

BEFORE THE
SURFACE TRANSPORTATION BOARD

STB Ex Parte No. 771

ALTERNATIVES TO URCS

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In a Notice and Request for Comments ("Notice") served on October 26, 2022, the Surface Transportation Board ("Board") released a report regarding alternatives to its general purpose costing system, the Uniform Railroad Costing System ("URCS").¹ The Notice did not propose changes to URCS, but requested comments on the report by Laurits R. Christensen Associates, Inc. ("Christensen Associates"), entitled *Alternatives to URCS* ("Report").² The Board declined to release supporting materials, such as underlying workpapers, citing the preliminary and exploratory nature of its request for comments.³

The Association of American Railroads ("AAR") respectfully submits these comments in response to the Notice. Because AAR did not have the opportunity to examine materials underlying the Report, nor access to the confidential carload waybill sample ("CCWS"), AAR is submitting these high-level comments and concerns with the Report's findings. These comments also suggest updates to URCS that the Board could consider instead of proceeding with the Report's recommendations and findings. AAR's comments are supported by the

¹ *Alternatives to URCS*, EP 771 (STB served Oct. 26, 2022) ("Notice").

² Laurits R. Christensen Associates, Inc., *Alternatives to URCS* (Mar. 2022) ("Report").

³ See Notice at 2.

Verified Statement of Michael R. Baranowski which is attached as Appendix A (“Baranowski V.S.”).

BACKGROUND

Under 49 U.S.C. § 11161, the Board maintains cost accounting rules for rail carriers. The Board’s general purpose costing system, URCS, was adopted by the Interstate Commerce Commission (“ICC”) in 1989.⁴ The development of URCS, however, began with Congressional direction in the *Railroad Revitalization and Regulatory Reform Act* (“4R Act”) and ultimately incorporated the recommendations of the Railroad Accounting Principles Board (“RAPB”) formed by the *Staggers Rail Act of 1980*.⁵ The RAPB was created in the *Staggers Act* to “evaluate the issues surrounding rail costing and to propose economically accurate principles to govern the estimation of such costs.”⁶ The ICC implemented the RAPB’s costing principles and adopted URCS as the general purpose costing system. URCS estimates the variable costs of performing rail service using statistical techniques and annual expense and operating data reported by the railroads to the Board.

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 rail rate regulation, URCS is used to determine quantitative market dominance under 49 U.S.C. §

⁴ See *Adoption of the Unif. R.R. Costing Sys. as a Gen. Purpose Costing Sys. for All Regul. Costing Purposes*, 5 I.C.C.2d 894 (1989) (“*Adoption of URCS*”).

⁵ See *Railroad Revitalization and Regulatory Reform Act*, Pub. L. No. 94-210, Sec. 307, 90 Stat. 127 (1976); *Staggers Rail Act of 1980*, Pub. L. No. 96-448, Sec. 302, 94 Stat. 1985 (1980) (“*Staggers Act*”).

⁶ *Adoption of URCS* at 895, n.3.

10707(d). URCS also plays an important role in Stand-Alone Cost (“SAC”) and Simplified Stand-Alone Cost (“SSAC”) 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 Three Benchmark cases. Outside of rate case methodologies, URCS is utilized in abandonment and discontinuance proceedings, and when valuing a line for sale under the offers of financial assistance regulations.

The Board has periodically revisited URCS since its adoption but has not implemented any significant revisions during that time.⁷ In 2009, the Board held a hearing on issues relating to URCS and conducted a study at Congress’ direction.⁸ In April 2013, the Board instituted a proceeding to review URCS and focused on proposals to do away with step functions and the make-whole adjustment. There, stakeholders provided a wide array of responses to the Board’s solicitations and reports. After issuing a supplemental NPRM and taking further comments, in June 2019, the Board discontinued its URCS related proceedings after determining that potential refinements of URCS would benefit from additional study and analysis.⁹

The Report does little to advance the analytical investigations and proposed refinements offered by stakeholders in those prior instances. The Report draws on some of

⁷ See *Review of the Surface Transportation Board's General Costing System*, EP 431 (Sub-No. 3) (STB served Apr. 6, 2009) (“2009 Notice”); *Review of the Surface Transportation Board's General Costing System*, EP 431 (Sub-No. 4) (STB served Feb. 4, 2013) (“2013 NPRM”); *Review of the Surface Transportation Board's General Costing System*, EP 431 (Sub-No. 4) (STB served Aug. 2, 2006) (“2016 SNPRM”).

⁸ See 2009 Notice; Surface Transportation Board, *Report to Congress Regarding the Uniform Rail Costing System* (May 27, 2010) (“2010 URCS Report”).

⁹ See 2016 SNPRM; *Review of the Surface Transportation Board's General Costing System*, EP 431 (Sub-No. 4) (STB served June 6, 2019) (“2019 Discontinuance”).

those prior proceedings, while seeking to identify and evaluate possible alternatives to URCS that better reflect the current railroad operating environment. The Report makes several conclusions, notably:

- “[S]hort-run economic costs (marginal and/or incremental costs) are the most appropriate economic cost concept” for the statutory variable cost application of URCS.¹⁰ Even though current-methodology URCS produces “intermediate-run” costs, short-run marginal costs are consistent with the RAPB’s Causality Principle and that such costs are “feasible to produce using existing data.”¹¹
- “A preferred alternative to URCS is a Hybrid model that combines results from a ‘New Empirical Industry Organization’ (NEIO) model with marginal cost estimates from an econometric cost analysis. Under this approach, the econometric cost function provides estimates of non-shipment-specific or ‘generic’ marginal costs and estimated coefficients on cost-related variables from the NEIO regression serve as the basis for computing shipment-specific adjustments to the generic costs.”¹²
- “Updates to the current URCS model are also potentially promising. These would include a full set of new Phase I short-run cost elasticities and improvements to the URCS legacy inputs, including the elimination of shipment size driven step functions.”¹³

The Report explicitly notes that if the Board chooses to pursue the Hybrid model or updates URCS, there is significant study and stakeholder work that must be done.¹⁴ AAR concurs that any changes to URCS should be preceded by in-depth study and stakeholder involvement. However, prior to reaching that point, AAR takes this opportunity afforded by the Board to identify a number of concerns with the Report and its recommendations.

¹⁰ Report at 188 *see* Baranowski V.S. at 4.

¹¹ Report at 188; *see* Baranowski V.S. at 4.

¹² Baranowski V.S. at 4.

¹³ *Id.* at 5; *see* Report at 188.

¹⁴ *See, generally,* Report at 179-189.

ARGUMENTS

I. There Are a Number of Concerns with the Report's Findings.

The Report covers little in the way of meaningful updates to URCS, and there are a number of concerns with the Report's findings. As described further below, the Board should reject consideration of the Hybrid model as an alternative to URCS because it is appropriate for railroad costing. Additionally, the Report focuses on the elimination of step functions, notwithstanding the fact that concerns regarding some step functions (e.g., between through and unit train costing) are unfounded. The Board should not revisit step functions without updated empirical studies and full stakeholder input. Finally, the Report's analysis of URCS regressions is flawed.

A. The Hybrid Alternative Approach is Not Appropriate for Railroad Costing.

1. *The Hybrid Model Suffers From Two Fatal Flaws.*

The proposed alternative approach the Hybrid model that combines results from its NEIO revenue analysis with marginal cost estimates from an econometric cost analysis suffers two critical flaws. First, they are based on the Report's incorrect conclusion that short run or marginal costs are the appropriate standard for a regulatory costing model. Second, by the Report's own admission, the approaches are unable to disentangle costs from the effects of

market markup factors on rates, which is significant given railroads price differentially.¹⁵ These flaws are fatal to the utilization of the Hybrid model in the STB regulatory context.¹⁶

The RAPB's Causality Principle states that "[c]osts shall only be attributed to cost objectives when a causal relationship exists."¹⁷ As RAPB explains, this principle links costs to an activity or service, and precludes "the use of arbitrary cost assignment in determining economically accurate cost. ...[and] limits the use of costs to only those resulting from the activity which is the subject of the regulatory decision."¹⁸ Indeed, the RAPB was careful to explain that the time orientation for measurement of the incremental service is a "critical component" of the Causality Principle, explaining that the activity or service may occur for a "short time period, an intermediate time period, or a long time period."¹⁹ The Report concludes, however, that short-run costs are consistent with the RAPB's Causality Principle, even though URCS produces intermediate-run costs.²⁰ As such, the Report assumes that incremental cost means short-run costs. As Mr. Baranowski explains, this conclusion is erroneously based on the "concept of avoidability" detailed in the RAPB report.²¹ Nothing in the RAPB report links the incremental service to be measured by the Board's regulatory cost model with the short run costs as the Report concludes.

¹⁵ See Report at 54 ("Some of the NEIO model's parameters unavoidably combine cost and markup effects, such that pure cost levels (or pure markups) cannot be disentangled from the results without additional information").

¹⁶ See Baranowski V.S. at 15-17.

¹⁷ RAPB, "Railroad Accounting Principles: Final Report, Volume 2 – Detailed Report" (Sept. 1, 1987) at 9 ("RAPB Report, Vol. 2").

¹⁸ *Id.*

¹⁹ *Id.* at 10.

²⁰ See Report at 12-14, 136.

²¹ See Baranowski V.S. at 9; Report at 12, 26-28.

This lack of adherence to the Causality Principle undermines the utility of the Hybrid model. By the Report's own admission, the Hybrid model is unable to distinguish effects of market forces from cause-based drivers of costs and importantly cannot account for the railroads' need to price differentially.²² In the regulatory context, it is imperative that costs be attributed to what causes the cost. Since railroads price based on market forces—which can be varied—not being able to draw this distinction of what is causing the cost is flawed. While it is true that revenues need to cover costs, railroad revenue per ton mile consider market forces and the railroad's ability to price differentially, which the NEIO revenue analysis is unable to detect.

As Mr. Baranowski explains, the Hybrid model develops the regulatory cost of a specific movement by taking the average marginal cost and adjusting it with a “movement-specific adjustment factor” from the NEIO regression, “which is developed from the coefficients on shipment specific variables in the model that are assumed to affect revenues and costs... [and] also considers in some manner tonnage volumes between origin and destination states as a means of potentially identifying unit train deployment.”²³ The Hybrid model tries to capture other factors outside of the shipment specific characteristics that can affect revenue per ton mile in what it calls “market structure” indicators to capture market competition, and it tries to incorporate “other control variables” including time, commodity, state, and railroad specific indicators.²⁴ Unfortunately, as Mr. Baranowski explains, “there is no direct link between

²² See Report at 186-187.

²³ Baranowski V.S. at 16.

²⁴ See Report at 65-67.

calculated costs and actual cost drivers under the Hybrid model approach.”²⁵ The NEIO regression, which are incorporated in the Hybrid model, premise that observed revenue per ton mile from the carload waybill sample (“CWS”) can, with the appropriate filters, be used to determine costs. This ignores a railroad’s ability to price differentially relative to competition, thereby it cannot divine whether the costs are market-based or not.²⁶ The inability to distinguish cost from market-based influences is a direct violation of the RAPB Causality Principle and would result in regulatory costs that are simply inaccurate, implicating a violation of the Data Integrity Principle as well.²⁷

2. The Hybrid Model is Unfit for Regulatory Purposes.

The Hybrid model’s design undermines its usage for the Board’s regulatory purposes. In a rate reasonableness proceeding, the nine inputs to determine costs under URCS are often in dispute. The Hybrid model, however, is not sufficiently granular and lacks precision for these tasks. As Mr. Baranowski notes, the Hybrid model is not clear as to “what specific input would be required in a rate proceeding before the Board or what the specific regulatory answer for a particular shipment might be.”²⁸ Indeed, the NEIO regression parameters may introduce a number of other disputed inputs in a rate reasonableness proceeding.²⁹ Therefore, utilization

²⁵ Baranowski V.S. at 16.

²⁶ *See id.* at 5, 16.

²⁷ *See* RAPB Vol. 2, at 21-24 (explaining that the Data Integrity Principle states “[c]ost and related information should be valid, accurate, and verifiable. To be valid, information must represent what it purports to represent. To be accurate, information must be free from significant error and conform to applicable standards.”); Baranowski V.S. at 17.

²⁸ Baranowski V.S. at 17.

²⁹ *See id.* 16-17.

of these models by the Board could only complicate rate reasonableness proceedings, making it unfit for use.

B. The Step Functions Contained in the Current URCS are Not Inherently Wrong.

As was the case in prior iterations of reviews of URCS, the Report focuses on elimination of step functions.³⁰ Indeed, the Report's proposed URCS updates are largely superficial reshuffling of current URCS relationships with the goal of eliminating step functions. While AAR has recognized that step functions could be revisited, AAR has explained it should be done with updated empirical studies and with full stakeholder input.³¹ As suggested previously, there are approaches the Board could consider to smooth out some switching step functions while maintaining cost relationships.³² And, as discussed further below, the Board could evaluate the step functions for switching, clerical, and equipment costs for railroad owned cars based on upon a new study of empirical data to address a misallocation of costs.

Concerns regarding the step function in URCS between through train and unit train costing, however, are unfounded. The cost differential between through and unit train shipments is based on the change in URCS from using through train data to using unit train data to allocate costs. This is not necessarily problematic. For through train shipments, URCS assumes average through train sizes and average locomotive consists.³³ For unit trains, however, URCS requires a specific input for the number of cars and scales the locomotive

³⁰ See, generally, 2013 NPRM; 2016 SNPRM.

³¹ See AAR NPRM Comments at 10-13.

³² See AAR NPRM Comments at 14-17; AAR SNPRM Comments, at 11-18.

³³ See Baranowski V.S. at 11.

consist accordingly based on the system average.³⁴ This is a justifiable difference, even though on its face it may appear there are different costs where there should not be.

C. The Report's Analyses of URCS Regressions are Flawed.

The Report takes issue with several URCS regressions. First, the Report runs regressions on the combined URCS depreciation and return of investment results and finds a low correlation between the sum of depreciation expense and return on investment and changes in volume.³⁵ This is not surprising. Railroad assets are long-lived, meaning that reported depreciation includes some portion of expenditures over 30 years ago. There is little correlation with those expenditures and volume changes. Furthermore, the Report's multiplying of after-tax cost of capital by net investment has no direct link to traffic volume changes.³⁶ Looking at more recent roadway capital expenditure relative to volume changes would be more appropriate, as Mr. Baranowski explains.³⁷ Indeed, about 80 percent of those expenditures vary with changes in traffic levels.³⁸

The Report also attempts to change some account groupings but does so without recognizing the cost-drivers. For example, some URCS cost groupings have running and switching wages in different groups than their fringes, in part because of the railroad industry's

³⁴ See *id.*

³⁵ See *id.* 13.

³⁶ See Report at 95-96.

³⁷ See Baranowski V.S. at 14.

³⁸ See *id.*

uniqueness.³⁹ The Report takes issue with that and suggests rearranging them, yet some costs like fringes for railroad operating crews do not necessarily align with changes in volumes.⁴⁰ Another example is that URCS's maintenance overhead includes expenditures for engineering and planning for annual maintenance of way and capital projects, as well as environmental and other non-volumes related elements. The Report expects these would not be determined independently with respect to network variables, which is simply incorrect.⁴¹

II. The Board Could Address Other Matters Within URCS to Properly Reform Costing.

The Report explains that it sought to identify alternatives to URCS “that could better or more efficiently reflect the operating environment of the modern railroad industry.”⁴² However, much of the Report leaves the details of its suggestions to the stakeholders to develop.⁴³ As Mr. Baranowski discusses, there are numerous elements the Report recommends for further study, including the original 1988 Westbrook variability regressions, equated switch factors, normalization of certain operating expense categories, and URCS costing for different freight car types.⁴⁴ If the Board is inclined to develop detailed revisions to URCS through stakeholder input, AAR believes there are several corrections and updates to URCS that more appropriately reflect the “operating environment of the modern railroad industry.” Ultimately,

³⁹ See *id.* 14.

⁴⁰ See Report at 108-109.

⁴¹ See Baranowski V.S. at 14.

⁴² Report at 1.

⁴³ See Baranowski V.S. at 11-13.

⁴⁴ See *id.* at 12.

AAR believes that URCS should fully reflect all costs associated with rail transportation movements and allocate those costs as precisely as possible. The following suggestions would help do so.

A. The Board Should Correct the Overstatement of Intra- and Interterminal Switches.

Previously, AAR raised the concern that URCS overstates the number of intra- and interterminal switches.⁴⁵ The historical proportion of intra- and interterminal switches to originating and terminating switches is much higher in URCS than what is observed today. This means that URCS is allocating costs to switches that do not occur and thereby understating the costs assigned to switches that do occur. This simple misallocation can easily be fixed. The Board can either eliminate the Phase II allocation to intra- and interterminal switching, or it can simply replace the Worktable A1 Part 5B ratios by which the intra- and interterminal switch events are estimated with the actual calculated values from the CWS. Adopting either option will ensure that, as shown previously, there is not an improper allocation of costs in URCS.⁴⁶

B. Modify Costing to Reflect the Increase in Intermodal Movements.

Railroads now move more intermodal than when URCS was adopted and even more than when the Board last revisited URCS. The proportion of intermodal to carload traffic since 1996 has shifted from nearly 70 percent carload/30 percent intermodal to almost a 50/50

⁴⁵ See AAR NPRM Comments at 20-21; AAR SNPRM Comments, at 18-19.

⁴⁶ See AAR SNPRM Comments at 19, Baranowski/Fisher V.S. at 23.

split.⁴⁷ This significant increase in intermodal means there are reallocations of costs that could better reflect the modern railroad operations.

First, the assumptions applied by URCS for intermodal traffic is “derived from a special study conducted in the late 1960s, when [trailer on flatcar and container on flatcar (“TOFC/COFC”)] operations were still in the early stages of development.”⁴⁸ As the Board knows, intermodal operations are quite efficient, and more so than carload movements, especially when it comes to switching operations.⁴⁹ This is partially due to how the trains are built and operated, and the reduced switching required. As Mr. Baranowski explains, intermodal flat cars are typically coupled into long strings limited only by the length of the track, and are then pulled intact by road or switching locomotives to build the intermodal train.⁵⁰ The shipment size of intermodal trains can also vary with a number 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. URCS, however, does not recognize these modern-day efficiencies when costing the switching of intermodal flatcars. The Board should adjust the intermodal switch costs to reflect enhanced efficiencies.

Second, it may be appropriate to develop entirely separate costs for intermodal shipments. With the overall shift of more intermodal units than carload units as a share of rail

⁴⁷ Baranowski V.S., Chart 1 at 6.

⁴⁸ *Review of the General Purpose Costing System*, 2 S.T.B. 659 (STB served Sep. 19, 1997).

⁴⁹ *See id.* (explaining that “intermodal operations are significantly more efficient than those of a quarter century ago.”).

⁵⁰ *See Baranowski V.S.* at 19.

traffic, the Board should investigate the relationship of costs borne by carload traffic and intermodal traffic. As Mr. Baranowski explains, railroads routinely run dedicated intermodal trains, but the service units for intermodal shipments are reported as through trains.⁵¹ The Board could adjust intermodal switch cost to reflect larger block sizes. Additionally, the Board should investigate whether URCS is attributing costs in the same manner as costs are incurred by looking into the relationship between costs borne by carload business and costs borne by intermodal. The greater overall efficiency of intermodal traffic requires such analysis. Therefore, if the Board determines it is appropriate to revisit URCS, it should undertake an empirical evaluation of what should constitute an intermodal shipment for costing purposes, so as to ensure modern-day railroading operations are reflected by the Board's costing system.

C. Align URCS with R-1 Reporting of Unit Trains.

Providing an opportunity to revise URCS would allow the Board to treat different train characteristics more appropriately. As the Report notes, "the breakpoint between multi-car and unit train shipments is, at some level, artificial. A railroad may move shipments below the breakpoint as a unit train if it is efficient to do so, and likewise could handle shipments above the threshold in manifest trains."⁵² For example, there are likely a number of aggregate and grain trains for which the shipment size is below the URCS unit train threshold that move as true unit trains. Conversely, it is likely fewer commodities with shipments sizes above the URCS unit train shipment-size threshold move on through trains. Rather than investigate different

⁵¹ See *id.* at 20.

⁵² Report at 155.

artificial breakpoints, URCS could more appropriately be aligned with the R-1 reporting. As Mr. Baranowski explains, the Schedule 755 of carriers' R-1 reports defines unit trains as a specialized scheduled shuttle-type service in equipment, whether railroad or privately owned, dedicated to such service, and moving between origin and destination.⁵³ Utilizing this definition would help ensure URCS captures unit trains that operate as unit trains regardless of the artificial threshold. As this is how the information is already being reported, it would make sense to align the unit train definition in URCS with the reporting in the R-1. Doing so would not only solve the arbitrary changes to the URCS unit train threshold, it would also more accurately reflect operations.

D. Review URCS Development of the Number of Switches.

Pursuant to 49 C.F.R. § 1247.1, each Class I railroad must file an annual report of cars loaded and cars terminated, called the Form STB-54 which is an abbreviated version of the AAR Form CS-54-1.⁵⁴ Rule 11 shipments are reported in CS-54 as local shipments. This means that for every Rule 11 shipment, URCS counts one originating and one terminating switch. This is imprecise for costing purposes. As the Board knows, a Rule 11 shipment is an accounting rule designed "to protect confidential prices and/or meet customer requirements by providing multiple freight bills on shipments covered by a through Bill of Lading."⁵⁵ Costing of a Rule 11

⁵³ Baranowski V.S. at 20.

⁵⁴ See 49 C.F.R. § 1247.1; *Modification of the Class I Reporting Regulations*, EP 583 (STB served June 30, 2000) (explaining the abbreviated STB Form is "only that data used as inputs for URCS, namely, Sections A and B of AAR Form CS-54-1.").

⁵⁵ AAR, *Railway Accounting Rules*, at 9 (Nov. 2022).

shipment does not reflect operating practice. Operationally, a Rule 11 shipment incurs one originating switch or terminating switch and one interchange or it could just include two interchanges. Yet, URCS counts each Rule 11 shipment as two switches. This means some Rule 11 shipments are receiving at least one additional switch cost (originating or terminating) when there should only be one or no switch costs allocated to it. To the extent Rule 11 shipments have increased, this misallocation of costs is exacerbated. If the Board decides to revisit URCS, it should consider reviewing the imprecision in Rule 11 shipment switch costs.

E. Evaluate Current URCS Step Functions for Switching, Clerical, and Equipment Cost.

As the Board understands and recognizes, there are inherent efficiencies to utilizing railroad-owned cars because unlike privately owned cars they can serve a variety of different customers and do not require as many empty movements. As AAR has pointed out previously, efficiency adjustments made in URCS for railroad-owned cars results in cost savings for higher volumes shipments in certain car types being added into other car types that move in lower volume shipments, thereby not actually reflecting a cost savings.⁵⁶ This is a misallocation of costs that should be addressed. If URCS is revisited, the Board could evaluate the step functions for switching, clerical, and equipment costs for railroad owned cars. As Mr. Baranowski explains, such an evaluation should be based upon a new study of empirical data.⁵⁷

⁵⁶ See AAR NPRM Reply at 7.

⁵⁷ See Baranowski V.S. at 21-22.

F. Modern Railroading Necessitates a Review of URCS Regressions and Account Groupings.

Given changes in railroad operations since the adoption of URCS, the Board could also review the regression account groupings to align them more properly with modern operations. As Mr. Baranowski explains, unlike the Report which bases modifications to the account groupings and updates to regressions on expectations, such modifications and updates should be based on an evaluation of key drivers of operational and financial changes.⁵⁸ For example, the relative proportion of purchased services expenses reported in Schedule 410 of carriers' R-1 reports has increased over time.⁵⁹ As Mr. Baranowski explains, since 1988 – the year prior to the adoption of URCS – purchased services expenses have increased significantly across all major cost categories, with purchased services expenses' share of operating expenses, less general expenses, increasing 75% for way and structures expenses, 17% for equipment expenses, 87% for transportation expenses, and 107% for general and administrative expenses.⁶⁰ It is reasonable to assume that some purchased services vary more directly with changes in traffic levels. This could lead to a refinement of URCS regressions to evaluate separately.

Another one of the capacity variables in the URCS regressions – running track miles – has also experienced a transformation of sorts since 1988. Specifically, railroad mergers and acquisitions have resulted in thousands of miles of trackage rights over one another's combined networks.⁶¹ Among eastern carriers, there has been a 32 percent increase in track miles

⁵⁸ See *id.* at 21.

⁵⁹ See *id.*, Chart 5 at 8.

⁶⁰ See *id.*

⁶¹ See *id.*, Chart 4 at 8.

operated under trackage rights, while western carriers have seen a 91 percent increase.

Additionally, track miles operated by Class I carriers have declined system-wide by 20 percent since 1988.⁶² Yet, the track densities on those lines have increased substantially.⁶³ These are substantial changes to the industry. The Board could explore more appropriate means of reflecting these changes in URCS so that it aligns properly with the operating realities of modern railroading.

⁶² *See id.*

⁶³ *See id.*, Chart 2 at 7.

CONCLUSION

AAR supports the Board's continued efforts to develop the best means of reforming URCS. However, the Board should not proceed without updated empirical studies and full stakeholder input. Further, the Board should not pursue the NEIO or Hybrid model, as those models are not appropriate for railroad costing.

Respectfully submitted,



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February 23, 2023

APPENDIX A

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REPORT: ALTERNATIVES TO URCS

VERIFIED STATEMENT OF

Michael R. Baranowski

February 23, 2023

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I. INTRODUCTION

I am Michael R. Baranowski, a Senior Managing Director at FTI Consulting. My business address is 8251 Greensboro Drive, Suite 1111, McLean, Virginia, 22314. Details of my background and experience are set forth in Exhibit No. FTI-1 to this verified statement. I previously submitted joint verified statements with Benton V. Fisher in STB Ex Parte No. 431 (Sub-No. 4), *Review of the General Purpose Costing System* – (NPR) in support of the opening and reply comments of the Association of American Railroads (AAR) in June and September 2013 and again in October and November 2016. In those statements I explained that consistent with the foundation of URCS, any modifications or updates should be derived from empirical data studies. I explained also that the Board’s focus on removing the cost-based step functions in its Uniform Rail Costing System (URCS) largely missed the mark for necessary URCS updates, that many of its proposed adjustments were arbitrary and were not based on empirical analysis or study of actual data and that the proposed minor tweaks to URCS failed to consider the dramatic changes in railroad operating practices and traffic mix since the adoption of URCS 30 years prior.¹ The Board discontinued the Ex Parte No. 431 proceeding in June 2019.²

In October 2022, the Board opened this proceeding seeking comments on a March 2022 report by Laurits R. Christensen Associates, Inc. entitled *Alternatives to URCS* (Report).³ In its decision establishing this proceeding the Board explained that it commissioned Christensen Associates in 2020 to perform a study and write a report to identify and evaluate alternatives to URCS that could be used as a replacement general purpose costing methodology to generate

¹ See Baranowski/Fisher V.S. in 2013 NPRM and 2016 SNPRM.

² See 2016 SNPRM; *Review of the Surface Transportation Board's General Costing System*, EP 431 (Sub-No. 4) (STB served June 6, 2019).

³ Laurits R. Christensen Associates, Inc., *Alternatives to URCS* (Mar. 2022) (“Report”).

railroad-specific variable costs for regulatory purposes.⁴ I have been asked by the AAR to provide comments on its behalf.

Importantly, much of the focus of the analyses and recommendations of the Report are derived from Christensen's flawed threshold conclusion that short-run economic costs (marginal and incremental costs) are appropriate for the statutory application of URCS. Beyond that, as I describe in the subsequent sections of my statement, the Report does little to advance the ball on any meaningful URCS updates. The alternative it proposes is borne from its flawed conclusion related to short-run economic costs. This approach, referred to as the Hybrid model, combines a generic econometric determination of average marginal costs with the results of an econometric model that analyzes revenue per ton mile, referred to as the "New Empirical Industry Organization" (NEIO) model.⁵ The regression derived results of the Hybrid model are not sufficiently focused on the costs attributable to individual shipments and is thus a poor indicator of which are potentially subject to Board jurisdiction. The Hybrid model is also ill-equipped for the other detailed regulatory inquiries for which the Board currently uses URCS.

Further, by Christensen's own admission, the NEIO regressions cannot distinguish costs from market forces that drive the revenues it purports to analyze, which alone should disqualify the Hybrid model from further consideration.⁶ Many of the other Report recommendations are simply rehashes of prior efforts by the parties in Ex Parte 431. To the extent the Report proposes other new modifications to URCS, they are superficial and/or arbitrary and highlight a lack of understanding of railroad economic fundamentals.

⁴ See *Alternatives to URCS*, EP 771 (STB served October 21, 2022).

⁵ See Report at 12-14.

⁶ See Report at 54.

In Section II I provide an overview of the Report and its findings. In Section III I identify specific issues and concerns with the Report, its proposed approaches and its findings. In Section IV I identify meaningful updates and improvements to URCS for the Board to consider should it choose to move forward with a new proceeding.

II. OVERVIEW

In its Report, Christensen explains that the *Alternatives to URCS* project sets out to identify and evaluate possible alternatives to URCS that could better or more efficiently reflect the operating environment of the modern railroad industry. Christensen asserts also that the project is focused on costing methodologies that could be used as replacements or major structural updates to URCS to generate movement-specific variable costs for regulatory purposes.⁷ Based on the analyses undertaken, while acknowledging that URCS is fundamentally tied to the railroad regulatory system by statute and can only be replaced by an alternative cost system that produces variable costs for railroad movements, the authors reach the following principal conclusions:⁸

- Short-run economic costs (marginal and incremental costs) are the most appropriate economic cost concept for the statutory variable cost application of URCS. Even though current-methodology URCS produces “intermediate-run” costs, short-run marginal costs are consistent with the Railroad Accounting Principles Board’s (RAPB) Causality Principle and that such costs are “feasible” to produce with existing data.
- A preferred alternative to URCS is a Hybrid model that combines results from a NEIO model with marginal cost estimates from an econometric cost analysis. Under this approach, the econometric cost function provides estimates of non-shipment-specific or “generic” marginal costs and estimated coefficients on cost-related variables from the NEIO regression serve as the basis for computing shipment-specific adjustments to the generic costs.

⁷ See Report at 1.

⁸ See Report at 1-2, 12-24.

- Updates to the current URCS model are also potentially promising. These would include a full set of new Phase I short-run cost elasticities and improvements to the URCS legacy inputs, including the elimination of shipment size driven step functions.

Importantly, the Report recognizes explicitly that whether the choice is to pursue the proposed Hybrid model or updates to the existing URCS framework, a significant amount of additional study is required.

Because the Board at this time provided interested parties only access to the Christensen Report itself and none of the underlying source materials or work papers, my comments are limited and preliminary. Even so, I have concerns related to the Report and its findings including:

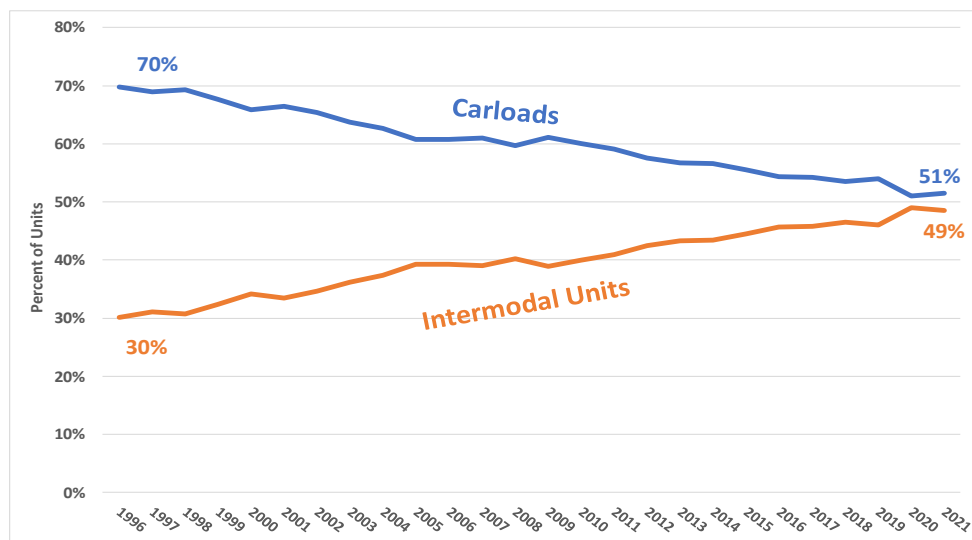
- Christensen’s conclusion that short-run economic costs (marginal and incremental costs) are appropriate for the statutory application of URCS is flawed.
- The URCS updates proposed in the Report pick up largely where the Ex Parte 431 proceedings left off – with a primary emphasis of eliminating the URCS step functions – yet leave much of the heavy lifting on meaningful updates to stakeholders.
- Evaluations surrounding proposed regression updates and the elimination of default variabilities are superficial and fail to account appropriately for observable changes in railroad industry operations and financial reporting.
- The proposed Hybrid model marries the derivation of a statistically derived “generic marginal cost” with factors derived from the NEIO revenue analysis. While the actual implementation details are fuzzy, the NEIO regression premise – that observed revenue per ton mile from the Carload Waybill Sample (CWS) can, with the appropriate filters, be used to determine costs – is deeply flawed and ignores railroad’s ability to price differentially relative to competition.
- Christensen’s efforts related to URCS use of default variabilities for depreciation and return on capital investment are flawed.
- Other proposed regression account group modification and updates are rudimentary and do not address major changes in railroad operations and financial reporting practices.

Overall, the Christensen Report effort is largely an academic exercise that fails to consider the changes that have taken place in the railroad industry that drive the need for

meaningful updates to URCS. Changes in traffic mix, train operations, outsourcing, maintenance practices and industry consolidation require that the URCS processes be reviewed to ensure that costs are being attributed to individual shipments in a manner consistent with the way in which those costs are incurred. Some of the facts to consider are:

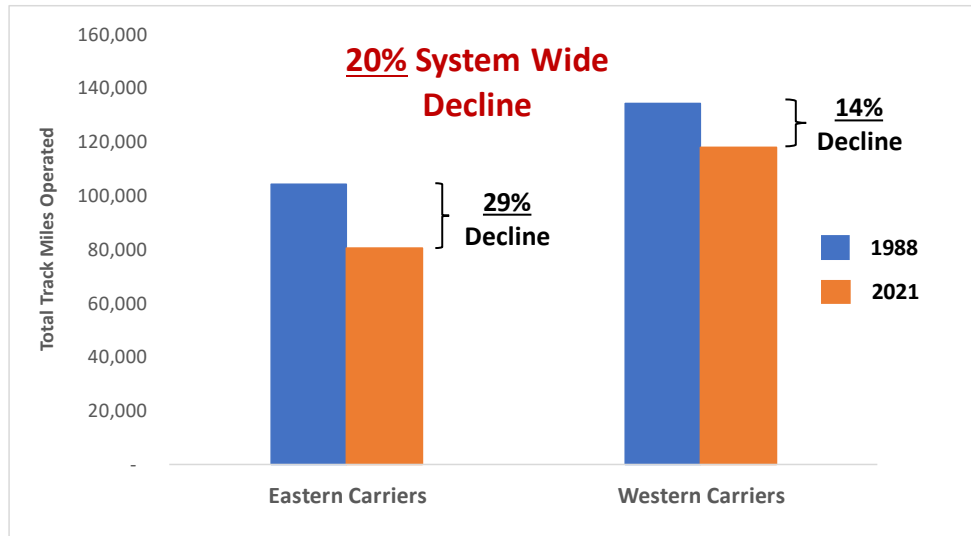
The proportion of intermodal shipments to carload shipments has increased dramatically as set forth in Chart 1, which shows intermodal versus carload trends from the Public Use Waybill File.

Chart 1
Change in Relative Proportion of Intermodal to Carload Shipments: 1996 to 2020



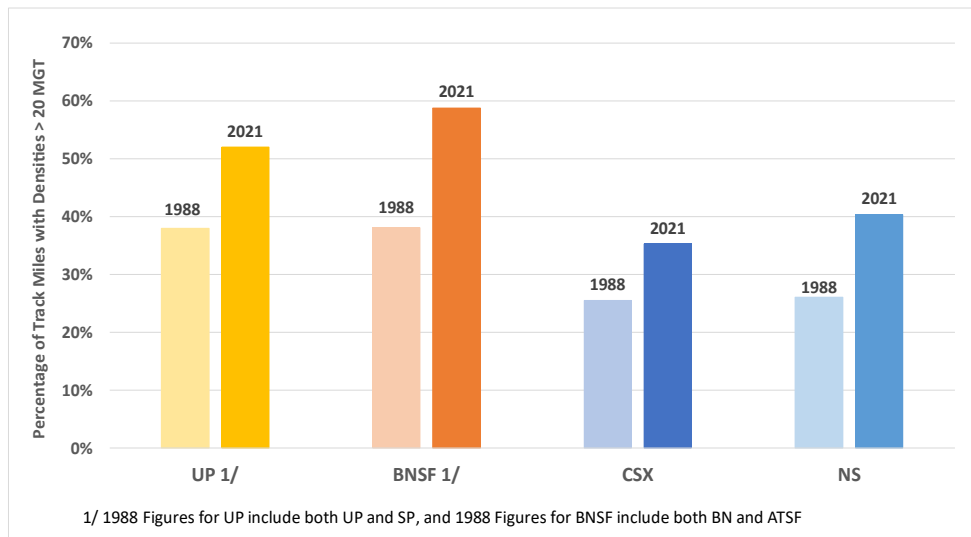
The number of track miles operated by Class I railroads has declined substantially as set forth in Chart 2.

Chart 2
Change in Track Miles Operated by Class 1 Carriers: 1988 to 2021



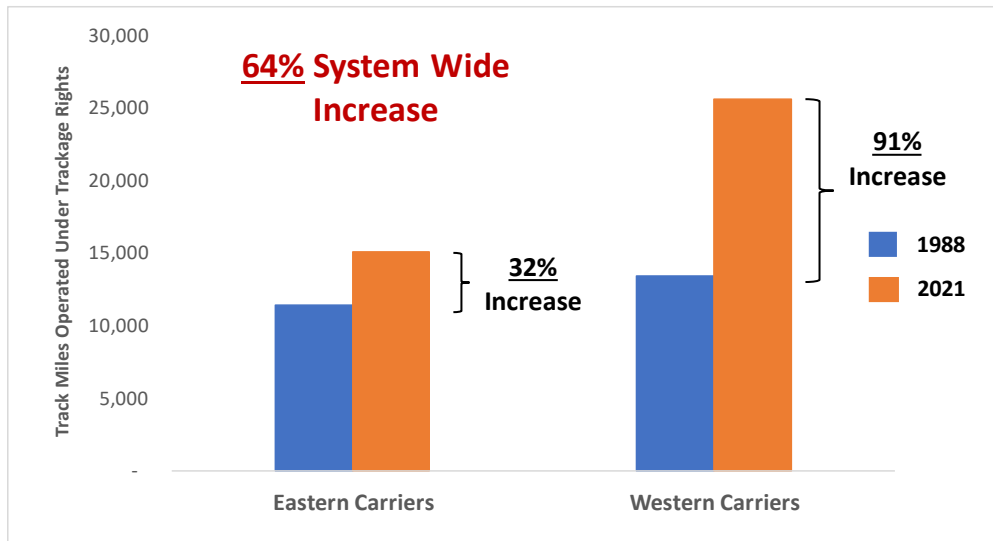
Average densities have increased as shown in Chart 3.

Chart 3
Change in Share of Track Miles on High Density Lines: 1988 to 2021



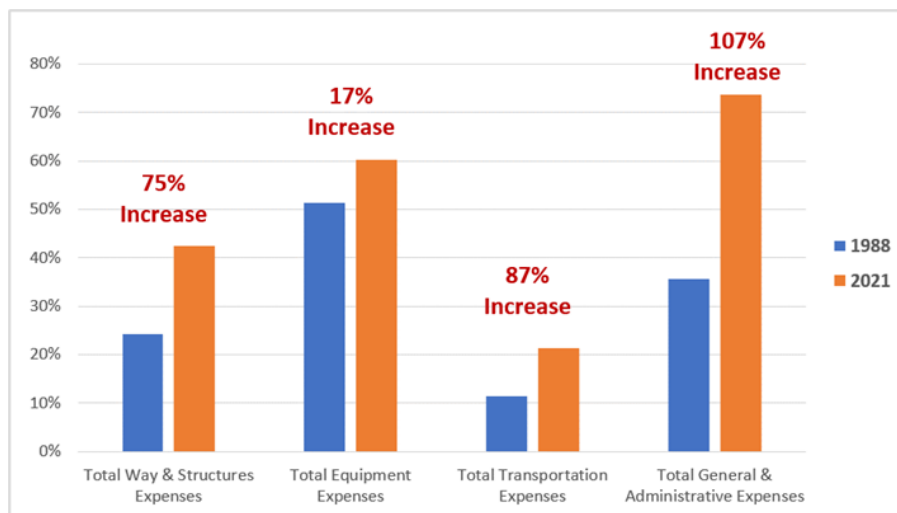
While overall track miles operated have decreased, track miles operated under trackage rights by Class I railroads have increased as shown in Chart 4.

Chart 4
Change in Track Miles Operated Under Trackage Rights by Class 1 Carriers: 1988 to 2021



Purchased services expenses have increased across all major cost categories. Most notably, their share of operating expenses, less general expenses, has increased 75% or more for way and structures, transportation, and general and administrative expenses, as set forth in Chart 5.

Chart 5
Change in Purchased Services Expenses Share of Operating Expenses, Less General Expenses: 1988 to 2021



III. SPECIFIC PROBLEMS WITH REPORT FINDINGS

In this section I discuss more specifically issues and concerns with the Christensen Report approach and findings.

A. Christensen Conclusion that Short-Run Costs are Appropriate is Wrong

Christensen's conclusion that the RAPB Causality principle requires short-run costs rests on the RAPB's discussion that the "concept of avoidability" is determined "on an incremental basis." The specific language of RAPB report reads as follows:

The Principle is based on the concept of avoidability as a test or determinant for causality. If the cost would not have been incurred but for the performance of the specified activity, then the cost is causally related to the activity.

The avoidability test is applied on an incremental basis. That is, the change in the level of an activity may result in a change in the level of costs incurred. Without the change in the level of activity, the change in the level of costs would not have occurred. However, elimination of the activity may not result in total cost avoidance if joint and/or common costs are present.⁹

Christensen combines phrases from the first sentence of each paragraph to conclude that under the Causality principle, avoided costs mean incremental costs and then, without any basis, concludes further that incremental costs mean short-run costs.¹⁰

Later in its discussion the RAPB is careful to explain that the time orientation for measurement of the incremental service is a critical component of the Causality Principle, explaining that the activity or service may occur for a "short time period, an intermediate time period, or a long time period."¹¹ As such, nothing in the RAPB report links the incremental

⁹ See "Railroad Accounting Principles: Final Report, Volume 2 – Detailed Report" (Issued September 1, 1987) at 9 ("RAPB Report, Vol. 2").

¹⁰ See Report at 12, 26-28.

¹¹ See RAPB Report, Vol. 2 at 10.

service to be measured by the Board's regulatory cost model with the short-run, as Christensen concludes.

Indeed, both the Board and Christensen recognize that the relevant time horizon for URCS is longer run variable cost. In its discussion of NEIO in its 2010 Report to Congress, the Board expressed its concern that a short-run marginal cost standard for URCS conflicts with the intent specified by Congress in 49 U.S.C. § 10707 to create the 180% R/VC jurisdictional threshold on railroad rate challenges.¹² Christensen itself acknowledges that its proposed Hybrid model alternative would require an act of Congress, noting that the RAPB affirmed that statute requires the railroad general purpose costing system to calculate variable costs.¹³

B. Report Presumption That All URCS Steps Functions Are Bad is Wrong

Much of the Report focuses on step functions in URCS and advocates for their elimination. As I explained in my earlier Ex Parte 431 comments, options exist for addressing the substantial cost differences in URCS switching costs at the shipment size breakpoints, so long as such changes are based on updated empirical studies.¹⁴ Should mitigation of the switching related step functions be done absent updated empirical studies, it is imperative that the overall URCS relative cost relationships are maintained. Indeed, I proposed approaches the Board could consider for smoothing out the URCS switching related step functions that preserve the embedded cost relationships, some of which are embraced by Christensen.¹⁵

¹² See Surface Transportation Board, *Report to Congress Regarding the Uniform Rail Costing System* (May 27, 2010) ("2010 Report to Congress") at 32.

¹³ See Report at 16.

¹⁴ See *Baranowski/Fisher V.S.* in 2013 NPRM and 2016 SNPRM.

¹⁵ See Report at 148-151.

I also explained in my 2016 opening comments that criticisms and proposals from the Board to eliminate the step function between URCS through train and unit train costing were misplaced.¹⁶ Nonetheless, Christensen is also critical of cost differentials produced by URCS for through train and unit train shipments of the same length.¹⁷ Christensen's concerns are similarly misplaced. As I explained previously, what is being described as a step function for unit-train shipments is not problematic because the cost differential between through and unit train shipments is based on the change in the URCS formulas themselves from using through train data to using unit train data to allocate costs. More specifically, train sizes for through train shipments are fixed in URCS as the averages reported in Schedule 755 of carriers' R-1 reports, so for shipments moving in through trains, URCS assumes average through train sizes and average locomotive consists for all shipments. URCS costing for unit trains however requires an input for the number of cars in the unit train. URCS uses this information to scale the assumed locomotive consist for the costed shipment based on the specified train size input relative to the system average. If the user's input value is lower than the system average unit train size, URCS reduces the locomotive consist accordingly. Similarly, if the input value is higher than the system average unit train, URCS increases proportionately the locomotive consist. Although this URCS unit train refinement results in different costs for otherwise seemingly similar through and unit train shipments, the difference is warranted.

C. Report Leaves Much of the Heavy Lifting on Meaningful URCS Updates to the Stakeholders

In its discussion of potential updates to URCS, the Report touches on many of the potential updates and modifications proposed by the Board in its May 2010 Report to Congress

¹⁶ See 2016 SNPRM Baranowski/Fisher V.S. at 16.

¹⁷ See Report at 156.

regarding URCS and in the following rounds of the Ex Parte 431 proceeding. Among the elements discussed by Christensen are the popular updates to the original 1988 Westbrook variability regressions, equated switch factors, normalization of certain operating expense categories and URCS costing for different freight car types. The Report also opines on the Board's Ex Parte 431 (Sub-No. 4) SNPR proposed modifications. For many of the topics addressed, Christensen concludes generally that improvements can be made, but that additional study and analyses are required to establish precisely what improvements those might be. For example, for the I&I switching mileage interval, the Report confirms the general consensus that the current 200 mile I&I switching interval for carload shipments is too low. It opines also that the 268 mile interval proposed by the Board in its Ex Parte 431 SNPR may be conservative. Rather than offering a specific proposal using waybill data or other data for determining the right figure to use for URCS, Christensen observes that the railroads themselves could measure the interval to solve the issue.¹⁸

Another example is the discussion of switching costs and the SNPR proposal to change the allocation of switch engine minute (SEM) costs from a per carload basis to one which includes both a time component and event component, as a means of eliminating the current URCS step functions. On this topic Christensen recounts the comments received by the Board from interested parties on its proposed CWB curves and voiced its own concern about the negative slope for I&I switching produced by the Board's proposal. Rather than proposing a specific plan for resolving the switch cost allocation issue and updating URCS, it concedes that

¹⁸ See Report at 153-154.

the ultimate solution to the issues and criticism is to collect additional data and/or conduct studies to empirically determine the appropriate SEM cost curves.¹⁹

Overall, despite its length, the Report leaves much of the heavy lifting to stakeholders.

Unresolved items include (but are not limited to):²⁰

- Variabilities for URCS return on investment (ROI) and depreciation (DRL) expenses
- Metrics for eliminating URCS switch cost-related step functions
- Whether metrics relating to switching efficiencies should apply equally to clerical costs
- The URCS delineation point for unit trains
- How to establish the inter and intra-train switching interval

D. Christensen's Empirical Analyses of URCS Regressions Are Flawed

1. Assessments of the URCS Default Variabilities for Depreciation and Return on Investment (ROI) Are Flawed

As part of its assessment of the URCS variabilities, Christensen challenges the 50 percent default variabilities used by URCS for depreciation (DPR) and return on investment (ROI). To test the validity of the default regressions however, rather than look at the drivers of DPR and ROI, specifically capital expenditures, Christensen runs regressions on the combined URCS depreciation and return on investment results. Not surprisingly, the Report finds a low correlation between the sum of depreciation expense and return on investment relative to changes in volume.²¹ There are a number of obvious reasons for this. For one, the relatively long lives of railroad assets means that the reported depreciation amounts include a proportion of expenditures from upwards of 30 years ago. These have nothing at all to do with more recent changes in volumes. Christensen's return on investment multiplies net investment by the

¹⁹ See Report at 148-151.

²⁰ See Report at 141, 148-156.

²¹ See Report at 120-123.

railroad industry after-tax cost of capital, which has no direct linkage to annual changes in traffic volumes.²² The analysis also uses GDP Price Index as a deflator when more railroad specific measures of changes in costs are readily available.²³

Had Christensen, for example, looked at the more recent trends in railroad roadway capital expenditures relative to changes in volume and used a better metric for changes in railroad costs, it would have found that about 80 percent of road property related capital expenditures vary with changes in traffic levels.

2. Christensen Efforts to Update URCS Regressions and Modify Account Groupings Are Wrong

Christensen also dabbles in rearranging some of the current URCS regression cost groupings. Here again, the modifications tested by Christensen demonstrate a lack of appreciation for the actual drivers of specific costs. First, Christensen takes issue with the cost groupings that have running and switching wages in different cost groups than their associated fringes.²⁴ However, because of a number of factors, some of which are unique to the railroad industry, certain aspects of fringe benefits for railroad operating crews would not be expected to align with changes in shipment volumes. These include vacation accruals, railroad retirement payments and, unique to the railroad industry, extra board payments and constructive allowance.

Second, Christensen opines that it would not expect railroad maintenance expenses and maintenance overhead expenses to be determined independently with respect to network variables.²⁵ In fact, they are. Maintenance overhead includes expenditures for engineering and planning for annual maintenance of way and capital projects, as well as environmental and other

²² See Report at 95-96.

²³ See Report at 121.

²⁴ See Report at 108-109.

²⁵ See Report at 108-109.

non-volume related elements. Of particular relevance here is all of the engineering, planning and testing that went into the railroads' efforts to comply with the Federal Mandate for the installation of Positive Train Control (PTC).

While there is little question that the original URCS regression account groupings may no longer align with the manner in which expenditures occur, the proper updates of cost pools should be based on more than simple expectations.

E. The Proposed Hybrid Model Is Unsuitable as a Regulatory Costing Tool

Christensen offers what it describes as a preferred alternative to URCS in the form of a Hybrid model that combines results from its NEIO offering with marginal cost estimates from an econometric cost analysis. The Board has not made the Christensen work papers for the development of the Hybrid model available, so the implementation details are opaque. Even so, based on the parameters outlined in the Report, there are four fundamental and seemingly fatal flaws with the proposal. First, it is derived from Christensen's flawed premise that short-run marginal costs are the correct standard for regulatory costing. URCS develops what are properly described as mid-run variable costs that allow specially for normalization of certain expenditure categories that are subject routinely to fluctuation over a multi-year timeframe. Nothing proposed by the Board in the earlier Ex Parte 431 proceedings or in its 2010 Report to Congress suggests that the URCS time horizon is in any way at issue, and Christensen's faulty conclusion is no basis for change.

Second, the Hybrid model lacks any adherence to the RAPB Causality Principle. The Hybrid model starts with a generic marginal cost that is derived from a series of regression analyses of expenses dating back to 1990.²⁶ To develop the cost of a specific movement, the

²⁶ See Report at 89-120.

generic average marginal cost is adjusted by the “movement-specific adjustment factor,” which is developed from the coefficients on shipment specific variables in the model that are assumed to affect revenues and costs.²⁷ Shipment specific characteristics include length of haul, shipment size, tons per car, car type, and car ownership, along with intermodal, hazardous material, and interchange flags. The model also considers in some manner tonnage volumes between origin and destination states as a means of potentially identifying unit train deployment. Christensen acknowledges that there are other factors outside of these shipment specific characteristics that can affect revenue per ton mile, bucketing these characteristics into either “market structure” indicators or “other control variables”. The “market structure” indicators attempt to capture the effects of market competition on revenues by considering whether there is a nearby port or waterway facility at the shipment’s origin and destination, and whether there is competition from other railroads based on a railroad’s market share within the origin and destination county. The “other control variables” include time, commodity, state, and railroad specific indicators.²⁸ Without the benefit of any work papers, it is impossible to assess the relevance or importance of the individual considerations. What is clear is that there is no direct link between calculated costs and actual cost drivers under the Hybrid model approach.

Third, the model is not sufficiently granular or precise to satisfy the multitude of requirements for a Board regulatory costing tool. The URCS regulatory costing tool requires nine specific inputs to determine costs – railroad, loaded movement miles, shipment type, number of cars per train, net tons per carload, commodity transported, train movement type, railcar owner and railcar type. A number of these inputs are often disputed by parties in rate

²⁷ See Report at 59-61.

²⁸ See Report at 65-67.

reasonableness proceedings before the Board. It is not clear from the Hybrid model what specific input would be required in a rate proceeding before the Board or what the specific regulatory answer for a particular shipment might be. Further, the NEIO regression parameters are likely to introduce a new batch of disputed inputs for a rate reasonableness proceeding, for example related to the “market structure” indicators that are meant to capture the effects of other rail competition or the proximity (and how to measure that distance) of ports or waterways facilities on regulatory costs. It is also important to note that the “market structure” indicators identified by Christensen fail to consider competitive influence from trucking, even though methods of doing so exist within other STB proceedings. For instance, in Ex Parte No. 756, the Board established a mileage threshold, up to which trucking is a competitive alternative, as one factor in determining market dominance under its streamlined market dominance approach.²⁹

Beyond rate reasonableness proceedings, it is unclear how the Hybrid model might be deployed in other regulatory venues where URCS currently plays a role. These include abandonments, Simplified Stand-Alone Costs, the Maximum Markup Methodology for Stand-Alone Cost and others.

Fourth, and perhaps most importantly, by Christensen’s own admission the Hybrid model approach, specifically the NEIO regressions of revenue per ton mile, are unable to distinguish market-related effects from cost-related effects on railroad pricing.³⁰ As a result, beyond a lack of adherence to the Causality Principle, the Hybrid model fails the Data Integrity Principle, which requires that costs should be valid, accurate and verifiable.

²⁹ See 2020 Final Rule; *Market Dominance Streamlined Approach*, EP (STB served July 31, 2020) at 13.

³⁰ See Report at 54.

IV. URCS UPDATES THAT THE BOARD COULD CONSIDER

As detailed above, the Christensen Report covers much ground and offers a litany of assessments and opinions, but in the end does little in advancing any meaningful updates to URCS. It's proposed Hybrid model alternative with NEIO regressions of observed revenue per ton mile suffers two critical flaws. First, it is born from Christensen's incorrect conclusion that short-run or marginal costs are the appropriate standard for a regulatory costing model. Second, by Christensen's own admission, the Hybrid model is unable to disentangle costs from the effects of market markup factors on rates. These flaws should forever remove the Hybrid model from further consideration in the STB regulatory context. This leaves the Board with a dilemma. URCS is clearly in need of updating, yet there are really no meaningful proposals for its consideration. Based on a review of prior update recommendations from the Board's May 2010 Report to Congress and the Ex Parte 431 proceedings, and considering certain elements of the Christensen Report, I have identified a list of corrections and updates for Board consideration.

A. Corrections

1. *Correct overstatement of the number of intra and inter-terminal switches (2016 EP 431 Opening Comments)*

As I explained in Ex Parte 431, in developing the average switch engine minutes per switch event, URCS overstates the number of intraterminal and interterminal switches.³¹ Based on studies reaching back as far as the early 1950s, URCS Worktable A1, Part 5B includes input values for the ratio of intraterminal and interterminal switches to originating and terminating switches. The historical proportion of these switches relative to originating and terminating switches is a vestige of operating practices no longer in place and is much higher than the number of intraterminal and interterminal switched costed by the Board in the CWS. As such,

³¹ See Baranowski/Fisher V.S. in 2016 SNPRM at 19-23.

by overstating the number of interterminal and intraterminal switches, URCS is allocating costs to switches that do not occur and thereby understating the cost assigned other switches that do occur.

The potential remedies for the Board are straightforward. It can either eliminate entirely the Phase II allocation to intraterminal and interterminal switching, or it can simply replace the Worktable A1 Part 5B ratios by which the intraterminal and interterminal switch events are estimated with the actual calculated values from the CWS.

B. Updates

1. Adjust the Phase II Switch Engine Minutes to Reflect Larger Block Sizes for Intermodal Shipments

As I also explained in Ex Parte 431, the URCS development of switch engine minutes should be further modified to reflect larger block sizes for intermodal shipments.³² Intermodal shipments were not as ubiquitous when URCS was adopted as they are today, and the intermodal switching inputs in URCS are from a 1960s era switching study. Today, intermodal flat cars are typically coupled into long strings limited only by the length of available track at the carrier intermodal facility. These strings of coupled intermodal flat cars are then pulled intact by road or switching locomotives to build the intermodal train.

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. URCS

³² See Baranowski/Fisher V.S. in 2016 SNPRM at 23-25.

does not reflect the modern day efficiencies of the switching of intermodal flat cars and should be updated based on a review of actual intermodal originating and terminating switching.

2. Eliminate the disconnect between the carriers' R-1 reporting of unit, through and way train characteristics with the treatment within URCS

As the Board has acknowledged previously and as Christensen observes, the URCS shipment size breakpoint between multi-car and unit train shipments is, at some level, arbitrary. A railroad may move shipments below the breakpoint as a unit train if it is efficient to do so, and likewise could handle shipments above the threshold in manifest trains.

Unlike URCS, the instructions to Schedule 755 of the carriers' R-1 reports define unit trains as a specialized scheduled shuttle type service in equipment (railroad or privately owned) dedicated to such service, moving between origin and destination, not by the number of cars in a train. Much has been said about potential changes in the URCS unit train threshold in both the prior Ex Parte 431 proceedings and by Christensen. The proposed solutions thus far have largely been based on observed CWS shipment sizes. Aligning URCS with the actual R-1 unit train definition would be more accurate.

3. Investigate the development of separate cost groupings for intermodal shipments

As discussed above, intermodal shipments have grown considerably relative to carload shipments since the adoption of URCS. Although railroads routinely run dedicated intermodal trains, the service units for intermodal shipments are reported for purposes of URCS costing as through trains. In addition to adjusting intermodal switch cost to reflect larger block sizes, the Board should investigate the relationship between costs borne by carload business and costs borne by intermodal business to determine if URCS is attributing costs in a manner consistent with the way the costs are incurred.

4. Review URCS development of the number of originating, terminating and interchange switches from the CS-54 data

Although the Board has not made the CWS data available for these comments, it is likely such data would show an increase in the number of interline shipments reported under Rule 11 since the adoption of URCS. Rule 11 shipments are reported in CS-54 as local shipments. URCS uses the CS-54 report to count the number of originating and terminating switches as part of its assessment of switch engine minutes per switching events. Specifically, URCS counts one originating and one terminating switch for each Rule 11 shipment when each shipment actually incurs one originating or terminating switch and one interchange or two interchanges.

5. Update URCS cost grouping and regressions

Updating the URCS regressions is routinely part of every discussion related to any review of URCS. That is no different here. What is different is that unlike the Christensen approach, modifications to the account groupings and updates to the URCS regressions should not be based on expectations but instead on a thorough evaluation of key drivers of operational and financial reporting changes since the original URCS regressions were completed. Further, any assessment of the current URCS default variabilities should focus on how capital expenditures are actually made – not how they are treated withing URCS.

6. Evaluate current URCS step functions for switching, clerical, and equipment cost for use of railroad-owned cars during switching, using current empirical data.

While what have been described as “step functions” within URCS are the direct result of make-whole adjustments that are designed to account for differences in specific operating practices and related cost drivers, the step functions for switching, clerical, and equipment costs for use of railroad owned cars during switching produce significant differences in attributed costs at shipment size break points that could better aligned with actual costs. There has been much

discussion in the earlier Ex Parte 431 proceedings and here in the Christensen Report about “smoothing” the current step functions. As I have explained previously, any evaluation of the current URCS step functions for switching, clerical, and equipment costs for use of railroad owned cars during switching should be based on a new study of empirical data. Any attempts at smoothing absent an analysis of empirical data should retain the activity-based relative cost relationships currently in URCS.

V. CONCLUSIONS

Overall, the Christensen Report covers little, if any, new ground related to meaningful updates to URCS. The proposed alternative Hybrid model is founded on Christensen’s flawed conclusion that short-run economic cost is the appropriate standard for railroad regulatory costing. The Hybrid model lacks any adherence to the Causality Principle and, by Christensen’s own admission, is incapable of distinguishing the effects of market forces from cause-based drivers of costs. The proposed Hybrid model should be eliminated from any consideration as a viable alternative to URCS.

The Christensen discussion relating to potential updates to URCS touches on many of the proposals made previously by the Board in its 2010 Report to Congress and by participants in the Ex Parte 431 proceedings. The Report, however, falls short of proposing any actual changes to URCS, acknowledging instead that options exist and that more study is required. As a result, there are no specific proposals in the Report on which the Board can take any action.

The railroad industry has changed dramatically since the adoption of URCS and it is likely that URCS is allocating costs today in a manner than is inconsistent with the drivers of the those costs. Any updates to URCS initiated by the Board should ensure, to the extent practical for a general purpose costing system, that URCS is allocating costs to individual shipments in a

manner that aligns with how those costs are incurred. The updates I have identified are the appropriate starting point.

VERIFICATION

I declare under penalty of perjury that the foregoing is true and correct. I further certify that I am qualified and authorized to sponsor and file this testimony.

Executed on February 23, 2023

A handwritten signature in black ink, reading "Michael Baranowski". The signature is written in a cursive style with a large, stylized "M" and "B".

Michael R. Baranowski

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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 analyses for large network industry regulatory 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 short and long run operations, expenses, capital expenditures and revenues.
- Analysis of market dynamics effecting pricing and development of a suite of modeling tools to assess the regulatory risk of tariff and contract transportation rates for a mix of commodities and services based on key cost drivers and forecasts.
- Expert testimony related to the determination of damages in a variety of commercial contract disputes in the railroad, telecommunications, pipeline and trucking industries.
- Evaluation of market effects of proposed railroad mergers and identification of merger related efficiencies and quantification of the associated savings.

- Going concern and liquidation value estimates for railroad related assets as the basis for trackage rights and competitive access compensation.
- Develop detailed cost and revenue allocation metrics to assess relative profitability of individual asset groups or segments of complex network industries.

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.

Select Railroad Testimony

Surface Transportation Board

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
June 20, 2013	Ex Parte No. 431 (Sub-No. 4) Review of the General Purpose Costing System, Comments of the Association of American Railroads, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
September 5, 2013	Ex Parte No. 431 (Sub-No. 4) Review of the General Purpose Costing System, Reply Comments of the Association of American Railroads, Joint Verified Statement of Michael R. Baranowski and Benton V. Fisher
July 21, 2014	Docket No. 42121 Total Petrochemicals & Refining USA, Inc. v. CSX Transportation, Inc., Reply Evidence of CSX Transportation, Inc.
September 5, 2014	Ex Parte No. 722 Railroad Revenue Adequacy, Opening Comments of Norfolk Southern Railway Company, Verified Statement of Michael R. Baranowski
November 4, 2014	Ex Parte No. 722 Railroad Revenue Adequacy, Reply Comments of Norfolk Southern Railway Company, Verified Statement of Michael R. Baranowski
September 4, 2015	Docket No. FD 35743 Application of the National Railroad Passenger Corporation Under 49 U.S.C. § 24308(a) - Canadian National Railway Company, Opening Evidence of Illinois Central Railroad Company and Grand Trunk Western Railroad, Joint Verified Statement of Michael Baranowski and Benton Fisher

October 7, 2015	Docket No. 42121 Total Petrochemicals & Refining USA, Inc. v. CSX Transportation, Inc., Supplemental and Compliance Evidence of CSX Transportation, Inc.
October 23, 2015	Docket No. FD 33760 (Sub-No. 46) BNSF Railway Company - Terminal Trackage Rights -- Kansas City Southern Railway Company and Union Pacific Railroad Company, BNSF Rebuttal Statement, Verified Statement of Michael R. Baranowski
November 20, 2015	Docket No. 42121 Total Petrochemicals & Refining USA, Inc. v. CSX Transportation, Inc., Reply to Supplemental and Compliance Evidence
March 7, 2016	Docket No. 42142 Consumers Energy Company v. CSX Transportation, Inc., Reply Evidence of CSX Transportation, Inc.
July 18, 2016	Docket No. FD 35842 New England Central Railroad, Inc. -- Trackage Rights Order -- Pan Am Southern LLC, Pan Am Southern Reply Evidence, Verified Statement of Michael R. Baranowski
July 26, 2016	Ex Parte No. 704 (Sub-No. 1) Review of Commodity, Boxcar, and TOFC/COFC Exemptions, Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Benton V. Fisher
August 26, 2016	Ex Parte No. 704 (Sub-No. 1) Review of Commodity, Boxcar, and TOFC/COFC Exemptions, Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Benton V. Fisher
October 11, 2016	Ex Parte No. 431 (Sub-No. 4) Review of the General Purpose Costing System, Comment of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Benton V. Fisher
October 26, 2016	Ex Parte No. 711 (Sub-No. 1) Reciprocal Switching, Opening Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski
November 7, 2016	Ex Parte No. 431 (Sub-No. 4) Review of the General Purpose Costing System, Reply Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Benton V. Fisher
March 6, 2017	Docket No. 42142 Consumers Energy Company v. CSX Transportation, Inc., Supplemental Reply Evidence of CSX Transportation, Inc.
January 12, 2018	Docket No. FD 32760 (Sub-No. 46) BNSF Railway Company - Terminal Trackage Rights -- Kansas City Southern Railway Company and Union Pacific Railroad Company, BNSF Petition to Establish Conditions of Use and Compensation, Verified Statement of Michael R. Baranowski
July 16, 2018	Docket No. FD 32760 (Sub-No. 46) BNSF Railway Company - Terminal Trackage Rights -- Kansas City Southern Railway Company and Union Pacific Railroad Company, BNSF Rebuttal, Verified Statement of Michael R. Baranowski
April 26, 2019	Docket No. 42144 North American Freight Car Association, et al v. Union Pacific Railroad Company, Verified Statement of Michael R. Baranowski

January 26, 2021	Docket No. FD 32760 (Sub-No. 46) BNSF Railway Company - Terminal Trackage Rights -- Kansas City Southern Railway Company and Union Pacific Railroad Company, BNSF Opening Statement on Compensation, Verified Statement of Michael R. Baranowski
January 29, 2021	Ex Parte No. 704 (Sub-No. 1) Review of Commodity, Boxcar, and TOFC/COFC Exemptions, Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Benton V. Fisher
April 12, 2021	Docket No. FD 32760 (Sub-No. 46) BNSF Railway Company - Terminal Trackage Rights -- Kansas City Southern Railway Company and Union Pacific Railroad Company, BNSF Reply Statement on Compensation, Verified Statement of Michael R. Baranowski
May 12, 2021	Docket No. FD 32760 (Sub-No. 46) BNSF Railway Company - Terminal Trackage Rights -- Kansas City Southern Railway Company and Union Pacific Railroad Company, BNSF Rebuttal Statement on Compensation, Verified Statement of Michael R. Baranowski
June 21, 2021	Docket No. FD 36500, Canadian Pacific Ry. – Control – Kansas City Southern, Canadian Pacific Applicants’ Response to KCS Reply, Verified Statement of Michael R. Baranowski
October 29, 2021	Docket No. FD 36500, Canadian Pacific Ry. – Control – Kansas City Southern, Railroad Control Application, Verified Statement of Michael R. Baranowski
February 14, 2022	Ex Parte No. 711 (Sub-No. 1), Reciprocal Switching, supplemental Comments of the Association of American Railroads, Verified Statement of Michael R. Baranowski and Nathaniel S. Zebrowski
May 27, 2022	Docket No. FD 35743, Application of the National Railroad Passenger Corporation Under 49 U.S.C. 24308(a) – Canadian National Railway Company, Post-Interim Decision Opening Submission of CN, Verified Statement of Michael R. Baranowski
July 12, 2022	Docket No. FD 36500, Canadian Pacific Ry. – Control – Kansas City Southern, Railroad Control Application, Reply Verified Statement of Michael R. Baranowski on behalf of Applicants
August 22, 2022	Docket No. FD 35743, Application of the National Railroad Passenger Corporation Under 49 U.S.C. 24308(a) – Canadian National Railway Company, Post-Interim Decision Rebuttal Submission of CN, Verified Statement of Michael R. Baranowski

U.S. District Court for the Northern District of Texas, Fort Worth Division

November 7, 2017	Civil Action No. 4:16-cv-1061-O, BNSF Railway Company v. Panhandle Northern Railroad LLC, Expert Report of Michael R. Baranowski
November 22, 2017	Civil Action No. 4:16-cv-1061-O, BNSF Railway Company v. Panhandle Northern Railroad LLC, Reply Expert Report of Michael R. Baranowski
December 21, 2017	Civil Action No. 4:16-cv-1061-O, BNSF Railway Company v. Panhandle Northern Railroad LLC, Rebuttal Expert Report of Michael R. Baranowski

Arbitrations and Mediations

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
September 6, 2013	IN JAMS ARBITRATION, Case No. 1220044715, Union Pacific Railroad Company v. BNSF Railway Company, Expert Report of Michael R. Baranowski
October 25, 2013	IN JAMS ARBITRATION, Case No. 1220044715, Union Pacific Railroad Company v. BNSF Railway Company, Expert Reply Report of Michael R. Baranowski
January 1, 2014	IN JAMS ARBITRATION, Case No. 1220044715, Union Pacific Railroad Company v. BNSF Railway Company, BNSF Post-Argument Submission, Affidavit of Michael R. Baranowski
April 14, 2017	American Arbitration Association Case No. 01-15-0004-4830 and 01-15-0004-4931, Arbitration Between FirstEnergy Generation LLC and CSX Transportation, Inc. & BNSF Railway Company, Expert Report of Michael R. Baranowski
November 22, 2017	American Arbitration Association Case No. No. 01-16-0003-6208, CSXT Transportation, Inc. v. JEA and Florida Power & Light Co., Expert Report of Michael R. Baranowski
January 26, 2018	American Arbitration Association Case No. No. 01-16-0005-5615, BNSF Railway Company & Norfolk Southern Railway Company v. FirstEnergy Generation, LLC, Expert Report of Michael R. Baranowski
February 16, 2018	American Arbitration Association Case No. 01-16-0005-5615, BNSF Railway Company & Norfolk Southern Railway Company v. FirstEnergy Generation, LLC, Rebuttal Expert Report of Michael R. Baranowski
February 23, 2018	American Arbitration Association Case No. 01-17-0000-0130, J.B. Hunt Transport, Inc. and BNSF Railway Company, Expert Report of Michael R. Baranowski
April 17, 2018	American Arbitration Association Case No. 01-17-0000-0130, J.B. Hunt Transport, Inc. and BNSF Railway Company, Reply Expert Report of Michael R. Baranowski
June 22, 2018	JAMS REF #1100088262, BNSF Railway Company v. Union Pacific Railroad Company, Expert Report of Michael R. Baranowski
March 25, 2019	American Arbitration Association Case No. 01-17-0000-0130, J.B. Hunt Transport, Inc. and BNSF Railway Company, Expert Report of Michael R. Baranowski
April 26, 2019	American Arbitration Association Case No. 01-17-0000-0130, J.B. Hunt Transport, Inc. and BNSF Railway Company, Reply Expert Report of Michael R. Baranowski
January 18, 2021	American Arbitration Association Case No. 01-18-0001-3283, BNSF Railway Company & Norfolk Southern Railway Company, and Dynegy Midwest Generation, LLC, Expert Report of Michael R. Baranowski on Behalf of BNSF & NS
February 5, 2021	American Arbitration Association Case No. 01-18-0001-3283, BNSF Railway Company & Norfolk Southern Railway Company, and Dynegy Midwest Generation, LLC, Expert Reply Report of Michael R. Baranowski on Behalf of BNSF & NS
January 14, 2022	Arbitration between The Port of Vancouver, USA and BNSF Railway Company, Reply Expert Report of Michael R. Baranowski

Select Pipeline Testimony

Federal Energy Regulatory Commission

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| November 20, 2019 | Docket Nos. OR18-7-002, et al. (Consolidated), Epsilon Trading, et al v. Colonial Pipeline Company, Prepared Answering Testimony of Michael R. Baranowski on behalf of Colonial Pipeline |
| March 20, 2020 | Docket Nos. OR18-7-002, et al. (Consolidated), Epsilon Trading, et al v. Colonial Pipeline Company, Prepared Answering Testimony to Trial Staff of Michael R. Baranowski on behalf of Colonial Pipeline |