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Ms. Cynthia T. Brown
Chief, Section of Administration
Office of Proceedings
Surface Transportation Board
395 E Street, S.W.
Washington, DC 20423

Re: STB Docket No. EP 431 (Sub-No. 4), *Review of the General Purpose Costing System*

Dear Ms. Brown:

Pursuant to the Notice of Proposed Rulemaking served on February 4, 2013, and subsequent decisions served in this proceeding, attached please find the Association of American Railroads' comments for filing.

In addition, we will separately hand deliver a compact disc containing confidential workpapers for filing under seal. These workpapers contain confidential waybill information.

Respectfully submitted,

Timothy J. Strafford
Counsel for the Association of
American Railroads

BEFORE THE
SURFACE TRANSPORTATION BOARD

STB Ex Parte No. 431 (Sub-No. 4)

REVIEW OF THE GENERAL PURPOSE COSTING SYSTEM

COMMENTS OF THE ASSOCIATION OF AMERICAN RAILROADS

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June 20, 2013

BEFORE THE
SURFACE TRANSPORTATION BOARD

STB Ex Parte No. 431 (Sub-No. 4)

REVIEW OF THE GENERAL PURPOSE COSTING SYSTEM

COMMENTS OF THE ASSOCIATION
OF AMERICAN RAILROADS

In a Notice of Proposed Rulemaking ("NPR") served on February 4, 2013, the Surface Transportation Board ("Board") proposed to modify its general purpose costing system, the Uniform Railroad Costing System ("URCS"). Specifically, the NPR proposes to eliminate the so-called "make-whole" adjustment that accounts for the economies of scale realized from larger shipment sizes in the URCS Phase III calculation. In its place, the NPR proposes changes to URCS Phase II and Phase III and corresponding modifications of related reporting requirements. The NPR also proposes changes to URCS unrelated to the make-whole adjustment.

The Association of American Railroads ("AAR") respectfully submits these comments as a party of record in accordance with the Board's NPR and subsequent decisions.[1] The AAR comments are supported by the Verified Statement of Michael R. Baranowski and Benton V.

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[1] The Board extended the procedural schedule in a decision served on March 12, 2013, and granted the AAR's request for clarification and additional data in a decision served on April 25, 2013.

Fisher, Senior Managing Directors of FTI Consulting ("Baranowski/Fisher V.S.") that is attached as Appendix A.

The AAR is a trade association representing the interests of North America's major freight railroads, and often presents comments and testimony in Board proceedings. The AAR and its freight member railroads have a strong interest in this proceeding and in ensuring that Board utilizes the most accurate costing procedures for its regulatory functions.

Background

As the Board's general purpose costing system, URCS plays a central role in many of the Board's regulatory functions by determining the variable costs that should be attributed to particular movements of rail traffic. In recent years, the importance of that role has only increased as the Board has relied on URCS in a variety of new ways. The Board uses URCS to determine quantitative market dominance consistent with 49 U.S.C. § 10702(d)(1) and has recently made an URCS variable cost determination a central part of its "limit price" test to determine qualitative market dominance under 49 U.S.C. § 10702(d)(2).[2] Beyond the market dominance determination, costs as determined by URCS play important roles in Stand-Alone Cost and Simplified Stand-Alone Cost rate cases in the average total cost methodology to allocate cross-over traffic revenue and the maximum markup methodology to determine the maximum lawful rate. URCS variable costs are also important parts of the R/VC_{COMP}, $R/VC_{>180}$ and RSAM benchmarks in Three Benchmark cases. The Board relies on URCS in exit licensing proceedings, in determining avoidable costs in abandonment and discontinuance cases and in valuing the line for sale under the offers of financial assistance regulations. Notably, the Board

[2] As made clear in the AAR's *amicus curiae* comments filed in *M&G Polymers USA v. CSX Transportation*, NOR 42123, the limit price test does not comport with 49 U.S.C. § 10702 and is not based in sound economics or regulatory policy. *See* AAR Comments, NOR 42123 (filed Nov. 28, 2012).

has recently relied on URCS in novel ways such as the determination of alternative routings under 49 U.S.C. § 10705.[3] The National Industrial Traffic League's proposal for forced switching in EP 711 also relies heavily on URCS to establish presumptions of market power triggering regulatory intervention into the marketplace.[4] Thus, any proposal to alter URCS has wide ranging and significant implications.

URCS was adopted by the Board's predecessor agency, the Interstate Commerce Commission ("ICC"), in 1989.[5] URCS estimates the variable costs of performing rail service using statistical techniques and annual expense and operating data reported to the agency. Following Congressional direction,[6] the ICC received input from the Railroad Accounting Principles Board ("RAPB")[7] and developed a regression model based on accounting data to separate total rail expenses into fixed and variable components. For practical reasons, certain output measures are not reported by the railroads; instead, they have been computed by the agency as either constant factors which are the result of special studies or as factors which are updated from annual statistics following a prescribed methodology. The special studies were

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[3] *See Entergy Ark. Inc. and Entergy Serv. Inc. v. Union Pac. R.R. and Mo. & N. Ark. R.R.*, FD 42104, slip op at 12-14 (STB served Mar. 15, 2011), *recon. denied, Entergy Ark. Inc. and Entergy Serv. Inc. v. Union Pac. R.R. and Mo. & N. Ark. R.R.*, slip op. at 11-13 (STB served Nov. 26, 2012).

[4] The AAR's comments and reply comments filed in EP 711 demonstrate that reliance on an URCS based variable cost determination as a proxy for market power is inappropriate. See AAR Comments, EP 711 (filed Mar. 1, 2013); AAR Reply Comments, EP 711 (filed May 30, 2013).

[5] *Adoption of the Uniform R.R. Costing Sys. as a Gen. Purpose Costing Sys. for all Regulatory Costing Purposes*, 5 I.C.C.2d 894 (1989) (*Adoption of URCS*).

[6] *See* Railroad Revitalization and Regulatory Reform Act, Pub. L. No. 94-210, Sec. 307, 90 Stat. 127 (1976).

[7] The RAPB was created in the Staggers Rail Act of 1980, Pub. L. No. 96-448, Sec. 302, 94 Stat. 1985 (1980), to "evaluate the issues surrounding rail costing and to propose economically accurate principles to govern the estimation of such costs." *Adoption of URCS*, at 895 & n. 3.

undertaken by or presented to the ICC in various proceedings during the 1930's through the 1960's.[8]

During the 1980s, the agency retained an economist, Dr. M. Daniel Westbrook, to evaluate, test, and implement the RAPB's recommendations regarding the design of a new uniform railroad costing regression study. Dr. Westbrook's work established the assumptions underlying the regression model and the econometric methods required to analyze the data used in URCS Phase I today. The regression model determined the statistical relationship between dependent variables (expense account groups) and the independent variables (capacity and output) in order to separate total expenses into their fixed and variable components.

As a result of Dr. Westbrook's work, the Board annually updates URCS Phase II by taking the aggregated cost data provided by Class I carriers in their most recent R-1 reports and disaggregating them by calculating the system-average unit costs associated with specific rail activities using the Phase I regression equations. In Phase III, URCS takes the unit costs from Phase II and applies them to the characteristics of a particular movement in order to calculate the system-average variable and total costs of that movement.

The agency has long adjusted variable costs to reflect the efficiencies associated with higher volume shipments, even prior to the adoption of URCS.[9] Since the creation of URCS in 1989, the make-whole adjustment has been applied by URCS in Phase III to recognize the efficiency savings that a carrier obtains from its higher-volume shipments by allocating more of a carrier's total costs to its lower-volume traffic. Each year in preparing URCS Phase III, the Board calculates a make-whole adjustment for each Class I rail carrier using URCS and the

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[8] RAPB, Railroad Accounting Principles, Final Report, Vol. 2 (1987) at 113 ("RAPB").

[9] *See Investigation of Railroad Frt. Rate Structure—Coal*, 345 I.C.C. 71, 227 (1974).

Board's Carload Waybill Sample through a three-step process. First, URCS costs every movement in the Waybill Sample as a single-car movement. Next, URCS applies long-standing efficiency adjustments to all of the higher-volume movements (multi-car and trainload)[10] in the Waybill Sample, thereby reducing the system-average unit costs of such movements. This aggregate amount, sometimes referred to as the "shortfall," is then redistributed across all of the lower-volume shipments (single-car and multi-car), so that the sum of variable costs across all of the carrier's movements remains unchanged. The make-whole adjustment is then included in the URCS Phase III program for each carrier released to the public by the Board.

The NPR raises two concerns with the make-whole adjustment. First, the application of efficiency adjustments generally reduce the system-average unit costs by set percentages depending on whether the movement is classified as trainload, multi-car, or single-car. The result is widely differing costs on either side of the demarcation lines, or "break points," between single-car and multicar shipments and between multi-car and trainload/unit train shipments. The NPR also notes a second concern with how the make-whole adjustment is distributed across lower volume movements on a per-car basis. The NPR asserts that a second step function results from redistributing the shortfall on a per car basis.

The NPR proposes to eliminate the make-whole adjustment entirely and in its place make changes to three unit cost calculations in Phase II that the NPR asserts would account for the efficiencies of higher volume shipments. The NPR proposes Phase II changes to: (1) switching costs related to switch engine minutes ("SEM"); (2) equipment costs for the use of railroad owned cars during switching; and (3) station clerical costs. Specifically, the NPR proposes to

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[10] Single-car shipments are defined as 1 to 5 cars, multi-car shipments are defined as 6 to 49 cars, and trainload/unit train shipments are defined as 50 or more cars.

account for SEM switching and station clerical costs in Phase II on a per-shipment rather than a per-car basis and make a corresponding change to the reporting requirements of both the Annual Report of Cars Loaded and Cars Terminated (Form STB-54) and the Quarterly Report of Freight Commodity Statistics (Form QCS). In contrast to SEM switching and station clerical costs, the NPR proposes to continue calculating equipment costs for the use of railroad-owned cars during switching on a per-car basis, but notes that this proposal nonetheless would affect a change in how these costs are applied in Phase III because the current volume efficiencies would be eliminated and there would be no separate make-whole adjustment.

In addition, the NPR proposes four changes related to costing particular movements in URCS Phase III, all but one of which are unrelated to the Board's proposal to eliminate the make-whole adjustment. First, related to the make-whole adjustment, the NPR proposes to alter car-mile costs by applying the empty/loaded ratio to all movements and eliminate the assumed ratio of 2.0 for trainload movements. Second, the NPR also proposes to change the assumption of inter-train and intra-train switching mileage from 200 to 320 miles to reflect the 60% increase in length of haul that the Board observed in Waybill Sample data from 1990 to 2011. Third, the NPR would change the definition of trainload from 50 to 80 cars. Finally, the NPR proposes two changes to locomotive unit-mile ("LUM") costs: (1) LUM costs would be allocated to the trainload shipment, regardless of the gross tons of the trainload shipment; and (2) the allocation of LUM costs for single and multi-car shipments would be based on the number of cars in the shipment relative to 80 cars, the proposed minimum number of cars in trainload.

As discussed in the comments below, the AAR supports the Board's objectives to improve URCS by more accurately reflecting the variable costs of specific rail movements.[11] To the extent that the NPR's proposed changes advance those objectives, the AAR supports those changes. However, some of the NPR's proposals would change long-standing costing inputs and assumptions derived from detailed railroad industry special studies. While those studies may be dated, the proposals in the NPR are not supported by any empirical evidence that show that the changes would result in more accurate costs. In those instances, the AAR submits that the best solution would be to conduct special studies to establish accurate cost relationships. Recognizing that the Board may view special studies as impracticable, the AAR offers suggestions as to how the Board could improve the accuracy of URCS by modifying the URCS formulas to eliminate the step-function effect of the make-whole adjustment but retain the current relative distribution of URCS costs over different types of shipments.[12]

The AAR also notes that NPR does not discuss how the proposed rules would be implemented and submits that transition issues warrant more detailed consideration. Finally, the AAR submits that this rulemaking proceeding presents the appropriate opportunity to correct certain errors in the URCS model's cost calculations and to address regulatory reporting issues that have previously been identified as warranting reform.

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[11] The AAR comments address only the proposed changes to URCS and the appropriateness of the corresponding changes to the Board's reporting requirements. The AAR comments do not address the burdens associated with the proposed changes to reporting requirements, which will be addressed by individual railroads in their comments.

[12] The AAR does not object to the NPR's proposals regarding Load/Empty ratios or increasing the definition of trainload from 50 to 80 cars. *See* Baranowski/Fisher V.S. at 18, 21.

Discussion

I. Any Changes To URCS Should Be Consistent With The Law and Sound Economic and Regulatory Principles

The AAR commends the Board for seeking to improve its general purpose costing system and to make it more accurate. In so doing, the Board should be guided by the directives that Congress has set forth in the Interstate Commerce Act, as amended, ("ICA") and by sound economic and regulatory principles. The National Rail Transportation Policy ("RTP") directs the Board to "ensure the availability of accurate cost information in regulatory proceedings, while minimizing the burden on rail carriers of developing and maintaining the capability of providing such information." 49 U.S.C. § 10101(13).

A bedrock principle of railroad accounting and costing is causality. The RAPB defined the causality principle as:

> Costs shall only be attributed to cost objectives when a causal relationship exists (the cost would not have been incurred but for the requirements of the cost objective). A cost objective is the result of the use of resources.[13]

That is, costs must be accurately and causally connected to the activities they are allocated to. The RAPB called on the agency to look for causal relationships "through direct observation, engineering analysis, and/or statistical techniques."[14] The agency should have an empirical basis for changing the allocation of costs in URCS.

In written testimony filed in EP 431 (Sub-No. 3), the AAR stated that efforts to reform URCS should seek to improve the accuracy of URCS's application to specific movements and cause its results to more accurately reflect the full costs incurred by rail carriers in their provision

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[13] RAPB at 9.

[14] *Id.* at 10.

of service to customers. To that end, the AAR set forth five guiding principles consistent with the RTP that should govern any review of URCS:

1. URCS should fully reflect all costs associated with rail transportation movements or categories of movements, and these costs should be fully allocated as precisely as possible to those movements or movement categories that give rise to those costs;

2. URCS should reflect the full variability of all costs and, to the fullest extent possible, variability percentages should be based upon current, actual data, not incorrect default values so that the total of variable costs for each individual movement on a rail carrier equals the total URCS variable cost for that rail carrier;

3. The structure of URCS should be sufficiently flexible to ensure that future changes in railroad operating conditions can be readily accommodated;

4. The capital portion of variable cost should be based on replacement cost methodology rather than a return on investment calculated on the depreciated value of book assets; and,

5. Changes to the accounting and reporting processes that support any revisions to URCS should be effected in a manner which minimizes, to the fullest extent possible, administrative burdens and systems adaptations.[15]

Taken together, the governing law, the conclusions of the RAPB, and the sound principles previously submitted by the railroad industry counsel the Board to exercise caution in making piece meal changes to URCS without sound empirical foundation. The AAR discusses the NPR's proposals in the context of these principles below.

[15] AAR Public Hearing Testimony, EP 431 (Sub-No. 3) (filed April 23, 2009) at 3-4.

II. The AAR Supports The Elimination Of The Step-Function Effect Of The Make-Whole Adjustment, But Changes Intended to Account for The Efficiencies Associated With Higher Volume Shipments Should Be Based on Empirical Data Establishing Cost Relationships

The AAR supports the Board's stated goal of improving the accuracy of URCS to cost specific rail movements by eliminating the step function effect of the make-whole adjustment.[16] As described by Messrs. Baranowski and Fisher, the make-whole adjustment results in large differences between the variable costs produced by URCS for movements that fall on either side of the make-whole adjustment break points.[17] However, the AAR is concerned that in seeking to eliminate the step-function effect, the NPR proposes to replace the fundamental bases on which URCS relies to account for the added efficiencies of trainload/unit train and multi-car shipments. In their place, the NPR offers little more than general observations and intuition to support its proposals, in violation of the RAPB's causality principle that requires an empirical basis for the costing model and the ICA's requirement for accurate costing information.[18]

For example, the agency has long recognized that the efficiencies of higher volume shipments lead to lower unit costs per unit than unit costs for lower volume shipments.[19] The current allocation recognizes efficiencies for larger sized shipments by reducing industry originating and terminating switching time for railroad-owned cars by 50% for multiple car and unit train shipments and reduces interchange switching time for railroad-owned cars by 50% for unit train shipments. UCRS relies on "Equated Switching Factors" to distribute total switching

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[16] NPR at 4.

[17] Baranowski/Fisher V.S. at 1-2.

[18] General pronouncements regarding efficiencies do not constitute direct observation as contemplated by the RAPB. "Direct Observation involves specifically identifying and quantifying the incurrence of cost resulting from the performance of a specific activity." RAPB at 10.

[19] *See* note 10 *supra.*

minutes to the categories: originating- and terminating-carloads, interchange, intraterminal, interterminal, and I&I switching. These factors are based upon an analysis of switching studies made at a large number of cities, the results of which were introduced by carriers in cases before the ICC[20] and adjustments made by the agency.[21] The switching studies also developed the ratios of intraterminal and interterminal cars switched to total cars originated-and-terminated minutes.

The NPR now proposes to eliminate the efficiencies for equipment costs that are currently incorporated for use of railroad owned cars during switching that were derived from these special studies simply because keeping them in URCS requires the use of make-whole adjustments. The Board has recognized the importance of utilizing empirical data and reflecting the efficiencies of higher volume shipments in URCS. In its report to Congress in 2010 the Board stated that Dr. Westbrook's fundamental conclusions regarding URCS were that "URCS should rely in part on engineering relationships based on numerous special studies completed by the ICC," and that "URCS should account for the added efficiencies of unit train, trainload and multi-car movements, over those of single car movements, and use a "make-whole" adjustment to redistribute the efficiency savings that a railroad obtains in higher-volume shipments across all of that carrier's lower-volume shipments."[22] The NPR's proposals retreat from the fundamental conclusion that URCS should rely on empirical data regarding engineering relationships and special studies.

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[20] *See* ICC Bureau of Accounts, Explanation of Rail Cost Finding Procedures and Principles Relating to the Use of Costs, Statement 7-63, at 121 & n. 1.

[21] *See id.* at 128-131.

[22] Surface Transportation Board, Report to Congress Regarding the Uniform Rail Costing System (May 27, 2010) at 4.

While the NPR asserts that the Board is seeking to continue recognizing the efficiencies associated with higher volume shipments with regard to SEM switching costs and station clerical costs, the NPR's proposals for these costs fail to rely on empirical data. The NPR contends that accounting for such costs on a per-shipment basis rather than a per-car basis would, "not only better reflect actual operating costs, but the per-car cost of switching would drop as shipment size increases, thus properly reflecting economies of scale."[23] But the NPR contains no discussion of why the NPR's proposal would "properly" account for economies of scale. The NPR simply asserts, "the costs to switch a shipment of a four-car block should be the same as the costs to switch a shipment of an eight car block."[24] The Board appears to believe that switching costs would always be equal for shipments of all sizes, though the NPR provides no rationale for that belief. In reality, the time required to perform switching activity will be impacted by the number of cars being switched.[25]

The AAR submits that the Board should undertake special studies to develop the data necessary to accurately reflect the costs of different volume shipments.[26] Recognizing that the Board may not believe it has the resources to do so, and further recognizing the Board's desire to eliminate the step-function effect of the make-whole adjustment, the AAR comments on the Board's specific proposals below focus on retaining the original engineering and special study

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[23] NPR at 5.

[24] NPR at 4.

[25] Baranowski/Fisher V.S. at 10.

[26] Similarly, the Board should conduct a special study to develop an accurate I&I switching interval. *See* Baranowski/Fisher V.S. at 19.

relationships built into URCS wherever practical, while eliminating the step-function effect associated with the make-whole adjustment.[27]

III. If The Board Does Not Undertake Special Studies To Establish Accurate Cost Relationships, The Board Should Maintain The Existing Cost Relationships In URCS.

While the NPR sets forth the Board's reasons for seeking to eliminate the step-function effect of the make-whole adjustment, the NPR does not establish a foundation for changing the basic URCS cost and service unit relationships. Instead, the Board should maintain the existing cost relationships and "smooth out" the resulting variable costs to meet its stated goal of eliminating the step-function effect.[28]

The NPR proposes to eliminate the current car-based allocation of SEM switching costs and station clerical costs in URCS and instead allocate those costs on a shipment basis. The AAR does not object to the conclusion that allocating such costs on a purely per car basis may not be accurate, but the AAR has concerns that the proposal to rely on a purely per-shipment basis creates some ambiguity as to the definition of a shipment for both carload and intermodal traffic and the AAR believes that the proposal relies on a faulty assumption that switching costs (and to a lesser extent station clerical costs) will be equal for shipments of all sizes.

Carload Traffic. Should the Board move to a per-shipment cost allocation model, it is crucial that the Board clearly articulate what constitutes a discrete shipment and consider the implications of that definition. The NPR defines a shipment as "a block of

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[27] Baranowski/Fisher V.S. at 4.

[28] *Id.*

one or more cars moving under the same waybill from origin to destination."[29] This is generally consistent with URCS today. But the NPR also discusses the operational concept that "a shipment of rail cars is generally connected into a contiguous block of cars prior to loading, and is handled as a contiguous block from origin to destination."[30] This operational discussion is conceptually consistent with a recent decision where the Board stated that "costing is determined by the characteristics of the actual movement rather than the peculiarities of a carrier's invoicing practices."[31]

As the Board is aware, how the traffic moves operationally and how it is waybilled are not necessarily synonymous. The railroad controls the operational aspects of carload traffic and moves the traffic in the manner that makes sense operationally to meet the needs of its customer. The waybill is based on information that originates from the shipper and does not necessarily reflect how the traffic moves operationally. For example, a shipper may separately waybill individual cars that move together in a block. To date, the distinction has not been relevant to URCS costs that are calculated on a per car basis, but the NPR's proposal to rely on a per shipment costs highlights this disconnect.

Intermodal Traffic. Also, it is not clear from the NPR how the Board will define a shipment involving intermodal equipment. While intermodal containers and trailers are typically waybilled individually, they are loaded in larger quantities onto flatcars,[32] and frequently move in dedicated trains consisting of several flatcars. The Board long ago recognized the highly-efficient nature of intermodal operations – specifically switching operations – when it adopted

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[29] NPR at 5.

[30] *Id.*

[31] *State of Montana v. BNSF Ry. Co.*, NOR 42124 (STB served April 26, 2013)

[32] *See* Baranowski/Fisher V.S. at 12.

the EP 270 (Sub-No. 4) trainload adjustments for intermodal and interchange switching and set the interval for I&I switching at more than 4,000 miles.[33] And in the 15 years since that finding, intermodal shipments have generally become more efficient, as container loadings have increased, and some intermodal terminals have added capacity to load and unload longer blocks of flatcars without requiring switching.[34] The Board should undertake a special study to establish the appropriate measure of what constitutes an intermodal shipment for URCS costing purposes.

Per-Shipment Costs. The proposal to move from a purely per-car allocation of SEM switching costs and station clerical costs appears to rest on the faulty proposition that such costs will be equal regardless of how many cars are in a given shipment. The NPR asserts, without foundation, that accounting for SEM switching and station clerical costs on a per-shipment rather than on per-car basis will more accurately reflect the efficiencies associated with higher volume shipments. In explaining its proposal for SEM switching the NPR simply states:

> Operationally, a shipment of rail cars is generally connected into a contiguous block of cars prior to loading, and is handled as a contiguous block from origin to destination. As such, the costs to switch a shipment of a four-car block should be the same as the costs to switch a shipment of an eight-car block. For this reason, the costs for each type of SEM switching are better accounted for on a per-shipment basis rather than a per-car basis.[35]

The Board concludes, "This change would not only better reflect actual operating costs, but the per-car cost of switching would drop as shipment size increases, thus properly reflecting economies of scale."[36] The NPR cites no study or analysis for its conclusions that accounting for those costs on a per shipment basis will be more accurate. Thus, the NPR assumes that costs to

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[33] *Review of the General Purpose Costing System*, 2 STB 659 (1997).

[34] Baranowski/Fisher V.S. at 12.

[35] NPR at 5.

[36] *Id.*

switch different size blocks of cars will be equal. The proposal for station clerical costs relies on similar general pronouncements. URCS is an activity-based costing system that seeks to allocate total costs to discrete activities involved in railroad transportation service. As theoretical matter, costs are generally incurred on both an event basis and on a time basis. For example, there are certain costs that are incurred every time a block of cars are switched. But there are also costs that increase as the length of time necessary to accomplish those switches increase. Switching a block of 40 cars will result in higher costs than switching a block of two cars.

In order to preserve the existing cost relationships in URCS, which were derived from special studies, the AAR contends that the calculation of SEM switching costs and station clerical costs should have used the number of shipments as an "event" component and the number of cars as the time component. [37] As discussed above, the best way to establish the exact split ratio would be based on the results of special studies, but if that is impractical, the Board should seek to preserve the existing cost relationships in URCS. Based on some preliminary analyses of the Carload Waybill Sample, the AAR believes that a split that assigns 70 percent of the switching costs on a shipment basis and 30 percent on a car basis will preserve the intent of the current URCS switch cost allocation process, which itself was based on special studies, and also achieve the Board's stated goal of eliminating the current step function in costs that involves the separate make-whole additives.[38] A similar allocation should be used for Station Clerical Costs.[39]

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[37] The NPR recognizes the use of number of cars as an appropriate measure of time-related costs for equipment costs for the use of railroad-owned cars during switching. NPR at 6.

[38] Baranowski/Fisher V.S. at 11.

[39] Baranowski/Fisher V.S. at 17.

Similarly, the NPR's proposed changes to equipment costs for use of railroad-owned cars in switching would make URCS less accurate in costing particular movements. As noted, URCS currently reduces industry originating and terminating switching time for railroad-owned cars by 50% for multiple car and unit train shipments and reduces interchange switching time for railroad-owned cars by 50% for unit train shipments. The costs saved are redistributed to single and multiple car shipments as make-wholes. The NPR proposal would eliminate these efficiencies and associated make-whole redistributions.

Eliminating those efficiencies that were derived from special studies is not justified and will result in less cost refinement than exists today. The Board can retain those refinements by maintaining the current cost relationships within URCS that resulted from the special studies.[40]

IV. The Board Should Not Adopt The Proposed Change to LUM Costs

The NPR's proposed changes to LUM costs[41] are unrelated to the make-whole adjustment and should not be adopted. The Board proposes two modifications to how URCS currently allocates LUM costs to eliminate what it describes as a third step function. First, for unit trains, the Board proposes to remove the tonnage factor by which costs are allocated, and assign the same locomotive costs per train-mile to every trainload shipment, regardless of size. Second, for non-unit trains, the Board proposes to allocate LUM costs based on the number of cars in the shipment relative to the minimum number of cars in a trainload shipment, which, under the NPR's proposal, would be 80 cars. In contrast to the discussion of the make-whole adjustment, the NPR does not explain why the Board believes that the current process associated with LUM costs is an inaccurate way to allocate costs. In fact, both proposed changes serve to

[40] Baranowski/Fisher V.S. at 16.

[41] LUM costs consist primarily of locomotive ownership, maintenance, and fuel costs.

remove certain refinements in the allocation of LUM costs to trainload shipments and to non-trainload shipments.

Unit Trains. For decades, the URCS cost model has assigned locomotive costs to trainload shipments based on the ratio of the weight of the shipment to that of the system-average unit train. As such, the locomotive costs assigned to unit trains that are heavier than system average are higher than the costs assigned to lighter unit trains.[42] The NPR does not address the fact that it is entirely logical to employ such a trailing-weight adjustment. The NPR claims that eliminating the current refinement and assuming that a single locomotive cost should apply to all unit trains "should be more accurate,"[43] but the basis for its claim is weak. The NPR simply states that "a trainload shipment has no other shipments that should share the LUM costs of that train."[44] Although it is a factually accurate statement that (by definition) a trainload shipment is the only shipment on the train, it does not compel the conclusion that all such trainload shipments have the same cost.

The current scaling factor that adjusts locomotive costs based on the relative weight of the shipment being costed to the system-average unit-train weight better aligns the cost of heavier trains that require more horsepower to move than smaller, lighter trains than the NPR's new "one size fits all" proposal. Further, as demonstrated in the Baranowski/Fisher V.S., the step function observed by the Board is not a function of the trailing adjustment scaling factor but is instead the direct result of changing the costing movement costing parameters from a

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[42] Baranowski/Fisher V.S. at 22.

[43] NPRM at 9.

[44] *Id.*

combination of way and through train operating characteristics to those of longer unit trains.[45] Because the average length of unit trains is larger than those of way and through trains, the average number of locomotives per car will always differ at the break point.

Non-unit Trains. Similarly, the NPR does not explain why the current URCS approach of allocating locomotive unit-mile costs by the relative weight of the shipment to the average weight of way and through trains is inaccurate or otherwise incorrect. Scaling the locomotive costs assigned to non-unit train shipments to 80 cars because it is the (proposed) unit train threshold does not eliminate the step-function – it merely moves the step from 50 to 80 cars. URCS relies on different reported service units to develop costs for unit train shipments (which are based on "unit train" locomotive service units) and for non-unit train shipments (which are based on service units for "way trains" and "through trains"). As demonstrated in the Baranowski/Fisher V.S., not only does scaling the locomotive costs for non-unit trains to 80 cars not achieve a perceived goal, it represents the wrong factor to use, as it would serve to distort the allocation of locomotive costs for non-trainload shipments.[46]

IV. The NPR Does Not Adequately Explain How The Proposed Rules Would Be Implemented.

The NPR does not discuss how the proposals would be implemented. Because of the Board's heavy reliance on URCS in a variety of uses it is imperative that the Board consider the transition to incorporate the proposed changes. The question of how the proposed changes would be applied to existing rate prescriptions and pending rate cases should be left to those

[45] Baranowski/Fisher V.S. at 23-24.

[46] Baranowski/Fisher V.S. at 26.

individual proceedings. Nevertheless, critical issues remain to be addressed in this rulemaking, such as the necessity for a transition in multi-year applications of URCS.

Two of the most important uses of URCS calculations are the Board's calculation of RSAM and Average $R/VC_{>180}$ both of which use a four year average.[47] In addition, the STB provides four years of costed waybill data to parties in Three Benchmark rate complaints. The proposed changes will certainly change the calculation of variable costs of movements in the Costed Waybill Sample and the distribution of R/VC movements falling above and below the 180% threshold. The inevitable result will be to change the calculation of RSAM and $R/VC_{>180}$. Because it would be improper to mix the results using different versions of URCS, the Board will also need to address how to properly phase in a new version of URCS.

V. The Board Should Address Errors in URCS And Regulatory Reporting Requirements Already Identified As Warranting Improvement

The Board should take this opportunity to correct two errors in URCS. First, though the Board did not propose to address changes to interterminal and intraterminal switching in the NPR, the AAR notes that the allocation of switching activity to such switching should be eliminated within URCS. Otherwise, portions of carriers' actual switching costs will never be assigned to shipments, the remaining costs will understate the actual costs, and carriers will fail to recover their total costs system-wide.[48] Second, the Board should correct a technical error in the calculation of switching costs in the URCS model related to the I&I switching intervals. URCS currently assumes an I&I switch interval for intermodal flatcars of 4,162 miles when calculating movement costs with the Phase III model. However, in calculating the number of

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[47] The need for accurate costing has greatly increased in recent years, as the Board has begun to utilize URCS to go beyond costing individual movements to use it to make carrier-wide findings.

[48] *See* Baranowski/Fisher V.S. at 14.

system-wide I&I switches for the allocation of switch engine minutes and the associated switching unit costs in Phase II, URCS uses the figure of 200 miles for intermodal cars. In other words, the minutes (and thus costs) per event are calculated based on a higher number of events (assuming the shorter interval), but are then assigned to movements assuming a longer interval, resulting in an under-assignment of total switching costs. Correcting this inconsistency will allow for the assignment of carriers' total switching costs.[49]

Finally, the Board has in recent years begun several initiatives to make improvements to its reporting and costing rules, but has not yet implemented the suggestions generated by stakeholder comments. For example, in EP 706, *Reporting Requirements for Positive Train Control Expenses and Investments*, the Board issued an NPR regarding changes to the R-1 reports to allow for reporting of expenses related to Positive Train Control. The record closed in that proceeding in January of 2012 and to date the Board has not issued final rules. Similarly, the Board issued an Advanced Notice of Proposed Rulemaking in EP 681, *Class I Railroad Accounting and Financial Reporting – Transportation of Hazardous Materials* to explore ways to allow URCS to better reflect the costs associated with moving hazardous materials by rail, but has not taken any further action. These important areas warrant timely consideration especially since piecemeal changes to URCS would be even more disruptive.

Conclusion

Based on the foregoing, the Board should revise its proposal to reflect empirical evidence that establishes accurate cost relationships in URCS. In the event that the Board concludes that the completion of the special studies necessary to develop that empirical evidence is impractical, the Board should revise the proposals set forth in the NPR to preserve the existing cost

[49] *Id.* at 14.

relationships, while smoothing out the distribution of variable costs for different sized shipments and eliminating the step function effect of the make whole adjustment. The Board should issue the revised proposals for further public comment to allow all interested stakeholders to comment.

Respectfully Submitted,

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Appendix A

Before the

Surface Transportation Board

STB Ex Parte No. 431 (Sub-No. 4)

Review of the General Purpose Costing System

Joint Verified Statement

Of

Michael R. Baranowski

and

Benton V. Fisher

FTI Consulting

Table of Contents

I. OVERVIEW

We are Michael R. Baranowski and Benton V. Fisher, Senior Managing Directors at FTI Consulting within the Economic Consulting Division. Details of our background and experience are set forth in Exhibits No. FTI-1 and 2 to this verified statement. Much of our work involves analyses that utilize the Surface Transportation Board's (Board or STB) Uniform Railroad Costing System (URCS). We have been asked by the Association of American Railroads (AAR) to evaluate the various adjustments to URCS proposed in on the Board's February 4, 2013 decision in EP 431 (Sub-No. 4), *Review of the General Purpose Costing System* (Decision or NRPM).

In its decision the Board explains that it has concerns regarding the URCS make-whole adjustment[1] and the step function that results from the application of efficiency adjustments to larger size railroad shipments. It is also concerned with how the cost savings from those efficiency adjustments are redistributed as higher unit costs over smaller shipments. The current URCS costing approach incorporates assumptions of efficiency savings and make-whole additives that can produce significantly different cost results at the breakpoints between single-car and multiple-car shipments (i.e., from shipments of 5 cars to 6 cars) and between multiple-car and unit-train[2] shipments (i.e., from shipments of 49 cars to 50 cars).[3] The Board is proposing to

[1] The make-whole adjustment applies different factors to various URCS cost components and varies by carrier. For simplicity, all such adjustments are referred to as "the make-whole adjustment."

[2] We use the terms "trainload" and "unit trains" in this statement to refer to larger-sized shipments that move in dedicated trains, without intending to suggest a difference between the two. Similar interchangeability of the terms can be found in the Board's URCS materials.

adjust how URCS calculates certain system-average unit costs so as to more directly reflect economies of scale as shipment size increases, thereby eliminating the need for a separate make-whole adjustment.

Specifically, the Board explains that it proposes to change the calculation of URCS unit costs for three categories of costs for which efficiency adjustments are currently made.[4] These proposed modifications would:

1. Convert Switch Engine Minute (SEM) Costs to a Cost Per Shipment
2. Eliminate the Efficiencies for Equipment Costs that are Currently Incorporated for Use of Railroad-Owned Cars During Switching
3. Convert Station Clerical Costs to a Cost per Shipment

In addition, the Board identifies proposed changes to four other categories, which it concludes would "further improve URCS."[5] The first item relates directly to the Board's stated intent of eliminating the make-whole adjustment. None of the last three, however, are changes that are required to eliminate the make-whole adjustment.

1. Use Actual Load/Empty Ratios, Not 100% Empty Return, for Unit-Train Shipments
2. Increase Switching Interval for Intertrain and Intratrain ("I&I") events from 200 to 320 Miles
3. Change the Unit Train Threshold from 50 to 80 cars
4. Modify the Allocation of Locomotive Unit Mile (LUM) Costs to Individual Shipments

The most significant of the Board's EP 431 proposals involve changes to how certain system-average unit costs are calculated in the Phase II URCS process to, according to the Board, better reflect railroad operations and to more directly reflect economies of scale as

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[3] Exhibit FTI-3 shows the results of the current URCS costing approach across different shipment sizes for two illustrative movements, using the STB's URCS costs for the Eastern Region and the Western Region.

[4] NPRM at 4-7.

[5] *Id.* at 4, and 7-10.

shipment size increases. The Board claims that its proposed modifications will accomplish three objectives: 1) obviate concerns about the step functions produced by the current make-whole process, 2) properly account for economies of scale, and 3) result in more accurate system-average unit costs.[6]

The Board has not provided any empirical data showing how its proposals would produce more accurate URCS costs. While the changes would generally achieve the narrow goal of eliminating the URCS make-whole adjustment,[7] they would also "un-do" long-standing causal relationships that were derived from detailed railroad industry special studies. The Board acknowledged the importance of these special studies in its April 2009 Notice of Public Hearing EP 431 (Sub-No. 3), *Review of the Surface Transportation Board's General Costing System*, where it articulates specifically the need to improve the URCS efficiency adjustments for unit train and multicar shipments and to update the historical studies. Yet here in its focused efforts to eliminate the make-whole adjustment, the Board would abandon the cost relationships in URCS and, without analysis or study, materially change the URCS allocations of costs over various shipment types. While improvements to URCS are necessary, any material changes should reflect current relationships based on updated studies, and such changes should not be made absent evidence that the causal relationships embodied in URCS are no longer accurate.

If the Board determines that updating the studies is impracticable, however, it is possible to eliminate the current URCS make-whole adjustment while still accounting for the quantified

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[6] *Id.* at 4.

[7] As we discuss in more detail later, the Board's NPRM is unclear whether all aspects of the make-whole adjustment would be eliminated. Under the current URCS approach, costs associated with I&I switching are not assigned to unit train shipments, and the savings are redistributed via a make-whole. In the NPRM, The Board proposes only to change the I&I switch interval, without addressing the make-whole adjustment. NPRM at 8.

economies of scale that exist for certain railroad activities. The Board can do so within the existing URCS framework in a manner that maintains the relative efficiencies across different types of shipments that have been adopted by the Board and are currently accounted for by URCS. The URCS formulas can be modified to eliminate the make-whole adjustment, smooth out cost differences across shipment sizes, and reflect the economies of scale, while also retaining the current relative distribution of URCS costs. We have similar concerns with respect to the Board's proposed changes to URCS that do not involve the make-whole adjustment. As we discuss in more detail below, the Board's proposed modifications to the URCS I&I switching interval, the threshold for unit trains and to the allocation of locomotive unit-mile (LUM) costs are based on its casual observations and not any actual studies. Further its proposed change to the allocation of LUM costs will sever the long standing cost relationship between locomotives and train weight and will result in less accurate costs than the current URCS method for calculating LUM costs.

Although the limited focus does not address a number of the more ambitious refinements to URCS that the Board has identified over the last few years, this rulemaking proceeding does present an opportunity to address other elements of the calculation of URCS switching costs that require modification. These relate specifically to inter and intra-terminal switching assumptions and the calculation of the number of I&I switching events. Each are discussed in the relevant sections below.

In formulating our comments, we note that the Board, in its April 25, 2013 decision in this proceeding, agreed to provide additional information to allow a more thorough analysis of its

proposal.[8] This information allowed us to conduct a more detailed evaluation of the Board's proposals and to better quantify the effects of proposed alternatives, as summarized in this statement. The additional data also clarified a number of questions regarding the development of the current make-whole adjustment and allowed us to audit how inputs to the URCS costing process are carried through to the Waybill Sample. We are continuing our review of this information and our efforts may result in refinements to our opening comments in the next round of this proceeding.

In Section II of this statement we provide an overview of the current URCS process and in Section III we discuss each of the specific Board proposals based on our understanding of the proposed implementation.

II. URCS OVERVIEW

URCS evolved from earlier costing methodologies and was formally adopted by the Board's predecessor, the Interstate Commerce Committee (ICC), as the agency's general purpose costing system in 1989.[9] In 1976, in the Railroad Revitalization and Regulatory Reform Act (4R Act),

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[8] Specifically, in response to a request from the AAR, the Board agreed to provide the following information under customary protective orders.

1. An uncosted version of its 2011 Waybill Sample
2. The source code used to cost the Waybill Sample
3. Intermediate outputs that result from using the source code when costing the Waybill Sample
4. The costed 2011 Waybill Sample
5. A spreadsheet of a small record set that serves as an example of how the make-whole adjustment is calculated
6. Descriptions to changes in the calculations of certain Phase III line items to reflect the Board's new proposals

[9] *Adoption of the Uniform R.R. Costing Sys. as a Gen. Purpose Costing Sys. for all Regulatory Costing Purposes*, 5 I.C.C.2d 894 (1989) (*Adoption of URCS*).

Congress directed the ICC to develop a more accurate costing system.[10] To improve the ICC's cost accounting, four years later in the Staggers Rail Act of 1980, Congress created the Railroad Accounting Principles Board (RAPB) to provide guidance to the ICC. The RAPB's purpose was to evaluate "principles governing the determination of economically accurate railroad costs directly and indirectly associated with particular movements of goods, including the variable costs . . . ."[11] The RAPB was charged with providing a report to Congress within two years containing recommendations for an appropriate ICC costing methodology. Congress's decision to create and fund the RAPB gave the ICC access to a panel of independent costing experts to make recommendations and to study the agency's rail costing proposals. Over the course of the development of URCS, the RAPB issued a series of reports culminating in a Final Report in September 1987.[12]

Between 1980 and 1989, the ICC worked with the RAPB to design a new costing system that would be compatible with the then-new railroad Uniform System of Accounts (USOA). The agency retained an economist, Dr. M. Daniel Westbrook, to evaluate, test, and implement the RAPB's recommendations regarding the design of a new uniform railroad costing regression study. Dr. Westbrook's work established the assumptions underlying the regression model used in URCS today and the econometric methods used to analyze the data.[13] The regression model determined the statistical relationship between dependent variables (expense account groups) and the independent variables (capacity and output) in order to separate total expenses into their fixed and variable components. The ICC, using Dr. Westbrook's work and in consultation with the

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[10] *See* Railroad Revitalization and Regulatory Reform Act, Pub. L. No. 94-210, Sec. 307, 90 Stat. 127 (1976).

[11] Pub. L. No. 96-448, Sec. 302, 94 Stat. 1985 (1980).

[12] RAPB, Railroad Accounting Principles, Final Report, Vol. 2 (1987)

[13] *Adoption of URCS*

RAPB, reached a number of fundamental conclusions regarding URCS.[14] We repeat two of the conclusions below: one of which references the detailed special studies that were performed to identify the engineering and cost relationships on which the URCS algorithms rely, and the other related to the objective of reflecting the economies of scale that characterize rail freight transportation and provide the rationale for the make whole adjustment.

- URCS should rely in part on engineering relationships based on numerous special studies completed by the ICC. These studies, some of which date to the 1930s, measured the time and effort involved in performing various railroad activities, and are the basis of the URCS "special study" factors. For example, the average distances traveled in various switching movements used in URCS were estimated by ICC engineers based on detailed maps for 49 separate railroads in 15 large cities (excluding New York and Chicago) over 60 years ago. Likewise, a figure of 6 MPH has been used since at least 1963 to estimate the miles generated by train switching.

- URCS should account for the added efficiencies of unit train, trainload and multi-car movements, over those of single car movements, and use a "make-whole" adjustment to redistribute the efficiency savings that a railroad obtains in higher-volume shipments across all of that carrier's lower-volume shipments. The make-whole adjustment maintains the same total sum of variable costs across all of the carrier's shipments, while recognizing the efficiency in the carrier's higher-volume movements.

To put the importance of this proceeding in perspective, the current Board proposals would be contrary to two of the key underpinnings of URCS.

III. DISCUSSION OF BOARD PROPOSALS

In this section of our statement we discuss each of the Board's EP 431 (Sub-No. 4) proposals.

A. Convert Switch Engine Minute (SEM) Costs to Cost Per Shipment

URCS currently assigns costs for originating and terminating switching, interchange and inter and intra-train switching on a per-car basis. The current allocation also recognizes

[14] Surface Transportation Board, Report to Congress Regarding the Uniform Rail Costing System (May 27, 2010).

efficiencies for larger sized shipments. The Board is proposing to eliminate the current car-based allocation of switch engine minutes in URCS and instead allocate switch-related costs on a shipment or switching event basis. In explaining its proposal the Board reasons:

> Operationally, a shipment of rail cars is generally connected into a contiguous block of cars prior to loading, and is handled as a contiguous block from origin to destination. As such, the costs to switch a shipment of a four-car block should be the same as the costs to switch a shipment of an eight-car block. For this reason, the costs for each type of SEM switching are better accounted for on a per-shipment basis rather than a per-car basis.[15]

1. Modification Results in Inaccurate SEM Costs

Defining the SEM costs solely on a "per shipment" basis will result in inaccurate costs, because the switching cost is dependent to some extent upon the size of the shipment. Contrary to the assumptions of the NPRM, a 100-car shipment should be assigned more switching costs than a one-car shipment. This is because URCS is an activity-based costing model in which costs are driven by the activities required to provide specific services.

Many costs are assigned in URCS to "running" or "switching" activities. Running activities are often equated with line-haul operations, when trains operate between different yard terminals or interchange locations, often over longer distances. These costs are assigned on the basis of miles. Switching relates to other activities for which the costs are not a function of miles, either because they occur within yard terminals or at customer locations, or for operations between yards and industries where costs are determined to be more a function of time than distance.

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[15] NPRM at 5.

For switching, those activities include both the time for the train crew to arrive at a customer location or a yard terminal and the time required to perform the actual switch. While the system average time for the train crew to reach a customer facility might be considered homogenous for activity-based costing purposes (and thus would not vary depending on the number of cars in the shipment), the time required to switch cars is significantly influenced by the number of cars being switched. Switching often requires moving railroad freight cars from one track to another. The amount of time required to do so is dependent on the number of cars to be switched, which dictates how far the cars have to be moved before the last car clears the turnout for the destination track.

Take a simple example. Assume consistent with the study done by the ICC described above that a train crew is able to switch cars at an average speed of six miles-per-hour. At that speed, the train moves at a speed of just under nine feet-per-second.[16] Assuming further an average freight car length of 50 feet, a car passes a specific point on the track every 5.7 seconds. Without considering the additional time that would be required for starting and stopping, a four car cut will clear the turnout for the destination track in 23 seconds and an eight car cut will clear the switch in 45 seconds under these assumptions. It will take a 50-car cut almost five minutes to clear the switch under these assumptions. If one assumes further that the time required for starting and stopping the train will reduce the achievable average speed to two miles-per-hour, the required times triple. When considered across the millions of cars switched by individual carriers each year, the differences attributable to switching cuts of different sizes become significant. Likewise, when the switching movement requires the cars to be inspected and the air brakes to charge, the more cars in the block, the longer the activity will take.

[16] 6 miles per hour times 5,280 feet/mile divided by 3,600 seconds / hour = 8.8 feet per second.

The Board's proposal to allocate SEM costs on a per-shipment basis ignores the fact that larger-sized shipments would require more time to be switched and, thus, understates switching costs for larger-sized shipments. As suggested in its NPRM, the Board expects that a 1-car shipment would require the same amount of switching as a 2-car shipment, as a 5-car shipment, and as a 105-car shipment. This is a variant on "one size fits all," as the Board would believe that "one switch fits all sizes." This proposal reflects the assumption that switching costs are inelastic with the size of the shipment, presuming significantly greater economies of scale than are currently incorporated by URCS currently. As a result, this proposal would produce a significant shift of switching costs from larger-sized shipments to smaller shipments, markedly more than is re-distributed by the current make-whole adjustment. In order to estimate the potential impact of the Board's proposal, we evaluated the STB's URCS costing files and the 2011 Carload Waybill Sample (CWS). We used the 2011 URCS unit costs and make-whole adjustment to estimate the relative costs across shipment sizes under the current URCS approach for industry and interchange switching. We then estimated the number of shipments by traffic class from the CWS, and calculated the costs for different shipment sizes under the STB's proposal that all shipments would have the same total costs, regardless of the number of cars. Exhibit FTI-4 summarizes the results for industry switches, showing that 1-car shipments would be assigned higher costs under the STB's proposal than the current URCS approach with the make-whole adjustment, and all other shipments would be assigned lower costs. Shipments of 10 cars or more would be assigned less than one-half of the costs that they are assigned by URCS today.[17]

[17] Workpapers containing the detailed calculations underlying these figures rely upon the highly confidential materials provided by the Board for use in the proceeding subject to a protective order.

As shown above, the Board's proposal to allocate all switching costs on the basis of the number of shipments, without regard for the number of cars in the shipment, shifts considerably more costs to shipments of one-car. As the Board has not provided any empirical basis for its significant divergence from established precedent, we conclude that if the Board wants to remove the make-whole adjustment it can make the SEM costs more accurate by allocating a portion of switching costs on a per-shipment basis and the remainder on a per-carload basis. The exact percentage of costs that should be assigned on a per-shipment basis and on a per-carload basis should be determined by a special study. In the event the Board decides not to pursue the special studies required to refine accurately the URCS switching cost allocation, it should determine a split ratio between shipments cars that retains, to the extent practical, the current URCS allocations, as they are based on existing studies and are the best evidence of such efficiencies. Based on preliminary analyses of the CWS, we estimate that a hybrid approach that assigns 70 percent of the switching costs on a shipment basis and 30 percent on a carload basis will preserve the relative distribution of switching costs assigned to larger-sized and smaller-sized shipments by the current allocation process, which itself was based on special studies, and also achieve the Board's stated goal of eliminating the current step-function in costs that involves the separate make-whole additives.[18] This estimate can be refined as additional information on the number of reported carloads become available.

2. Definition of "Shipment" for Intermodal Traffic

In order to accurately implement the proposed change to SEM cost allocations, a methodology would need to be developed to determine the shipment size for movements involving intermodal equipment. While intermodal containers and trailers ("boxes") are

[18] Our workpapers include the detailed calculations underlying this estimate.

typically waybilled individually, multiple boxes are loaded onto flatcars,[19] which frequently move in dedicated trains between ramps. The STB long ago recognized the highly-efficient nature of intermodal operations – specifically switching operations – when it adopted the Ex Parte 270 Sub-No. 4 trainload adjustments for intermodal and interchange switching and set the interval for I&I switching at more than 4,000 miles.[20] And in the 15 years since that finding, intermodal shipments have become more efficient, as container loadings have increased, and some intermodal terminals have added capacity to load and unload longer blocks of flatcars without requiring switching.

As indicated above, the STB adopted a trainload adjustment for the switching costs of originating and terminating intermodal movements for CWS costing purposes.[21] As it does for trainload shipments in carload equipment, URCS reduces the originating and terminating switching for intermodal flat cars by 75 percent of the switching for a standard carload. In its proposal, the Board does not address how to determine the shipment size for the purpose of allocating switch costs to intermodal shipments. In fact, the actual intermodal shipment size for originating and terminating intermodal trains is driven by a myriad of factors, including the average size of each intermodal train, the number of blocks on each train destined for different major metropolitan areas, and the lengths of the tracks at each carriers' intermodal facilities used to assemble and disassemble intermodal trains. Each carrier, as part of the expanded data reporting required under the Board's proposal will develop the actual number of intermodal shipments in the annual Freight Commodity Statistics and the STB Form 54. It is critical that the

[19] The 2011 R-1 reports indicated that six of the seven Class I railroads averaged more than 4.4 intermodal units per flat car.

[20] *Review of the General Purpose Costing System*, 2 S.T.B. 659 (1997).

[21] *Id.*; *Review of the General Purpose Costing System*, EP 431 (Sub-No. 4) (STB served April 25, 2013) at Appendix B.

Board account properly for the intermodal shipment size when calculating switch costs to assign to shipments.

Until the information from the carriers on the number of intermodal shipments becomes available, our efforts to estimate the appropriate split of switching costs between event related and car related costs preserve the Board's current treatment of intermodal shipments as trainload shipments by solving for an average intermodal shipment size that maintains the same overall level of originating and terminating switching costs allocated to intermodal shipments as in the current URCS. Based on these parameters, we estimated the average size of an intermodal shipment to be used as a placeholder in our calculations of the redistribution of URCS switching costs to be 10 intermodal flat cars.

3. Interterminal and Intraterminal Switching

URCS currently assigns a portion of carrier system-wide switch engine minutes to interterminal and intraterminal switching. Carriers do not report interterminal and intraterminal switching services units to the Board. Rather, these allocations are performed in URCS Worktable B6 Part 2A of the URCS Phase II costing run. Table 1 below summarizes the amount of switching costs assigned to interterminal and intraterminal switching in the Board's 2011 URCS.

Table 1
Total SEM and Variable Costs Assigned to
Interterminal and Intraterminal Switching
In STB 2011 URCS

RR	Total SEM Assigned to Interterminal and Intraterminal Switching (000s)	Percent of Total SEM	Total Variable Costs Assigned to Interterminal and Intraterminal Switching ($000s)
BNSF	10,414	6.5%	$115,970
CN	3,186	6.8%	$5,726
CP	1,654	4.9%	$11,585
CSXT	13,906	6.7%	$83,050
KCS	1,532	5.5%	$5,111
NS	12,300	6.8%	$64,858
UP	13,394	6.5%	$135,865
Total	**56,386**	**6.5%**	**$422,166**

Despite the fact that the URCS costing model assigns nearly 1 million hours and more than $420 million in variable costs to such switching activities, none of those costs are assigned to movements in the CWS. The costing process does not include any service units for interterminal or intraterminal switching, resulting in the outcome that the time (and money) assigned to interterminal and intraterminal switching activities are not assigned to any shipments. While the Board did not propose to address interterminal and intraterminal switching in this phase of the proceeding, we note that the allocation of switching activity to interterminal and intraterminal switching should be eliminated within URCS. Otherwise, portions of carriers' actual switching costs will remain unattributed to shipments, the allocated costs will understate the actual costs, and carriers' total variable costs will be understated for regulatory costing purposes.

B. Eliminate Efficiencies for Equipment Costs for Use of Railroad-Owned Cars During Switching

URCS currently reduces industry originating- and terminating- switching time for railroad-owned cars by 50% for multiple-car and unit-train shipments and reduces interchange switching

time for railroad-owned cars by 50% for unit train shipments. The costs saved are redistributed to single and multiple car shipments as the make-whole adjustment. The Board proposes to eliminate these efficiencies and associated make-whole redistributions.

The average car-days by type of switching service were initially derived from the various ICC/STB switching studies that developed "Equated Switching Factors" to distribute total switching minutes to the categories: originating- and terminating-carloads, interchange, intraterminal, interterminal, and I&I switching. The studies also developed the ratios of intraterminal and interterminal cars switched to total cars originated-and-terminated minutes.[22]

These factors are largely based upon an analysis of switching studies made at a large number of cities, the results of which were introduced by carriers in cases before the ICC.[23] The ICC estimated the total car-days using the active car-days, which can be specifically charged to a revenue movement using the total time cars are in freight trains and adding estimated days for all terminal functions. The ICC determined that there were not enough car-days accounted for to represent the total car fleet consisting of both carrier- and privately-owned cars. Because the total number of car days spent running in trains can be measured, the ICC concluded that any understatement relates to the estimates of car-days associated with terminal operations.[24] Accordingly, it made adjustments to the switching study results to derive the values that are used today.

Instead of continuing to use these values, the Board now proposes to eliminate the observed efficiencies merely because keeping them in URCS requires the use of make-whole adjustments. The Board offers no statistical analysis or data suggesting that multiple-car or trainload shipments

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[22] Statement 7-63 at 118.

[23] *Id.* at 121.

[24] *Id.* at 128-131.

require the same average terminal time per car as single-car shipments, yet the proposal would eliminate the adjustment entirely.[25] The Board's proposal is unsupported and will result in less cost refinement than exists today. In order to maintain the current URCS efficiencies and eliminate the make-whole adjustment, the Board should instead follow the shipment/carload hybrid approach presented above to address the SEM proposal.

C. Convert Station Clerical Costs to Cost per Shipment

The Board proposes to change the manner in which station clerical costs are assigned to individual shipments. Station clerical costs refer to administrative support functions, including "employees performing accounting and clerical functions," which is the name of one of the expense accounts in Schedule 410 used to calculate the URCS unit cost.[26] Although station clerical costs have been declining over the years, they still have an effect on URCS costing. This is particularly so for shorter haul local shipments because station clerical costs comprise a higher proportion of total costs than for longer and/or interline movements.[27]

URCS currently reflects the economies of scale for station clerical costs by following a hybrid approach that assigns 25% of the costs to the shipment and 75% on the basis of the carloads for trainload shipments, and re-distributes the savings through a make-whole adjustment for smaller-sized shipments. The Board's seeks to modify the unit cost with the same approach it proposes to use for switching costs: to convert it to a cost per shipment, and eliminate the make-whole. And like its switching cost proposal, this one also assumes that such costs are completely unrelated to the number of cars, that is, that the same station clerical costs should be

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[25] Time is relevant to railroad-supplied cars, but not for privately-supplied equipment because car-hire for railroad equipment has a time component while private car compensation is based on miles.

[26] *See* Line 519 of Schedule 410, and Worktable D5 of the Board's Phase II URCS run.

[27] URCS assigns station clerical costs only to originations or terminations.

assigned to a shipment, regardless of whether it has 5 cars or 105 cars. Although the Board expressed concern that the current approach "does not properly reflect actual railroad operations or economies of scale,"[28] it did not present any support for its conclusion that station clerical costs are the same for shipments of different sizes.

We propose to employ the same approach for station clerical costs as we offer for SEM costs: to use a mix of per-shipment and per-carload costs, eliminate the make-whole adjustment, and retain the current cost relationships in URCS between larger-sized and smaller-sized shipments.

D. Use Actual Load/Empty Ratio for Unit-Train Shipments

URCS currently assumes that the empty-return miles for unit train shipments are equal to the loaded miles. This assumption is consistent with the operations of unit trains which, but for mileage differences resulting from occasional variations (e.g. directional routing, diversion to other plants, or off-route movements to shops for maintenance) generally cycle between origins and destinations. As a result of the use of a fixed assumption of 100% empty miles for all trainload shipments, URCS currently employs a make-whole adjustment for non-trainload shipments to account for the fact that a carrier's actual empty return ratios often do not exactly equal 100%. Table 2, below, shows the ratios of total miles to loaded miles for four illustrative car types for four illustrative carriers. This identifies that while many of ratios are near 2.00 (representing an empty return ratio of 100%), others diverge, including some by more than 10%.

[28] NPRM at 6-7.

Table 2
2011 Ratios of Total-to-Loaded Car-Miles

	BNSF	UP	CSXT	NS
Railroad-owned				
Plain gondolas (J)	1.94	2.00	1.96	1.88
Covered hoppers (C)	1.97	2.04	2.04	2.09
General svc open hoppers (H)	2.20	2.05	1.97	2.01
Special svc open hoppers (K)	2.07	2.02	2.02	2.08
Private				
Plain gondolas (J)	2.02	2.29	1.91	2.03
Covered hoppers (C)	2.02	1.97	1.85	2.03
General svc open hoppers (H)	2.02	2.76	1.92	2.05
Special svc open hoppers (K)	2.03	2.09	1.92	2.00

Implementing this modification to apply the actual empty return ratios for all shipments will allow the Board to achieve its goal of eliminating the make-whole adjustment, as all mileage-based costs will be assigned directly across movements, without requiring a separate adjustment as is performed by URCS today. We expect that the impact of this proposal will be relatively small for many moves, particularly for either trainload or non-trainload shipments that move in car types with empty-return ratios that are closer to 100%.

E. Increase switching interval for I&I events from 200 to 320 Miles

URCS currently assumes that single-car and multi-car shipments receive I&I switching every 200 miles. "I&I" switching is the abbreviation for "Intertrain and Intratrain" switching, which represents the intermediate switching that occurs en route, between the origin or on-junction and the destination or off-junction of a shipment. The URCS model spreads a carrier's switching costs among four categories of switching: industry (which includes switching associated with the origin or destination of the movement), interchange, I&I, and interterminal and intraterminal (which are not assigned to movements in the CWS, as discussed above). In its NPRM, the Board proposes to update the mileage interval at which I&I switching occurs to, in its words, reflect the

fact that since the mergers of the 1990s, the average length of haul on individual railroads has increased.

Apparently, the Board reasons that because it has observed a 60% increase in the average railroad length of haul since 1990, the URCS I&I switching interval should be increased by 60%, from the current 200 miles to 320 miles. While it produced the 2011 CWS upon which it explains it relied, the Board did not provide any details of its length of haul analysis. As a practical matter, its observations regarding the historical increase in the average length of haul do not necessarily translate into an increase in the I&I switch interval. Specifically, the Board has not demonstrated that the observed increase is the result of rail shipments themselves going longer distances. Rather its analysis proves only that the length of haul for each individual railroad has increased. This observation is not surprising in light of the mergers of the 1990's, which resulted in more single-line service. While an increase in single-line service would have reduced the number of interchange switches, it would not have necessarily reduced the number of I&I switches at all or to the same degree. When the current interval was selected, there were more and smaller railroads, and more interchanges for a given movement. In many instances, switches that were previously interchange switches where cars were switched from one carrier's train to another carrier's train may now be I&I switches, where cars are switched between trains on the same carrier.

A refinement to the URCS I&I switch interval may be warranted. However, as the relative change in the total length of haul is not an appropriate proxy, we recommend that the Board conduct a special study based on carriers' actual operations.

In addition, we note that the Board's I&I switching interval proposal does not specify how I&I switching will be treated for trainload shipments. The URCS costing model assumes that trainload shipments receive no I&I switching, and re-distributes such cost "savings" to single and multiple-car shipments via a make-whole adjustment that increases the costs of those movements. Although the Board's NPRM addresses the re-calculation of URCS efficiencies in a manner that eliminates the make-whole adjustment with regard to other costing components, it does not specify how I&I switching costs will be treated.

Finally, we note that there is a technical error in the calculation of switching costs in the URCS model related to the I&I switching intervals. URCS currently assumes an I&I switch interval for intermodal flatcars of 4,162 miles when calculating movement costs with the Phase III model. However, in calculating the number of system-wide I&I switches for the allocation of switch engine minutes and the associated switching unit costs in Phase II, URCS uses the figure of 200 miles for intermodal cars. In other words, the minutes (and thus costs) per event are calculated based on a higher number of events (assuming the shorter interval), but are then assigned to movements assuming a longer interval, resulting in an under-assignment of total switching costs. This inconsistency should be corrected. The number of I&I switches should be determined based on 4,162 miles in the calculations in URCS Worktable B6 Part 2A that develop the switching unit cost. This will allow for assignment of carriers' total switching costs – and not an under-assignment as currently occurs.[29]

[29] Exhibit FTI-5 presents the calculations of the number of events as currently determined by the URCS model for UP in 2011, and shows that the SEM amounts for industry, interchange, and I&I switching are all understated by 5% as a result of the disconnect between the model's use of different intervals for the calculation of unit-costs in Phase II and the assignment to individual movements in Phase III.

F. Increase Unit Train Threshold From 50 to 80 Cars

As indicated above, the Board's URCS model currently employs a break-point between multiple-car shipments and trainload shipments at 50 cars. All shipments of 50 cars or more are treated as trainload shipments, and are costed as unit-trains for purposes of calculating the costs of switching, station clerical, locomotives, and empty return. The Board noted in the NPRM that a trainload shipment "constitutes the only shipment on the particular train on which it moves."[30] The Board also noted that 50-car shipments may move with other shipments on the same train and concluded that the current threshold was inadequate, and proposed to increase the number of cars to 80.

As a carrier's operating practices can vary by type of service and commodity being shipped, one threshold may not consistently reflect the actual cut-off between trainload and non-trainload shipments. And such differences are even greater when operations are considered across railroads operating in different parts of the country. That having been said, we agree that increasing the threshold would help accomplish the Board's objective of avoiding the situation where URCS misclassifies as a unit train a shipment that is handled with other shipments. Such a misclassification would lead to the incorrect conclusion of greater efficiencies for that shipment than actually exist, and an over-assignment of costs to smaller-sized shipments.

G. Modify Allocation of Locomotive Unit Mile (LUM) Costs

LUM costs consist primarily of locomotive ownership, maintenance, and fuel costs. The Board proposes two modifications to how URCS currently allocates LUM costs, neither of which is related to the objective of eliminating the make-whole adjustment. In fact, both serve to "undo" certain refinements in the allocation of LUM costs, to trainload shipments and to non-

[30] NPRM at 8.

trainload shipments. The Board advances these proposals without any evidence or even a compelling argument to over-ride the approach that has been in place for decades.

First, for unit trains, the Board proposes to remove the tonnage factor by which costs are allocated, and assign the same locomotive costs per train-mile to every trainload shipment, regardless of weight. Under the Board's proposal, an 80-car shipment of feathers would be assumed to be powered by the same number of locomotives, at the same cost – and consume the same amount of fuel – as a 135-car coal train. For decades the URCS cost model has recognized the relationship between train weight and locomotive requirements and has assigned locomotive costs to trainload shipments based on the ratio of the weight of the shipment to that of the system-average unit train. As such, the costs assigned to unit trains that are heavier than system average are higher than the costs assigned to lighter unit trains. It is logical to employ such a trailing-weight adjustment, to reflect the fact that 135-car coal trains generally have greater locomotive requirements than 80-car trainloads of lighter commodities such as grain and similarly that 110-car trains of heavier gross weighted cars generally have greater locomotive requirements than 110-car trains of lighter traffic. Under the Board's proposal, all four of those sample unit trains would be assigned the same locomotive costs. While URCS is a generalized costing model that is required to make certain broad assumptions, it should not be rendered such a blunt tool that it fails to account for the relationship between trailing weight and motive power requirements.

The Board claims that eliminating the current refinement and assuming that a single locomotive cost should apply to all unit trains "should be more accurate."[31] The basis for its claim, however, is weak, as the Board states that "a trainload shipment has no other shipments

[31] NPRM at 9.

that should share the LUM costs of that train." Although it may be accurate that (by definition) a trainload shipment is the only shipment on the train, that fact alone does not compel the conclusion that all such trainload shipments have the same LUM cost.[32]

For unit trains, the current scaling factor adjusts locomotive costs based on the relative weight of the shipment to the weight of the system-average unit train. Adjusting the costs upward for heavier moves, and downward for lighter moves, aligns with the logic that heavier trains require more horsepower to move than smaller, lighter trains. The Board's new "one size fits all" proposal is contrary to such logic. Further, the difference in locomotive costs that the Board observed is between trainload and non-trainload shipments is not a function of the tonnage-based aspect of the current URCS approach, but is instead the direct result of changing the costing movement costing parameters from a combination of way and through train operating characteristics to those of longer unit trains. Because the average length of unit trains is larger than those of way and through trains, the average number of locomotives per car will always differ.

Second, for non-unit trains, the Board proposes to change the allocation of LUM costs for non-unit train shipments from the relative gross tons of the shipment compared to those of the system average-way and through trains, to an approach that considers the relative number of cars in the shipment compared to 80 cars (the minimum number of cars in a trainload under the Board's proposal). This proposal would also lessen the accuracy of URCS costs.

The Board has not explained why the current URCS approach of allocating locomotive unit-mile costs by the relative weight of the shipment to the average weight of way and through trains

[32] Such "logic" would similarly support the notion that all vehicles should pay the same toll, regardless of the number of axles or weight of each vehicle.

is inaccurate or otherwise incorrect. As stated above, the intent behind certain of the Board's proposals is to eliminate the step-functions in the cost results. Scaling the locomotive costs assigned to non-unit train shipments to 80 cars because it is the (proposed) unit train threshold does not eliminate the step-function. URCS relies on different reported inputs to develop costs for unit train shipments (which are based on the average number of locomotives and average train weight for "unit trains" as reported in the R-1) and for non-unit train shipments (which are based on the averages for "way trains" and "through trains").

Table 3 below summarizes the average locomotive characteristics for through trains and for unit trains reported by CSXT in Schedule 755 to its 2011 R-1. URCS assigns locomotive costs for non-trainload shipments based on 2.49 locomotives per train, and for trainload shipments based on 2.22 locomotives per train. Under the STB's proposed approach, a 79-car non-trainload shipment would be assigned 2.45 locomotives,[33] and an 80-car trainload shipment would be assigned 2.22, the average number of locomotives reported for unit trains. As the same unit cost (i.e., cost per locomotive unit mile) is used to calculate the variable costs for each shipment, this 10% difference in the number of locomotives results in a 10% change in costs when going from 79-car shipments to 80-car shipments. By using the corresponding characteristics of the different train types for shipments above and below the breakpoint, it is inevitable that differences will occur.

[33] 79 divided by 80 times the average number of locomotives reported for through trains, 2.49.

Table 3
CSXT Locomotive Statistics for Through and Unit Trains, 2011

	Through Trains	Unit Trains
Average Locomotives per Train	2.49	2.22
Average Cars per Train	59	90
Average Locomotives per Car	0.042	0.025

Further, not only does scaling the locomotive costs for non-unit trains to 80 cars not achieve a perceived goal, it represents the wrong factor to use. Table 4 below presents the average number of cars per train for each Class I carrier for 2011, separately for through trains and for way trains and also for a composite that is weighted on each type's relative train miles. Although CN and UP each averaged close to 80 cars, most of the carriers average considerably fewer cars, with three – BNSF, CSXT, and NS – operating trains at average lengths that are less than two-thirds as long as the Board's proposed baseline, at 50-51 cars.

Table 4
Average
Number of Cars per
Through Train and Way Train, 2011

	Through Train	Way Train	Weighted Average (Train Miles)
BNSF	51	31	50
CN-US	99	36	79
CP-US	72	24	65
CSXT	59	18	51
KCS	215	17	128
NS	57	25	51
UP	85	28	81

Under the current approach, URCS assigns locomotive costs to single-car and multiple-car shipments based on their share of the average tonnage. As the average reflects all of a carrier's

non-unit train shipments, allocating the costs as a share of the average tonnage ensures that all of the carrier's locomotive costs will be assigned to shipments. Rather than allocate costs on the basis of a carrier's actual train sizes, however, the Board proposes to assign costs for non-unit train shipments as a share of 80 cars.[34] For most Class I carriers, this will result in the assignment of only a portion of locomotive costs to such shipments; for others, it could result in assigning more costs than the carrier incurred. Under the Board's proposed approach, each car would be assigned 1/80th, or 1.25%, of a shipment's locomotive costs for single-car and multiple-car shipments.[35] To illustrate the under-assignment, Schedule 755 to the R-1 report indicates that BNSF's through trains averaged 51 cars in 2011, as summarized in Table 4 above. If each car on the train is assigned only 1.25%, BNSF will be allocated only 64% (1.25% x 51) on average of each shipment's actual locomotive costs. By using a fixed value of 80 that is considerably higher than the average actual train size, the Board's change would fail to assign all of BNSF's locomotive costs to shipments.

[34] NPRM at 9-10.

[35] *Id.*

VERIFICATION

I, Michael R. Baranowski, verify under penalty of perjury under the laws of the United States that the foregoing is true and correct and that I am qualified and authorized to file this statement.

Executed on June 20, 2013

Michael R. Baranowski

VERIFICATION

I, Benton V. Fisher, verify under penalty of perjury under the laws of the United States that the foregoing is true and correct and that I am qualified and authorized to file this statement.

Executed on June 20, 2013

Benton V. Fisher

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Mike Baranowski heads FTI's Network Industries Strategies practice and provides strategic, financial and economic consulting services to the telecommunications and railroad and pipeline transportation industries. He has special expertise in analyzing and developing complex costing and cash flow models, conducting detailed operations analysis, and transportation engineering. Much of his work involves providing oral and written expert testimony before courts, arbitration panels and regulatory bodies.

He is a recognized expert in railroad regulatory economics and has assisted FTI's railroad clients in a broad range of litigation and regulatory engagements involving pricing of services, contract disputes, damage calculations and analyses of the specific effects of pending or proposed changes in policy or regulation.

Some of Mr. Baranowski's representative experience includes:

- Development of strategic litigation approach for large railroad rate proceedings based on the theory of Constrained Market Pricing and the Stand-Alone cost test. Theory assumes the existence of a hypothetical, efficient competitor and involves detailed analysis of railroad operations, expenses, captial expenditures and revenues.
- Development of a suite of modeling tools to assess the regulatory risk of railroad rates for a mix of commodities based on key cost drivers and forecasts.
- Design and development of modeling tools designed to simulate the cost of competitive entry into local telecommunications markets and directing the efforts of a nationwide team of testifying experts presenting the cost model results in multiple proceedings across the country.
- Detailed analysis, critique and restatement of complex cost models developed for the railroad, telecommunications, pipeline and trucking industries.
- Designing modeling tools for use in calculating the costs of competitive entry into railroad, telecommunications and pipeline markets.
- Conducting detailed analyses of railroad operations and developing the associated capital requirements and operating expenses attributable to specific movements and the incremental capital and operating expense requirements attributable to major changes in anticipated traffic levels.

Mr. Baranowski holds a B.S. in Accounting from Fairfield University in Fairfield, Connecticut and has pursued supplemental finance studies at Kean College in Union, New Jersey.

TELECOMMUNICATIONS TESTIMONY

Federal Communications Commission

February 1998	File No. E-98-05. AT&T Corp. v. Bell Atlantic Corp. Affidavit of Michael R. Baranowski.
March 13, 1998	File No. E-98-05. AT&T Corp. v. Bell Atlantic Corp. Supplemental Affidavit of Michael R. Baranowski.
June 10, 1999	CC Docket No. 96-98. Implementation of the Local Competition Provisions of the Telecommunications Act of 1996. Reply Affidavit of Michael R. Baranowski, John C. Klick and Brian F. Pitkin.
July 25, 2001	CC Docket No. 00-251, 00-218. In the Matter of Petition of AT&T Communications of Virginia, Inc. and WorldCom, Inc., Pursuant to Section 252(e)(5) of the Communications Act, for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon-Virginia, Inc. Panel
June 13, 2005	WC Docket No. 05-25;RM-10593. In the Matter of Special Access Rates for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, Joint Declaration on Behalf of SBC Communications, Inc.
July 29, 2005	WC Docket No. 05-25;RM-10593. In the Matter of Special Access Rates for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, Joint Reply Declaration on Behalf of SBC Communications, Inc.

Public Service Commission of Delaware

February 4, 1997	PSC Docket No. 96-324. In the Matter of Bell Atlantic - Delaware Statement of Terms and Conditions Under Section 252(F) of the Telecommunications Act of 1996. Testimony of Michael R. Baranowski.

Public Service Commission of the District of Columbia

March 24, 1997	Formal Case No. 962. In the Matter of the Implementation of the District of Columbia Telecommunications Competition Act of 1996. Testimony of Michael R. Baranowski.
May 2, 1997	Formal Case No. 962. In the Matter of the Implementation of the District of Columbia Telecommunications Competition Act of 1996. Rebuttal Testimony of Michael R. Baranowski.

Public Service Commission of the State of Maryland

March 7, 1997	Docket No. 8731, Phase II. In the Matter of the Petitions for Approval of Agreements and Arbitration of Unresolved Issues Arising Under Section 252 of the Telecommunications Act of 1996. Direct Testimony of Michael R. Baranowski.

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May 25, 2001	Case No. 8879. In the Matter of the Investigation into Rates for Unbundled Network Elements Pursuant to the Telecommunications Act of 1996. Panel Testimony on Recurring Cost Issues

Public Service Commission of the State of Michigan

January 20, 2004	Case No. U-13531. In the Matter, on the Commission's Own Motion to Review the Costs of Telecommunication Service Provided By SBC Michigan. Initial Testimony of Michael R. Baranowski and Julie A. Murphy.
May 10, 2004	Case No. U-13531. In the Matter, on the Commission's Own Motion to Review the Costs of Telecommunication Service Provided By SBC Michigan. Final Reply Testimony of Michael R. Baranowski and Julie A. Murphy.

New Jersey Board of Public Utilities

December 20, 1996	Docket No. TX 95120631. Notice of Investigation Local Exchange Competition for Telecommunications Services. Rebuttal Testimony of John C. Klick and Michael R. Baranowski.

North Carolina Utilities Commission

March 9, 1998	Docket No. P-100, Sub 133d. In the Matter of Establishment of Universal Support Mechanisms Pursuant to Section 254 of the Telecommunications Act of 1996. Rebuttal Testimony of Michael R. Baranowski.

Pennsylvania Public Utility Commission

January 13, 1997	Docket Nos. A-310203F0002 et al. MFS-III. Application of MFS Intelenet of Pennsylvania, Inc. et. Al. (Phase III). Rebuttal Testimony of Michael R. Baranowski.
February 21, 1997	Docket Nos. A-310203F0002 et al. MFS-III. Application of MFS Intelenet of Pennsylvania, Inc. et. Al. (Phase III). Surrebuttal Testimony of Michael R. Baranowski.
April 22, 1999	Docket Nos. P-00991648, P-00991649. Petition of Senators and CLECs for Adoption of Partial Settlement and Joint Petition for Global Resolution of Telecommunications Proceedings. Direct Testimony of Michael R. Baranowski.
January 11, 2002	Docket No. R-00016683. Generic Investigation of Verizon Pennsylvania, Inc.'s Unbundled Network Element Rates. Panel Testimony on Recurring Cost Issues

State Corporation Commission Commonwealth of Virginia

April 7, 1997	Case No. PUC970005. Ex Parte to Determine Prices Bell Atlantic - Virginia, Inc. Is Authorized To Charge Competing Local Exchange Carriers In Accordance With The Telecommunications Act of 1996 And Applicable State Law. Affidavit of Michael R. Baranowski.
April 23, 1997	Case No. PUC970005. Ex Parte to Determine Prices Bell Atlantic - Virginia, Inc. Is Authorized To Charge Competing Local Exchange Carriers In Accordance With The Telecommunications Act of 1996 And Applicable State Law. Direct Testimony of Michael R. Baranowski.
June 10, 1997	Case No. PUC970005. Ex Parte to Determine Prices Bell Atlantic - Virginia, Inc. Is Authorized To Charge Competing Local Exchange Carriers In Accordance With The Telecommunications Act of 1996 And Applicable State Law. Rebuttal Testimony of Michael R. Baranowski.

Washington State Utilities and Transportation Commission

December 22, 2003	Docket No. UT-033044. In the Matter of the Petition of Qwest Corporation To Initiate a Mass-Market Switching and Dedicated Transport Case Pursuant to the Triennial Review Order. Direct Testimony of Michael R. Baranowski.
February 2, 2004	Docket No. UT-033044. In the Matter of the Petition of Qwest Corporation To Initiate a Mass-Market Switching and Dedicated Transport Case Pursuant to the Triennial Review Order. Response Testimony of Michael R. Baranowski.

Public Service Commission of West Virginia

February 13, 1997	Case Nos. 96-1516-T-PC, 96-1561-T-PC, 96-1009-T-PC, 96-1533-T-T. Petition to establish a proceeding to review the Statement of Generally Available Terms and Conditions offered by Bell Atlantic in accordance with Sections 251, 252, and 271 of the Telecommunications Act of 1996. Testimony of Michael R. Baranowski.
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June 3, 2002	Case No. 01-1696-T-PC, Verizon West Virginia, Inc. Petition For Declaratory Ruling That Pricing of Certain Additional Unbundled Network Elements (UNEs) Complies With Total Element Long-Run Incremental Cost (TELRIC) Principles. Direct Testimony of Michael R. Baranowski
July 1, 2002	Case No. 01-1696-T-PC, Verizon West Virginia, Inc. Petition For Declaratory Ruling That Pricing of Certain Additional Unbundled Network Elements (UNEs) Complies With Total Element Long-Run Incremental Cost (TELRIC) Principles. Supplemental Direct Testimony of Michael R. Baranowski

RAILROAD TESTIMONY

Interstate Commerce Commission

March 9, 1995	Finance Docket No. 32467. National Railroad Passenger Corporation and Consolidated Rail Corporation -- Application Under Section 402(a) of the Rail Passenger Service Act for an Order Fixing Just Compensation.
October 30, 1995	Docket No. 41185. Arizona Public Service Company and Pacificorp v. The Atchison, Topeka and Santa Fe Railway Company.

Surface Transportation Board

July 11, 1997	Docket No. 41989. Potomac Electric Power Company v. CSX Transportation, Inc. Reply Statement and Evidence of Defendant CSX Transportation, Inc.
August 14, 2000	Docket No. 42051. Wisconsin Power and Light Company v. Union Pacific Railroad Company, Reply Verified Statement of Christopher D. Kent and Michael R. Baranowski.
September 20, 2002	STB Docket No. 42070. Duke Energy Corporation v. CSX Transportation, Inc., Reply Evidence and Argument of CSX Transportation, Inc.
September 30, 2002	STB Docket No. 42069. Duke Energy Corporation v. Norfolk Southern Railway Company, Reply Evidence and Argument of Norfolk Southern Railway Company.
October 11, 2002	STB Docket No. 42072. Carolina Power & Light v. Norfolk Southern Railway Company, Reply Evidence and Argument of Norfolk Southern Railway Company.
November 12, 2002	Docket No. 42070 Duke Energy Corporation v. CSX Transportation, Rebuttal Evidence and Argument of CSX Transportation
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October 8, 2003	Docket No. 42071 Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of The Burlington Northern and Santa Fe Railway Company
October 24, 2003	Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company, Supplemental Evidence of Norfolk Southern Railway Company
October 31, 2003	Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company, Reply of Norfolk Southern Railway Company to Duke Energy Company's Supplemental Evidence
November 24, 2003	Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Supplemental Evidence of Norfolk Southern Railway Company
December 2, 2003	Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Reply of Norfolk Southern Railway Company to Carolina Power & Light Company's Supplemental Evidence
December 12, 2003	Docket No. 42069 Reply of Norfolk Southern Railway Company to Duke Energy Corporation's Petition to Correct Technical Error and Affidavit of Michael R. Baranowski
January 5, 2004	Docket No. 42070 Duke Energy Corporation v. CSX Transportation, Inc., Supplemental Evidence of CSX Transportation, Inc.
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March 22, 2004	Docket No. 42071 Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Supplemental Reply Evidence of The Burlington Northern and Santa Fe Railway Company
April 9, 2004	Docket No. 41185 Arizona Public Service Company and Pacificorp v. The Burlington Northern and Santa Fe Railway Company, The Burlington Northern and Santa Fe Railway Company's Reply Evidence on Reopening
May 24, 2004	Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of The Burlington Northern and Santa Fe Railway Company
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April 4, 2005	Docket No. 42071 Otter Tail Power Company v BNSF Railway Company, Reply of BNSF Railway Company to Supplemental Evidence
July 20, 2005	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Reply Evidence of BNSF Railway Company
May 1, 2006	Docket No. Ex Parte 657 (Sub-No. 1) Major Issues in Rail Rate Cases, Verified Statement Supporting Comments of BNSF Railway Company
May 31, 2006	Ex Parte 657 (Sub-No. 1) Major Issues in Rail Rate Cases; Verified Statement Supporting Reply Comments of BNSF Railway Company
June 15, 2006	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Reply Supplemental Evidence of BNSF Railway Company
June 15, 2006	Docket No. 41191 (Sub 1) AEP Texas North Company v. BNSF Railway Company, Reply Supplemental Evidence of BNSF Railway Company
June 30, 2006	Docket No. Ex Parte 657 (Sub-No. 1) Major Issues in Rail Rate Cases; Verified Statement Supporting Rebuttal Comments of BNSF Railway Company
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February 4, 2008	Docket No. 42101 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Opening Evidence of CSX Transportation, Inc.
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July 14, 2008	Docket No. AB-515 (Sub-No. 2) Central Oregon & Pacific Railroad, Inc. -- Abandonment and Discontinuance of Service -- in Coos, Douglas, and Lane Counties, Oregon (Coos Bay Rail Line)
August 8, 2008	Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. BNSF Railway Company, Fourth Supplemental Evidence of BNSF Railway Company
August 11, 2008	Docket No. 42014 Entergy Arkansas, Inc. and Entergy Services, Inc. v Union Pacific Railroad Company and Missouri & Northern Arkansas Railroad Company, Inc.; Finance Docket No. 32187 Missouri & Northern Arkansas Railroad Company, Inc. – Lease, Acquisition and Operations Exemption – Missouri Pacific Railroad Company and Burlington Northern Railroad Company, Reply Evidence and Argument of Union Pacific
September 5, 2008	Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. BNSF Railway Company, Fourth Supplemental Reply Evidence of BNSF Railway Company

September 12, 2008	Docket No. AB-515 (Sub-No. 2) Central Oregon & Pacific Railroad, Inc. -- Abandonment and Discontinuance of Service -- in Coos, Douglas, and Lane Counties, Oregon (Coos Bay Rail Line); Rebuttal to Protests
August 24, 2009	Docket No. 42114 US Magnesium, L.L.C. v. Union Pacific Railroad Company, Opening Evidence of Union Pacific Railroad Company
October 22, 2009	Docket No. 42114 US Magnesium, L.L.C. v. Union Pacific Railroad Company, Rebuttal Evidence of Union Pacific Railroad Company
January 19, 2010	Docket No. 42110 Seminole Electric Cooperative, Inc. v. CSX Transportation, Inc., Reply Evidence of CSX Transportation, Inc.
May 7, 2010	Docket No. 42113 Arizona Electric Power Cooperative, Inc. v. BNSF Railway Company and Union Pacific Railroad Company, Joint Reply Evidence of BNSF Railway Company and Union Pacific Railroad Company
November 22, 2010	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, BNSF Comments on Remand, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
January 6, 2011	Docket No. 42056 Texas Municipal Power Agency v. BNSF Railway Company, BNSF Reply to TMPA Petition for Enforcement of Decision, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
October 28, 2011	Docket No. FD 35506 Western Coal Traffic League - Petition for Declaratory Order, Opening Evidence of BNSF Railway Company, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
November 10, 2011	Docket No. 42127 Intermountain Power Agency v. Union Pacific Railroad Company, Reply Evidence of Union Pacific Railroad Company
November 28, 2011	Docket No. FD 35506 Western Coal Traffic League - Petition for Declaratory Order, Reply Evidence of BNSF Railway Company, Joint Reply Verified Statement of Michael R. Baranowski and Benton V. Fisher
May 10, 2012	Docket No. 42056 Texas Municipal Power Agency v. BNSF Railway Company, BNSF Reply to TMPA Petition to Reopen and Modify Rate Prescription, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
November 30, 2012	Docket No. 42125 E.I. DuPont De Nemours & Company v. Norfolk Southern Railway Company, Reply Evidence of Norfolk Southern Railway Company
December 7, 2012	Docket No. Ex Parte 715, Rate Regulation Reforms, Reply Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski
January 7, 2013	Docket No. 42130 SunBelt Chlor Alkali Partnership v. Norfolk Southern Railway Company, Reply Evidence of Norfolk Southern Railway Company
March 1, 2013	Ex Parte No. 711 Petition for Rulemaking to Adopt Revised Competitive Switching Rules, Opening Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Richard W. Brown
April 12, 2013	Docket No. 42136 Intermountain Power Agency v. Union Pacific Railroad Company, Reply Evidence of Union Pacific Railroad Company

April 30, 2013	Ex Parte No. 711 Petition for Rulemaking to Adopt Revised Competitive Switching Rules, Reply Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Richard W. Brown

US District Court for Northern District of Oklahoma

January 2, 2007	Case No. 06-CV-33 TCK-SAJ, Grand River Dam Authority v. BNSF Railway Company; Report of Michael R. Baranowski
February 2, 2007	Case No. 06-CV-33 TCK-SAJ, Grand River Dam Authority v. BNSF Railway Company; Reply Report of Michael R. Baranowski

Circuit Court of Pulaski County, Arkansas

August 17, 2007	Case No. CV 2006-2711, Union Pacific Railroad v. Entergy Arkansas, Inc. and Entergy Services, Inc., Expert Witness Report of Michael R. Baranowski
December 14, 2007	Case No. CV 2006-2711, Union Pacific Railroad v. Entergy Arkansas, Inc. and Entergy Services, Inc., Reply Expert Witness Report of Michael R. Baranowski

U.S. District Court for the Eastern District of Wisconsin

February 15, 2008	Case No. 06-C-0515, Wisconsin Electric Power Company v. Union Pacific Railroad Company, Expert Reply Report of Michael R. Baranowski

Arbitrations and Mediations

March 7, 2005	Arbitration Case #181 Y 00490 04 BNSF Railway Company and J.B. Hunt Transport, Inc., Expert Report on behalf of BNSF Railway Company
March 28, 2005	Arbitration Case #181 Y 00490 04 BNSF Railway Company and J.B. Hunt Transport, Inc., Rebuttal Expert Report on behalf of BNSF Railway Company
April 12, 2005	Arbitration Case #181 Y 00490 04 BNSF Railway Company and J.B. Hunt Transport, Inc., Supplemental Expert Report on behalf of BNSF Railway Company
April 19, 2005	Arbitration Case #181 Y 00490 04 BNSF Railway Company and J.B. Hunt Transport, Inc., Supplemental Rebuttal Expert Report on behalf of BNSF Railway Company
April/May 2005	Arbitration Case #181 Y 00490 04 BNSF Railway Company and J.B. Hunt Transport, Inc., Hearings before Arbitration Panel
February 20, 2007	In the Matter of the Arbitration between the Detroit Edison Company, et al, and BNSF Railway Company, Expert Report of Michael R. Baranowski on behalf of BNSF Railway Company
March 19, 2007	In the Matter of the Arbitration between the Detroit Edison Company, et al, and BNSF Railway Company, Supplemental Expert Report of Michael R. Baranowski on behalf of BNSF Railway Company
February 12, 2009	In the Matter of the Arbitration between Wisconsin Public Service Corporation and Union Pacific Railroad Company, Rebuttal Expert Report of Michael R. Baranowski on behalf of Union Pacific Railroad Company

October 16, 2009	In the Matter of Arbitration Between Norfolk Southern Railway Company and Drummond Coal Sales, Inc., Expert Report of Michael R. Baranowski on behalf of Norfolk Southern Railway Company
July 25, 2011	American Arbitration Association Case No. 58 147 Y 0031809, BNSF Railway Company and Kansas City Southern Railway Company, Expert Report of Michael R. Baranowski on behalf of BNSF Railway Company
April 25, 2013	JAMS REF #1340009009, Union Pacific Railroad vs. Canadian Pacific and Dakota, Minnesota & Eastern Railroad Arbitration, Expert Report of Michael R. Baranowski on behalf of Union Pacific Railroad Company

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Education
B.S. in Engineering and Management Systems, Princeton University

Benton V. Fisher is a Senior Managing Director of FTI's Economic Consulting group, located in Washington, D.C. Mr. Fisher has more than 20 years of experience in providing financial, economic and analytical consulting services to corporate clients dealing with transportation, telecommunications, and postal subjects.

North America's largest railroads have retained FTI both to assist them in making strategic and tactical decisions and to provide expert testimony in litigation. FTI's ability to present a thorough understanding of myriad competitive and regulatory factors has given its clients the necessary tools to implement and advance their business. Mr. Fisher has worked extensively to develop these clients' applications for mergers and acquisitions and expert testimony justifying the reasonableness of their rates before the Surface Transportation Board. In addition to analyzing extensive financial and operating data, Mr. Fisher has worked closely with people within many departments at the railroad as well as outside counsel to ensure that the railroads' presentations are accurate and defensible. Additionally, Mr. Fisher reviews the expert testimony of the railroads' opponents in these proceedings, and advises counsel on the necessary course of action to respond.

AT&T and MCI retained FTI to advance its efforts to implement the Telecommunications Act of 1996 in local exchange markets. Mr. Fisher was primarily responsible for reviewing the incumbent local exchange carriers' (ILEC) cost studies, which significantly impacted the ability of FTI's clients to access local markets. Mr. Fisher analyzed the sensitivity of multiple economic components and incorporated this information into various models being relied upon by the parties and regulators to determine the pricing of services. Mr. Fisher was also responsible for preparing testimony that critiqued alternative presentations.

Mr. Fisher assisted in reviewing the U.S. Postal Service's evidence and preparing expert testimony on behalf of interveners in Postal Rate and Fee Changes cases. He has also been retained by a large international consulting firm to provide statistical and econometric support in their preparation of a long-range implementation plan for improving telecommunications infrastructure in a European country.

Mr. Fisher has sponsored expert testimony in rate reasonableness proceedings before the Surface Transportation Board and in contract disputes in Federal Court and arbitration proceedings.

Mr. Fisher holds a B.S. in Engineering and Management Systems from Princeton University.

TESTIMONY

Surface Transportation Board

January 15, 1999	Docket No. 42022 FMC Corporation and FMC Wyoming Corporation v. Union Pacific Railroad Company, Opening Verified Statement of Christopher D. Kent and Benton V. Fisher
March 31, 1999	Docket No. 42022 FMC Corporation and FMC Wyoming Corporation v. Union Pacific Railroad Company, Reply Verified Statement of Christopher D. Kent and Benton V. Fisher
April 30, 1999	Docket No. 42022 FMC Corporation and FMC Wyoming Corporation v. Union Pacific Railroad Company, Rebuttal Verified Statement of Christopher D. Kent and Benton V. Fisher
July 15, 1999	Docket No. 42038 Minnesota Power, Inc. v. Duluth, Missabe and Iron Range Railway Company, Opening Verified Statement of Christopher D. Kent and Benton V. Fisher
August 30, 1999	Docket No. 42038 Minnesota Power, Inc. v. Duluth, Missabe and Iron Range Railway Company, Reply Verified Statement of Christopher D. Kent and Benton V. Fisher
September 28, 1999	Docket No. 42038 Minnesota Power, Inc. v. Duluth, Missabe and Iron Range Railway Company, Rebuttal Verified Statement of Christopher D. Kent and Benton V. Fisher
June 15, 2000	Docket No. 42051 Wisconsin Power and Light Company v. Union Pacific Railroad Company, Opening Verified Statement of Christopher D. Kent and Benton V. Fisher
August 14, 2000	Docket No. 42051 Wisconsin Power and Light Company v. Union Pacific Railroad Company, Reply Verified Statement of Christopher D. Kent and Benton V. Fisher
September 28, 2000	Docket No. 42051 Wisconsin Power and Light Company v. Union Pacific Railroad Company, Rebuttal Verified Statement of Christopher D. Kent and Benton V. Fisher
December 14, 2000	Docket No. 42054 PPL Montana, LLC v. The Burlington Northern Santa Fe Railway Company, Opening Verified Statement of Christopher D. Kent and Benton V. Fisher
March 13, 2001	Docket No. 42054 PPL Montana, LLC v. The Burlington Northern Santa Fe Railway Company, Reply Verified Statement of Christopher D. Kent and Benton V. Fisher
May 7, 2001	Docket No. 42054 PPL Montana, LLC v. The Burlington Northern Santa Fe Railway Company, Rebuttal Verified Statement of Christopher D. Kent and Benton V. Fisher

October 15, 2001	Docket No. 42056 Texas Municipal Power Agency v. The Burlington Northern Santa Fe Railway Company, Opening Verified Statement of Benton V. Fisher
January 15, 2002	Docket No. 42056 Texas Municipal Power Agency v. The Burlington Northern Santa Fe Railway Company, Reply Verified Statement of Benton V. Fisher
February 25, 2002	Docket No. 42056 Texas Municipal Power Agency v. The Burlington Northern Santa Fe Railway Company, Rebuttal Verified Statement of Benton V. Fisher
May 24, 2002	Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company, Opening Evidence and Argument of Norfolk Southern Railway Company
June 10, 2002	Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Opening Evidence and Argument of Norfolk Southern Railway Company
July 19, 2002	Northern States Power Company Minnesota v. Union Pacific Railroad Company, Union Pacific's Opening Evidence
September 30, 2002	Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company, Reply Evidence and Argument of Norfolk Southern Railway Company
October 4, 2002	Northern States Power Company Minnesota v. Union Pacific Railroad Company, Union Pacific's Reply Evidence
October 11, 2002	Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Reply Evidence and Argument of Norfolk Southern Railway Company
November 1, 2002	Northern States Power Company Minnesota v. Union Pacific Railroad Company, Union Pacific's Rebuttal Evidence
November 19, 2002	Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company, Rebuttal Evidence and Argument of Norfolk Southern Railway Company
November 27, 2002	Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Rebuttal Evidence and Argument of Norfolk Southern Railway Company
January 10, 2003	Docket No. 42057 Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company, Opening Evidence and Argument of The Burlington Northern and Santa Fe Railway Company
February 7, 2003	Docket No. 42058 Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad, Opening Evidence of The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad

April 4, 2003	Docket No. 42057 Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence and Argument of The Burlington Northern and Santa Fe Railway Company
May 19, 2003	Docket No. 42057 Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company, Rebuttal Evidence and Argument of The Burlington Northern and Santa Fe Railway Company
May 27, 2003	Docket No. 42058 Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad, Joint Variable Cost Reply Evidence of The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad
May 27, 2003	Docket No. 42058 Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad, Reply Evidence of The Burlington Northern and Santa Fe Railway Company
June 13, 2003	Docket No. 42071 Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Opening Evidence of The Burlington Northern and Santa Fe Railway Company
July 3, 2003	Docket No. 42058 Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad, Joint Variable Cost Rebuttal Evidence of The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad
October 8, 2003	Docket No. 42071 Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of The Burlington Northern and Santa Fe Railway Company
October 24, 2003	Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company Supplemental Evidence of Norfolk Southern Railway Company
October 31, 2003	STB Docket No. 42069 Duke Energy Corporation v. Norfolk Southern Railway Company, Reply of Norfolk Southern Railway Company to Duke Energy Company's Supplemental Evidence
November 24, 2003	STB Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Supplemental Evidence of Norfolk Southern Railway Company
December 2, 2003	STB Docket No. 42072 Carolina Power & Light Company v. Norfolk Southern Railway Company, Reply of Norfolk Southern Railway Company to Carolina Power & Light Company's Supplemental Evidence
January 26, 2004	STB Docket No. 42058 Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad Company, Joint Supplemental Reply Evidence and Argument of The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad Company

March 1, 2004	STB Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. The Burlington Northern and Santa Fe Railway Company, Opening Evidence and Argument of The Burlington Northern and Santa Fe Railway Company
March 22, 2004	STB Docket No. 42071 Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Supplemental Reply Evidence of The Burlington Northern and Santa Fe Railway Company
April 29, 2004	STB Docket No. 42071 Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Rebuttal Evidence of The Burlington Northern and Santa Fe Railway Company
May 24, 2004	STB Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of The Burlington Northern and Santa Fe Railway Company
March 1, 2005	Docket No. 42071 Otter Tail Power Company v. BNSF Railway Company, Supplemental Evidence of BNSF Railway Company
April 4, 2005	Docket No. 42071 Otter Tail Power Company v BNSF Railway Company, Reply of BNSF Railway Company to Supplemental Evidence
April 19, 2005	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Opening Evidence of BNSF Railway Company
July 20, 2005	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Reply Evidence of BNSF Railway Company
July 27, 2004	STB Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. The Burlington Northern and Santa Fe Railway Company, Rebuttal Evidence of The Burlington Northern and Santa Fe Railway Company
September 30, 2005	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Rebuttal Evidence of BNSF Railway Company
October 20, 2005	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Surrebuttal Evidence of BNSF Railway Company
June 15, 2006	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Reply Supplemental Evidence of BNSF Railway Company
June 15, 2006	Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. BNSF Railway Company, Reply Supplemental Evidence of BNSF Railway Company
March 19, 2007	Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. BNSF Railway Company, Reply Third Supplemental Evidence of BNSF Railway Company

March 26, 2007	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Reply Second Supplemental Evidence of BNSF Railway Company
July 30, 2007	Docket No. 42095 Kansas City Power & Light v. Union Pacific Railroad Company, Union Pacific's Opening Evidence
August 20, 2007	Docket No. 42095 Kansas City Power & Light v. Union Pacific Railroad Company, Union Pacific's Reply Evidence
February 4, 2008	Docket No. 42099 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Opening Evidence of CSXT
February 4, 2008	Docket No. 42100 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Opening Evidence of CSXT
February 4, 2008	Docket No. 42101 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Opening Evidence of CSXT
March 5, 2008	Docket No. 42099 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Reply Evidence of CSXT
March 5, 2008	Docket No. 42100 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Reply Evidence of CSXT
March 5, 2008	Docket No. 42101 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Reply Evidence of CSXT
April 4, 2008	Docket No. 42099 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Rebuttal Evidence of CSXT
April 4, 2008	Docket No. 42100 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Rebuttal Evidence of CSXT
April 4, 2008	Docket No. 42101 E.I. DuPont De Nemours and Company v. CSX Transportation, Inc., Rebuttal Evidence of CSXT
July 14, 2008	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Third Supplemental Reply Evidence of BNSF Railway Company
August 8, 2008	Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. BNSF Railway Company, Fourth Supplemental Evidence of BNSF Railway Company
September 5, 2008	Docket No. 41191 (Sub-No. 1) AEP Texas North Company v. BNSF Railway Company, Fourth Supplemental Reply Evidence of BNSF Railway Company
October 17, 2008	Docket No. 42110 Seminole Electric Cooperative, Inc. v. CSX Transportation, Inc., CSX Transportation, Inc.'s Reply to Petition for Injunctive Relief, Verified Statement of Benton V. Fisher
August 24, 2009	Docket No. 42114 US Magnesium, L.L.C. v. Union Pacific Railroad Company, Opening Evidence of Union Pacific Railroad Company

September 22, 2009	Docket No. 42114 US Magnesium, L.L.C. v. Union Pacific Railroad Company, Reply Evidence of Union Pacific Railroad Company
October 22, 2009	Docket No. 42114 US Magnesium, L.L.C. v. Union Pacific Railroad Company, Rebuttal Evidence of Union Pacific Railroad Company
January 19, 2010	Docket No. 42110 Seminole Electric Cooperative, Inc. v. CSX Transportation, Inc., Reply Evidence of CSX Transportation, Inc.
May 7, 2010	Docket No. 42113 Arizona Electric Power Cooperative, Inc. v. BNSF Railway Company and Union Pacific Railroad Company, Joint Reply Evidence of BNSF Railway Company and Union Pacific Railroad Company
October 1, 2010	Docket No. 42121 Total Petrochemicals USA, Inc. v. CSX Transportation, Inc., Motion for Expedited Determination of Jurisdiction Over Challenged Rates, Verified Statement of Benton V. Fisher
November 22, 2010	Docket No. 42088 Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Railway Company, Comments of BNSF Railway Company on Remand, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
January 6, 2011	Docket No. 42056 Texas Municipal Power Agency v. BNSF Railway Company, BNSF Reply to TMPA Petition for Enforcement of Decision, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
July 5, 2011	Docket No. 42123 M&G Polymers USA, LLC v. CSX Transportation, Inc., Reply Market Dominance Evidence of CSX Transportation, Inc.
August 1, 2011	Docket No. 42125 E.I. DuPont De Nemours and Company v. Norfolk Southern Railway Company, Norfolk Southern Railway's Reply to Second Motion to Compel, Joint Verified Statement of Benton V. Fisher and Michael Matelis
August 5, 2011	Docket No. 42121 Total Petrochemicals USA, Inc. v. CSX Transportation, Inc. , Reply Market Dominance Evidence of CSX Transportation, Inc.
August 15, 2011	Docket No. 42124 State of Montana v. BNSF Railway Company, BNSF Railway Company's Reply Evidence and Argument, Verified Statement of Benton V. Fisher
October 24, 2011	Docket No. 42120 Cargill, Inc. v. BNSF Railway Company, BNSF Railway Company's Reply Evidence and Argument, Verified Statement of Benton V. Fisher
October 28, 2011	Docket No. FD 35506 Western Coal Traffic League - Petition for Declaratory Order, Opening Evidence of BNSF Railway Company, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
November 10, 2011	Docket No. 42127 Intermountain Power Agency v. Union Pacific Railroad Company, Reply Evidence of Union Pacific Railroad Company
November 28, 2011	Docket No. FD 35506 Western Coal Traffic League - Petition for Declaratory Order, Reply Evidence of BNSF Railway Company, Joint Reply Verified Statement of Michael R. Baranowski and Benton V. Fisher

December 14, 2011	Docket No. 42132 Canexus Chemicals Canada L.P. v. BNSF Railway Company, BNSF Motion to Permit Consideration of 2011 TIH Movements from BNSF Traffic Data in Selecting Comparison Group, Verified Statement of Benton V. Fisher
February 13, 2012	Docket No. 42132 Canexus Chemicals Canada L.P. v. BNSF Railway Company, Opening Evidence of BNSF Railway Company, Verified Statement of Benton V. Fisher
March 13, 2012	Docket No. 42132 Canexus Chemicals Canada L.P. v. BNSF Railway Company, Reply Evidence of BNSF Railway Company
April 12, 2012	Docket No. 42132 Canexus Chemicals Canada L.P. v. BNSF Railway Company, Rebuttal Evidence of BNSF Railway Company
May 10, 2012	Docket No. 42056 Texas Municipal Power Agency v. BNSF Railway Company, BNSF Reply to TMPA Petition to Reopen and Modify Rate Prescription, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
November 30, 2012	Docket No. 42125 E.I. DuPont De Nemours & Company v. Norfolk Southern Railway Company, Reply Evidence of Norfolk Southern Railway Company
January 7, 2013	Docket No. 42130 SunBelt Chlor Alkali Parttnership v. Norfolk Southern Railway Company, Reply Evidence of Norfolk Southern Railway Company
April 12, 2013	Docket No. 42136, Intermountain Power Agency v. Union Pacific Railroad Company, Reply Evidence of Union Pacific Railroad Company

U.S. District Court for the Eastern District of North Carolina

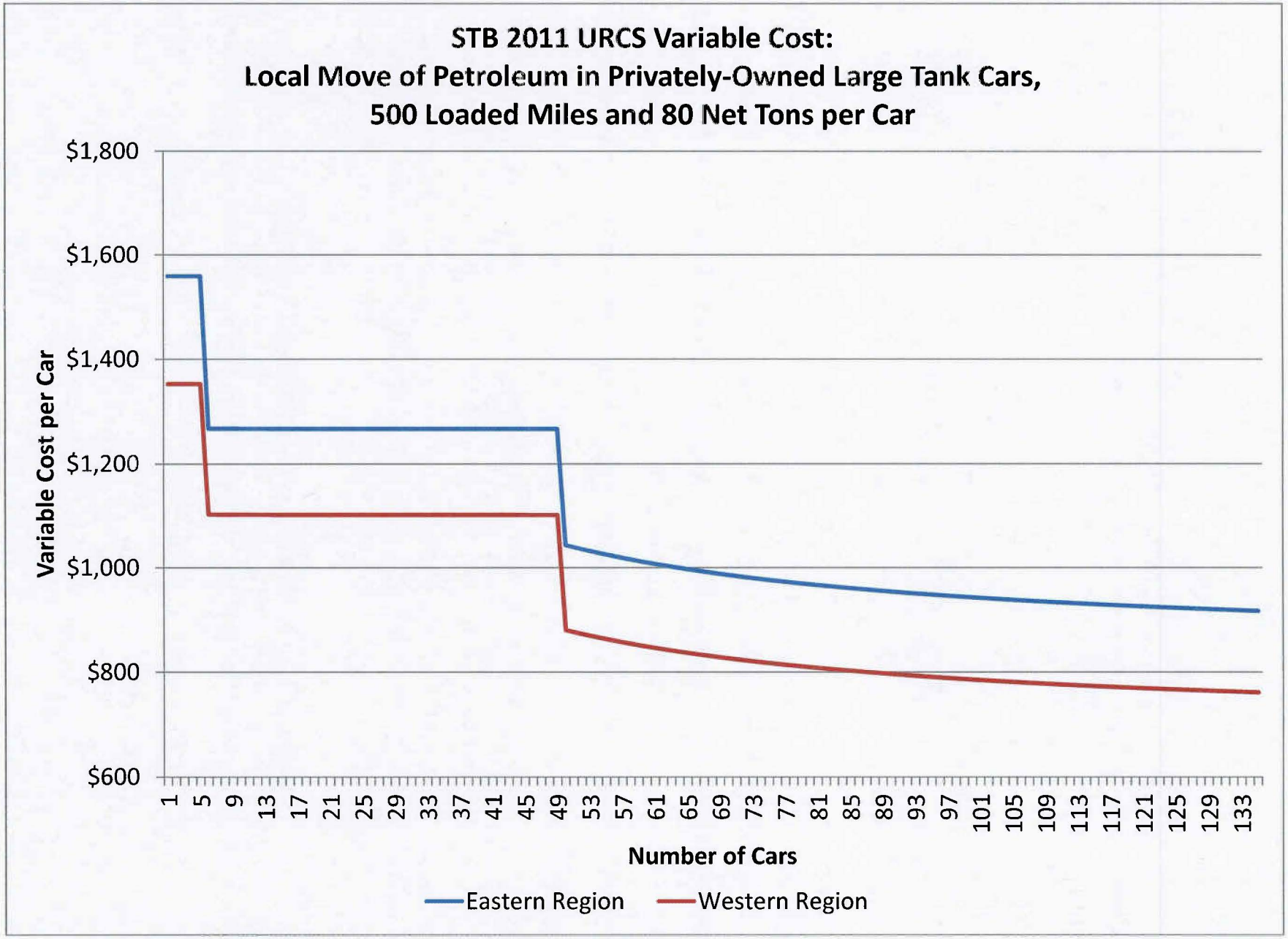
March 17, 2006	Civil Action No. 4:05-CV-55-D, PCS Phosphate Company v. Norfolk Southern Corporation and Norfolk Southern Railway Company, Report by Benton V. Fisher

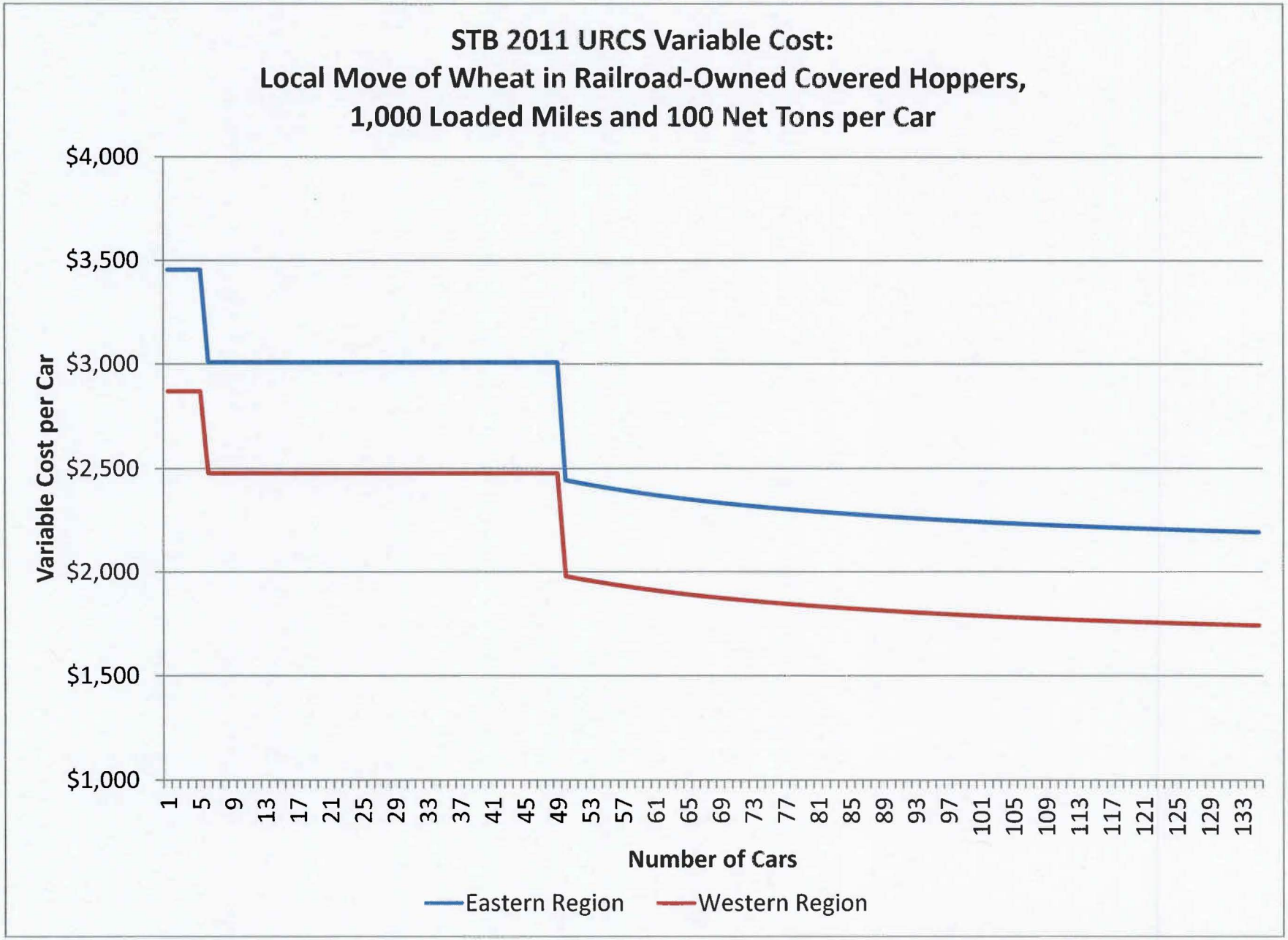
U.S. District Court for the Eastern District of California

January 18, 2010	E.D. Cal. Case No. 08-CV-1086-AWI, BNSF Railway Company v. San Joaquin Valley Railroad Co., et al.

Arbitrations and Mediations

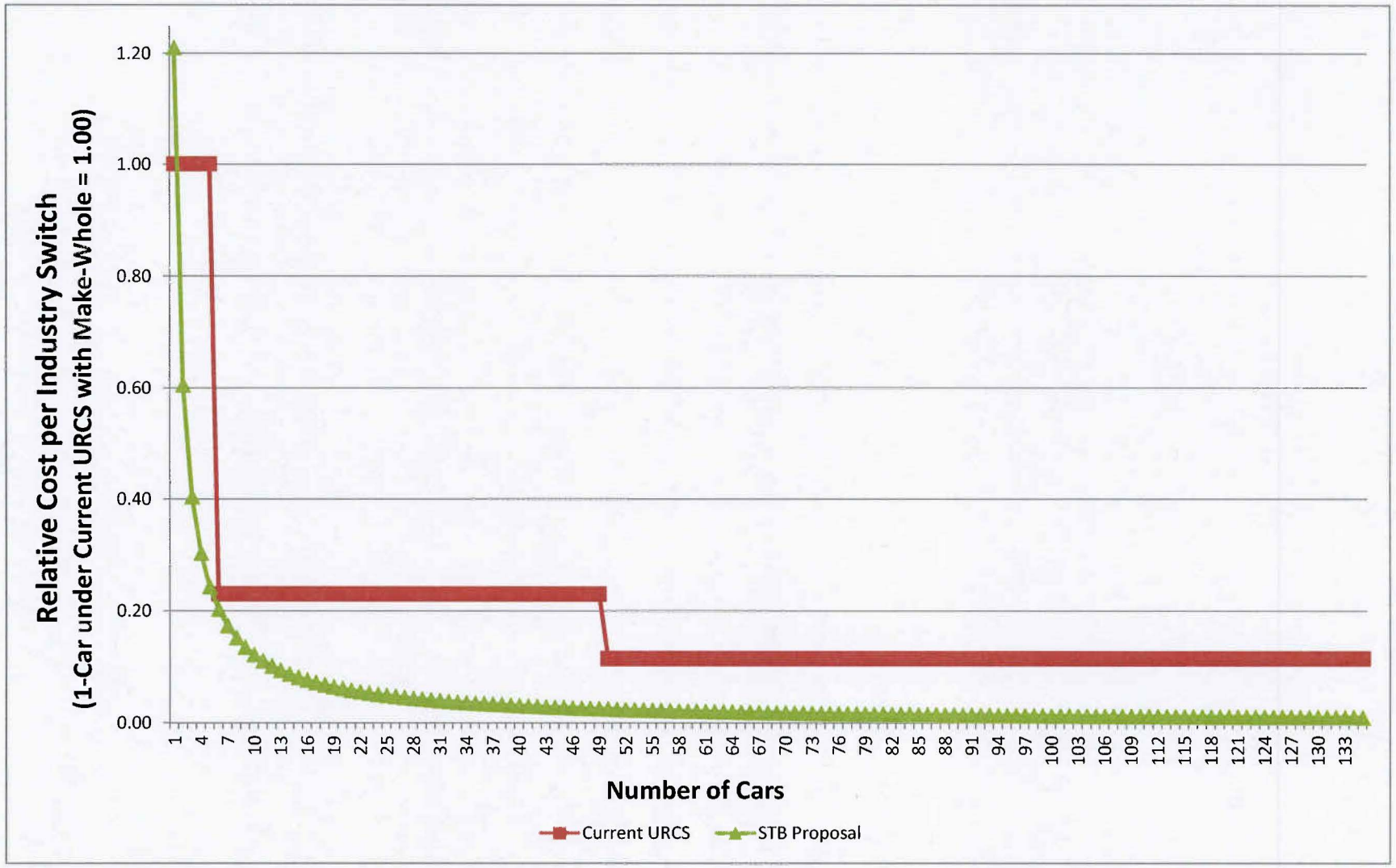
July 10, 2009	JAMS Ref. # 1220039135; In the Matter of the Arbitration Between Pacer International, Inc., d/b/a/ Pacer Stacktrain (f/k/a/ APL Land Transport Services, Inc.), American President Lines, Ltd. And APL Co. Pte. Ltd. And Union Pacific Railroad Company; Rebuttal Expert Report of Benton V. Fisher


STB 2011 URCS Variable Cost:
Local Move of Petroleum in Privately-Owned Large Tank Cars,
500 Loaded Miles and 80 Net Tons per Car
Variable Cost per Car
$1,800
$1,600
$1,400
$1,200
$1,000
$800
$600
1
5
9
13
17
21
25
29
33
37
41
45
49
53
57
61
65
69
73
77
81
85
89
93
97
101
105
109
113
117
121
125
129
133
Number of Cars
Eastern Region
Western Region


STB 2011 URCS Variable Cost:
Local Move of Wheat in Railroad-Owned Covered Hoppers,
1,000 Loaded Miles and 100 Net Tons per Car
$4,000
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
Variable Cost per Car
1
5
9
13
17
21
25
29
33
37
41
45
49
53
57
61
65
69
73
77
81
85
89
93
97
101
105
109
113
117
121
125
129
133
Number of Cars
Eastern Region
Western Region

SEM Costs for Industry Switching across Shipment Sizes, Current URCS Approach to STB Proposal

2011 STB URCS Variable Costs for Eastern Region



SEM Costs for Industry Switching across Shipment Sizes, Current URCS Approach to STB Proposal

2011 STB URCS Variable Costs for Western Region

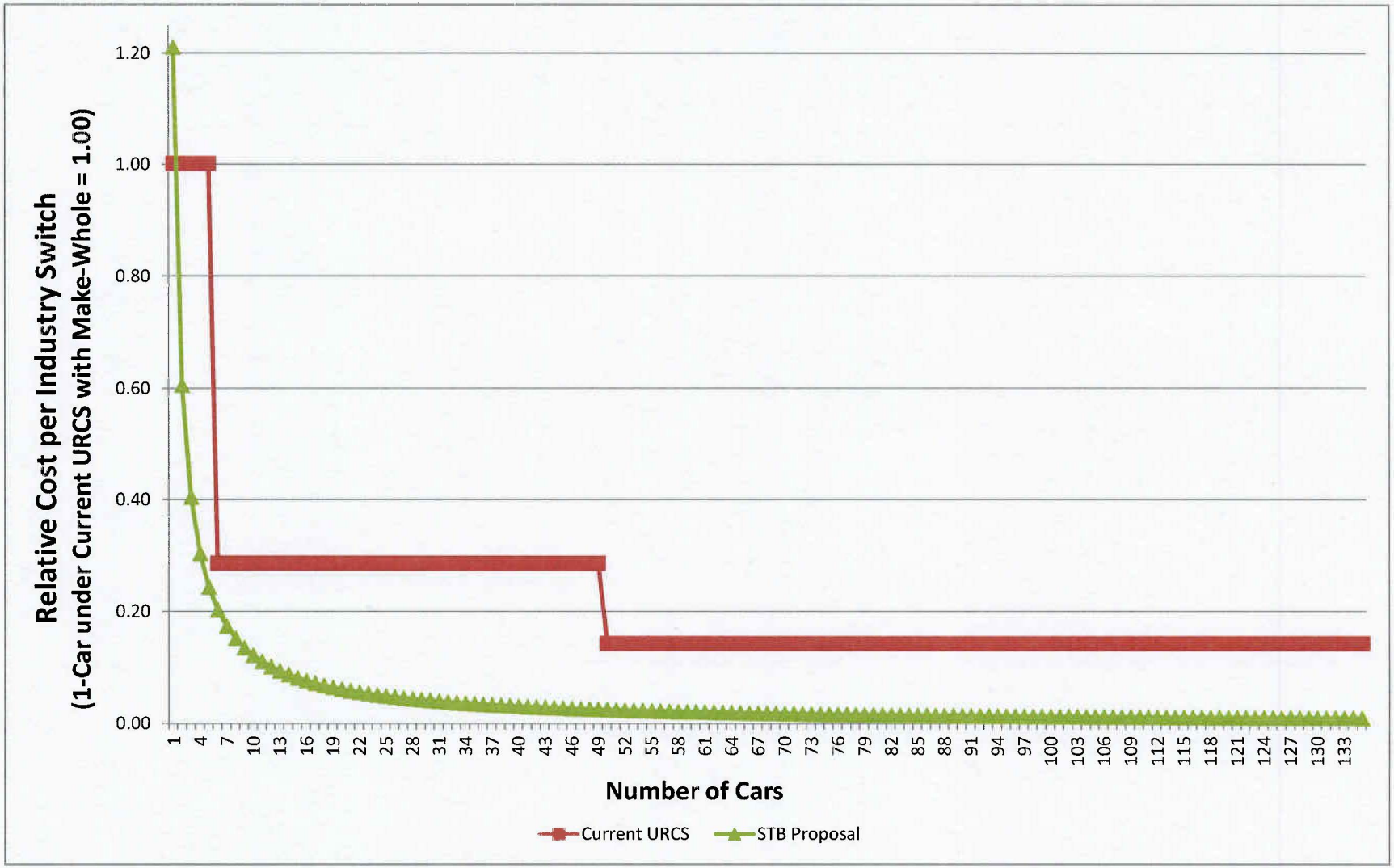


Illustration of Understatement due to Use of 200-Mile Interval for Intermodal I&I Switching in Calculation of SEM Factors

	URCS Source 1/	STB URCS Program	Using 4,162-Mile Interval	Difference
Loaded and Empty Car-Miles for Intermodal Flat Cars	B6 Line 211 Col 22	1,525,741	1,525,741	0.0%
Miles between I&I Switches	B6 Line 211 Col 23	200	4,162	+3,962
I&I Switches for Intermodal Flat Cars	B6 Line 211 Col 24	7,628	367	-95.2%
Total I&I Switches, All Car Types	B6 Line 216 Col 24	55,063	47,802	-13.2%
Total SEM Allocated to Different Types of Switching				
Industry Switching	B6 Line 216 Col 29	102,467	107,473	4.9%
Interchange Switching	B6 Line 216 Col 30	17,817	18,691	4.9%
I&I Switching	B6 Line 216 Col 33	73,114	66,581	-8.9%
Resulting SEM Factors for Different Types of Switching				
Switch engine minutes per Industry Switch	B6 Col 35	5.31	5.57	4.9%
Switch engine minutes per Interchange Switch	B6 Col 36	2.92	3.06	4.9%
Switch engine minutes per I&I Switch	B6 Col 39	1.33	1.39	4.9%

1/ UP 2011 URCS, Worktable B6 Part 2A (page 169)