



Sandra Dearden, President

April 24, 2009

Surface Transportation Board  
Attn: STB Ex Parte No. 431 (Sub-No. 3)  
395 E Street S.W.  
Washington, DC 20423-0001

224997

**RE: Review of the Surface Transportation Board's General Costing System**

Yesterday I filed a notice of intent to participate in this proceeding. Attached is my written testimony to be entered into the record.

This original is being filed electronically.

Sincerely,

**Before the  
SURFACE TRANSPORTATION BOARD  
Washington, D.C. 20423**

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**REVIEW OF THE SURFACE  
TRANSPORTATION BOARD'S  
GENERAL COSTING SYSTEM**

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**COMMENTS SUBMITTED OF  
HIGHROAD CONSULTING. LTD.**

**By: Sandra J. Dearden  
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**BEFORE THE  
SURFACE TRANSPORTATION BOARD**

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**STB Ex Parte No. 431 (Sub-No. 3)**

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**REVIEW OF THE SURFACE TRANSPORTATION BOARD'S  
GENERAL COSTING SYSTEM**

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**COMMENTS SUBMITTED BY  
HIGHROAD CONSULTING, LTD.**

My name is Sandra J. Dearden; I am founder and President of HIGHROAD, a transportation and logistics consulting firm located in Chicago, Illinois. Prior to founding HIGHROAD in 1996, I held a series of management positions over the course of a 26-year career in the marketing and sales departments of Illinois Central Railroad and the Chicago & North Western Transportation Company (North Western). During my tenure at North Western, I had profit and loss responsibility for a variety of transportation commodity groups. My last position at North Western was General Manager – Marketing & Sales for the Agricultural Commodities strategic business unit.

We commend the Board for initiating this proceeding, and I appreciate the opportunity to participate in this very important hearing. Because URCS is highly technical in nature, the proposed update of URCS is an ambitious undertaking. If a decision is made to revise the existing URCS model, the questions and issues posed by the Board in the Notice of Public Hearing are a good start towards understanding the scope of such a significant project.

Knowing that railroad marketing personnel do not use Uniform Rail Cost System (URCS) costs for decision making, shortly after I founded HIGHROAD I conceived and directed development of a rail costing model. To my knowledge, it is the only rail costing model in the industry that is not based on URCS. Costs calculated by HIGHROAD's model, INSIGHT: Rail Edition©, are based on actual financial data filed by the Class I railroads in their R-1 reports to the STB. Further, it is the only model that includes costs for Canadian railroads (Canadian rail costs are based on data reported in the Statistics Canada's Rail-In-Canada report). HIGHROAD has used INSIGHT: Rail Edition© on a variety of studies for railroad and rail shipper clients, including studies contracted by two Class I railroads.

Since founding HIGHROAD, I have been involved with numerous Surface Transportation Board proceedings involving regulatory costing, including STB Finance Docket No. 35063, Michigan Central Railway, LLC, Acquisition and Operation Exemption Lines of Norfolk Southern Railway Company. For that proceeding, Counsel asked HIGHROAD to perform cost studies on representative moves with the objective to determine railroad costs on the haulage portion of the Marquette Rail shipments from Grand Rapids, MI to Elkhart Jct., IN, and to present costs calculated by the URCS model and by INSIGHT: Rail Edition©. Further, I was asked to discuss some of the reasons URCS costs are higher than costs calculated by our cost

model, i.e., URCS has not undergone scheduled updates as directed by the STB when URCS was adopted in 1989.<sup>1</sup>

When viewing the railroad industry pre-Staggers and post-Staggers, the industry has changed dramatically. The railroads are producing more with less, so the operating relationships and regression equations have changed, while URCS has not. Further, URCS relies on switching studies and special studies that are severely outdated, some 50 years or more.<sup>2</sup>

The table below includes some sample data published by the Association of American Railroads (AAR) that demonstrate the progress railroads have made when addressing the efficiency of operations, and the reason why URCS costs are problematic:

	<u>1980<sup>3</sup></u>	<u>2007<sup>4</sup></u>
Revenue Ton Miles Per Employee (millions)	2.1	10.6
Revenue Ton Miles Per Employee Hour	1,776	4,182
Revenue Ton Miles Per Gallon of Fuel Consumed	235	436
Net Ton Miles Per Train Hour	40,392	62,725
Revenue Ton Miles Per Carload	41,352	56,281

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<sup>1</sup> Joint Verified Statement of Sandra J. Dearden and Mazhar Ali Awan, Highroad Consulting, Ltd., Finance Docket No. 36063, Michigan Central Railway, LLC Acquisition and Operation Exemption Lines of Norfolk Southern Railway Company, pp 3 - 11.

<sup>2</sup> In the 1980's the ICC proposed to undertake a nationwide switching study to update the switching special study used in URCS. The cost of the contract to plan the study was \$25,000. It was estimated at the time that the actual study would cost over \$1 million. The study was not conducted. Surface Transportation Board Decision Ex Parte No. 431 (Sub-No. 2), Review of the General Purpose Cost System, pp. 8, at 6.

<sup>3</sup> Association of American Railroad, Railroad Facts, 1990 Edition.

<sup>4</sup> Association of American Railroad, Railroad Facts, 2008 Edition.

## COMMENTS ON BOARD QUESTIONS AND ISSUES

Some of the questions posed by the Board appear to be very straightforward and require little or no comment. My primary focus in this statement will center on #1, improving the efficiency adjustments associated with unit-train and multi-car movements; #2, updating the historical studies used in URCS; and # 13, updating the statistical relationships used in URCS, and I will offer some brief comments on four additional questions and issues presented by the Board.

Question/Issue 1: The Efficiency Adjustments Associated with Unit-Train and Multi-Car Movements. This may be a priority from the standpoint it would establish methods to input shipment specific costs. Generally, unit train operations are designed to address the customer requirements relative to the supply chain, service requirements, and costs. As a result, shipment characteristics of unit trains vary significantly and it would be misleading for any railroad to attempt to produce system average costs for unit train operations. Variations include shipment size, the use or non-use of run-through power and/or distributed power; age and horsepower of locomotives; practice or non-practice of deadheading power and crews, whether or not the empties are returned as units or in manifest train service, etc.

While preparing for this hearing, we performed several studies with URCS comparing single car costs against unit train costs, and the switching costs for unit trains were only 25% lower than single car costs, yet it has

been our experience that switching costs for unit trains should be much lower.

Unit train costs for each switch event includes an industry switch event for each car when in reality the unit train functions like a single car. However, switch events for single car and unit train shipment are the same in URCS. Most cost models; proprietary railroad models, consultant generated (e.g. Highroad's INSIGHT: Rail Edition©), and URCS allow for downward adjustments in switching costs for multiple car and unit train shipments, but it seems highly likely that those downward adjustments understate the true savings actually achieved due to the increase in multiple car and unit train shipments, since the units require less switching compared to higher volumes of single car shipments that occurred in previous decades.

Also, we discovered that the default values for URCS, Unit Train and Unit Locomotives do not change when different values are entered; changes in shipment size are not accounted for.

Going forward the Board needs to confirm the purpose of URCS. While testimony for this hearing is not to be redundant with testimony presented in STB Ex Parte 681, Class I Railroad Accounting and Financial Reporting – Transportation of Hazardous Materials, the same question applies to both proceedings. Are we to continue to assume that role of URCS is to report system average costs, or is the objective to develop a revised system that will allow users to input shipment specific characteristics? If users are allowed to input shipment specific information – then the Board needs to

establish well-defined guidelines, and adjustments to URCS should be approached with extreme caution.

Question/Issue #2 - Update the Historical Studies Used In URCS. If any changes are to be made to URCS, this should be the primary focus and a high priority as this is the basic infrastructure of URCS. Since some of the special studies behind URCS were performed in the 1950's and railroads have become more efficient since then, we believe URCS costs will change significantly if the studies are updated. While some current studies may produce cost increases, the trend will be toward reducing costs overall due to productivity gains.

For example, in the 1950's and 1960's, boxcar shipments and single car shipments comprised a larger portion of the total business versus today's environment in which railroads handle more efficient multiple, stack train and unit train traffic that will produce far different results. Also, from 1980 to 2007, locomotive productivity increased 124 percent<sup>5</sup>, so locomotives per train may require review to confirm URCS is capturing those productivity gains.

Question/Issue #13 - Update the Various Statistical Relationships Used in URCS, Including the Variability Estimates. Again, this is part of the nuts and bolts of URCS; if URCS is to be revised, this should be a high priority. Some of the cost components that should be revisited include the allocation of costs for locomotive fuel, locomotive ownership, car repair, and car ownership. For example, locomotive fuel costs are allocated on a gross

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<sup>5</sup> Association of American Railroads U.S. Freight Railroad Productivity, February 2009.

ton-mile and locomotive unit-mile basis. Is the split still valid? Other allocations should be examined and accuracy of reporting by the railroads should be confirmed as well. For example, we have observed that switching fuel reported by one of the Class I railroads in the R-1 report, has been the same percent of that railroad's total fuel for the past six years. Finally, variability estimates are very important and require review.

Other Questions and Issues Posed by the Board -

**Question #3: Costing of trailer or container on flat car (TOFC/COFC) traffic.**

Costing intermodal operations is complex, as there are number of variables. For example, in Chicago significant volumes are not directly interchanged between the Class I railroads; instead they take the trailer or container off the car and put it on a truck for dray to the connecting railroad's intermodal yard. Therefore, the railroads' costs for "*steel wheel interchange*" versus "*rubber tire interchange*" are very different - those options are not included in the current system.

Further, a larger fraction of intermodal traffic moving today is handled in articulated cars, such as four and five "car" units, (for example, stack train cars (TTX) and "spine" cars as opposed to the standard 85-foot or 89-foot single level flat cars which are more efficient to handle). Also, we believe it likely that less interchange and switching are required, as railroads have consolidated switching operations.

Finally, in a pleading dated October 31, 1997, the AAR submitted data from the business records of three Class I railroads that demonstrated I&I switching of intermodal trains is relatively uncommon and usually involves

large blocks of cars rather than single cars. Based on that data, the AAR suggested that the Board change the I&I switch factor on intermodal traffic to every 4,163 miles.<sup>6</sup>

**Question #5: Non-Intermodal Intertrain/Intratrain (I&I) switches by URCS car type.** The accepted standard is one I&I switch for non-intermodal shipments is every 200 miles. This should be revisited since the railroads have improved the efficiency of operations and increased operations of unit trains. The railroads have the blocking and car movement histories that can be used to perform new studies. Further, since the railroads have the data for the studies, the Board should decide if this factor should be carrier specific.

**Question #11: Spotted to pulled factor for each car type.** At the very least, this requires review. One of my rail costing consultants was Manager, Cost & Financial Analysis at North Western when URCS was developed. If his memory is correct, this factor was more related to box car traffic. The assumption was switching costs for plain box cars were 80% of the same costs for other car types and it was assumed that plain box cars would be re-loaded without additional placement 20% of the time. (All other cars were 0% re-loaded). The reality is the number of cars that are re-loaded without additional placement is minor. Since the system has default empty return ratios by car types, and users are allowed to input actual empty return ratios, this adjustment appears to be irrelevant.

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<sup>6</sup> STB October 1997 proceeding, Volume Adjustments for TOFC/COFC Traffic (Discussion at pp. 755). The three railroads were: Consolidated Rail Corporation, Burlington Northern and Santa Fe Railway, and Norfolk Southern Railway.

**Question #12: Revise the approach used in individual proceedings to index URCS in order to use the Rail Cost Adjustment Factor indexes published by the Board. In order to revise the approach used to index URCS quarterly, line items in URCS would need to be categorized in the same fashion as published in RCAF or apply a similar output to certain categories within the RCAF. This would be similar to the process we use to apply the RCAF increases to our cost model, INSIGHT: Rail Edition©.**

**SHOULD THE BOARD TEST THE VALIDITY OF THE URCS MODEL?**

To our knowledge, there has not been a test to confirm the validity of the URCS model. For example, if the analysts developed costs for a specific sample (e.g., 5% to 10%) of all railroad traffic using the URCS model, would they come back to the total costs reported in the railroads' annual R-1 reports to the STB? Whether or not it is practical and feasible to update URCS every five years is a question that the Board needs to address. Certainly, it is important to confirm the accuracy of the model. While the Board will need to determine the most time and cost efficient way to ensure the accuracy of the model, one option could be a method to perform a more cursory review and test to confirm the validity of the model.

**SUMMARY**

**1. The Board needs to confirm the purpose of URCS.**

The Board should confirm if the role of URCS is to report system average costs as originally planned, or if a revised system should be developed that will allow users to input shipment specific characteristics. If the plan is to develop a model that will allow users to input shipment specific information –

then the Board needs to establish well-defined guidelines as adjustments to URCS should be approached with extreme caution.

2. If any changes are to be made to URCS, updating the historical studies and statistical relationships should be the primary focus and a high priority.

The historical studies and statistical relationships are the basic infrastructure of URCS. Since some of the special studies behind URCS were performed in the 1950's and railroads have become more efficient since then, we believe URCS costs will change significantly if the studies are updated. While some current studies may produce cost increases, the trend will be toward reducing costs overall due to productivity gains.

3. The model to cost intermodal operations should be reviewed and changed.

The system to cost intermodal shipments should reflect contemporary equipment and operating practices.

4. The standard for Intertrain/Intratrain (I&I) switches for intermodal and non-intermodal traffic by car type requires update.

Since the railroads have the blocking and car movement histories that can be used to perform new studies, this data factor could be carrier specific.

5. We believe the Spotted to Pull factors may be irrelevant.

The purpose of the Spotted to Pull factors should be confirmed. However, since users are allowed to input actual empty return ratios, and the system has default empty return ratios by car type, we believe these factors may be redundant.

**6. The approach used in individual proceedings to index URCS should be revised to use the Rail Cost Adjustment Factor indexes.**

In order to revise the approach used to index URCS quarterly line items in URCS would need to be categorized in the same fashion as published in RCAF or apply a similar output to certain categories within the RCAF.

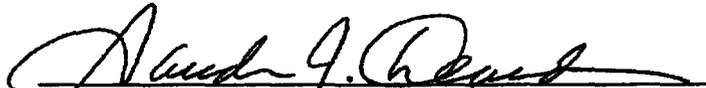
**7. Going forward, the Board needs to determine the most time and cost efficient way to ensure the accuracy of the URCS model.**

Options may include updating URCS every five years as directed when URCS was adopted in 1989, or developing a method to test the validity of the model.

**RESPECTFULLY SUBMITTED:**

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**Date: April 24, 2009**

  
**Sandra J. Dearden, President**