of approximately \$11.34 per ton.⁵ However, UP holds leverage by virtue of the fact that the buildout that would permit BNSF to serve the plant has not yet been constructed. To account for this, an amortization allowance of \$0.75/ton is added to the estimate derived above to reach a final rate estimate of \$12.09/ton. Assuming 120 net tons per railcar, UP's surcharge for the movement to White Bluff is estimated to be $(\$12.09 \times 132 \times 120 \times 0.17 =)$ \$32,556 per train.

⁵ This computation is based on the mileage of the carrier with the more circuitous route (BNSF). For any given competitive mill rate level, all else equal, when there are two competing carriers the one with the more direct route has little incentive to price much below the competitive capability of the one with the more circuitous route.

The Independence plant also has a normal annual burn of over 6 million tons, but is effectively captive to UP. As discussed in a recent submission to the Surface Transportation Board by AECC in Ex Parte No. 575,⁶ Independence currently lacks viable transportation alternatives. A lower bound on its rate can therefore be approximated by applying the statutory 180 percent R/VC criterion that limits the relief the Board could provide in a hypothetical rate case. Using the variable cost determination from the TMPA/Gibbons Creek case,⁷ this suggests that the rate applicable to the Independence movement viewed in isolation is no less than \$13.74/ton.⁸ Given that this is a lower bound, the UP surcharge for the Independence movement would be at least $(\$13.74 \times 132 \times 120 \times 0.17 =) \$36,999$.

IV. Actual Fuel Cost

The reasonableness of a particular level of fuel surcharge stems from the degree to which it reflects the actual impact of fuel price changes on actual fuel cost. This impact, in turn, is a function of the quantity of fuel used and the unit price paid. Each of these is addressed below.

a. Fuel Price

The reliance placed on the HDF index by both UP and BNSF raises immediate concerns that the fuel surcharge mechanisms may not be reflective of actual railroad fuel costs. As shown in Table 1, on-highway diesel fuel tends to be quite expensive in comparison with diesel fuel supplied to industrial users in general, and railroads in

⁶ "Comments of Arkansas Electric Cooperative Corporation" (March 8, 2006) at 5-6.

⁷ This case involved PRB unit trains largely analogous to those used in service to Independence, and found variable costs equivalent to \$0.0057 per revenue ton-mile. See Surface Transportation Board, Docket No. 42056, Texas Municipal Power Agency v. The Burlington Northern And Santa Fe Railway Company, Decision served March 21, 2003.

particular. This likely results from the high costs associated with distribution of diesel fuel to on-highway users, which are largely avoided by railroads and other large industrial users.

Nevertheless, a closer examination of these data suggests that the HDF may produce a reasonable measure of the magnitude (in cents per gallon) of changes that occur in the price paid by railroads for diesel fuel. This is because, as shown in Table 1, there appears to be reasonably consistent relationships among HDF, railroad and industrial prices. In the 5-year period between 1999-2003, for example, prices paid by railroads for diesel fuel averaged 58.6 cents per gallon below the on-highway level, but followed fluctuations in the on-highway level with reasonable consistency. As long as the differential between the index value and the price paid is properly recognized, the HDF index is not inherently unsuited for use in the computation of rail fuel surcharges.⁹

In the specific case of the April 2006 HDF value of \$2.475/gallon, it can reasonably be inferred that the railroads are actually paying approximately (\$2.475 - 0.586 =) \$1.889/gallon for their diesel fuel. This represents an increase of \$1.226 over the level at which BNSF would apply no surcharge, and an increase of \$1.126 over the level at which UP would apply no surcharge.

b. Quantity of Fuel Used

The quantity of fuel needed to perform a specific train movement is not normally reported in any public forum. Furthermore, such information may be difficult to derive

⁸ Calculated as 1.80×0.0057 mills per ton-mile (variable cost net of railcar costs) \times 1339 miles. Depending upon the economic performance of the "stand-alone" railroad in such a case, the prescribed rate could be considerably higher.

⁹ It is noted that anecdotal evidence appears to substantiate the accuracy of these railroad fuel price estimates. For example, in the Otter Tail rate case (STB Docket No. 42071), the parties agreed to a fuel price of \$0.7243/gallon, within a penny of the value appearing in the table for the corresponding time period (2002).

accurately from more aggregate information that may be available. This is because different types of rail traffic differ widely with respect to their fuel use.

In part, such differences relate to commodity and operational factors. For example, intermodal traffic tends to consume disproportionately large amounts of fuel due to the high speeds at which intermodal trains typically operate (i.e., to compete with intercity trucking and other railroads on service quality). Conversely, coal tends to consume lesser amounts of fuel (on a per-unit basis) because it usually moves at lesser speeds and at favorable gross weight/net weight ratios.

For PRB coal movements, there is an additional operational factor related to terrain. The PRB is located at a much higher elevation than most of the points to which PRB coal is shipped. Combined with the high density of coal and the extreme gross weight of typical PRB coal trains, the change in elevation tends to hold down fuel use compared to other traffic types. For example, the elevation of Wright, WY (in the southern end of the Basin) is approximately 5000 feet above sea level, while the elevations of Redfield and Newark, AR are 301 and 292 feet, respectively. Under favorable conditions, a loaded PRB coal train can maintain a speed around 50 mph while coasting on a downgrade of approximately 0.25 percent. All else equal, the elevation change of approximately 4700 feet equates to a largely "free ride" with respect to fuel use for approximately 350 miles of the subject loaded movements.¹⁰

On the other hand, segments of specific routes that possess high ruling grades against loads may entail very high rates of fuel usage for PRB coal trains. For example, it is believed that for a loaded 132-car train moving on the UP/BNSF line south of Denver,

¹⁰ This is offset somewhat by the need to return the empty equipment to the higher elevation, but the effect of this is comparatively minor due to the much lower weight of the empty equipment vs. the loaded train.

ascent of the 27-mile helper grade between Sedalia and Palmer Lake consumes approximately 2100 gallons of fuel. Even if this ascent requires 5 locomotives, the overall fuel use of nearly 80 gallons per train mile is substantially higher than the system average fuel consumption of 3.78 gallons per LUM for locomotives in coal service found in a recent BNSF study.¹¹ To develop reliable estimates of fuel use, it is therefore necessary to account for profile characteristics specific to the subject movements.

For the purposes of this report, the subject movements have been broken down into segments that are relatively homogeneous with respect to fuel use. For each segment, a fuel use rate level (measured in gallons per train-mile) is applied that reflects the profile and operating characteristics of the segment.

Fuel use rate levels used in this analysis include the following:

Segment Type	Fuel Use (gallons per train-mile)
Loaded Movements	
- "Riverside" smooth flat/downgrade	6.5
- Slight undulation	10.0
- Moderate undulation	15.0
- High undulation/ascent	20.0
- PRB Joint Line (north of Shawnee Junction)	30.0
Empty Movements	7.5

<i>System Average</i>	<i>11.34</i>

These fuel use rates have been developed on the basis of prior simulations involving the subject segments or other segments with comparable profile characteristics. They appear to be consistent with the 3.78 gallon per LUM found by BNSF (see above), which

¹¹ See Surface Transportation Board, Docket No. 42057, Public Service Company of Colorado (d/b/a Xcel

suggests a "system average" fuel consumption of 11.34 gallons per train-mile for a prototypical PRB train powered by three locomotives.

To estimate total fuel use for a given segment, the applicable fuel use rate is multiplied by the length of the segment. The segment results are then summed to produce movement-level fuel use estimates. Details of this analysis are presented in Table 2.

To use these results in assessing fuel surcharge practices, it is necessary to account for unplanned operational problems and delays that in practice may add to fuel consumption on individual movements. Given that such problems and delays typically affect the duration of a movement rather than the required physical work effort, it is believed that a contingency factor of 5 percent is more than adequate to account for such considerations. The results of this analysis are shown in Table 3.

V. Discussion and Conclusions

1. As of April 2006, the BNSF mileage-based surcharge applicable to the White Bluff movement appears to recover approximately \$4,270 per train more than the cost impact of higher fuel prices. This represents 10.9 percent of the calculated surcharge.
2. The UP percentage-based method charges more for captive shipments than for competitive ones, at least to the extent that the former pay higher base rates. As of April 2006, the UP method appears to recover approximately \$3,802 per train more than the cost impact of higher fuel prices on the White Bluff movement. This represents 11.7 percent of the calculated surcharge. For the Independence movement, the UP methods appears to recover at least \$8,277 per train more than

Energy) v. The Burlington Northern And Santa Fe Railway Company, Decision served June 8, 2004, Appendix C, Section A.3.a.

the cost impact of higher fuel prices. This represents at least 22.4 percent of the calculated surcharge.

3. For these two plants, the combined over-recovery is at least \$5.0 million per year at the surcharge levels applied in April 2006.
4. It is important to ensure that if any action is taken with respect to fuel surcharge practices, such action should preserve incentives for rail carriers to improve fuel efficiency. Engineer training, more efficient locomotives, development of improved operating techniques, network and profile improvements, railcar design improvements, tactical traffic planning, MOW improvements, etc., if implemented, can mitigate the impacts of fuel price increases by reducing fuel use. To the extent that fuel surcharges place the incidence of fuel price fluctuations on rail customers, it is important to ensure that carrier incentives to pursue fuel efficiency improvements are not lost.

Table 1

Diesel Price Levels by Use (current year cents per gallon)

Year	On-Highway ¹²	Industrial.	Railroad ¹³
1999	112.1	64.5	55.5
2000	149.1	99.0	87.5
2001	140.1	90.7	85.5
2002	131.9	82.6	73.3
2003	150.9	100.4	89.3
2004	181.0	131.9	U
2005	234.0	186.0	U

U - Unavailable

¹² For On-Highway and Industrial values, see U.S. Department of Energy, "Petroleum Marketing Monthly", Table 16 – U.S. No. 2 Diesel Fuel Prices by Sales Type at http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_marketing_monthly/current/txt/tables16.txt.

¹³ Source: U.S. Department of Transportation, Bureau of Transportation Statistics, "National Transportation Statistics 2006", Table 3.8 - Sales Price of Transportation Fuel to End Users, citing Association of American Railroads, *Railroad Facts* (annual issues). See http://www.bts.gov/publications/national_transportation_statistics/2006/html/table_03_08.html.

Table 2

Development of Direct Fuel Use Estimates

Segment	Miles	Fuel Use Rate (gallons/train-mile)	Total Fuel Use (gallons)
BNSF - White Bluff			
Black Thunder Mine - Shawnee Jct.	81	30.0	2,430
Shawnee Jct. - Northport	144	6.5	936
Northport - Alliance	34	20.0	680
Alliance - Table Rock	429	10.0	4,290
Table Rock - Kansas City	140	6.5	910
Kansas City - Thayer	345	15.0	5,175
Thayer - Jonesboro	80	10.0	800
Jonesboro - plant	164	10.0	1,640
Return	1378	7.5	10,335
Total			27,196
UP - White Bluff			
Black Thunder Mine - Shawnee Jct.	81	30.0	2,430
Shawnee Jct. - S. Morrill	111	10.0	1,110
S. Morrill - Gibbon	285	6.5	1,853
Gibbon - Fairbury	104	10.0	1,040
Fairbury - Topeka	118	15.0	1,770
Topeka - Kansas City	68	6.5	442
Kansas City - Wagoner	238	15.0	3,570
Wagoner - plant	264	10.0	2,640
Return	1262	7.5	9,465
Total			24,320
UP - Independence			
Black Thunder Mine - Shawnee Jct.	81	30.0	2,430
Shawnee Jct. - S. Morrill	111	10.0	1,110
S. Morrill - Gibbon	285	6.5	1,853
Gibbon - Fairbury	104	10.0	1,040
Fairbury - Topeka	118	15.0	1,770
Topeka - Kansas City	68	6.5	442
Kansas City - Wagoner	238	15.0	3,570
Wagoner - plant	334	10.0	3,340
Return	1165	7.5	8,738
Total			24,293

Table 3

Summary of Fuel Surcharge Analysis

	BNSF-White Bluff	UP-White Bluff	UP-Independence
Direct Fuel Use ¹⁴	27,196 gallons	24,320 gallons	24,293 gallons
Add 5% Allowance for Delays/Contingencies	1,360 gallons	1,216 gallons	1,215 gallons
Total Fuel Use	28,556 gallons	25,536 gallons	25,508 gallons
Actual Fuel Price at Zero Surcharge Level	\$0.663/gallon	\$0.763/gallon	\$0.763/gallon
Total Fuel Cost at Zero Surcharge Level	\$18,933 per train	\$19,484 per train	\$19,463 per train
Total Fuel Cost at Current Price Level	\$53,942 per train	\$48,238 per train	\$48,185 per train
Fuel Cost Increase at Current Price Level	\$35,009 per train	\$28,754 per train	\$28,722 per train
Surcharge Amount at Current Price Level	\$39,279 per train	\$32,556 per train	\$36,999+ per train
Over-recovery	\$4,270 per train	\$3,802 per train	\$8,277+ per train
Annual over-recovery ¹⁵	\$1.75 million	\$1.56 million	\$3.40+ million

¹⁴ Source: Table 2.

¹⁵ Recent public information indicates a combined annual coal volume of approximately 13 million tons for the White Bluff and Independence plants. Historical data based on FERC Form 423 reports indicate that the annual volumes for these two plants are approximately equal. Therefore, it is assumed that the annual volume for each plant is 6.5 million tons (delivered in 132-car trains carrying 120 net tons per car, as in Section III, above).