

BEFORE THE
SURFACE TRANSPORTATION BOARD

DOCKET NO. EP 722

RAILROAD REVENUE ADEQUACY

DOCKET NO. EP 664 (Sub-No. 2)

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PETITION OF THE WESTERN COAL TRAFFIC LEAGUE TO INSTITUTE A RULEMAKING PROCEEDING
TO ABOLISH THE USE OF THE MULTI-STAGE DISCOUNTED CASH FLOW MODEL IN DETERMINING
THE RAILROAD INDUSTRY'S COST OF EQUITY CAPITAL

OPENING COMMENTS OF
ARKANSAS ELECTRIC COOPERATIVE CORPORATION

Michael A. Nelson
101 Main Street
Dalton, MA 01226

(412) 691 3011

Transportation Consultant

Eric Von Salzen
McLeod, Watkinson & Miller
One Massachusetts Avenue, N.W.

Washington, DC 20001
(202) 842-2345

Counsel for Arkansas Electric Cooperative
Corporation

Dated: September 5, 2014

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ARKANSAS ELECTRIC COOPERATIVE CORPORATION

In accordance with the Board's decisions served April 2, 2014 and June 16, 2014,
Arkansas Electric Cooperative Corporation (AECC) 1/ submits these comments regarding
changes in Board practices to reflect the achievement of revenue adequacy by the Class I
railroad industry. In Appendix A to these Comments AECC also provides detailed comments on

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.

changes that ought to be made in the Board's procedures for estimating the railroad cost of capital.

SUMMARY

The achievement of revenue adequacy marks an important turning point in rail regulation, from the past posture of promoting the financial health of the railroads to a more traditional role of limiting the exercise of market power to that required to provide a market rate of return. To assist the Board in this transition, AECC's comments address the following issues:

Part I, Background, addresses the economic changes in the railroad industry that have occurred since the enactment of the Staggers Act in 1980, a time when the financial condition of the freight railroad industry was regarded as precarious, or worse. The Act identified as one of its objectives "allowing rail carriers to earn adequate revenues" (49 U.S. Code § 10101 (3)), and the Interstate Commerce Commission (ICC) and the Board adopted policies intended to achieve that objective, at times even in preference to other statutory objectives, such as fostering competition and reasonable rates. After three and a half decades, revenue adequacy has been achieved, and exceeded. The Class I railroads as a group, led by the "Big 4" railroads – UP, BNSF, CSX and NS - have been revenue adequate since at least 2011, and "supracompetitive" earnings – i.e., earnings above the revenue adequacy level – are substantial and increasing rapidly. In 2013, supracompetitive earnings by the Class I rail industry reached \$1.867 billion, up more than 36 percent from \$1.369 billion in 2012. The Board should now refocus its policies away from increasing railroad earnings and toward limiting the exercise of rail market power.

Part II, Carrier Management Issues And The Frame Of Reference For Assessing

Revenue Adequacy, considers the implications for policy of the fact that the Board's current revenue adequacy methodology shows that the Class I rail industry as a whole is revenue adequate, but not all Class I railroads are individually revenue adequate. AECC shows that, in interpreting this information, the Board should rely on industry or peer group averages, rather than data from individual firms. Deviations from such averages by individual firms can be presumed to result from differences in management performance between firms for which the firms properly should bear responsibility. As long as overall market conditions provide a realistic opportunity for carriers to earn adequate returns, the Board should not concern itself with shortfalls that a particular carrier may experience relative to its peers at any given time. Further, the Board should not wait to see whether revenue adequacy is permanent before adopting policies to control supracompetitive rail earnings. AECC shows that the harms from supracompetitive earnings are real and immediate, and that it is highly unlikely that revenue adequacy will be merely transitory. Meanwhile, shippers are already paying close to \$2 billion per year in railroads rates above and beyond the level needed to provide revenue adequacy. With revenue adequacy achieved, the Board needs to revise its policies and practices promptly to rein in railroads' supracompetitive earnings and redress the unjustified harms to shippers and to the economy as a whole that result from the unnecessary exercise of rail market power.

Part III, The Board's Implementation Of The Revenue Adequacy Standard,

discusses evidence showing that the Class I railroad industry was actually earning sustained adequate revenues for many years before this reality was reflected in the Board's findings beginning in 2011. There is a clear need for the Board to revise its procedures for determining

the cost of capital and revenue adequacy, as it is now doing in Docket No. EP 664 (Sub-no. 2), 2/ but the public interest demands that the Board also act now to revise its policies to reflect the achievement of revenue adequacy.

Part IV, Supracompetitive Earnings And Market Power Issues, discusses the economic and public interest harms caused by supracompetitive earnings, and the service and efficiency harms that result from the excessive exercise of rail market power.

Part V, Limitations On The Exercise Of Rail Market Power, discusses ways that the Board's regulatory policies can and should be revised to reduce or eliminate supracompetitive rail earnings:

- With revenue adequacy achieved, the Board's Full-SAC and Simplified-SAC procedures can be streamlined so that they are more accessible and effective. In addition, procedures could be developed under which shippers of "non-issue" traffic could adopt rate case results.
- AECC proposes a new, simple procedure under which the contribution earned by a railroad from excess charges paid by shippers can be identified annually and refunded.
- In addition, AECC proposes a procedure for the Board to identify commodity flows that generate extraordinarily high levels of contribution, for which competitive relief may be appropriate.
- AECC proposes that the Board make clear that shipper proposals for rate case reforms that the Board rejected in the pre-revenue-adequacy era may be reconsidered in the new environment.

2/ In Appendix A, AECC identifies specific causes of overstatement of the cost of capital produced by the different components of the Board's methodology in recent years, including a specific problem with CAPM for which alternatives for a potential correction are proposed. Appendix A also concludes that MSDCF contains multiple irremediable defects that render it unusable in the context of a revenue adequate rail industry, but outlines an alternative approach that would avoid such defects.

- AECC proposes that the Board reform its competitive access practices to strike a balance with rate reasonableness procedures and ensure that the unique benefits of competitive access are realized in the revenue-adequate environment.
- AECC proposes that the Board rescind asset value write-ups that it currently allows as a result of mergers and acquisitions.

The Class I railroads' achievement of revenue adequacy presents a considerable challenge to the Board to reform its regulatory policies and procedures, but it also presents an opportunity for the Board to refocus its policies on the achievement of several of the goals set by the Staggers Act – such as fostering competition and preventing excessive rates – that hitherto have been largely subordinated to the goal of revenue adequacy.

DISCUSSION

I. Background

In several recent proceedings ^{3/} AECC has presented economic and legal analyses to the Board regarding the achievement of revenue adequacy by the Class I railroads. At the public hearing in Docket No. EP 711, AECC specifically demonstrated that the Class I railroads as a group, led by the “Big 4” railroads – UP, BNSF, CSX and NS - have been revenue adequate since at least 2011, and that “supracompetitive” earnings – i.e., earnings above the revenue adequacy level – are substantial and increasing rapidly. These findings have been corroborated and extended by information recently made available for 2013, which shows

^{3/} See, for example, STB Docket No. EP 715, Rate Regulation Reforms, “Comments of Arkansas Electric Cooperative Corporation” (October 23, 2012) at page 6; Docket No. EP 711, Petition for Rulemaking to Adopt Revised Competitive Switching Rules, “Responsive Comments of Arkansas Electric Cooperative Corporation” (May 30, 2013) at pages 3-7; Docket No. EP 661 (Sub-No. 2), Rail Fuel Surcharges (Safe Harbor), “Comments of Arkansas Electric Cooperative Corporation” (August 4, 2014) at page 12.

supracompetitive earnings by the Class I rail industry that year reached \$1.867 billion, up more than 36 percent from \$1.369 billion in 2012. ^{4/}

For the Class I railroads as a group to now be awash in earnings above the revenue adequacy level meets – and in important ways overachieves – the goals for improved industry financial health contained in the Staggers Act. The Staggers Act was the response of Congress to the travails of the railroad industry in the 1970's. That was the decade in which the Penn Central Railroad and almost every other railroad in the northeastern United States went bankrupt – and not just bankrupt, but so hopelessly bankrupt that it was not reorganizable under the provisions of the Bankruptcy Act applicable to railroads. The creation of a federally-owned railroad from the properties of the bankrupt carriers, at the cost billions of federal dollars, was found to be essential to preserve rail service in that quadrant of the country. ^{5/}

The railroads in the South and West were not as badly off as those in the Northeast, but they also exhibited signs of significant financial limitations. The 1970's saw the collapse of the Rock Island, which ceased service in 1980, after 16 years of losses and the failure of the longest reorganization proceeding in ICC history. The Milwaukee Road went into bankruptcy in 1977, and when it came out it was shorn of a thousand miles of line, and was no longer an independent railroad. Even CNW, which remained a going concern (albeit under employee ownership for most of the 1970's), experienced difficulty securing financing for its expansion plan to originate coal movements from the Powder River Basin (PRB). That plan,

^{4/} See Appendix A, Table A-1.

^{5/} See generally Regional Rail Reorganization Act Cases, 419 U.S. 102 (1974).

which was first authorized by CNW's Board of Directors in 1973, still did not have viable financing in place at the time of the Staggers Act (1980). 6/

When the ICC made its revenue adequacy determination for 1980, only three of 37 Class I railroads were revenue adequate. 7/ It therefore is no surprise that in the Staggers Act, Congress emphasized the goal of encouraging revenue adequacy, and the ICC (and Board) have sought to carry out that Congressional mandate.

Now, after more than three decades, the Board's methodology for determining revenue adequacy unambiguously shows that the goal has been accomplished by the Class I industry as a whole. Under the statutes and the economic principles supporting them, this achievement of revenue adequacy ushers in a new era for the rail industry. Congress included in the national rail transportation policy a specific goal (Section 10101(6)) that becomes operative when revenue adequacy has been achieved and surpassed:

[T]o 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.

The Board, having satisfied the mandate provided in Section 10704(a)(2) to support the achievement of revenue adequacy, now must embrace and carry forward this new goal to transition and advance the industry into a regulatory and competitive environment that is

6/ Indeed, Section 702 of the Staggers Act itself contained provisions intended to expedite and remove obstacles to CNW's then-pending application for a federal loan guarantee for the project.

7/ Two years later, the ICC found that there were no revenue adequate railroads.

compatible with the financial health that the Board has fostered, and the industry has achieved.

The “patient” has been cured and is ready to be discharged into the real world.

In this new environment, rail carriers now can and must be presumed to have available the resources they need to perform, and to be fully accountable for their performance. With revenue adequacy, railroads are able to access the capital and other resources needed to support efficient operations and ongoing productivity improvement, and withstand the rigors of a more demanding and competitive environment without excessive reliance on market power.

In its notice initiating this proceeding, the Board properly acknowledged the broad scope of the issues it faces stemming from the achievement of revenue adequacy:

In the last several years, questions have been raised regarding the agency’s methodology for determining revenue adequacy and whether it appropriately measures the financial condition of the railroad industry. These questions cover a range of issues, such as the viability of the Board’s current methodology and possible alternative methodologies, what it means to be revenue adequate and how such a finding should impact the railroads, and how to apply the revenue adequacy constraint in regulating rates, among many others.

At this point, the Board believes an examination of revenue adequacy is in order. The Board will now institute a proceeding to address the issues discussed above. This proceeding is intended as a public forum to discuss the Board’s methodology in fulfilling its statutory mandate to determine railroad revenue adequacy, as well as the revenue adequacy component of the Board’s standard for judging the reasonableness of rail freight rates, with a view to what, if any, changes the Board can and should consider.

STB Notice, Docket Nos. EP 722 and EP 664 (Sub-No. 2), served Apr. 2, 2014 at page 4. To discharge properly its public interest responsibilities after the achievement of revenue adequacy, the Board needs to take appropriate steps to ensure that the methodology it uses to

determine revenue adequacy is fully valid in this new environment. It also must adopt new policies and procedures to rein in rail carrier actions that reflect harmful and unnecessary exercises of market power. Appropriate action by the Board to limit the exercise of carrier market power will reduce or prevent harm to the economy and the public interest, and help the industry to achieve the benefits of reliance on market forces envisioned by Congress.

II. Carrier Management Issues and the Frame of Reference for Assessing Revenue Adequacy

Some opponents of reform may argue that the condition of the Class I rail industry is not ripe for reform because, although the industry as a whole is revenue adequate, not all individual carriers have been found to be revenue adequate under the Board's current standards. The Board should reject this argument. It is reasonable to expect that in the railroad industry, as in other industries, some firms will perform better than others at any given point in time. Particularly in the environment of an industry dominated by duopolistic competition, deviations from industry or peer group averages can be presumed, absent persuasive information to the contrary, to result from differences in management performance.

If two carriers serve the same large area, and the traffic they serve cumulatively generates sufficient earnings to provide a market return on their combined investments, differences in earnings between them reflect primarily or entirely differences in the management decisions they make. For example, if Carrier "A" puts its resources into creating the most efficient and direct routes to serve its markets, while Carrier "B" puts its resources into operating multiple redundant routes that are less efficient but better able to accommodate operational disruptions or exploit new markets, the relative performance of the two carriers may vary depending upon prevailing operating and market conditions. More generally, in any

given time period, one or the other of the carriers may exhibit economic and/or service performance advantages reflecting the full set of management decisions it has made.

For large and small Class I carriers alike, management decisions play a crucial role in determining absolute and relative performance levels among “peer” railroads at any given point in time. This has recently been evident in Docket No. EP 724, United States Rail Service Issues, where one of the large western duopolists (but not the other) and one of the smaller Canadian-affiliated railroads (but not the other) have been singled out by the Board for service performance problems.

The goal of achieving revenue adequacy does not excuse an individual carrier’s exercise of market power where that carrier’s poor performance is the consequence of its own management decisions. Section 10704(a)(2) specifically directs the Board to circumscribe its support for revenue adequacy achievement by individual carriers through application of a standard of “honest, economical, and efficient management”. While the Board is directed to compute annual revenue adequacy findings for individual railroads, it is not prevented from using relevant averages as a basis for interpreting and assessing the computed individual values, or for other regulatory purposes as needed. To ensure preservation of proper incentives and management accountability for individual carriers, as mandated in Section 10704(a)(2) and in the national rail transportation policy goal of “encourag(ing) honest and efficient management of railroads” (Section 10101(9)), the Board must rely on the revenue adequacy

status of relevant groups of carriers, or of the industry as a whole, when evaluating the applicability of potential changes in its practices. 8/

In addition to preserving management accountability, reliance on such groupings should dispel any concerns about the possibility that a carrier's revenue adequacy status will fluctuate in a way that interferes unreasonably with actions the Board could/should take to address revenue adequacy. As long as overall market conditions provide a realistic opportunity for carriers to earn adequate returns, the Board should not concern itself with shortfalls that a particular carrier may experience relative to its peers at any given point in time.

Furthermore, as a practical matter, the Board currently is facing somewhat of a "runaway train" of supracompetitive earnings. Such earnings are rapidly approaching \$2 billion per year even under the Board's methodology (and that number will almost certainly increase if the Board adopts improvements needed in its determination of the cost of capital, such as are under consideration in Docket No. EP 664 (Sub-No. 2) and discussed in Appendix A herein). Supracompetitive earnings are obviously unfair and harmful to customers who are paying rates higher than the level needed to sustain revenue adequacy and, as discussed further below, are

8/ AECC takes no position regarding whether the Board should apply to the three smaller Class I's any or all of the regulatory reforms the Board may decide to implement with respect to the Big 4 railroads. At least prior to 2013 the Big 4 were the primary drivers behind the industry's achievement of revenue adequacy, while the smaller Class I's, individually and collectively, achieved comparatively more modest results. On the other hand, CMP and the Board's rate case practices provide for the shipper to specify the traffic group to be analyzed, the smaller Class I's indisputably form part of a group that currently generates supracompetitive earnings, and in 2013 two of the three smaller Class I's were found to be revenue adequate. Ultimately, the Board will need to determine the circumstances (if any) under which it would excuse any or all of the small Class I's from the specific reforms it implements for the Big 4.

contrary to the public interest due to the misallocations of resources in the economy that they cause.

It would take substantial adverse changes in market conditions and/or substantial increases in the effectiveness of the Board's rate case and competitive access procedures to bring current earnings into conformity with permissible levels. If circumstances nevertheless were to change in a way that reduced industry earnings below the revenue adequate level on a sustained basis, the Board has broad powers under Section 722(c) to alter actions it takes now on the basis of current and anticipated future revenue adequacy conditions. If actions the Board now takes are premised on the existence of supracompetitive earnings, and industry earnings should in the future fall below an adequate level, the Board could alter its policies regarding rate case and/or competitive access accordingly.

III. The Board's Implementation of the Revenue Adequacy Standard

The statutory description of the revenue adequacy concept is straightforward. To be considered adequate, revenues must "cover total operating expenses, including depreciation and obsolescence, plus a reasonable and economic profit or return (or both) on capital employed in the business." ^{9/} Pertaining to the use of capital, Section 10704(a)(2) of the statute further clarifies that adequate revenue should "(A) provide a flow of net income plus depreciation adequate to support prudent capital outlays, assure the repayment of a reasonable level of debt, permit the raising of needed equity capital, and cover the effects of inflation; and (B) attract and retain capital in amounts adequate to provide a sound transportation system in the United States."

^{9/} Section 10704(a)(2).

While the statutory objectives are clear, there are reasons to believe that the way the Board has implemented the revenue adequacy concept has been overly conservative, and that the industry in fact achieved revenue adequacy consistent with the statutory criteria long before 2011. For example:

- AAR regularly publishes tallies of current annual and cumulative total investments by the Class I railroads in their networks. The typical current annual “build and maintain” expenditure is over \$20 billion per year, of which approximately \$13.5 billion represents capital spending on track and equipment. The cumulative total investment by carriers in the network since 1980 is reported to be \$525 billion; 10/
- The Board’s own consultant, Christensen Associates, found that the industry has had access to efficient quantities of capital since 1995; 11/
- The period since 1995 has seen a dramatic increase in the payment of premiums above the values of tangible assets involved in railroad mergers and acquisitions; 12/ and,
- Christensen Associates found that since 2001 the industry has achieved earnings in excess of the level required to attract capital (based on a CAPM analysis). 13/

10/ See https://www.aar.org/economy/Pages/Railroad-Investment.aspx#.U_zml6NmrHs.

11/ See Christensen Associates, An Update to the Study of Competition in the U.S. Freight Railroad Industry (January 2010) Table 3-13 on p. 3-18, as discussed in Docket No. EP 705, Competition in the Railroad Industry, “Initial Comments of Arkansas Electric Cooperative Corporation” (April 12, 2011) VS Nelson at page 8.

12/ See Docket No. EP 705, “Initial Comments of Arkansas Electric Cooperative Corporation” (April 12, 2011) VS Nelson at pages 6-7.

13/ See Christensen Associates, A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals that Might Enhance Competition (November 2009) Figure 8-23 on page 8-32, as discussed in Docket No. EP 680, Study of Competition in the Freight Railroad Industry, “Comments of Arkansas Electric Cooperative Corporation Regarding Study of Competition in the U.S. Freight Railroad Industry Conducted by Christensen Associates” (December 22, 2008) Statement of Michael A. Nelson Regarding Christensen Study of Competition in the Freight Railroad Industry at page 7.

This evidence indicates that the rail industry long ago satisfied the functional definition of revenue adequacy contained in the statute, and that it has long been able to attract and retain needed capital in abundant quantities.

A detailed analysis of the performance of the Board's methodology is presented in Appendix A. This analysis identifies specific causes of the overstatement of the cost of equity capital produced by the different components of the Board's methodology in recent years, including CAPM since its introduction in 2006, and MSDCF since it was added as a supplement to CAPM in 2008. Appendix A identifies a specific problem with CAPM and puts forward alternatives for a potential correction. It also concludes that MSDCF contains multiple irremediable defects that render it unusable in the context of a revenue adequate rail industry, but outlines an alternative approach that would avoid such defects.

From a public interest perspective, it is essential that the Board take steps to remedy the defects of its current cost-of-capital methodology in order to ensure its conformity with statutory requirements and abundant alternative evidence, and its soundness in a revenue-adequate environment. Above and beyond the inherent advantages that would accompany being consistent with requirements and facts, the exaggeration of the rail cost of capital by the Board's methodology creates a "spread" between the estimated and true values that can have damaging effects on the economy as a whole through distortions in the efficiency of resource allocation. Consider, for example, a rail carrier faced with potential Board action to curb its supracompetitive earnings, an actual cost of capital of 10 percent and a Board-estimated cost of capital of 12 percent. Such a carrier could easily conclude that it would be worthwhile to invest capital at 10 percent even if the investment is marginal or risky, because

such an investment in effect would yield 12 percent just by raising the carrier's revenue adequacy level (thereby "shielding" earnings achieved from other traffic). Incentives for such "gaming" and cross-subsidy are minimized or eliminated when the Board estimate conforms closely to the true value.

The defects in the current cost-of-capital methodology are significant. Appendix A documents how the current methodology overstates the cost of capital and thereby understates the magnitude of supracompetitive earnings. Supracompetitive earnings are almost certainly even larger than indicated by the current methodology. Therefore, the Board should proceed expeditiously to address supracompetitive earnings even as it considers and implements specific methodological reforms to improve the accuracy of its estimation of the cost of capital.

IV. Supracompetitive Earnings and Market Power Issues

Supracompetitive earnings are a direct indicator of public interest harms stemming from the excessive exercise of rail market power. Such earnings, reflecting rate and contribution levels that are unnecessarily high, are harmful not only to shippers, 14/ but also to the economy as a whole due to their adverse impacts on resource allocation.

14/ In comments recently submitted to the Board, AECC discussed at some length the changing circumstances of PRB coal shippers and the associated need for the Board to ensure that its practices do not create unnecessary burdens or uncertainties for coal users that would combine with growing environmental burdens and uncertainties to threaten continued investment in and operation of coal-fired generation assets. Such considerations apply fully to the issues under consideration in this proceeding. In the interests of brevity, AECC incorporates by reference its prior discussion, in lieu of repeating it. See Docket No. EP 661 (Sub-No. 2), Rail Fuel Surcharges (Safe Harbor), "Comments of Arkansas Electric Cooperative Corporation" (August 4, 2014) at pages 3-7.

The harms from supracompetitive earnings are different from those associated with long-term under-investment, such as that which characterized substantial portions of the rail industry at the time of the Staggers Act. Underinvestment causes such problems as (generally slow) stagnation of technology and degradation of physical plant conditions. Because of the durable nature of most rail capital investments, such problems take time to materialize, and as indicated previously took 15-20 years of operations under the Staggers Act to remedy. 15/

In contrast, the harms from supracompetitive earnings are virtually instantaneous. Instead of flowing into projects that reduce costs, improve products, or provide other real benefits, investment dollars flow to the place where above-market returns can be achieved without building or doing anything other than jacking up prices for shippers because the rail market power spigot was left open too wide. At the speed of the electronic flow of information, investment dollars go into bidding up the price of rail equity with no creation of true economic value.

In addition to such unproductive diversions of capital, the excessive exercise of market power revealed by supracompetitive earnings can also lead to adverse impacts on service and efficiency. Section 10705(a)(2)(C) explicitly recognizes the way additions of competition can remedy service and/or efficiency problems by introducing market forces that

15/ It is interesting that as early as the mid-1980's, the ICC expressed concern that its method for determining revenue adequacy might be flawed, because its results did not reflect the expectation that the Staggers Act would improve the financial condition of the railroads and the widespread perception at that time that the railroad industry was in reasonably good financial condition. See Consolidated Rail Corp. v. United States, 855 F. 2d 78, 81-82 (3d Cir. 1988).

reduce the exercise of rail market power. Sections 11102(a) and 11102(c)(1) contain broader recognition that additions of competition may be “in the public interest” or “necessary to provide competitive rail service”, both of which subsume improvements in service and efficiency that can result from the introduction of market forces that reduce the exercise of rail market power.

The Board therefore needs to view the substantial and escalating supracompetitive earnings now occurring as an urgent call for effective remedial action. Implementing effective remedial action will require that the Board adopt a changed fundamental posture, from one of supporting attainment of revenue adequacy to one of more tightly limiting the exercise of rail market power.

V. Limitations on the Exercise of Rail Market Power

To some extent, needed restrictions on the exercise of rail market power can be implemented through changes in rate case procedures. The Board’s notice seeks input pertaining to the rate case implications associated with the achievement of revenue adequacy, and several specific suggestions of this type are presented below.

However, changes in rate case procedures alone almost certainly would not enable the Board to respond fully and properly to the achievement of revenue adequacy for two reasons: (1) conventional individual rate challenges do not and cannot ensure that a carrier’s overall “top-down” earnings are at permissible levels; ^{16/} and, (2) there are some

^{16/} As a point of reference, supracompetitive earnings made up approximately 13.5 percent of total Class I industry net earnings in 2013. That percentage would be even higher if the Board undertakes the methodology corrections described in Appendix A. Supracompetitive earnings on this scale cannot plausibly and properly be addressed on the basis of a finite number of conventional individual rate cases.

abuses of market power that only can be addressed through means other than rate cases.

Whereas the statutes specifically contemplate that service and efficiency problems – which also reflect excess market power – will be remedied by competitive access, the achievement of revenue adequacy therefore should trigger a balanced response in which competitive access tools as well as rate case tools are made much more accessible for controlling the excessive exercise of rail market power. Specific suggestions of changes related to competitive access issues are also presented below.

Lastly, the Board's practice of writing up asset valuations at the time of mergers and acquisitions enables supracompetitive earnings to be retained via an improper double-count of inflation. It is suggested that this double-count be eliminated by restoring the use of original cost accounting for this regulatory purpose.

A. Rate Case Reforms

The achievement of revenue adequacy should cause rate case methods to be simplified and made more readily available for use by shippers. This may occur through at least three paths. First, the attainment of revenue adequacy alters some of the assumptions underlying the Board's current rate case procedures, and therefore should cause changes in existing procedures when such procedures are applied to revenue-adequate carriers or groups of carriers. Second, the attainment of revenue adequacy creates a need for new procedures designed to control supracompetitive earnings. Third, the attainment of revenue adequacy may cause the Board to reconsider methods proposed previously that it declined to adopt in the context of its mandate to support attainment of revenue adequacy. Each of these is discussed further below.

1. *Changes in Existing Procedures*

Full SAC – As originally developed, the Stand-Alone Cost, or SAC, test included features that reflected the revenue-inadequate condition of the rail industry at the time of the Staggers Act. Revenue-inadequate carriers may not have full access to needed capital, and therefore may not have had in place facilities that were efficient for the traffic being carried. In order to protect shippers from having to pay higher rates because of such inefficiencies, shippers were allowed to design an “optimally efficient” stand-alone railroad for use in the SAC test. With the attainment of revenue adequacy, there is no basis for presuming the existence of inefficiency in the facilities of the defendant carrier. In fact, the presumption should be, absent evidence to the contrary, that the defendant carrier’s facilities and operations are efficient, and use the optimal mix of new and partially-depreciated used equipment. For the shipper to receive the benefits associated with an “optimally efficient” carrier, it must be able to base the stand-alone railroad on the actual operations of the defendant carrier when that carrier is deemed revenue-adequate. The ability to use, for example, book values of road property assets when the defendant carrier is revenue adequate should make Full SAC analyses more accurate and accessible to shippers.

Simplified SAC – Simplified SAC already is premised on use of the defendant carrier’s actual facilities. However, under the Board’s recent decision in Docket No. EP 715, 17/ the shipper currently must undertake a costly analysis of Road Property Investment (RPI) requirements in order to use Simplified SAC. As described above, a revenue adequate carrier can be presumed to be operating an optimal mix of new and partially depreciated used road

17/ Docket No. EP 715, Rate Regulation Reforms, served July 18, 2013, at pages 20-21.

property. The Board's RPI information requirements inhibit the availability of Simplified SAC to shippers, and the requirement that RPI be costed as new burdens the shipper's analysis with inefficiency not experienced by the defendant railroad. Simplified SAC should be able to make use of the actual efficiency of a revenue adequate defendant railroad, including readily available information regarding the book values of its assets.

Broaden Rate Prescription – Rate cases currently protect individual movements against excessive differential pricing, but have no direct application to other traffic that shares use of the same facilities. Conceptually, non-issue traffic that shares use of the facilities addressed in a rate case should benefit from the same considerations that produce rate relief for the issue traffic. Procedures could be established for non-issue traffic to, for example, “adopt” the permissible markup found for issue traffic in a rate case, provided that it was included in the rate case traffic base and uses the same facilities.

2. *New Procedures*

The Board's notice discusses the need for a rate case procedure to implement a proper constraint on rates resulting from the revenue adequacy of the defendant carrier. The WTU case cited by the Board outlines such a procedure, and the Koch pipeline case cited by the Board provides a limited illustration of its application. ^{18/} Where applicable, a revenue

^{18/} The illustration provided by the Koch pipeline case was limited by the shipper's initial complaint, which specified the relief sought as a roll-back of a rate increase, rather than establishment of the maximum reasonable rate pursuant to the revenue adequacy constraint. The Board subsequently denied the complainant's request to amend the relief sought. Therefore, this case did not result in the establishment of the maximum reasonable rate, which evidently would have been lower than the rate in effect at the time of the increase that precipitated the complaint.

adequacy constraint may be an important determinant of permissible levels of individual rates, particularly for high-rated traffic.

In discussing such a revenue adequacy constraint, the Board cites important considerations previously articulated by the ICC relating to the permissible overall level of contribution resulting from all of the traffic moved by a railroad:

[The] revenue adequacy standard represents a reasonable level of profitability for a healthy carrier. It fairly rewards the rail company's investors and assures shippers that the carrier will be able to meet their service needs for the long term. Carriers do not need greater revenues than this standard permits, and we believe that, in a regulated setting, they are not entitled to any higher revenues. Therefore, the logical first constraint on a carrier's pricing is that its rates not be designed to earn greater revenues than needed to achieve and maintain this "revenue adequacy" level. ^{19/}

In AECC's view, the limitation of aggregate contribution to provide earnings that conform to this standard should be the primary focus of a proper revenue adequacy constraint.

AECC has described previously how the same economic considerations that permit differential pricing generally require that limitations on differential pricing be applied first to the most inelastic (i.e., highest markup) traffic. ^{20/} This might suggest that a revenue adequacy constraint for individual rates could be formed by basically truncating the carrier's rates at the R/VC level that approximates the level required to produce adequate revenues. However, a bright-line rate limit based on R/VC ratios could produce unintended harmful

^{19/} STB Notice, Docket Nos. EP 722 and EP 664 (Sub-No. 2), served Apr. 2, 2014 at page 3, citing Coal Rate Guidelines, Nationwide (Coal Rate Guidelines), 1 I.C.C.2d 520 (1985) at page 535.

^{20/} Docket No. EP 711, Petition for Rulemaking to Adopt Revised Competitive Switching Rules, "Responsive Comments of Arkansas Electric Cooperative Corporation" (May 30, 2013) at pages 5-7.

consequences, not the least of which could be the further undermining of incentives for productivity improvement. 21/

Instead of focusing on a bright-line R/VC ratio or similar method to apply to an individual contested rate or group of rates, AECC proposes a revenue adequacy constraint that would more broadly enable excess contribution that is under the Board's jurisdiction to be rolled back, thus reducing or eliminating supracompetitive earnings while retaining earnings sufficient to preserve revenue adequacy. Under this approach, each year the Board would identify the total contribution that accrues above the 180 percent R/VC jurisdictional threshold, and the level of supracompetitive earnings (if any) by the Class I railroads. Dividing the latter by the former provides the percentage by which contribution above the jurisdictional threshold would need to be reduced to eliminate the supracompetitive portion of rail earnings, but retain the portion of earnings needed to provide adequate revenues. The Board then would provide a (hopefully) simple administrative process whereby shippers could document their cumulative rate payments above the jurisdictional threshold (e.g., by running URCS on their rail traffic movements) and obtain a Board order for the return of the percentage of those payments described above.

The following example illustrates how this proposal would work. For 2012, the Board's "Commodity Revenue Stratification Report" 22/ estimated that traffic moving at rates

21/ See, for example, Docket No. EP 680, Study of Competition in the Freight Railroad Industry, "Comments of Arkansas Electric Cooperative Corporation Regarding Study of Competition in the U.S. Freight Railroad Industry Conducted by Christensen Associates" (December 22, 2008) Statement of Michael A. Nelson Regarding Christensen Study of Competition in the Freight Railroad Industry at pages 13-15.

over the jurisdictional threshold generated approximately \$25.495 billion in revenues and \$10.442 billion in variable costs. From this information (or some equivalent source), the Board would compute that the contribution of this traffic above the jurisdictional threshold was $(25.495 - (1.80 \times 10.442) =) \6.699 billion. The Board would then compare actual carrier earnings with the product of rail investment times the estimated cost of capital, and conclude that supracompetitive earnings for 2012 were \$1.369 billion (as shown below in Appendix A, Table A-1). From this the Board would compute that about $(1.369/25.495 =) 5.37$ percent of rates paid by traffic moving in 2012 at an R/VC of over 180 were excessive from a revenue adequacy perspective, and that $(1.369/6.699 =) 20.44$ percent of differential pricing above the jurisdictional threshold in 2012 would need to be returned to shippers to eliminate supracompetitive earnings.

The proposed revenue adequacy constraint would allow shippers who paid rates over the jurisdictional threshold in 2012 to seek and obtain the return of 20.44 percent of the amount they paid over the jurisdictional threshold. For 2012, if 100 percent of eligible traffic participated, the total returned would be the \$1.369 billion described above. 23/

This approach would offer many beneficial features:

- It provides an effective method of controlling supracompetitive earnings with a simple procedure that would not be unduly burdensome for shippers, railroads, or Board staff;

22/ See <http://www.stb.dot.gov/econdata.nsf/09a17a28a74b350d852573ae006d52cd?OpenView> .

23/ Some traffic might not seek and obtain the return of excess contribution in any given year. A possible example of this might be traffic moving at over 180 percent R/VC pursuant to a contract that did not provide for such returns. Consideration could be given to carrying unreturned amounts forward into future years.

- It would concentrate the relief at the highest R/VC levels without creating counterproductive incentives; 24/
- It is “self-limiting” in the sense that it would ensure preservation of adequate revenues in any year adequate revenues are achieved;
- It would provide investors with clarity regarding their (in)ability to extract or retain supracompetitive earnings, controlling associated resource misallocation problems; and,
- It would affect only traffic moving above the jurisdictional threshold and would rest on a per se demonstration that the traffic to which it applies experiences ineffective competition, arguably satisfying the market dominance criteria articulated in Section 10707 that otherwise would preclude Board limitation of high rates.

A complementary approach for curtailing earnings above the revenue adequacy level that could be used in the longer term would be for the Board to establish a process for providing competitive access relief to commodity flows (e.g., of a given STCC to or from a given BEA, or other definition of “markets” that may be appropriate for given circumstances) made under rates that collectively generate extraordinarily high levels of contribution. In competitive markets, such flows would tend to draw competitive entry, reducing or eliminating excessive contribution levels. Board awards of competitive access would replicate such market forces, and be in the public interest pursuant to several goals enumerated in the national rail transportation policy (Section 10101), including:

24/ Following the example in the text, a 20 percent reduction in the contribution above the jurisdictional threshold would reduce the rate on traffic moving at a 280 percent R/VC to 260 percent (i.e., approximately 7.1 percent), but would only reduce the rate on traffic moving at a 190 percent R/VC to 188 percent (i.e., approximately 1.1 percent). It would provide no rate reduction for traffic moving at or below 180 percent R/VC.

- (1) to allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail;
- (4) to ensure the development and continuation of a sound rail transportation system with effective competition among rail carriers ... to meet the needs of the public...;
- (5) to foster sound economic conditions in transportation and to ensure effective competition...between rail carriers...;
- (7) to reduce regulatory barriers to entry into...the industry; and,
- (12) ...to avoid undue concentrations of market power...

To the extent that flows now generating high contribution have experienced losses of competition, including source competition, as a result of past mergers and acquisitions, the Board might wish to put particular effort into remediating supracompetitive earnings that have ensued. Flows now generating high contribution that have experienced identifiable service or efficiency problems could also be given favorable and expedited attention, given the plain statutory language regarding use of competitive access to remediate such problems. 25/

3. *Reconsideration*

Shippers and shipper representatives in the past have made many specific proposals regarding rate case methodologies, many/most of which have been rejected by the Board. To some extent, those rejections may have stemmed from the Board's mandate to assist the railroads in achieving revenue adequacy. With revenue adequacy achieved, the Board's mandate to minimize supracompetitive earnings should cause it to now give positive weight to actions that would more tightly circumscribe the exercise of rail market power. For this reason, the previous rejection of such proposals should not preclude parties from bringing them

25/ Additional potential applications of competitive access not specifically related to high contribution flows are discussed in section B, below.

forward again, if they are appropriate under the new circumstances that prevail in the railroad industry.

For example, AECC previously proposed use of an incremental procedure for analyzing the contribution from “cross-over” traffic in a rate case. ^{26/} AECC’s proposed treatment of cross-over traffic is economically sound, would avoid the problems that repeatedly have befallen the various ad hoc approaches the Board has used to date, and is consistent with real-world industry practice. In a revenue adequate environment, it should not come as a surprise that movements on high-density main lines do not yield much, if any, support for high levels of differential pricing (i.e., because the line would be constructed and operated with or without the issue traffic). Indeed, it has been a finding or stipulation in several coal rate cases that a Full-SAC analysis performed on a trunk line movement yields or would yield a prescribed rate below the jurisdictional threshold. Consistent with these economic realities, AECC’s proposed treatment of cross-over traffic would properly focus the resources of the parties and the Board on lower-density segments where a valid rationale for substantial differential pricing, if any, is likely to be found. It would apply on such segments the same basic analysis that railroads use for themselves. ^{27/} Though not previously adopted by the Board, this

^{26/} AECC first discussed this method of analyzing cross-over traffic contribution in STB Docket No. EP 657 (Sub-No.1), Major Issues in Rail Rate Cases, “Comments of Arkansas Electric Cooperative Corporation” (May 1, 2006), Written Testimony of Michael A. Nelson at pages 12-16. AECC discussed it further in STB Docket No. EP 715, Rate Regulation Reforms, “Comments of Arkansas Electric Cooperative Corporation” (October 23, 2012) at pages 6-10.

^{27/} See, for example, STB Docket No. EP 575, Review of Rail Access and Competition Issues – Renewed Petition of the Western Coal Traffic League, “Reply Comments of Union Pacific Railroad Company” (March 28, 2006), Reply Statement of Warren C. Wilson, Senior Director-Rail Line Planning, footnote 1 at page 3.

procedure now could and should be reconsidered in light of its relevance under the changed circumstances created by the achievement of revenue adequacy.

B. Competitive Access Reforms

In a revenue adequate environment, there is no plausible foundation for the Board to tolerate the provision of inadequate or inefficient service. Congress has provided the Board with specific tools to use to deal with such service deficiencies; if they can't be used in a revenue adequate environment, when can they be used? While the Board may have viewed Section 10704(a)(2) as a countervailing influence that justified the stranglehold the STB and ICC have held on competitive access for the past 30 years, that influence no longer is present. For the Board to persevere in preventing competitive access under these circumstances would plainly be contrary to Congressional intent.

Specific examples of reforms related to competitive access that the Board should consider in response to the attainment of revenue adequacy are listed below:

- Define the "competitive abuse" criterion the Board applies in competitive access applications to include supracompetitive rates and earnings, and provision of service and/or efficiency levels below competitive market standards, so carriers have a tangible incentive to ensure such conditions do not arise, and shippers have meaningful recourse if they do. If a revenue adequate carrier provides inferior service and/or efficiency relative to competitive market standards, the Board should not hesitate to authorize competitive access by an alternative carrier.

- Revisit/revise the “Bottleneck Rule” to make alternative common carrier routes available when any form of “competitive abuse” (as defined above) is present, without any third-party contract requirements.
- Proceed toward implementation of the competitive switching proposal advanced in Docket No. EP 711 by NITL, as discussed further in AECC’s responsive comments thereto. 28/
- In rate cases involving a revenue adequate defendant carrier, where the challenged rate is found to be unreasonable by more than a given percentage, provide the shipper with an option to receive competitive access in lieu of a rate prescription.
- Find competitive access to be in the public interest when earnings exceed the revenue adequacy threshold by more than a given percentage.
- Ensure that competitive abuse of rates, service, or efficiency by a revenue adequate carrier cannot be sheltered or perpetuated by interchange commitments.
- Find that it is in the public interest to provide competitive access on request to facilities that cease shipping by rail as a result of rail rate or service issues.
- To reduce fuel use and other resource costs in furtherance of sections 10101(14) and 10101(5) of the national rail transportation policy, find that it is in the public interest to provide access to alternate through route service on request for trainload or unit train traffic moved circuitously or via fuel-inefficient routes.

28/ See Docket No. EP 711, Petition For Rulemaking To Adopt Revised Competitive Switching Rules, “Responsive Comments of Arkansas Electric Cooperative Corporation” (May 30, 2013).

- For revenue adequate carriers, find that it is in the public interest to provide shared use of existing facilities in lieu of new construction where such use is operationally feasible.
- Establish a rebuttable presumption that a revenue adequate carrier (which presumably has in place the rail infrastructure it needs) may not prevent construction of a competitive line in surplus portions of the carrier's right-of-way, easing the restrictive posture previously taken by the Board in Docket No. FD 34421. 29/
- Remove from control of revenue adequate carriers (which presumably are already operating the assets they prefer) any veto over restoration of abandoned or railbanked trackage for potential competitive service.

The potential reforms listed above would produce service and/or efficiency benefits in addition to curtailing excessive earnings. From a public interest perspective they should be given balanced consideration with rate case reforms.

C. Rescind Asset Value Write-up

When a capital investment in rail assets is made, the carrier is fully compensated for the capital cost as long as the amount invested is allowed, over the course of its use, to be recovered through its depreciation stream and eventual salvage/resale, and if the net amount invested at any given time earns a market rate of return appropriate to the degree of risk it entails. A properly measured market rate of return already embodies market expectations of inflation, so there is no need to adjust the original investment amount for inflation, whether upon a change of control, or periodically, or on any other schedule. In fact, to do so introduces

29/ See Docket No. FD 34421 (Sub-No. 1), HolRail LLC—Petition for Crossing Authority Under 49 U.S.C. 10901(d), decided February 9, 2007.

a double-count that basically compensates the investor twice for the same inflation. The fact that, at some point in the future, inflation may cause the market value of the asset to differ from its depreciated original cost by a specific amount is irrelevant to the original commitment of the capital, which is made on the basis of a market expectation of inflation. Indeed, under conditions of revenue adequacy, the Board's practice of allowing the write-up of asset values upon their sale or acquisition creates an artificial economic incentive for carriers to sell assets that have appreciated in value, since such assets effectively would enable the acquirer to shield additional earnings.

It should be noted that the Board's practice of adjusting asset values at the time of mergers and acquisitions originally was intended to protect shippers against the cost of "impaired" assets – i.e., avoiding cross-subsidy to preserve non-economic assets and, ultimately, avoiding differential pricing not needed to cover assets actually needed. ^{30/} Ironically, in the environment where impaired assets now have been largely purged, the practice of adjusting assets to current market value does precisely what the original decision to use the market adjustment was trying to avoid – i.e., artificially boost the permitted level of differential pricing. The carrier does not need to be compensated twice for the same price inflation.

The Board's treatment of this asset write-up issue forms a test of the Board's determination to follow the merits in a revenue-adequate environment. When capital is needed to add facilities or equipment or otherwise improve the rail system, the provision of a

^{30/} See Docket No. FD 35506, Western Coal Traffic League – Petition For a Declaratory Order, "Rebuttal Evidence and Argument of Arkansas Electric Cooperative Corporation" (December 20, 2011) Rebuttal Verified Statement of Michael A. Nelson at pages 7-9.

market rate of return on the original investment is sufficient to attract capital for such investments. Thereafter, the statute provides only for the capital to be retained, which does not require resale of the same asset at a higher price that capitalizes, and enables the acquirer to capture, an increase in allowed differential pricing resulting solely from the accounting methods the Board elects to apply at the time of a change of control. The Board here holds the keys to a method through which a financially-healthy carrier can essentially “game the system” to pocket incremental revenue from levels of differential pricing not legitimately needed to satisfy the statutory requirements related to attracting and retaining capital. The Board should take advantage of this opportunity to show new colors appropriate for the achievement of revenue adequacy.

CONCLUSION

The Class I railroads’ achievement of revenue adequacy marks a great accomplishment of federal policy to revive the formerly moribund freight railroad industry. It also presents a great challenge to the Board to reform regulatory policies and procedures that have served their purpose and now need to be revised to serve the public interest in a new environment. The proposals discussed by AECC in these Comments are intended to aid the Board in meeting this challenge.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Eric Von Salzen', is written over a horizontal line.

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

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

Transportation Consultant

Counsel for Arkansas Electric Cooperative
Corporation

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APPENDIX A

COMMENTS OF
ARKANSAS ELECTRIC COOPERATIVE CORPORATION
REGARDING COST-OF-CAPITAL METHODOLOGY ISSUES
IN DOCKET NO. EP 664 (Sub-No. 2)

COMMENTS OF
ARKANSAS ELECTRIC COOPERATIVE CORPORATION
REGARDING COST-OF-CAPITAL METHODOLOGY ISSUES
IN DOCKET NO. EP 664 (Sub-No. 2)

OVERVIEW

This Appendix constitutes AECC's response to the Board's request, in its notice released April 2, 2014 and amended on June 16, 2014, for comments in Docket No. EP 664 (Sub-No. 2), Petition Of The Western Coal Traffic League To Institute A Rulemaking Proceeding To Abolish The Use Of The Multi-Stage Discounted Cash Flow Model In Determining The Railroad Industry's Cost Of Equity Capital. It addresses details of issues related to the methodology used by the Board to estimate the rail industry cost of equity capital, with a particular focus on the CAPM and MSDCF analyses and the averaging of their results conducted by the Board. The resulting estimate is a central factor in the Board's determination of rail revenue adequacy.

The Board's estimates of the cost of capital also are applied in several facets of the Board's regulation in addition to the determination of rail revenue adequacy, and they must be able to satisfy the many aspects of the national rail transportation policy that pertain to this fundamental measure. These include the specific policies enumerated in Sections 10101(2) ("to require fair and expeditious regulatory decisions when regulation is required"); 10101(3) ("allowing rail carriers to earn adequate revenues, as determined by the Board"); 10101(4) ("to ensure the development and continuation of a sound rail transportation system"); 10101(5) ("to foster sound economic conditions in transportation"); 10101(6) ("to 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) ("to encourage honest and efficient management of railroads"); 10101(12) ("to avoid

undue concentrations of market power”); and 10101(13) (“to ensure the availability of accurate cost information in regulatory proceedings”). These multiple policy goals collectively form a statutory requirement that any methodology used by the Board to determine the rail industry cost-of-capital must be sound and rigorous.

This Appendix discusses AECC’s investigation of the extent to which the Board’s current reliance on CAPM and MSDCF satisfies this requirement. It also identifies needed corrective actions. With respect to CAPM, it is shown that recent data have validated the concern raised previously by AECC that the “beta” factor estimated and applied in the Board’s CAPM incorrectly interprets an increase in the exercise of rail market power as increased risk, thereby raising the calculated cost of capital. AECC proposes methods for ensuring the veracity of the Board’s CAPM results in light of this consideration. With respect to MSDCF, fundamental flaws are identified in the stages of the Board’s analysis that depend on analysts’ expectations of carrier earnings growth, and also in the stage that depends on the long-term growth rate of the economy as a whole. As a result, it is concluded that MSDCF, as implemented by the Board, is irreparably flawed and should be discarded. This Appendix also identifies and discusses a potential alternative methodology that relies on Constrained Market Pricing (CMP) principles to define permissible growth rates in carrier earnings in the environment of overall Class I revenue adequacy that has been achieved.

Table A-1 shows the results produced in practice by both the CAPM and MSDCF portions of the Board’s cost-of-capital methodology, from the time each portion was implemented (2006 for CAPM; 2008 for MSDCF) through the time of the most recent available data (2013):

Table A-1

STB CAPM and MSDCF Analyses by Year

	2006	2007	2008	2009	2010	2011	2012	2013
CAPM								
-Risk-free rate (RFR)	5.00	4.91	4.36	4.11	4.03	3.62	2.54	3.12
-Market risk premium (MRP)	7.13	7.05	6.47	6.67	6.72	6.62	6.70	6.96
-Market COC	12.13	11.96	10.83	10.78	10.75	10.24	9.24	10.08
-BETA	0.8604	1.1027	0.9317	1.0915	1.1619	1.1623	1.1543	1.3499
CAPM RESULT	11.13	12.68	10.39	11.39	11.84	11.31	10.27	12.52
MSDCF RESULT	-	-	15.95	13.34	14.13	15.83	16.53	13.40
(CAPM RESULT + MSDCF RESULT)/2	-	-	13.17	12.37	12.99	13.57	13.40	12.96
COMPOSITE COC	9.94	11.33	11.75	10.43	11.03	11.57	11.12	11.32
NET INVESTMENT	76914340	81343716	88361811	91834952	93911046	96244145	100199004	105870414
NET INCOME	7819913	8029100	9455270	7310584	10039727	11633281	12511454	13851791
SUPRACOMPETITIVE EARNINGS	174627	0	0	0	0	497833	1369325	1867260

DISCUSSIONCAPM

In the CAPM portion of the Board's methodology, the "beta" factor estimated and applied by the Board - ostensibly to account for the systematic risk of the Class I rail industry relative to the market - has increased dramatically (approximately 57 percent) during the period when the Board has used CAPM, from a beginning value of 0.86 in 2006 to 1.35 in

2013. AECC's comments regarding CAPM presented below focus on this increase, including its source and implications. 1/

Such an increase in beta normally would suggest that the risk profile of the subject industry had changed completely, from being like that of electric utilities to being like that of tech stocks (from which investors require higher returns to compensate for comparatively higher levels of risk). In fact, during this time the railroads sustained a relatively stable pattern of robust year-over-year earnings growth, and experienced no changes that would radically increase their risk relative to the market.

The railroads were able during that time to increase their earnings by materially increasing the average contribution realized from each unit of traffic. 2/ Such increases in unit contribution by definition reflect increases in the exercise of market power. In most industries such increases in unit contribution are effectively precluded by market forces (e.g., market entry by competitors pursuing profitable business), but this is not the case with railroads. Investors predictably responded to the increased rail earnings caused by the increased exercise of market power by bidding up the price of rail equity, but the Board's CAPM model mistakenly interpreted this as a detrimental change in the risk profile of the rail industry.

1/ In focusing on the beta issues discussed herein, AECC is not endorsing any other aspect of the Board's CAPM methodology. References to and tabulations involving the Board's RFR and MRP findings are made for illustrative purposes, and take those findings at face value.

2/ AAR's Class I Railroad Statistics reports indicate that total rail traffic ton-miles were very close to being the same in 2013 (1.741 trillion) as they were in 2006 (1.772 trillion). However, Table A-1 indicates that net earnings over the same period increased by 77.1 percent, which yields an increase in net earnings per ton-mile of 80.3 percent. Given that price inflation during this interval was approximately 15.6 percent, it can be seen that the average ton-mile generated an increase in contribution (i.e., price less variable cost) sufficient to produce an increase of approximately 65 percent in real (i.e., inflation-adjusted) net earnings.

The likelihood that CAPM would misinterpret an increased exercise of market power as increased “risk” was identified and described to the Board by AECC at the time the Board first adopted CAPM. ^{3/} Indeed, the Board itself at that time called into question BNSF’s claim that beta values over 1 would be a legitimate reflection of rail risk, citing concurring evidence from AAR’s finance experts and WCTL that beta values of less than 1 properly reflect the risk profile of rail equity.^{4/} The Board was well aware of this issue a long time ago, and

^{3/} See Docket No. EP 664, Methodology to Be Used in Determining the Railroad Industry’s Cost of Capital, “Comments of Arkansas Electric Cooperative Corporation” (September 27, 2007) at page 3: “In the duopolistic operating environment that has evolved for the Class I railroads, anything that has the effect of restricting competition may increase a carrier’s stock performance relative to the market, and create the artificial appearance of a ‘risk premium’ under the contemplated methodology.” In response to misleading assertions from the railroads regarding the effects of market power on beta, AECC further clarified that “[b]ecause the exercise of market power in the rail industry does not create a credible prospect of new entry, the Board can reasonably believe that the market power held by the railroads holds down the actual risk they face. If the Board observes an increasing beta, it should give careful consideration to the possibility that the higher stock returns driving the beta increase are caused by an increase in the exercise of market power, and not by any increase in the true risk faced by the railroad.” (emphasis added) “Written Submission of Arkansas Electric Cooperative Corporation” (November 27, 2007) at page 8. These issues were also discussed in Docket No. EP 664 (Sub-No. 1), Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry’s Cost of Capital, “Comments of Arkansas Electric Cooperative Corporation” (April 14, 2008) and (September 15, 2008), as summarized in Docket No. EP 705, Competition in the Railroad Industry, “Initial Comments of Arkansas Electric Cooperative Corporation” (April 12, 2011) VS Nelson at page 13.

^{4/} Footnote 28 on page 10 of the Board’s January 17, 2008 decision in Docket No. EP 664 specifically states:

BNSF argues that any beta estimate below 1 is unreasonable and inconsistent with the reality of the rail sector. See BNSF Open., V.S. Hund at 9. The finance experts sponsored by the AAR disagree and testified that they would place the beta in the 0.8 range. December Hearing Tr. at 98. Moreover, beta seeks to estimate the measure of non-diversifiable risk of the railroads, as compared to

correctly concluded that “BNSF has offered no persuasive reason” for the Board to overlook the mainstream evidence showing rail beta values of less than 1. The empirical fact is that subsequent increases in the exercise of rail market power have been accompanied by substantial increases in the measured value of beta, fulfilling the prediction of beta inflation for the rail industry. ^{5/} This should cause the Board to move expeditiously to implement changes needed to rectify this problem and ensure the veracity of CAPM in any ongoing and/or future reliance the Board may place on it.

the market as a whole. So while the anecdotal evidence of risks facing BNSF and other carriers are unquestionably genuine (see id. at 7-8), the question is whether investors can diversify those risks and how those risks compare to the market as a whole. BNSF has offered no persuasive reason why beta cannot fall below 1, as was reported by many independent commercial vendors. See WCTL Reply, V.S. Crowley/Fapp, Exh.7.

^{5/} Aside from the testimony of AAR’s finance experts cited by the Board that substantiated rail beta values below 1, other AAR witnesses attempted to muddy the waters regarding the relationship between market power and beta. In particular, AAR witnesses Hubbard/Stangle (Docket No. EP 664, “Reply Comments of the Association of American Railroads” (October 29, 2007) RVS Hubbard/Stangle at page 7) claimed that “there is no necessary connection between beta and market power”, citing as ostensible support a quotation lifted from research conducted by Peyser (Paul S. Peyser, “Beta, Market Power and Wage Uncertainty” *Journal of Industrial Economics* Vol. 42 No. 2 (June 1994) pages 217-226 (hereafter, “Peyser”)). In fact, the Peyser quotation cited by Hubbard/Stangle – which they used to create an illusion of empirical support for their own claim - was taken out of context, and does not support in any way the proposition for which they cited it. Indeed, Peyser describes how theoretical studies have uniformly concluded that that beta should decline with market power, but that empirical evidence on this has been mixed. His key finding is that “...the relationship between the asset beta and [a measure of market power] is shown to depend on the relative magnitudes of product and factor price uncertainty, which may vary by industry or even by firm within an industry. Therefore the direction of the relationship can only be ascertained empirically.” (emphasis added) (Peyser at pages 218-19) Far from undermining the existence of any relationship between beta and market power, Peyser affirms the importance of relying on empirical data to understand the way the relationship works for a given industry or firm. For railroads, the empirical evidence shows plainly that increases in the exercise of market power have been accompanied by increases in measured beta.

Because of the artificial growth in beta, whatever veracity the CAPM portion of the Board's cost-of-capital methodology had at the outset of its use has vanished. In two of its first three years of using CAPM (2006 and 2008), the Board found beta to be less than 1, causing the Board's methodology to (properly) ascribe to the rail industry a cost of equity capital slightly lower than that of a market portfolio. This was at least roughly consistent with the beta values that had been submitted to the Board by AAR and WCTL. By 2013, the bloated beta estimates produced by the Board's CAPM methodology caused it to conclude (incorrectly) that the rail industry cost of equity capital was 24.2 percent higher than that of a market portfolio.

The achievement of revenue adequacy by the rail industry undermines any finding or application of rail industry betas in excess of 1. With a demonstrated ability in the past few years to achieve earnings above the revenue adequacy level, the rail industry now enjoys a reserve of protection not held by most other industries against the possibility of earnings below the revenue adequacy level. For this reason, the Board should not apply a rail beta coefficient of over 1 when the rail industry earnings as a whole are at or above the revenue adequate level. It specifically should consider truncating at 1 any rail beta coefficients estimated for time periods when the Class I rail industry as a whole is revenue adequate. Alternatively, it could consider setting beta at the "0.8 range" estimate originally provided to the Board by AAR's finance experts, or some other fixed estimate lower than 1 that is reasonably reflective of the unique stability of a revenue adequate rail industry relative to the market.

Use of the market cost of equity capital (i.e., beta = 1) ^{6/} or a cost of equity capital based on a reasonable fixed beta lower than 1 would promote stability by eliminating the variability caused by the artificial inflation of beta described above. From 2006-2013, the market cost of equity capital indicated by the Board's RFR and MRP values varied by no more than 1.16 percent on a year-to-year basis. In comparison, year-to-year variations in the Board's overall CAPM results for the rail industry during the same period twice were at least 2.25 percent, and three times were at least 1.55 percent.

MSDCF

The MSDCF portion of the Board's cost-of-capital methodology has produced results that are even more inconsistent with the Board's own evidence regarding the market cost of equity capital than are the results of the Board's CAPM methodology. During the period when the Board has used both methodologies (2008-2013), MSDCF has never produced a value as low as any of the Board's inflated CAPM estimates. It has exceeded the Board's CAPM estimates by an average of 3.58 percent each year, and has exceeded the market cost of equity capital indicated by the Board's RFR and MRP values by an average of 4.54 percent each year. During the time when the earnings of the Class I railroad industry as a whole have been above the revenue adequacy level (2011-2013), the excess of MSDCF over the market cost of equity capital indicated by the Board's RFR and MRP values has been at its highest, averaging 5.40 percent and reaching as high as 7.29 percent.

^{6/} It is noted that the Board itself raised the possibility of relying on a beta value of 1.0 in its notice soliciting comments on its planned introduction of CAPM. See STB Notice, Docket No. EP 664, served August 14, 2007 at page 11. In light of the problem that has been identified in the Board's estimated beta values, reliance on a value of 1.0 would be reasonable for the Board to reconsider.

MSDCF results also have been particularly unstable, Over the 6-year period when MSDCF has been used, it has exhibited year-to-year variations once reaching 3.13 percent, twice reaching at least 2.61 percent, and three times reaching at least 1.70 percent.

The differences between the Board's CAPM and MSDCF measurements are so large and so systematic that the two methods cannot legitimately be viewed as alternate measurements of the same phenomenon. Holding aside the upward influence on the Board's CAPM findings that has resulted from the market power increase discussed above, valid alternate measurements of the same phenomenon would vary around the same expected value. If the two methods were truly measuring the same property, but differed from each other only due to random variations, the fact that in 6 years the Board's MSDCF measurement has always been higher than the Board's CAPM measurement would only occur with a likelihood of approximately $(0.5^6) = 1.6$ percent. Put another way, it does not require a lot of complicated analysis to know with over 98 percent certainty that the Board's MSDCF measurement is not measuring the same property as is the Board's CAPM measurement (which itself is biased upward relative to the true rail cost of equity capital by the market power issue discussed previously).

The first two stages of the Board's MSDCF measurement place a unique and heavy reliance on the stated opinions of private sector analysts, without any attempt to determine the consistency of those opinions with the public interest responsibilities administered by the Board. The Board's MSDCF method specifically fails to ensure that the earnings projections on which it relies do not embody supracompetitive earnings. Such earnings result from unnecessary and excessive exercises of rail market power that the Board has a

public interest obligation to prevent or remedy. Thus, there is an element of self-fulfilling prophecy at work: Analysts project railroad earnings growth based on the exercise of rail market power that the Board has a public interest obligation to restrain, but the Board then raises the cost of capital based on those projections and allows the railroads to exercise more market power in order to cover this inflated cost of capital.

For these reasons, the Board's current use of MSDCF is inconsistent with Section 10704(a). Specifically, with revenue adequacy achieved by the Class I railroads as a group, the Board nevertheless allows the opinions of investment analysts about railroad earnings growth to determine the cost of capital, even though the Board has established no basis from which it reasonably could conclude that the earnings expectations of analysts do not reflect exercises of market power in excess of legitimate public interest constraints (i.e., where such earnings would be supracompetitive). Section 10704(a)(2) explicitly provides that "(t)he Board shall maintain and revise as necessary standards and procedures for establishing [adequate] revenue levels" [emphasis added], while Section 10704(a)(3) provides that on the basis of those standards and procedures, "the Board shall annually determine which rail carriers are earning adequate revenues" [emphasis added]. Congress reserved these critical functions to the Board because they are essential to the Board's discharge of its public interest responsibilities, and cannot legitimately be delegated to the private sector without regard to the standards the Board should be applying. If Congress had intended to leave the foxes in charge of this henhouse, it would have done so.

The Board's notice initiating this proceeding explicitly referenced the longstanding recognition that the "revenue adequacy standard represents a reasonable level of

profitability for a healthy carrier... Carriers do not need greater revenues than this standard permits, and we believe that, in a regulated setting, they are not entitled to any higher revenues.” ^{7/} With the Board now fully aware that the revenue adequacy standard has been satisfied, the Board would be abdicating its responsibility to prevent excessive rail revenues and earnings if it allowed analyst expectations of sustained and increased supracompetitive earnings to remain in and inflate the cost of equity capital estimate. Therefore, the attainment of revenue adequacy requires that the Board terminate its reliance in MSDCF on analysts’ unchecked expectations.

The achievement of revenue adequacy also causes the terminal growth rate used in the third stage of the Board’s MSDCF model – i.e., the projected long-term growth rate of the economy as a whole - to be conceptually invalid. The Board’s own consultant, Christensen Associates, has described explicitly how the permissible level of earnings corresponds to the level at which revenue adequacy is achieved, and how events like volume changes require that the level of differential pricing be altered as needed so that overall earnings remain at the permissible level. ^{8/} Over time, the permissible level of earnings does not have a direct relationship with the projected growth rate of the economy as a whole (since rail service is used to varying degrees in different segments of the economy), or even with the projected growth

^{7/} STB Notice, Docket Nos. EP 722 and EP 664 (Sub-No. 2), served Apr. 2, 2014 at page 3, citing Coal Rate Guidelines, Nationwide (Coal Rate Guidelines), 1 I.C.C.2d 520 (1985) at page 535.

^{8/} See, for example, Docket No. EP 705, Competition in the Railroad Industry, “AAR Reply Comments” (May 27, 2011) RVS Eakin/Meitzen at page 6: “a lesser markup over marginal cost is needed to achieve sufficient revenues”; and at page 10: “A key finding of our revenue sufficiency analysis is that the needed markup has declined in recent years, but the actual markup observed has not declined by as much.”

rate of rail traffic (since railroads typically possess economies of scope and density). Rather, assuming there is no long-term trend in the cost of capital, permissible outyear earnings growth is determined by the year-to-year growth in (prudent) investment that the rail industry actually makes. As a practical matter, the MSDCF terminal growth rate of 5.58 percent used by the Board in its most recent cost of capital determination exceeds the actual investment growth rate of 4.56 percent achieved by the Class I rail industry between 2006 and 2013 (as shown in Table A-1). This means that above and beyond the supracompetitive earnings embedded in the analysts' expectations, there are supracompetitive earnings flowing from the current terminal growth rate used in the Board's implementation of MSDCF.

Average of CAPM and MSDCF

The terminal growth rate methodology and analysts' expectations of supracompetitive earnings from the excessive exercise of market power inflate the Board's MSDCF measurement, while the actual exercise of increased market power inflates the Board's CAPM measurement (as described previously). As currently implemented, neither method provides a valid measure of the rail industry cost of equity capital. Moreover, since both measures now are demonstrably high relative to the true underlying value, the average of the two, on which the Board relies, is also biased upwards, and does not in any way establish or enhance the veracity of the resulting estimate.

Exaggeration of the rail cost of capital by the Board's methodology creates a "spread" between the estimated and true values that can have damaging effects on the economy as a whole through distortions in the efficiency of resource allocation. A rail carrier faced with potential Board action to curb supracompetitive earnings could easily conclude that

it would be worthwhile to invest capital (at its lower, true cost) even if the investment is marginal or risky. This is because such an investment would yield a return at the higher, Board-estimated level just by raising the carrier's revenue adequacy level (thereby "shielding" additional earnings). Incentives for such "gaming" and cross-subsidy are minimized or eliminated when the Board's estimate conforms closely to the true value.

An Alternative Based on CMP

In lieu of MSDCF, it would be possible to project future changes in rail earnings through direct reliance on the CMP principles that ensure differential pricing is exercised only to the point that produces revenue adequacy, without supracompetitive earnings. Specifically, this would entail an initial period in which earnings experience negative "growth" to bring them to the revenue adequate level (i.e., without supracompetitive earnings), followed by a second period in which the growth rate of earnings is equal to the (expected) growth rate of actual rail investment.^{9/} This would set the pattern of earnings changes over time to the level needed for the Board's practices to conform to CMP and the foundation for differential pricing. Such earnings would satisfy fully the legitimate need for railroads to earn an adequate return on capital without tolerating, or even fostering, supracompetitive earnings as occurs under the Board's current methods.

SUMMARY AND RECOMMENDATIONS

Both CAPM and MSDCF have exhibited serious defects that undermine their validity for regulatory purposes as currently implemented. The defect AECC has identified in

^{9/} Absent persuasive evidence that the future growth rate of rail investment is expected to differ from recent experience, such experience should function as a reasonable proxy.

CAPM pertains to a single parameter, and is subject to corrective action. The defects in MSDCF are pervasive and render it unusable.

1. For the CAPM method to produce meaningful values when Class I rail industry earnings are at or above the revenue adequacy threshold, the Board should view the market cost of equity capital that results from application of $\beta = 1$ as an upper bound on the rail industry cost of equity capital. To obtain an expected value of the railroad cost of equity capital, the Board should rely on a source for the value of β that is not materially affected by the market power issue described previously.
2. No part of the Board's MSDCF method produces meaningful values when Class I rail industry earnings are at or above the revenue adequacy threshold, because the Board's reliance on both analysts' expectations and the expected growth rate of the economy as a whole have been shown to be invalid. MSDCF therefore should be discontinued.
3. As discussed above, in lieu of MSDCF, it would be possible to project future changes in rail earnings through direct reliance on the CMP principles.

The evidence shows that the Board's method of determining the rail cost of equity capital is at a critical juncture. On the one hand, attainment of revenue adequacy makes it essential that the Board's cost-of-capital methodology be sound. As described above, when the Board's estimate of the cost of capital exceeds the actual cost of capital, harmful inefficiencies and distortions in resource allocation can be expected to result. On the other hand, the Board has implemented two major cost-of-capital methodology refinements within

the past 8 years, and despite extensive participation by and input from stakeholders, the evidence says the refinements the Board has elected to implement have been accompanied by profound problems that render their output unreliable. The stakes are too high to continue with the demonstrably unreliable performance of the status quo, but they are also too high to wait for the Board to undertake yet another lengthy rulemaking process only to have that process yield even more idiosyncratic problems.

AECC suggests that the Board take steps using available information to promptly implement reasonable, if temporary, corrections to address known problems, and separately conduct whatever new investigation may be warranted to develop viable longer-term improvements. Any changes should be accompanied by a monitoring period to facilitate identification of problems that may arise.