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May 31, 2006

BY HAND

The Honorable Vernon A. Williams
Secretary
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423-0001

Re: Ex Parte No. 657 (Sub-No. 1) – Major Issues in Rail Rate Cases

Dear Secretary Williams:

Enclosed for filing in the above-captioned matter please find the original and twenty copies of the Reply Submission of Union Pacific Railroad Company. Also enclosed is a diskette with a copy of the filing in Word format.

I have also enclosed an extra copy to be date-stamped and returned to our messenger.

Thank you for your assistance.

Sincerely,



Michael L. Rosenthal

Enclosures

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STB Ex Parte No. 657 (Sub-No. 1)

MAJOR ISSUES IN RAIL RATE CASES

REPLY SUBMISSION OF UNION PACIFIC RAILROAD COMPANY

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Railroad Company*

May 31, 2006

Contains Color Images

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**BEFORE THE
SURFACE TRANSPORTATION BOARD**

STB Ex Parte No. 657 (Sub-No. 1)

MAJOR ISSUES IN RAIL RATE CASES

REPLY SUBMISSION OF UNION PACIFIC RAILROAD COMPANY

Union Pacific Railroad Company ("UP") is filing this reply to address the various comments that have been submitted on the six issues and proposals that the Board set out in its Notice of Proposed Rulemaking in Ex Parte No. 657 (Sub-No. 1) (STB served Feb. 27, 2006) ("*NPRM*"). We appreciate the opportunity to comment again on these issues that will bear on whether rate regulation will constrain or support the enhancement of railroad networks.

I. INTRODUCTION

In our opening submission, we discussed the nation's current transportation capacity crisis, what it means for railroads and their customers, and how critical the Board's actions in this proceeding are to the ability of UP and other railroads to respond to the capacity crisis. We discussed the Board's specific proposals for modifying the application of the stand-alone cost ("SAC") test, explaining that some of the proposals might improve SAC methodology but that others, despite the Board's good intentions, would not. We focused, in particular, on proposals concerning revenue allocation for cross-over traffic, productivity and variable cost determinations. We outlined several suggestions that we believe will help ensure that rate regulation does not unduly distort market incentives or inappropriately deprive railroads of revenue that could be invested to provide much-needed capacity additions.

We continue to urge the Board not to adopt any proposals that unduly interfere with the operation of the marketplace or inappropriately reduce the revenue available for needed capacity investment. In our reply, we discuss how various suggested approaches, if adopted by the Board, would have just that result. Our submission is supported by verified statements from John J. Koraleski, UP's Executive Vice President, Marketing and Sales; Dr. Kevin Neels of the Brattle Group; and John H. Rebensdorf, UP's Vice President for Network Planning and Operation.

First, we discuss the maximum rate determination issue and demonstrate how most proposals for making that determination depart from sound economic principles of Ramsey pricing and run counter to the need for railroads to continue to engage in differential pricing. Only the percentage reduction methodology comports with these fundamental principles that are the foundation for the *Coal Rate Guidelines*.¹ As we discuss, differential pricing is key to how railroads and customers interact with one another in the marketplace. If railroads are not free to charge different rates depending on demand elasticity and other market forces, market signals about directing capacity investment will be distorted, and railroads will not spend money where it is valued most highly. In a world of capacity constraints, the Board must ensure that this is not the outcome of this proceeding.

Second, we demonstrate how certain proposals concerning revenue allocation for cross-over traffic result in allocations that are arbitrary and not sensitive to constrained market principles. Only UP's proposed method for allocation of cross-over revenues produces results that reflect conditions in a contestable market and therefore is both market-based and cost-based.

¹ *Coal Rate Guidelines, Nationwide*, 1 I.C.C.2d 520 (1985) ("*Guidelines*"), *aff'd sub nom. Consol. Rail Corp. v. United States*, 812 F.2d 1444 (3d Cir. 1987).

Third, we also demonstrate how claims suggesting that a stand-alone railroad would achieve future productivity are ill-founded. Rather than assuming that any and all stand-alone railroads ("SARRs"), regardless of their design, will achieve productivity similar to that of real railroads, the Board should require complainants to prove what productivity would be feasible and how it will be achieved.

Fourth, we address the proper balance between accuracy and simplicity in calculating variable costs. We demonstrate that shippers' proposals to increase the detail and complexity of variable cost evidence would not improve the accuracy of the variable cost determinations but would increase the cost and uncertainty associated with rate litigation.

Fifth, we continue to support a ten-year analysis for stand-alone cost. We also explain why any rate prescription resulting from that analysis should be limited to the same ten-year period and why a perpetual rate prescription, as proposed by shippers, is unjustified.

Finally, we discuss the appropriate standards for re-opening. We confirm the authority of the Board to suspend or modify a prior rate prescription when it has reason to believe an earlier determination may no longer be correct.

We do not address proposals pertaining to issues such as cross-subsidies that were raised by other parties but were not included in the *NPRM*. We will be pleased to submit comments if and when the Board institutes a proceeding to consider such topics.

Taken as a whole, we believe the proposals by shippers on how the Board should determine stand-alone costs would result in a SAC process that reduces regulated rates to a level that will discourage investment to support the issue traffic, and reduces the overall revenues available to railroads for needed investment. As the current environment of constrained capacity

underscores, this would be poor policy and thwart the clear directives to the Board to foster revenue adequacy and the support of a sound rail transportation system.

In our reply, we also demonstrate how certain proposals supported by shipper parties would add complexity, uncertainty, and cost to the rate litigation process. Shippers often complain that the SAC process is unduly burdensome, unpredictable, time-consuming and costly. However, in this proceeding certain shippers advocate that complainants have the ability to choose among alternative approaches or submit a new method to determine the maximum rate. It is hard to see how such open-ended invitations would not increase the burden, complexity and cost of litigation. Certain shippers also propose the retention of numerous categories of movement-specific cost data in variable cost determinations, which would only increase uncertainty and complexity. We urge the Board to examine carefully the true effect of such proposals.

As we stated in our opening comments, the Board's decision in this proceeding will determine the extent to which the railroads can invest in additional needed capacity to meet customer needs going forward. If the Board acts consistently with sound market-based principles of Ramsey pricing, preserves the ability of railroads to engage in differential pricing, and provides for a SAC process that does not introduce inappropriate distortions into market-based pricing, the railroads will have the ability to invest in more and where it is valued most highly. Our nation, which depends on a sound rail transportation network, cannot afford any other result.

II. MAXIMUM RATE DETERMINATION

The Board should not pursue its proposal to adopt MCM or MMM. No party has embraced either methodology. More important, the opening submissions in this proceeding, and particularly those filed by BNSF, explain that both methodologies depart from Ramsey pricing

principles and are thus fundamentally inconsistent with the economic principles underlying the *Guidelines* and the national Rail Transportation Policy.² The Coal Shippers and several other parties ask the Board to endorse several other alternatives to the percentage reduction method, but none would be as effective as the current percentage reduction method in ensuring that maximum rates are established “on the basis of Ramsey principles,” as required by the *Guidelines*.³ The Coal Shippers also dismiss the relevance of Ramsey pricing principles in setting maximum rates, but that position betrays a fundamental misunderstanding of railroad economics and ignores the consequences of distorting market-based pricing signals, which would be especially detrimental in the capacity-constrained environment that railroads face today.

A. No Party Has Embraced The Board’s Proposals.

No party to this proceeding has embraced MCM or MMM. Shippers have expressed significant reservations about both methodologies. The Coal Shippers say that the Board’s “suggested approaches themselves have shortcomings, and they should not be adopted as the exclusive methods for SAC allocation in major coal rate cases.” (Coal Shippers Op. at 17.) AEP Texas North says that MCM “has a number of flaws” and that “MMM is more difficult to apply.” (AEP Texas North Op. at 9, 10.) AECC says that the Board’s proposals “appear to entail shortcomings of their own.” (AECC Op. at 3.)

More important, BNSF has provided a critique of MCM and MMM that should leave no doubt about their unsoundness. As BNSF and its witnesses explain in great detail, both proposals depart from Ramsey pricing theory – the economic foundation for the *Guidelines*’ adoption of CMP – which provides that railroads should be permitted to charge those shippers

² 49 U.S.C. § 10101.

³ *Guidelines*, 1 I.C.C.2d at 546.

with the strongest demand the highest markup above marginal cost. (BNSF Op. at 18-31 & Kalt V.S. at 5-13, Willig V.S. at 5-18.) Both proposals depart from Ramsey pricing principles because they are premised on the notion that a railroad should set rates by allocating costs uniformly among its shippers. (BNSF Op. at 31-40 & Kalt V.S. at 16-25, Willig V.S. at 18-25.) UP identified these same concerns in our opening submission. (UP Op. at 20-21.)

In addition, as BNSF explained, the Board has other, more direct ways of addressing the concern that appears to have motivated its proposal – the potential for “gaming” the percentage reduction method. *See NPRM* at 7-9. BNSF and its witnesses described how the Board could look to a variety of factors, including evidence of the complainant’s demand elasticity and position in the marketplace, the underlying supply and demand conditions for rail transportation, and other facts and circumstances surrounding a rate increase, to determine whether the challenged rate is a commercially sustainable, profit-maximizing rate or whether it may have been “gamed.” (BNSF Op. at 44-45 & Kalt V.S. at 25-34, Gaskins V.S. at 4-8.)

B. The Board Should Reject Shippers’ Alternative Proposals.

The Coal Shippers ask the Board to endorse two alternative approaches that they claim “are superior to MCM and MMM.” (Coal Shippers Op. at 23.)⁴ AECC, AEP Texas North, and Western Fuels also suggest alternative approaches, some of which are the same, and some of which are different. The Board should not endorse any of the alternatives proposed by shippers. Each would be more difficult to apply than the current percentage method, and none

⁴ Although the Coal Shippers ask the Board to endorse these two alternative approaches, they also ask the Board to leave the door open to any rate prescription method any complainant may choose to present in an actual SAC case. (Coal Shippers Op. at 25.) Such an open-ended approach would increase uncertainty and complexity in rate litigation that these parties have criticized as too long, too costly, and too uncertain.

would do as good a job of ensuring that maximum rate determinations are made “on the basis of Ramsey principles,” as required by the *Guidelines*.⁵

With one exception, each of the alternative proposals has previously been proposed by a shipper in a pending rate case, and each has been thoroughly discredited by the evidence submitted by the defendant in that proceeding.⁶ We thus address them only briefly.

1. “Reasonable Allocation Method” (“RAM”)

Like MCM and MMM, RAM disregards demand-based differential pricing and instead allocates unattributable costs among so-called captive shippers on a pro-rata basis. In fact, RAM appears to be functionally identical to one of the Board’s proposed variants of MMM: under both methodologies, each shipper is expected to pay an identical mark-up per ton-mile over variable costs.⁷ As BNSF and UP explained in their opening submissions, such an approach “is directly contrary to the Ramsey pricing principle that each shipper should pay a different mark up depending on its demand elasticity.” (BNSF Op. at 30; *see also* UP Op. at 20-21.)

2. “Train-Mile Method”

AECC’s proposed train-mile method has not been offered in any previous case. However, AECC’s proposal shares with MCM, MMM, and RAM a disregard of demand-based differential pricing. In fact, it is functionally identical to MCM; the only practical difference is

⁵ *Guidelines*, 1 I.C.C.2d at 546.

⁶ The “Reasonable Allocation Method” (“RAM”) and the “Reduced Markup Method” (“RMM”) are addressed in the parties’ submissions in *Western Fuels Association, Inc. v. BNSF Railway Co.* The “Generalized Percentage Reduction Method” (“GPRM”) is addressed in the parties’ submissions in *West Texas Utilities Co. v. BNSF Railway Co.*

⁷ The only differences between RAM and the Board’s variant of MMM appear to be that RAM uses the SARR’s variable costs, rather than the defendant’s variable costs, and it assumes that any shipper with a competitive option would make no contribution to unattributable costs.

that it allocates unattributable costs based on train-miles rather than ton-miles.⁸ AECC asserts that its approach is consistent with Ramsey pricing because it leaves low rates unchanged and thus “preserve[s] demand-based differential pricing on lower-rated traffic.” (AECC Op. at 8.) However, leaving low rates unchanged is not consistent with Ramsey pricing. As BNSF’s witnesses explain, traffic on the lower end of the spectrum would not be immune from price reductions under Ramsey principles. (BNSF Op., Willig V.S. at 22-24.)

3. “Generalized Percentage Reduction Method” (“GPRM”) and the “Reduced Markup Method” (“RMM”)

GPRM and RMM are nearly identical. Under each, maximum rates would be determined by applying a percentage reduction-like approach to the SARR traffic’s markup over marginal cost (*i.e.*, SARR revenue minus marginal costs).⁹ GPRM and RMM are allegedly more in accord with Ramsey principles than the percentage reduction method because they supposedly structure rate reductions to maintain the ratio of price markup over marginal cost for each movement in the SARR traffic group, rather than the relative price of each movement in the SARR traffic group. However, these methodologies fail to improve upon the current percentage

⁸ AECC also drastically over-simplifies real-world operating conditions by assuming that every train consumes the same amount of capacity. (AECC Op. at 5-6.) As UP’s Mr. Haley explained, the mix of traffic types on a line can have a significant impact on operating conditions and thus capacity. (UP Op., Haley V.S. at 9.) AECC is also incorrect when it suggests that lading weight does not affect spending on capacity. (AECC Op. at 5.) Mr. Haley explained that heavy axle-load commodities such as coal require higher spending because heavier trains cause greater damage to track materials and that they also consume more capacity because more track time is required to perform maintenance. (UP Op., Haley V.S. at 5-6.)

⁹ The only difference between the two approaches is that the GPRM would use the defendant railroad’s variable cost as a surrogate for marginal costs and RMM would use the SARR’s variable costs. *Compare* Western Fuels Op. at 17 (“The profit contribution equals the difference between the revenues paid by each [SARR] shipper and the variable costs the [SARR] incurs to provide that shipper with service.”), *with* AEP Texas North Op. at 12 (“The average marginal costs for a movement can be determined using publicly available Phase III URCS data for the defendant railroad in the base year of the SAC analysis.”).

reduction for two key reasons: first, they rely upon flawed estimates of relative demand elasticities; second, they rely upon a flawed proxy for marginal costs.

a) GPRM and RMM Rely Upon Flawed Estimates of Relative Demand Elasticities.

Ramsey pricing requires information about rail shippers' demand elasticities in order to allocate the markup needed to cover unattributable costs among those shippers.¹⁰ GPRM and RMM assume that one can infer relative demand elasticities for each movement in the SARR traffic group by comparing the portion of through-revenues allocated to the SARR for each movement with the variable costs for the SARR portion of each movement. In the case of cross-over traffic, this means that relative elasticities would be inferred using the portion of revenues and costs allocated to the SARR.

Such calculations, however, provide no meaningful insight into the demand elasticities of those movements. Demand elasticities reflect how a shipper's demand for rail transportation will respond to changes in price. The concept has meaning only with regard to the price a shipper pays for the full origin-to-destination movement. No shipper would adjust its demand based merely on changes in the division of through-revenues between connecting carriers. In other words, the relationship of SARR revenues to SARR costs would not be expected to reveal anything about a shipper's elasticity of demand – shippers' demand decisions are based on through rates.

Moreover, as UP discussed extensively in its opening submission, and as many shippers likewise recognized, any allocation of a cross-over movement's revenue in excess of variable costs between a SARR and an incumbent will necessarily be arbitrary. (UP Op. at 23-24

¹⁰ *Guidelines*, 1 I.C.C.2d at 526-27.

& Neels V.S. at 3-4; Coal Shippers Op. at 52-53; AECC Op. at 9.) Because SARR revenues are based on arbitrary allocations – at least under the Board’s current mileage-based method and its proposed ATC method – any effort to infer elasticities using those revenues as a starting point will necessarily produce results that are arbitrary. In other words, no meaningful information about rail customers’ relative demand elasticities can be developed from a traffic group that includes cross-over traffic.

b) GPRM and RMM Rely Upon a Flawed Proxy for Marginal Costs.

Ramsey pricing requires information about long-run marginal costs: “Under Ramsey pricing, each price or rate contains a mark-up above the long-run marginal cost of the product or service to cover a portion of the unattributable costs.”¹¹ GPRM and RMM do not use long-run marginal costs; instead, they use URCS variable costs. Thus, even if SARR revenues for cross-over traffic were not arbitrary and could be used to calculate meaningful markups, the calculations would still fail to reflect Ramsey principles because they would produce markups over variable costs rather than markups over marginal costs.

This shortcoming of GPRM and RMM is not surprising. As the Board has observed, “the marginal costs associated with handling particular rail traffic are not readily measurable.”¹² URCS variable costs are not a suitable proxy for long-run marginal costs for purposes of GPRM or RMM. In *Small Case Guidelines*, the Board discussed a few of the reasons why URCS variable costs might be different from long-term marginal costs, including

¹¹ *Guidelines*, 1 I.C.C.2d at 526.

¹² *Rate Guidelines – Non-Coal Proceedings* (“*Small Case Guidelines*”), 1 S.T.B. 1004, 1027 (1996); see also *Adoption of URCS*, 5 I.C.C.2d 894, 901 (1989) (“Variable cost measures the level of those costs that change with changes in volume; marginal cost measures the rate of change of the level of variable costs.”).

that URCS costs “may include a significant portion of what may actually be unattributable joint and common costs.”¹³ As Dr. Kevin Neels explains in his reply verified statement, URCS variable costs are particularly unsuited to serve as a proxy for long-term marginal costs in this setting for several reasons. First, the capital component of URCS costs is based on embedded historical costs rather than the forward-looking marginal costs that are relevant for Ramsey pricing purposes. Second, URCS costs will differ significantly from marginal costs when lines are operating at capacity and incremental investment is required to accommodate incremental traffic. Third, because URCS costs are based on system averages, they will fail to account for significant cost differences within the SARR traffic group. (Neels R.V.S. at 16-17.)

The ICC adopted CMP as an alternative to Ramsey pricing because it recognized the difficulties involved in developing Ramsey prices. “Ramsey pricing. . . requires both the marginal cost and the elasticity of demand to be quantified for every movement in [a] carrier’s system,” and thus “the amount of data and degree of analysis required seemed overwhelming.”¹⁴ AEP Texas North argues that “complex precision must be tempered with practicality.” (AEP Texas North Op. at 12.) However, the proponents of GPRM and RMM pile shortcut on top of shortcut and imprecision on top of imprecision. They offer no evidence that their approaches produce results that even approximate those that would result from actual Ramsey pricing.

¹³ *Small Case Guidelines*, 1 S.T.B. at 1028. In *Small Case Guidelines*, the Board observed that URCS variable costs can serve “as a proxy” for long-run marginal costs (*id.* at 1027-28), but it has never used URCS variable costs as a substitute for long-run marginal costs in an outcome-determinative calculation, as certain shippers are proposing here.

Indeed, although the Board decided to use URCS variable costs to calculate “adjusted RSAM,” it decided to use “unadjusted RSAM” as well, and it observed that RSAM calculations were only one of three factors it would consider in evaluating rates under the *Small Case Guidelines*. *Id.* at 1029-30.

¹⁴ *Guidelines*, 1 I.C.C.2d at 527.

c) The Percentage Reduction Method Better Reflects Ramsey Principles Than GPRM or RMM.

The proponents of GPRM and RMM criticize the percentage reduction method because it focuses on relative prices rather than relative markups. As discussed above, however, GPRM and RMM do not actually evaluate relative markups in any meaningful sense – they rely on arbitrary revenue figures to calculate relative markups and depend on an inappropriate proxy for long-term marginal costs. There is no reason to believe they will produce results that reflect Ramsey principles. By contrast, the percentage reduction method is based on actual railroad pricing, which is presumed to be consistent with Ramsey principles.¹⁵ The percentage reduction method is thus consistent with the *Guidelines*' direction that any remedy should be applied "in a manner that would not introduce further distortions into the carrier's pricing structure."¹⁶

C. Any Maximum Rate Determination Methodology Must Reflect Differential Pricing Principles.

The Coal Shippers attempt to defend approaches to maximum rate determination that would not permit differential pricing on higher-rated traffic by making two arguments. First, they assert that they must "be permitted to design the most efficient, lowest cost alternative to the incumbent." (Coal Shippers Op. at 16.) Second, they also assert that any approach to maximum rate determination should reflect the pricing practices of a revenue-adequate railroad, because a SARR would be revenue adequate, and they claim that the *Guidelines*' discussion of pricing

¹⁵ The current percentage reduction approach is also somewhat flawed because it is also based in part on SARR revenues. That flaw, however, would be mitigated by the adoption of UP's proposed method of allocating cross-over revenues, which would reduce the excess of SARR revenue over SARR costs resulting from the inclusion of cross-over traffic in the SARR traffic group.

¹⁶ *Guidelines*, 1 I.C.C.2d at 548.

patterns under conditions of revenue adequacy show that a revenue-adequate railroad would not use differential pricing. (*Id.* at 16-17, *quoting Guidelines*, 1 I.C.C.2d at 535-36.)

The Coal Shippers' first contention is a non-sequitur: relative pricing of traffic within the SARR group does not affect SARR costs. Their second contention is flawed in two respects. First, railroads by necessity will continue to engage in differential pricing after achieving revenue adequacy. Second, the *Guidelines* explicitly and correctly require the Board to preserve the existing market-based pricing structures used by real-world railroads when imposing rate relief.

1. Revenue Adequate Railroads Will Need To Use Differential Pricing.

As the *Guidelines* recognize, differential pricing is not a function of revenue inadequacy. Rather, "the cost structure of the railroad industry necessitates differential pricing of rail services."¹⁷ As Dr. Neels explains, arguments that achievement of revenue adequacy eliminates the relevance of an need for differential pricing betray a fundamental misunderstanding of railroad economics. (Neels R.V.S. at 14-15.)

Indeed, as a practical matter, if a railroad could not continue to price differentially once it achieved revenue adequacy – *i.e.*, if it were required to price by applying a uniform cost allocation or a uniform markup over marginal costs to all of its traffic that was large enough to cover its total costs – it would immediately lose that new-found revenue-adequate status as shippers that had been allowed to pay differentially lower prices withdrew their business in response to the rate increase.¹⁸

¹⁷ *Guidelines*, 1 I.C.C.2d at 526.

¹⁸ The only other alternative is that rates for all remaining shippers would have to be ratcheted upward in order to offset the lost revenue, and "the remaining shippers might be (continued...)

Moreover, as Jack Koraleski, UP's Executive Vice President, Marketing and Sales, explains in his verified statement, in the real world, even a revenue adequate railroad will never face a perfect, static match between demand for rail services and rail capacity. In the real world, a railroad will have lines with excess capacity and lines on which capacity is tight. The same will be true of terminals and equipment. In addition, the situation will change over time as economic conditions change and customers shift traffic in response to their markets, and as the railroad invests to increase capacity. When there is excess capacity, the railroad will want to offer differentially lower rates in order to encourage the use of rail assets by shippers that would make some contribution to fixed costs. If the railroad cannot offer these shippers lower rates, they will use their next best alternative or they might not ship at all. Either result would be economically inefficient. On the other end of the spectrum, when capacity is tight, the railroad will want to charge differentially higher rates to ensure that capacity is being used by shippers that place the highest value on that capacity and to increase revenues in order to support efforts to expand capacity. If railroads could not use price in that fashion, then some potential customers who would place a higher value on rail service might be foreclosed in favor of other customers who place less value on rail service. Again, this would be an economically inefficient result. (Koraleski R.V.S. at 4-6.) As the *Guidelines* recognize, differential pricing is the most economically efficient way for railroads to set their prices in order recover their costs.¹⁹

Furthermore, as a practical matter, setting prices in response to market conditions is the only sensible way for railroads, whether they are revenue-adequate or not, to price their

required to pay an even larger portion of the carrier's unattributable costs because they would lose the benefits of sharing these costs with the lost traffic." *Guidelines*, 1 I.C.C.2d at 526.

¹⁹ *Guidelines*, 1 I.C.C.2d. at 527.

services. The alternative to market-based rates would be a highly regulated system that required pricing based on uniform cost allocations or uniform markups over marginal cost. No one wants that type of system, both because it would lead to inefficient results and because it would be impossibly difficult to administer. (Koraleski R.V.S. at 4-5.)

2. Differential Pricing Is Essential in the Current Railroad Environment.

Preservation of differential pricing principles is especially essential in today's railroad environment, which is characterized by strong demand and tight capacity, and in which UP must make choices about where to invest its scarce capital resources to create incremental capacity.

As Mr. Koraleski explains, even in today's environment, UP could not charge all shippers a uniform markup and retain sufficient traffic to attain revenue adequacy. Moreover, UP still has lines that have excess capacity, and thus it still makes sense to offer some shippers who use those lines relatively lower rates to encourage continued use of the lines and generate contribution to unattributable costs. UP also has lines on which capacity is tight, and thus it needs to charge higher rates where possible in order to help ensure that capacity is being used by customers that place the highest value on it, and more importantly, to generate revenue that UP needs to expand its capacity. (Koraleski R.V.S. at 5-6.)

As Mr. Koraleski also explains, the ability to engage in differential pricing is particularly important in light of the decisions that are facing UP. Customers across UP's network are clamoring for more capacity, but UP has limited capital dollars to invest, and most projects will benefit only certain customers or groups of customers, so no matter what projects are funded some customers will gain capacity and others will not. When it chooses among projects, UP invests in those that offer the most attractive returns. Any regulatory action that distorts market-based rates and market-based rate structures by preventing railroads from

charging their high-demand customers higher rates will distort those choices and lead to less than optimal capacity additions. If artificial constraints on rates make it relatively less attractive to invest in some projects, it becomes relatively more attractive to invest in others, and that is where more of the money will go. The troubling effects do not stop there: if UP invests in projects that generate lower returns than could have been earned had there been no constraints on rates, UP's future ability to make additional investments will be diminished. (Koraleski R.V.S. at 6-8.)

UP recognizes that any award of relief in a rate case will necessarily result in some reduction in market-based rates and some disruption to differential pricing relationships. The Board, however, should exercise great caution to minimize these effects, particularly in an environment in which shippers are clamoring for revenue inadequate carriers to expand capacity. In fact, the principle that a railroad's rate structure should be preserved to the maximum extent possible is embedded in the *Guidelines* as previously cited: "In considering a rate prescription and/or reparations, [the Board] will attempt to provide an effective remedy for the complaining shipper, but in a manner that would not introduce further distortions into the carrier's pricing structure."²⁰

III. REVENUE ALLOCATION FOR CROSS-OVER TRAFFIC

All of the parties that analyzed the Board's proposed ATC approach reject it on the ground that any such cost-based formula for allocating through revenue between the SARR and the residual incumbent will produce arbitrary results.

UP's criticisms led us to propose an alternative approach that, among its many qualities, avoids arbitrary allocations of costs or revenues and is consistent with the principles of

²⁰ *Guidelines*, 1 I.C.C.2d at 548 (footnote omitted).

contestability embodied in the *Guidelines*. Our approach would, for each cross-over movement, allocate to the SARR that portion of the incumbent's total revenue equal to the incumbent's costs avoided as a result of the SARR's operation. (UP Op. at 29-31.) As we explained, our approach constitutes a method for allocating cross-over revenue that implements CMP and the SAC test in a valid manner. (*Id.* at 29-31 & Neels V.S. at 14-17.) BNSF proposed the same approach. (BNSF Op. at 50-53 & Kalt V.S. at 37-45.)

Shippers' criticisms of ATC lead in two different directions, both of which are flawed. The Coal Shippers and several other shippers argued for the continued application of MMP or MSP. (Coal Shippers Op. at 47-48; *see also, e.g.*, Western Fuels Op. at 18-19.) AECC, on the other hand, urged the Board to adopt an approach that is the inverse of UP's: it would assign all contribution from cross-over movements to the SARR and leave the incumbent with just enough revenue to cover its variable costs of handling cross-over movements. (AECC Op. at 12.) We address both proposals below.

A. All Parties Reject ATC's Reliance On Arbitrary Allocations.

The criticism of ATC should not come as a surprise. ATC requires an allocation of a rail carrier's fixed costs to specific movements, and as UP and the Coal Shippers observed in their opening submissions, the *Guidelines* recognize that "[a]ny means of allocating these costs among shippers other than actual demand is arbitrary."²¹ Indeed, as UP and the Coal Shippers observed, the ICC adopted the *Guidelines* because it had concluded "that a meaningful rate policy could not be founded on a strictly cost-based approach."²² UP thus agrees with the Coal

²¹ 1 I.C.C.2d at 526 (quoted in UP Op. at 24 and Coal Shippers Op. at 53).

²² *Guidelines*, 1 I.C.C.2d at 523 (quoted in UP Op. at 24); *see also* Coal Shippers Op. at 53 ("The fundamental purpose of the *Guidelines* was to develop maximum rate constraints that were not dependent on arbitrary cost-based allocations of carrier fixed costs.").

Shippers that ATC or any similar cost-based methodology would “reinsert[] into the SAC process the very problem the ICC was attempting to eliminate – the use of arbitrary cost formulas to allocate constant costs.” (Coal Shippers Op. at 53.) BNSF similarly criticized “allocating revenues through arbitrary rules that delineate divisions of through rate revenues between incumbent and SARR, vainly justified by arguments about cost attribution.” (BNSF Op., Kalt V.S. at 39.) AECC joined in criticizing ATC and other cross-over revenue allocation methods that were not “properly rooted in the ‘contestability’ theory that underlies the entire SAC process.” (AECC Op. at 9.)

B. The Coal Shippers’ Proposal Also Relies On Arbitrary Allocations.

UP and the Coal Shippers agree on the flaws in ATC, but we part company because the Coal Shippers ultimately disregard their own criticisms of ATC and propose an equally arbitrary approach – continued use of MMP or MSP. (Coal Shippers Op. at 47-48.) As the Board has recognized, MMP and MSP are also cost-based approaches – they allocate cross-over revenues based on the defendant carrier’s relative variable costs of providing service over the on-SARR and off-SARR segments. *See NPRM* at 18.²³ UP demonstrated in its opening submission that these approaches will also produce arbitrary revenue allocations that are biased toward allowing complainants to demonstrate “unreasonableness” – and demand rate reductions – when no such unreasonableness exists. (UP Op. at 25-27 & Neels V.S. at 10-14.)

The Coal Shippers defend MMP and MSP by arguing that they produce revenue allocations that are “market-based,” but they do not consider the way in which “market based” divisions would be negotiated in a *contestable market*. They approach the issue with the implicit

²³ See also, e.g., *Duke Energy Corp. v. Norfolk S. Ry.*, STB Docket No. 42069 (STB served Nov. 6, 2002), at 17, 22, 25.

assumption that the SARR and the incumbent are setting divisions in a world with sunk costs and barriers to entry – a world in which the SARR suddenly replaced portions of the incumbent and then the SARR had to “negotiate” revenue divisions with the incumbent in the same way that connecting carriers would negotiate in the real world.²⁴ That explains why they try to justify reliance on MMP and MSP by pointing to the Board’s use of a mileage-based prorate in the Costed Waybill Sample to approximate division agreements among real-world carriers. (Coal Shippers Op. at 32-33.) It is the same inability to distinguish between the contestable world and the real world that leads the Coal Shippers to disagree with the basic principles that a true stand-alone railroad would not include any cross-over traffic (because it would provide end-to-end service for all of its customers) and that any approach that permits the use of cross-over traffic should nonetheless still seek to approximate the results of a “full SAC analysis.” (*Id.* at 39-42.)²⁵

In other words, the Coal Shippers have apparently lost sight of the fact that the SAC test is a tool to assist in identifying outcomes that would obtain in a contestable market, and that cross-over traffic is permitted simply to reduce the cost to shippers of using that tool.²⁶ “The objective of the SAC constraint is to simulate a competitive rate standard for non-competitive

²⁴ In fact, of course, SARRs and incumbents do not actually “negotiate.” Under MMP and MSP, the SARR unilaterally determines the size of the division it will take because it designates the interchange point with the incumbent, and the incumbent has no choice but to accept the SARR-imposed mileage-based prorate of total revenues.

²⁵ The Coal Shippers complain that the Board’s focus on the outcome of a full SAC analysis creates a host of “barriers to entry.” As Dr. Neels explains, however, requiring a complainant to construct a full SAC plainly would not create barriers to entry, as the Coal Shippers define that term, because it would not require SARRs to incur costs that were “not actually incurred by the defendant carrier” (*id.* at 39) – the need to address cross-over traffic issues arises only when a SARR has not replicated costs the incumbent actually did incur in building its network. (Neels R.V.S. at 6-7.) In other words, by definition, “cross-over traffic” can exist only when a SARR has decided not to replicate a portion of the incumbent’s actual network.

²⁶ AECC appears to agree with the Board that use of cross-over traffic is a shortcut for producing “results that are consistent with what a full SAC would show.” (AECC Op. at 9-10.)

rail movements by determining the rate that would be available to shippers in a contestable market environment.”²⁷ Although the Coal Shippers argue that contestability theory requires SARR divisions to be established “on the basis of market principles” (Coal Shippers Op. at 26 & Borts V.S. at 16), they neglect to consider the principles that would apply in a contestable market. The real world for railroads is not a contestable world. Thus, even if mileage-based prorates that the Coal Shippers advocate approximated real-world divisions, there would be no logical or economic basis for using real-world divisions as part of an analysis designed to simulate the outcomes that would obtain in a contestable market. (Neels R.V.S. at 8-9.)²⁸

The Coal Shippers argue that their approach to cross-over revenue allocation is “rooted in the contestable market theory.” (Coal Shippers Op. at 28.) In particular, they refer to the ICC’s statements in *Nevada Power II* that a SARR must be “viewed as a replacement for – not a competitor of – the incumbent” and must be allowed to enter a market “without fear of price retribution.” (*Id.*) But the ICC’s reliance on a mileage-based prorate to reflect “market-based” results in *Nevada Power II* and subsequent cases does not mean that a mileage-based prorate would actually reflect the market-based allocation of revenue to a SARR in a contestable market. As Dr. Neels testifies, mileage-based prorates such as MMP and MSP are in no way

²⁷ *Bituminous Coal – Hiawatha, UT to Moapa, NV*, 10 I.C.C.2d 259, 266 (1994) (“*Nevada Power II*”).

The Coal Shippers claim that *Nevada Power II* supports their argument that use of cross-over traffic is not just a short-cut for constructing a true stand-alone railroad and conducting a full SAC analysis, but the decision makes clear that use of cross-over traffic was permitted only to “allow shippers to make effective cases . . . using smaller hypothetical SARRs *than would otherwise be required.*” *Id.* at 280 (Chairman McDonald, commenting) (emphasis added).

²⁸ The only exception would be when a SARR handles traffic from an on-SARR origin to an on-SARR interchange point with another carrier. In that situation, which does not involve “cross-over traffic,” the incumbent’s revenues would, of course, reflect a real-world division between the incumbent and the interchange carrier, and the SARR would be entitled to the incumbent’s revenue.

related to the revenue divisions one might expect to see in a contestable market. (Neels R.V.S. at 11-12.)

UP's proposed methodology, which assigns a SARR the incumbent's avoided costs of providing service for cross-over traffic, is not only an economically sound, cost-based approach to cross-over revenue allocation, but also reflects an appropriate market-based approach in the context of the SAC test – it assigns to the SARR the division that would be observed in a contestable market. (UP Op. at 29-30 & Neels V.S. at 14-17; *see also* BNSF Op., Kalt V.S. at 37-40.) Only UP's approach, and not ATC or any mileage-based approach, will produce results that mirror the outcome of hypothetical negotiations between the residual incumbent and the SARR that would occur in a contestable world. (Neels R.V.S. at 7-12.)

Moreover, as Dr. Neels explains, UP's proposal for allocating cross-over revenues based on avoided costs is fully consistent with the contestable market principles described by the Coal Shippers.

First, UP's proposal is consistent with viewing the SARR as a replacement for the incumbent. In fact, whether a SARR is a replacement or a competitor of the incumbent makes no difference in a contestable market environment. As Dr. Neels explains, even if the SARR is viewed as a replacement, the incumbent would always remain free, in a contestable market, to re-enter the market and provide end-to-end service, and thus the SARR could never obtain a division that was larger than the incumbent's avoided costs. (Neels R.V.S. at 9-10.)

Second, the incumbent's ability to re-enter the market or negotiate a division based on that ability is not "price retribution," or what *Nevada Power II* called an impermissible

“post-entry response.”²⁹ Negotiating a division based on avoided costs is not “price retribution” – it is merely a matter of negotiating a division of an existing rate (which remains unchanged). Moreover, an incumbent that re-entered or threatened to re-enter the market would not be seeking to disadvantage the SARR – it would be seeking to preserve its pre-entry level of contribution. In fact, the incumbent could not drive the SARR out of the market or discourage entry by negotiating a division based on avoided costs: such a division would leave an efficient SARR with sufficient revenue to continue to provide the service and benefit from the associated economies of density. An incumbent would not even try to drive the SARR out of the market, because it would be futile: in a contestable market, the SARR could re-enter as soon as the incumbent returned rates to the initial level. Finally, even if negotiating a division based on avoided costs could be viewed as “retribution,” the SARR has an easy defense against such conduct: it can capture all of the revenue, and thus all of the contribution involved in handling the traffic, by electing to replicate the incumbent’s end-to-end service. (Neels R.V.S. at 10-11.)

C. AECC’s Proposal Is Factually And Logically Flawed.

As discussed above, AECC criticizes ATC and various other cost-based and mileage-based efforts to allocate revenues from cross-over traffic, including MMP and MSP. AECC’s witness, Mr. Nelson, correctly recognizes that “[n]one of these methods appears to be properly rooted in the ‘contestability’ theory that underlies the entire SAC process.” (AECC Op. at 9.) He also correctly recognizes that cross-over revenue allocation principles should take account of the revenue adequacy of off-SARR segments. (*Id.* at 10.)³⁰

²⁹ *Nevada Power II*, 10 I.C.C.2d at 267.

³⁰ The Coal Shippers wrongly argue that the ICC’s *Nevada Power II* decision establishes that the Board need not consider the impacts of cross-over revenue allocation methodologies on an incumbent’s ability to cover off-SARR costs. (Coal Shippers Op. at 30.) In an earlier case, (continued...)

Mr. Nelson, however, mistakenly assumes that allocation-based methodologies will over-allocate cross-over revenues to the incumbent. (*Id.*) He thus proposes an approach that would not rely on arbitrary allocations, but that would leave the incumbent with only enough revenue to cover its variable costs, while providing the SARR with all of the contribution associated with handling cross-over traffic. (*Id.* at 12.)

Mr. Nelson's concerns are empirically invalid. As Dr. Neels explains, ATC and MSP will invariably over-allocate revenues to SARRs in rate cases, and thus assigning SARRs *all* of the contribution would further exacerbate the over-allocations. (Neels R.V.S. at 13.)

Mr. Nelson is also incorrect when he claims that an assignment of the full contribution from cross-over traffic to the SARR is consistent with UP's statement in another proceeding that a carrier considers the loss of its full contribution from traffic when it decides whether to abandon the line segment on which the traffic originated or terminated. (AECC Op. at 11-12.) Mr. Nelson's analogy wrongly implies that a carrier considering the abandonment would consider the loss of contribution earned by a connecting carrier. A more straightforward analogy would be to a real-world carrier that is deciding whether to build a line from a plant to an interchange with another railroad. The real-world carrier would not consider the contribution generated for the connecting carrier – it would consider only the division it expects to receive.

the ICC had indicated that cross-over traffic could be used only if the complainant showed that the full off-SARR costs would be covered by the off-SARR portion of revenue allocation. See *Omaha Pub. Power Dist. v. Burlington N.R.R.*, 3 I.C.C.2d 123, 142 (1986). The Board retreated from the position requiring a complainant to prove the adequacy of off-SARR revenue, but it did not reject the principle that a valid cross-over revenue allocation methodology should consider the coverage of off-SARR costs; it simply recognized the practical concern that the contemplated showing would potentially "entail a complete SAC analysis of the off-SARR network . . . thereby defeating the purpose of simplifying the SAC presentation by using this cross-over device." *Otter Tail Power Co. v. BNSF Ry.*, STB Docket No. 42071 (STB served Jan. 27, 2006) at 12.

The SARR is in precisely the same position. Mr. Nelson's argument that a SARR should be credited with the full contribution from cross-over traffic because that would provide it with the proper incentive to construct a SARR to handle the traffic is both circular and wrong. (Neels R.V.S. at 13.) It also fails to recognize one of the basic principles that supports UP's proposal to preserve the incumbent's contribution by limiting the SARR's allocation of cross-over revenue to the incumbent's avoidable costs: if the incumbent does not obtain sufficient contribution for the traffic, its network will fail, and the traffic will no longer be available to contribute to the SARR's economies of density. (*Id.* at 13-14.)

Finally, Mr. Nelson recognizes that the result of implementing his methodology would be that "the 180 percent R/VC threshold . . . is likely to govern the level of prescribed rates." (AECC Op. at 16.) He says that the Board should not be alarmed by this result. (*Id.*) However, as UP showed in our opening submission, and as we discuss above with regard to maximum rate determination, the Board should be extremely concerned by any methodology that would so severely distort market-based pricing that it would result in rates capped by the jurisdictional threshold.

IV. INDEXING OPERATING EXPENSES

UP's opening comments explained why a SARR is unlikely to experience productivity gains during the SAC analysis period and why any gains a SARR might achieve would not approach, much less match, the gains realized by real railroads. Consequently, RCAF-A does not constitute a suitable measure for indexing of SARR operating expenses.

Only the Coal Shippers make any serious effort to support the claim that a SARR might be expected to realize productivity gains. They assert that the Board should apply the RCAF-A index to SARR operating expenses at a 50 percent level beginning in the first year of SARR operations, with a gradual move to 100 percent of RCAF-A over 10 years. However, the

Coal Shippers' general and conclusory presentation does not demonstrate that their proposal reasonably approximates productivity gains potentially available to SARRs – which, in UP's view, are already designed to operate at impossibly high levels of efficiency from the outset – or that the costs associated with achieving any productivity gains will be captured in the SAC calculation. Nor do they show that any possible gains for a SARR bear a relationship to RCAF-A, which reflects the very different experience of real railroads.

The Board's SAC decisions reflect its acceptance of complainants' claims of SARR efficiency at start-up that far exceeds the incumbent's efficiency level and a simplified operating plan that eschews the real-world operating conditions facing the incumbent. The justification for accepting such claims is that a SARR is fundamentally different from the incumbent in both design and execution. If that is the premise, then the Board should not assume that a SARR would experience productivity gains similar to, or at the same rate as, gains enjoyed by the incumbent or the incumbent's peers.

The complainant in a rate case bears the burden of proof. Thus, if a complainant wants to apply some portion of RCAF-A to SARR operating expenses, it should be required to present specific evidence that establishes that (i) the particular SARR design it has hypothesized leaves room for an improvement in operations, similar in nature to improvements experienced by real railroads, in the foreseeable future; (ii) the SARR will devote the resources necessary to identify and implement the new technology or other steps that will produce those productivity gains; and (iii) the SARR's gains will track the magnitude, rate, and timing of gains experienced by existing railroads.

In other words, the Board should not simply conclude that it is proper to apply some percentage of RCAF-A in any SAC cases, let alone all. In this section, in response to the

Coal Shippers' claims, we will discuss further the limited opportunities for productivity gains by SARRs relative to real railroads, describe the costs required to achieve any significant productivity gains for the SARR, and demonstrate that the Board should require specific proof concerning any alleged productivity gains for a SARR because the RCAF-A does not reflect the characteristics and experience of a SARR.

A. A SARR Is Unlikely To Experience Significant Productivity Improvements Beyond Those Already Embedded In Its Operating Plan.

The Coal Shippers insist that many sources of improved productivity are not tied to asset replacement and that a SARR would benefit from the outset from a long list of potential rail industry developments, as well as "learning by doing," use of information technology, and other sources of productivity that do not depend on assets with long lives. (Coal Shippers Op. at 73-86.) They disagree with the Board's conclusion that a SARR would not enjoy the full level of industry productivity gains until 20 years had passed. (Coal Shippers Op. at 86-88.)

The problem with the Coal Shippers' claims is that they fail to account for the fact that SARRs do not engage in many activities that result in productivity gains for real railroads. Moreover, the Coal Shippers overlook the fact that complainants design SARRs to operate in a hyper-efficient manner and that the design renders a SARR very different from real railroads. With perfect foresight, the complainant hypothesizes SARR facilities that match the nature and volume of the traffic it chooses. In addition, SARR workers are projected to be far more productive than real railroad employees throughout the life of the SARR. A SARR generally has a skeleton force of cross-trained workers that accomplishes tasks with almost superhuman productivity. (See BNSF Op., Baranowski V.S. at 11.) Because the SARR operates with optimum efficiency from the outset, it has little or no room for improvement, either in year one or in any of the other years of the analysis period.

Application of RCAF-A assumes that the SARR will achieve productivity gains similar in type, magnitude, and timing to the gains enjoyed by real railroads. But SARRs have characteristics very different from those of real railroads. And where a complainant drives down the operating expenses of a SARR by hypothesizing optimally efficient operations on day one, the Board should not allow it to “double dip” by taking a further credit for gaining that same efficiency through the use of RCAF-A.

1. A SARR By Its Nature Will Not Experience Certain Types Of Productivity Gain.

As explained in UP’s opening comments, a SARR ordinarily has a simple operating plan, with either a homogeneous traffic base or trainload operations with little local switching. It does not engage in many of the activities that provide the most opportunity for productivity gains. For example, many SARRs concentrate on unit coal trains; any other SARR traffic is crossover traffic that moves via simple “hook-and-haul” operations. Thus, there is minimal switching on the SARR. As a result of these features, the SARR cannot benefit from improvements in the efficiency of switching activity or from efforts to convert more traffic to unit train-type service – two areas that are fertile sources of productivity improvement for UP. Likewise, the SARR’s network is designed to handle a predetermined traffic group with volumes specified throughout its life. Therefore, the SARR cannot benefit from gradual rationalization of its system through, *e.g.*, abandonments and line sales. *See UP Op., Haley V.S. at 14-19.*³¹

³¹ The Coal Shippers suggest that productivity gains resulting from deregulation no longer play a significant role in the rail industry. (Coal Shippers Op., *Caves V.S.* at 12-13.) In fact, the industry continues to engage in rationalization through both contraction and expansion. Virtually every day the Board posts on its website decisions relating to current abandonment proceedings, line sales, lease transactions, and trackage rights agreements. At the same time, railroads are announcing capacity projects to enhance their ability to handle traffic.

SARRs will not benefit from some of the new technologies and other programs real railroads are deploying. As Mr. Haley explained in his verified statement, Remote Control Technology ("RCL") should reduce the labor required for labor-intensive switching associated with carload traffic. (*See id.* at 17.) But a SARR that is designed to handle primarily run-through trainloads performs minimal switching, and thus would not enjoy productivity gains from this development. Mr. Haley also described other types of initiatives that UP is undertaking from which SARRs could not benefit. For example, UP developed its Car Inventory Management System ("CIMS") to match loads headed to a terminal with the customers' ability to receive those loads. (*See id.* at 16.) A SARR that does not handle manifest traffic, or that handles such trains only on a run-through basis, cannot benefit from CIMS or other efforts to improve terminal operations.

In his verified statement attached to BNSF's opening comments, Mr. Baranowski cites other features of a SARR that make it unlikely that there would be significant productivity increases for a SARR. (*See BNSF Op.*, Baranowski V.S. at 11-17.) Mr. Baranowski's specific explanations – including separate discussions of each operating expense category – are far more persuasive than the conclusory statements of the Coal Shippers' witnesses.

2. Developments Predicted by the Coal Shippers Will Not Produce Significant Productivity Gains for a SARR.

The Coal Shippers attempt to bolster their arguments by offering a long list of potential sources of productivity improvement that would supposedly be available to a SARR at some point, from the use of longer and heavier trains to the introduction of Positive Train Control. (Coal Shippers Op. at 74-82.) There is certainly no basis for assuming that any of these developments would produce productivity gains for a SARR in its early years. To the extent such potential sources of productivity are already in use in the industry and are otherwise

suitable for a given SARR, the complainant presumably would incorporate them into the initial SARR operating plan and reflect any enhanced productivity in the day one SARR operations.

Other potential improvements cited by the Coal Shippers are not realistic sources of future productivity growth for a SARR. For example, the Coal Shippers suggest that SARRs will experience productivity gains as train lengths and weights grow, citing UP tests of "200 to 250 car" trains and industry research efforts. (*See Coal Shippers Op. at 75.*) But UP tested trains with over 200 cars for only a short time during 2003, then discontinued the program. UP concluded that its physical infrastructure could not handle these trains and that UP's braking systems, locomotive technology, and communications systems do not work safely and reliably on such long trains. (*See Rebensdorf R.V.S. at 3-4.*) Even the 150-car trains that UP tested for a year strained UP's capacity. The fatal blow to a SARR's prospect for longer trains is that the SARR's connecting carriers and its customers do not have sidings, yards, and unloading facilities that can accommodate such trains. Until connecting carriers and customers make the substantial investments required to accommodate these trains, the SARR cannot use them. (*See Rebensdorf R.V.S. at 4-5.*)

Likewise, it is not practical to increase car weights in the foreseeable future. UP continues to face significant track and maintenance infrastructure challenges as a result of the introduction of high capacity aluminum cars that allow 286,000-pound loads. A switch to 315,000-pound loads would require customers to make large capital expenditures to replace their existing fleets and upgrade their unloading facilities to accommodate the heavier loads. In addition, UP and other railroads would have to upgrade the track and bridges for the entire route. UP does not plan to introduce heavier cars. (*See Rebensdorf R.V.S. at 5-6.*)

In view of these practical difficulties, it is unlikely that a SARR could look forward to introducing longer trains or heavier loads in the foreseeable future. More generally, the Coal Shippers' assertion that the industry is now studying various potential sources of productivity gain does not justify a conclusion that the SARR will in fact enjoy such gains during the course of the SAC analysis period.

3. "Learning By Doing" Offers Little Opportunity for Productivity Gain.

The Coal Shippers suggest that "learning by doing" should be an important source of productivity gain for a SARR. (*See, e.g., Coal Shippers Op. at 84-85 & Brennan V.S. at 6-9.*) Their support rests on general economic literature and is devoid of any analysis that compares the nature of SARRs with characteristics of real railroads. In particular, they fail to take account of the fact that real railroads improve gradually, while a SARR starts out with optimal efficiency on day one. Where a SARR is already operating at an optimal efficiency level, "learning by doing" cannot produce a better result. In effect, the optimally efficient SARR operates as if its work force had completed the learning process instantaneously on the first day of operations.

Moreover, Coal Shippers fail to take account of the impact of a key source of "learning by doing" for real world railroads: the resources they commit to planning and process improvement. UP and other major rail carriers devote significant human and capital resources to planning, operations research, and process improvement functions. In contrast, a typical SARR operates with a skeletal workforce, leaving little or no time for its employees to focus on anything other than day-to-day operations.

As Mr. Rebensdorf explains in his verified statement, many UP employees work full time in planning and development capacities, and the resources UP commits to these process improvement activities are a primary driver of its productivity enhancement success. (*See Rebensdorf R.V.S. at 9-10.*) Unless the complainant adds salaries and facilities for employees

devoted to this function, a SARR will not have the resources to identify and implement newly identified best practices on an ongoing basis.

In an effort to show that the SARR could achieve large productivity gains through "learning by doing," the Coal Shippers cite the gains Western Railroad Properties, Inc. ("WRPI") achieved during its early years of operation. (*See Coal Shippers Op.*, Brennan V.S. at 8.) Reliance on the WRPI experience is misplaced. WRPI was not an optimally efficient railroad when it began operations in 1984. Rather, it was a low density railroad with almost unlimited room for improvement. Moreover, WRPI's improved productivity went far beyond learning by doing, and it required large expenditures.

The most significant sources of WRPI's early productivity improvements include economies of density, elimination of cabooses, and the change to two-man crews. In these areas, the SARR experience would be different from that of WRPI, or the productivity gain for the SARR would already be captured at the outset of SARR operations. For example, when WRPI began operations in 1984, it moved fewer than two trains per day. By 1989, that increased to more than 10 trains per day with little additional track. If a complainant assumes growing traffic volumes for a SARR, any economies of density are already captured in the SAC calculations. If the complainant assumes flat volumes, there are no economies of density to capture. (*See Rebensdorf R.V.S.* at 11.)

Labor agreements in place when WRPI began operations required at least a three-man crew and caboose. As end-of-train devices became available and railroads bargained for more efficient work rules, those practices disappeared. UP currently operates SPRB coal trains with two-man crews and EOTs. SARRs presumably will do the same. Moreover, since a SARR is not bound by work rules that UP agreement personnel have bargained for, it cannot share in

any productivity gain that UP or other railroads may realize by eliminating such rules in the future. (*See* *Rebensdorf R.V.S.* at 11.)

None of the opportunities for productivity improvement that were available to WRPI would be available to a SARR, which is optimally efficient and uses current technology on day one. The SARR already reflects all of the learning by doing WRPI experienced, as well as all the technological advances. In effect, from day one, the SARR rides on the coattails of WRPI, capturing at the outset all the efficiencies it took WRPI years to achieve. And to the extent new opportunities for improvement become available after the SARR's start-up, the complainant must account for the costs of making those improvements if it wants the SARR to enjoy the additional productivity.

4. Updating of Information Technology Offers Limited Opportunities for SARR Productivity Gain and Imposes Costs.

The Coal Shippers argue that a SARR would enjoy gains from use of communications and information technology, in its initial year and perpetually thereafter. (*See* *Coal Shippers Op.*, *Caves V.S.* at 8, *Brennan V.S.* at 3.) However, there is no reason to expect significant gains for a SARR from these sources. Presumably a complainant, in designing a SARR, chooses state-of-the-art information technology and communications resources that fit the needs of the SARR configuration it has selected. In contrast, real railroads deploy most technology gradually in their existing operations. Since the SARR is assumed to operate with optimal efficiency on day one, there should be no incremental gain from using information technology, at least until a new generation of information technology emerges.

Even if a SARR would adopt new information technology or communications technology at some point after start-up, that still would not justify application of RCAF-A. A complainant must demonstrate that it has captured all of the costs associated with updating such

technology and that the resulting benefits would be equivalent to the RCAF-A. The Coal Shippers do neither.

As Mr. Rebensdorf explains, there are some aspects of information technology that a SARR might replace periodically, but it is doubtful that such replacements would result in significant productivity gains. Regular upgrading of off-the-shelf products may simply retain productivity already attained. Railroads gain some productivity from continuous expansion and upgrading of complex computer systems they rely on for operating and financial functions. Mr. Rebensdorf explains that maintaining and enhancing these complex systems entails major expenditures and the efforts of numerous employees; designing and implementing improvements takes years. (*See* Rebensdorf R.V.S. at 8-9.) A complainant could not claim increased productivity from information technology unless it included such costs in the SAC analysis.

B. Advances Available To A SARR Will Not Produce Significant Productivity Gains Unless The SARR Incurs Substantial Costs.

As discussed above, many of the potential productivity enhancing developments the Coal Shippers discuss likely would not provide the basis for a significant productivity gain for the SARR during the SAC analysis period. To the extent a new technology or other development actually materializes and a SARR might be able to take advantage of it, the SARR would need to incur substantial costs in order to realize related productivity gains. Unless the complainant can show that it has accounted for the costs of the development in the SAC analysis, it would be inappropriate to assume the SARR would realize any associated productivity gain.

For example, the Coal Shippers cite Positive Train Control ("PTC"), suggesting that adoption by the SARR will result in increased train speeds. (*See* Coal Shippers Op. at 76.) PTC may well become available to the SARR during the DCF analysis period. However, PTC remains highly experimental. A 15 to 20 percent increase in train velocities would become

feasible only if dynamic moving block ("DMB") technology were incorporated within a PTC system. DMB technology remains experimental and technically challenging, however, and has not been approved for use by the Federal Railroad Administration. (*See* *Rebensdorf R.V.S.* at 7-8.)

With or without DMB technology, PTC will require a large investment to implement. UP will incur substantial testing and development costs before PTC is proven reliable enough to use on a broad scale. The total capital expenditure to deploy PTC throughout UP's system will be immense. (*See* *Rebensdorf R.V.S.* at 8.) While the cost would be less for a smaller SARR, it would still be tens or even hundreds of millions of dollars. A complainant could not claim productivity gain from adoption of PTC unless it also included those substantial costs in the SAC analysis.

A SARR would also incur costs if it wanted to take advantage of other kinds of technological advances. The Coal Shippers suggest that the SARR could determine that emergence of a new generation of technology after the SARR's start-up would promise such significant productivity gains that it would be worth replacing existing track or locomotives or other significant assets prior to the end of their normal asset lives. (*Coal Shippers Op.* at 82-83.) While possible in theory, any such replacement would come at a cost that the SARR must bear. These costs include the expense of obtaining the new equipment, the cost of disposing of the old equipment, and any ancillary costs of modifications to other SARR facilities needed to accommodate the new equipment. These costs are not captured in RCAF-A. The complainant would have to demonstrate that it had incorporated all of these costs into the SAC analysis in order to justify claiming any productivity gain in connection with the early replacement of assets.

The Coal Shippers suggest that a SARR could switch to more efficient locomotives or rail cars if it leased equipment, rather than purchasing it. (Coal Shippers Op. at 83.) There would still be substantial costs associated with such a switch, because there are penalties associated with early termination of a long-term lease. (See *Rebensdorf R.V.S.* at 6; *BNSF Op.*, *Baranowski V.S.* at 12, 13.) A SARR that used short-term leases that provide it with the flexibility to take advantage of new technology will pay higher lease rates. (See *Rebensdorf R.V.S.* at 6.) Thus, leasing does not eliminate the costs that would accompany productivity gains from early asset replacement.

C. The Board Should Require Specific Evidence To Support Any Claim That A SARR Will Enjoy Productivity Gains And Should Recognize Appropriate Offsets.

Because SAC theory refers to an optimally efficient SARR, because complainants generally create SARRs that operate with maximum efficiency, and because the nature of a SARR in itself limits prospects for productivity gains, the Board should not assume a blanket increase in productivity over time based on some percentage of RCAF-A. Given the unique circumstances of a hypothetical optimally efficient SARR, there is no reason to presume that there will be any further gain after start-up, whether the analysis period is set at 10 years or 20 years.³² Nor is there any reason to think that any productivity gain a complainant might establish

³² Mr. Baranowski, speaking on behalf of BNSF, suggests that it might be appropriate to apply RCAF-A to certain categories of SARR operating expenses beginning in year 11 (assuming the Board retains a 20-year SAC analysis period). (*BNSF Op.*, *Baranowski V.S.* at 20-21.) UP does not endorse this approach. Because a SARR can be designed in different ways, because any productivity gain it might realize would be very different from the experience of real railroads, and because it is so difficult to predict industry developments more than a decade ahead, it would be preferable to require the complainant to make a more specific showing of why productivity gains could be expected for a specific SARR in years 11 through 20, the likely magnitude of such gains, and their effect on particular operating expense categories, rather than establishing any general presumption that would apply in all cases.

should be measured by RCAF-A. As discussed above and in UP's opening comments, SARRs are not like real railroads; indeed, the Board has permitted them to differ in fundamental respects. Thus, even if a complainant included the costs of certain improvements in its SAC analysis, it would not be reasonable to assume that the SARR would achieve a productivity gain measured by a share of RCAF-A.

For example, assuming a more productive locomotive was developed after the SARR start-up date, and assuming the SARR incurred the costs to replace its locomotives prematurely, its experience would not track that of real railroads, and RCAF-A would therefore not be an appropriate reference point. (*See* *Rebensdorf R.V.S.* at 7.) PTC presents another example of why RCAF-A would not represent SARR productivity gains. For technologies such as PTC that promise dramatic benefits, but cannot deliver them today, a SARR may have a choice, unlike real railroads. It can wait until the technology is ready, adopt it across the entire SARR network at once, and realize the full benefits at that point. If the SARR chooses this approach, claiming RCAF-A would allow it to double dip. Or, it can adopt the gradualist approach, but then it must include the cost of development and testing now and spread the cost of installation and the realization of benefits over years in return for getting a small share of RCAF-A associated with this technology beginning when the incumbent starts to deploy PTC on the complaint route.

An assumption that RCAF-U should apply as a routine matter would not preclude a complainant from arguing that the advent of important new technology or some other special circumstance warrants recognition of some productivity gains in a particular case. In a given case, a complainant might be able to show that the SARR it has designed has certain inefficiencies at the outset, so that there is room for SARR operations to improve over time. Or,

a complainant might establish that the SARR would be able to take advantage of new technology not available at the time of start-up. In order to make the case for recognizing a productivity gain from new technology, the complainant should be required to show the following:

- The new technology would become available at a particular stage during the SAC analysis period.
- It would be reasonable to expect that the SARR would gain a particular level of productivity gain as a result of the new technology.
- The particular categories of operating expenses that would be affected as a result of the gain.
- Any costs of acquiring the new technology have been included in the SAC analysis.
- Any ancillary costs of adopting the new technology (e.g., new infrastructure to accommodate a new type of locomotive, training of employees to use the new locomotives) have been included in the SAC analysis.

If the Board did conclude that the evidence established that a particular SARR would experience some productivity growth during the DCF period, it should also recognize that other developments might have the effect of diminishing the SARR's productivity. For example, all railroads are likely to face increased costs from environmental regulation and from homeland security requirements in the future, and a SARR would be similarly affected.

UP agrees with BNSF's suggestion that if a productivity adjustment is applied to SARR operating expenses, the Board should consider a comparable adjustment to the inflation of capital assets in the DCF model. (*See BNSF Op., Baranowski V.S. at 19-20.*) As Mr. Baranowski notes, applying such an adjustment to capital asset inflation may well offset any reduction in SARR costs resulting from application of a productivity adjustment to operating expenses (due to the resulting shift in the timing of capital carrying charges).

The Coal Shippers insist that the failing to recognize any productivity gain for the SARR is "*the ultimate entry barrier!*" (Coal Shippers Op., Brennan V.S. at 11) (emphasis in original) This is plainly wrong. A determination that the Board should not apply RCAF-A (or

some predetermined percentage thereof) to the SARR's operating expenses does not present an obstacle to the SARR that the incumbent does not face. Instead, it rests on the recognition that (i) it is doubtful that the SARR would achieve any meaningful productivity gain beyond its initial optimal level of efficiency, particularly if it does not pay the cost of such gains, and (ii) any gains it may achieve bear no real relation to RCAF-A. Recognizing these realities is not an "entry barrier." Rather, it is good common sense.

V. MOVEMENT-SPECIFIC ADJUSTMENTS TO URCS

Almost all of the parties that commented on the Board's proposal to simplify the variable costing portion of rate cases have argued that the Board should continue to permit at least some movement-specific variable cost adjustments to produce more accurate results.

UP believes that it identified an appropriate balance between the benefits of simplicity and the need for accuracy in its opening submission. We urged the Board to allow parties to make their cost calculations more accurate by substituting a limited number of readily obtainable, movement-specific inputs in place of default or system-average values that would otherwise be used in running the URCS Phase III model. (UP Op. at 40-44.)³³ We also urged the Board to clarify that its proposal was not meant to preclude parties from accounting for certain costs that are not reflected in URCS costs, including in particular railroad payments to third-parties or shippers. (UP Op. at 37-40.)

UP continues to support the Board's efforts to simplify variable cost calculations. We are disappointed that some shippers, particularly the Coal Shippers, responded to the Board's

³³ UP also supports allowing parties to demonstrate in specific situations that use of system-average costs would significantly understate costs that are more properly assigned to specific movements or narrow categories of movements, such as in the conveyor belt example offered in the Joint Comments of NS and CSX. (NS/CSX Op. at 13.)

proposal with counterproposals that would complicate proceedings and increase parties' costs by increasing railroad recordkeeping costs or requiring railroads to produce proprietary internal costing data. We address those proposals below and urge the Board to reject them. We also urge the Board to reject the Coal Shippers' arguments that (i) parties should be permitted to blend movement-specific road property costs with system-average variability percentages, and (ii) any efforts to simplify cost calculations are inappropriate if rates might be set at the jurisdictional threshold.

A. The Board Should Reject The Coal Shippers' Proposals That Would Increase The Costs Of Litigating Rate Cases.

The Coal Shippers disagree with the Board's observation that allowing parties to proffer movement-specific adjustments to system-average costs adds significant expense to rate cases. (Coal Shippers Op. at 91.) Their comments and proposals reflect a view of the costs of litigating the variable cost portion of rate cases that does not comport with UP's experience.

One reason for the divergence of views may be that shippers do not bear the bulk of discovery costs. In UP's experience, railroads incur substantial discovery costs associated with the variable cost portion of rate cases because they have been required to produce vast quantities of data in response to shipper efforts to develop "creative" adjustments to system-average costs and then spend time explaining to shippers and the Board why the data do not allow shippers to make the types of adjustments they are trying to make.

In UP's pending rate case against KCPL,³⁴ for example, the shipper focused nearly half of its discovery requests on variable cost issues. Most of those requests, which seek vast quantities of detailed data on all aspects of railroad operations, stem from efforts to develop

³⁴ STB Docket No. 42095.

adjustments to system-average costs. Even more troubling, many of the requests stem from efforts to re-litigate recent decisions in which the Board has rejected efforts to depart from system-average costs. For example, KCPL requested detailed data about UP's investment in road property, even though the Board has previously rejected efforts to develop adjustments to road property investment and depreciation expenses using records UP maintains.³⁵ KCPL also requested detailed data about UP's line-specific maintenance-of-way costs, even though the Board has recently ruled that system-average costs are superior to the supposedly line-specific alternatives that shippers have proposed in past cases.³⁶

To place discovery costs in perspective, it is worth considering that UP's cost for the discovery phase of *Northern States Power*,³⁷ in which the parties litigated only variable costs, was more than half the cost of the discovery in *Wisconsin Power & Light*,³⁸ in which the parties litigated the full range of SAC issues, even though UP's total cost for litigating *Northern States Power* was less than one-third the total cost of *Wisconsin Power & Light*.

Moreover, UP's experience suggests that the Board's proposal would benefit shippers as well as railroads because it would also make a significant contribution toward reducing the costs of preparing evidence in rate cases. UP spent well over \$1 million in *Northern States Power* to file three rounds of detailed variable cost evidence. In addition to the

³⁵ See *Wisconsin Power & Light Co. v. Union Pac. R.R.*, 5 S.T.B. 955, 1001-02 (2001); *Wisconsin Power & Light Co. v. Union Pac. R.R.*, STB Docket No. 42051 (STB served May 14, 2002) at 2, 15-18; see also *Texas Mun. Power Agency v. Burlington N. & Santa Fe Ry.* ("TMPA"), 6 S.T.B. 573, 634-35 & 635 n.98 (2003) (explaining that adjustments to system-average road property costs could not be made using records maintained by UP).

³⁶ See TMPA, 6 S.T.B. at 583 n.8; *Public Serv. Co. of Colo. d/b/a Xcel Energy v. Burlington N. & Santa Fe Ry.*, STB Docket No. 42057 (STB served June 8, 2004) at 135.

³⁷ *Northern States Power Co. Minnesota v. Union Pac. R.R.*, STB Docket No. 42059.

³⁸ *Wisconsin Power & Light Co. v. Union Pac. R.R.*, STB Docket No. 42051.

costs associated with extensive discovery, virtually every element of variable cost was subject to special studies, including observational studies of switching time and fuel consumption, or other arguments about special adjustments to or substitutes for URCS system-average unit costs. The complainant must have spent a similar amount of money to analyze the data that UP produced and develop its own three rounds of evidence.

The Coal Shippers argue that the Board should abandon its efforts to simplify variable cost calculations and instead expand shippers' ability to develop line-specific costs by imposing additional recordkeeping requirements on railroads; in the alternative, they ask the Board to apply presumptions against railroads or require them to produce internal management cost information if they do not maintain data that shippers request in discovery. (Coal Shippers Op. at 93-94.) These proposals are premised in part on shippers' claims that railroads have stopped maintaining certain data for the purpose of preventing shippers from developing line-specific costs in rate cases. KCPL recently made such baseless (and offensive) allegations in an effort to convince the Board to compel production of UP's proprietary costing information. The Board appropriately rejected that effort, as it has in every other case in which shippers sought to compel production of railroads' internal management cost information.³⁹

³⁹ *Kansas City Power & Light Co. v. Union Pac. R.R.*, STB Docket No. 42095 (STB served Feb. 15, 2006); see also *Duke Energy Corp. v. Norfolk S. Ry.*, STB Docket No. 42069 (STB served Apr. 5, 2005) ("*Duke/NS*"); *Potomac Elec. Power Co. v. CSX Transp., Inc.*, 2 S.T.B. 290 (1997) ("*PEPCO*"); *Arizona Pub. Serv. Co. v. Atchison, Topeka & Santa Fe Ry.*, 2 S.T.B. 367 (1997) ("*APS*"); *Minnesota Power, Inc. v. Duluth, Missabe & Iron Range Ry.*, STB Docket No. 42038 (STB served July 8, 1999); *Texas Mun. Power Agency v. Burlington N. & Santa Fe Ry.*, STB Docket No. 42056 (STB served Feb. 9, 2001); *Northern States Power Co. v. Union Pac. R.R.*, STB Docket No. 42059 (STB served May 24, 2002).

The Board has affirmed repeatedly that there is no value to be gained from delving into the complicated, subsidiary issue of whether a railroad's internal approach to costing has any bearing on the issues in a stand-alone cost case. See, e.g., *PEPCO*, 2 S.T.B. at 293 & n.13 ("Use of the carriers' costing system would require that we review all of the programs and assumptions (continued...)")

As long as their recordkeeping complies with the Board's Uniform System of Accounts ("USOA"), railroads should not face adverse consequences if they do not maintain more detailed information for sole purpose of responding to discovery in rate cases. UP and the vast majority of its customers who will never be involved in a rate case would be forced to bear the costs of any new recordkeeping requirements, and yet they would derive no benefit from them. The USOA complies with Congress's directives to the Board "to minimize the need for Federal regulatory control over the rail transportation system" and "to ensure the availability of accurate cost information in regulatory proceedings, while minimizing the burden on rail carriers of developing and maintaining the capability of providing such information." 49 U.S.C. §§ 10101(2), (13). Requiring railroads to maintain more detailed cost information than the USOA requires or penalizing them for not maintaining such information would be contrary to statutory directives, as the Board has recognized. *See NPRM* at 23-24.

B. The Board Should Reaffirm That Parties May Not Mix Movement-Specific Road Property Costs With System-Average Variability Factors.

The Coal Shippers also challenge the Board's conclusion that variable cost calculations are distorted when parties use system-average variability factors to calculate movement-specific adjustments. (Coal Shippers Op. at 95-96.) UP agrees with the Board that the blending of supposedly movement-specific cost data with system-average variability factors does distort variable cost calculations, at least for cost items that are treated as significantly less than 100 percent variable, such as road property return and depreciation costs. Even if the Board withdraws its proposal to simplify the variable cost portion of rate cases, it should make clear

that affect the output of the costing models."); *APS*, 2 S.T.B. at 372 (Board "would not use a carrier's internal costing system for any purpose in [its] analysis and decision"); *Duke/NS* at 2 ("It is contrary to Board precedent to require a party to produce internal management costing information, because costs in Board proceedings are to be determined using [URCS].").

that it will not permit the blending of movement-specific road property costs with system-average variability factors.

The Board is correct to be concerned about the distortion that occurs when shippers mix movement-specific costs with system-average variability factors to derive allegedly movement-specific substitutes for URCS system-average unit costs, instead of using variability factors that have been appropriately adjusted to account for density.⁴⁰

The Coal Shippers, through their witness Plaistow, challenge the basis for the Board's view that variability ratios increase as traffic increases on a network. Plaistow claims that the Board's view "is unsupported and contrary to the previous maximum rate reasonableness decisions issued by the Board and its ICC predecessor." (Coal Shippers Op., Plaistow V.S. at 3.)

In fact, however, the ICC recognized when it adopted URCS that variability ratios would be above system-average levels on high density lines:

"In the linear model proposed by Westbrook, density increases as output increases for a given capacity. This occurs because density is defined as output per unit of capacity. As this ratio increases, the variability ratio also increases indicating recognition of density."⁴¹

In other words, if railroad cost functions are linear, as the ICC determined when it adopted URCS, then increasing traffic levels will generate additional variable costs, but not additional

⁴⁰ Shippers invariably argue that road property costs on the high-density lines replicated by SARRs should be below system-average costs because of economies of density. In fact, shippers are incorrect. As the Board observed in the *NPRM*, if railroad cost functions are linear, as the ICC concluded when it adopted URCS, then the average variable cost per unit of output will remain unchanged as densities increase. See *NPRM* at 25.

⁴¹ *Adoption of the Uniform Railroad Costing System as a General Purpose Costing System for All Regulatory Costing Purposes*, 5 I.C.C.2d 894, 921 n.81 (1989).

fixed costs, and thus the percentage of total costs that is variable will necessarily increase as density increases.

Plaistow mischaracterizes the relevant history when he argues that the ICC's decision to adopt URCS rejected "the routine use of density adjustments to standard URCS variability factors, instead permitting parties to propose such an adjustment, if it was proved to be superior to the standard URCS average variability factor treatment." (Coal Shippers Op., Plaistow V.S. at 4.) He is apparently referring to the ICC's decision to reject an alternative model that, among other things, purported to recognize economies of density in developing variability factors.⁴² But the rejected model would not have allowed "routine use of density adjustments to standard URCS variability factors" – it would have calculated entirely different variability factors than the URCS regression methodology that the ICC ultimately adopted.⁴³ Moreover, the ICC did not reject the alternative model because it allowed movement-specific adjustments to variability factors; the ICC rejected it because, among other reasons, its approach to variability was not movement-specific enough: "it impose[d] a constant elasticity across all railroads," while the URCS model ultimately adopted "allows the computation of individual variabilities for each Class I railroad."⁴⁴

In short, the ICC recognized that density adjustments to system-average URCS variability factors were appropriate in theory. It also understood that such adjustments would be

⁴² See *Adoption of URCS*, 5 I.C.C.2d at 921.

⁴³ *Id.*

⁴⁴ *Id.* The ICC also rejected the so-called Total Cost Model for a because it was based on marginal costs while the statute called for the use of variable costs, it presupposed a non-linear form without sufficient support, and it failed to correct for the presence of temporal correlation of the data. *Id.* at 921-22.

unnecessary in practice, at least as long as system-average variability factors were being applied to system-average costs.⁴⁵

Plaistow also argues that any concerns about a density adjustment would not apply to the 50% variability factor applied to road property return and depreciation costs because that variability factor “was not established by a regression equation.” (Coal Shippers Op., Plaistow V.S. at 6.) He asserts that the Board “must not *assume*, without any econometric foundation, that the 50% factor applies *only* at the average density.” (*Id.*) But Plaistow is wrong to leap from fact that the 50% variability factor was not established using a regression equation to his conclusion that it is “without any economic foundation.” The 50% variability factor is not a random number: it is the system-average variability factor that was developed for Rail Form A costing, and it reflects both older analyses and “judgmental knowledge of the industry.”⁴⁶ In other words, the 50% variability factor was believed at the time to be the best possible approximation of system-average variability for road property costs. The Board is thus correct to assume that the 50% variability figure, like any other URCS system-average variability figure, would be affected by the mathematical fact that, under the linear cost model adopted in URCS, as density increases, the “variability ratio also increases indicating recognition of density.”⁴⁷

Plaistow is also incorrect when he suggests that the variability of road property return and depreciation costs should be less than 50%. (Coal Shippers Op., Plaistow V.S. at 9.) He incorrectly suggests that only short-lived assets can have a high variability factors, and he

⁴⁵ See *id.* at 921 (“[T]he effect of density will be captured directly in the calculation of the variability ratio in [the URCS] linear model.”).

⁴⁶ *Adoption of URCS*, 5 I.C.C.2d at 920 n.79; see also *San Antonio, Texas v. Burlington N.R.R.*, 1 I.C.C.2d 561, 585 (1986) (referring to “[p]rior Commission studies underlying the [Rail Form A] road property variability factor” and “[Rail Form A] average experience factors”).

⁴⁷ *Adoption of URCS*, 5 I.C.C.2d at 921 n.81.

refutes his own claim by pointing to the example of “equipment investments.” (*Id.* at 8.) Freight cars, for example, have long lives, but freight car ownership costs are highly variable – URCS treats all depreciation and return costs as 100% variable – because they depend on the amount of traffic the railroad handles. UP’s road property also involves long-lived assets, and they also depend on traffic levels in two important respects:

First, UP’s road property investments are closely tied to increases in traffic levels. As volume increases, line capacity is added by extending sidings until it becomes double track. This point was most recently illustrated in one of the presentations UP made during the Board’s recent site visit to the PRB.⁴⁸

Second, UP’s road property depreciation costs are also closely linked to traffic levels. Plaistow essentially concedes this point, although he apparently does not realize it, when he observes that “road property depreciation costs depend on the depreciation rates applied to the road property investments,” and that Board-approved depreciation rates “reflect higher costs for higher traffic densities.” (Coal Shippers Op., Plaistow V.S. at 11.)

Moreover, the 50% variability ratio was developed during a period in which traffic volumes were lower, railroads expensed much of their maintenance-of-way spending, and excess capacity existed over the observed range of densities. All of these circumstances have changed over the years in ways that should increase the variability percentage for road property costs. First, as traffic levels increase, the variability percentage for all costs will necessarily increase, given a linear cost function. Second, the shift from retirement-replacement-betterment accounting to depreciation accounting means that many activities that were treated as

⁴⁸ *Powder River Basin Site Visit*, STB Ex Parte No. 663, Exhibits Tab 7, “Coal Network Capacity and Investment” at 12-14.

maintenance-of-way expenses when the 50% variability factor was developed are now being capitalized and treated as road property costs; thus, the variability ratio for road property should be more like variability factor applied to maintenance-of-way. Third, as capacity spending has increased to accommodate traffic growth, the link between road property costs and traffic levels has become much stronger.

Finally, Plaistow offers a variety of other arguments relating to the calculation of line-specific adjustments to system-average road property variability, but they do nothing more than suggest that it would be difficult, if not impossible, to develop an accurate measure of line-specific variability factors. (Coal Shippers Op., Plaistow V.S. at 9-12.) Even if all of Plaistow's arguments were correct, which they are not, they would not justify accepting supposedly line-specific investment and applying system-average variability percentages to derive allegedly line-specific unit costs. Instead, they would lead to the same conclusion the Board has reached: parties should be required to use system-average costs if they cannot develop appropriate adjustments to system-average variability factors.

C. The Board Should Balance Cost Savings And Accuracy When Evaluating Proposals To Simplify Variable Cost Calculations.

The Coal Shippers argue that the "economic value at stake in each litigated case" justifies any effort involved in litigating movement-specific adjustments to system-average costs. (Coal Shippers Op. at 98). They take issue with the Board's observation that the use of movement-specific variable costs requires time-consuming analysis and diverts resources from the "core issues" in rate cases. (*Id.* at 97.)

As UP observed in its opening submission, variable cost calculations should not be the core issue in rate cases – the Board should not be prescribing rates at the jurisdictional

threshold if a SAC analysis is conducted properly – but variable cost calculations have in fact been a major factor in all rate cases involving UP for the last decade. (UP Op. at 36.)

In UP's view, however, the relevant question is whether the benefits of allowing parties to make movement-specific adjustments to system-average variable costs outweigh the costs involved in litigating those adjustments. The Coal Shippers' "accuracy at any cost" approach is surprising in light of shippers' repeated complaints about the high costs of litigating rate cases. Moreover, we believe the Coal Shippers mistake complexity for accuracy. As UP has pointed out in recent cases, shipper efforts to develop supposedly movement-specific costs have involved costly, time-consuming discovery and complex, misleading, and error-filled manipulations of data that were never designed to be used for that purpose; moreover, shippers cannot prove that their efforts produce results that are demonstrably superior to system-average costs.⁴⁹ The Board's proposal to simplify variable cost calculations apparently reflects the concerns of both shippers and railroads that parties are spending substantial time and effort to develop movement-specific adjustments that ultimately have little impact on the jurisdictional threshold calculation or that cannot be judged superior to system-average costs. UP believes that the Board has adopted the proper approach by seeking to accommodate the tension between litigation costs and accuracy. Our proposal is in the same spirit and would expand only slightly the number of categories in which movement-specific data would be used to calculate variable costs while, on the whole, significantly reducing burdens on railroads, shippers, and the Board.

⁴⁹ AECC proposes that accuracy of results based on system-average URCS costs be tested using "information drawn from SARR operating simulations." (AECC Op. at 21.) The proposal makes no sense because jurisdictional threshold calculations must be based on the costs of the rail carrier providing the service, not a hypothetical SARR. *See* 49 U.S.C. § 10707(d)(1)(B).

UP also disagrees with the Coal Shippers' contention that the Board's proposal would not eliminate substantial uncertainty in rate cases. In UP's experience, two of the most hotly contested issues in the variable cost portion of rate cases involve efforts to develop movement-specific road property costs and movement-specific maintenance-of-way costs. These issues are hotly contested because shippers routinely propose adjustments that would produce significantly lower figures than the defendant's system-average costs. In *Wisconsin Power & Light*, the Board rejected the shipper's attempt to adjust UP's system-average road property costs. Yet in *Northern States Power* and *AEPCO*, the shippers sought extensive discovery on that issue and submitted detailed evidence. In UP's pending rate case against KCPL, the pattern repeats as KCPL demanded similar discovery. In *TMPA* and *Xcel*, the Board rejected the shipper's attempt to adjust the railroad's system-average maintenance-of-way costs. Yet in UP's pending recent rate case, KCPL sought extensive discovery on that issue. Unless the Board forecloses departures from system-average costs, parties will continue to develop arguments for departures they favor from system-average costs in these and other areas and thus will approach settlement discussions with substantial uncertainty about the outcome of a fully litigated case.

VI. STAND-ALONE COST ANALYSIS PERIOD

Most commenters – including both railroads and shippers – appear willing to accept a 10-year SAC analysis period. Commenters recognize that it is difficult to forecast accurately more than 10 years into the future. No one defends the current 20-year SAC analysis period.

Based on review of the comments filed by others, UP continues to be inclined to support the Board's proposal to adopt a 10-year SAC analysis period. As noted in UP's opening comments, shortening the analysis period may well disadvantage railroads in some (or even

most) cases. This is because SAC results in years 11 through 20 sometimes favor the railroad (*i.e.*, SAC costs exceed revenues for the SARR during some of those years), and through the netting process this lowers the amount of “surplus” revenue supposedly earned by the SARR. BNSF, too, notes that shortening of the analysis period is likely to deprive railroads of some of the benefits of netting. (BNSF Op. at 70 & Baranowski V.S. at 22.)

UP nevertheless believes that overall the benefits of a shorter analysis period outweigh any downsides. Each time UP has litigated a full SAC case, we have been troubled by the challenge of making satisfactory predictions of traffic and revenues, as well as the unrealistic claims by shippers that SARR costs will decrease as a result of alleged productivity gains over a 20-year forecast period. Some of these concerns have been alleviated by the Board’s decision to use Energy Information Administration forecasts for some aspects of the SAC analysis. But forecasts are rarely consistent with reality. Indeed, in its decision on reconsideration in the eastern rate cases, the Board documented the significant changes in the EIA forecasts for coal production in three consecutive years – 2002, 2003, and 2004.⁵⁰ Any inaccuracy in predictions for the early years is compounded as time goes by; thus, the effect of any early distortions is magnified in the later years of the forecast.

Even predictions that are up to date, well founded, and well suited to the circumstances of the SARR can become highly inaccurate as time goes on. Even a few years after the Board has issued a rate prescription, real world developments can cause traffic and revenues to diverge significantly from the forecasts used in the SAC analysis. By 10 years out, the predictions are simply too speculative.

⁵⁰ *Duke Energy Corp. v. Norfolk S. Ry. Co.*, STB Docket No. 42069, (STB served Oct. 20, 2004) at 6-9.

UP agrees with BNSF that, in reducing the SAC analysis period to 10 years, the Board should also clarify that any rate prescription would last no longer than 10 years. For some of the same reasons that forecasts beyond 10 years are too speculative to support a SAC analysis, a rate prescription is likely to be unreliable beyond 10 years. The Board itself notes that, as a result of changing circumstances, 20-year rate prescriptions are often reopened long before their expiration date. *NPRM* at 29. By 10 years after a SAC decision, it is likely that there will have been one or more fundamental changes in market conditions – changes in traffic levels on a route, shifts in a coal supply arrangement, exhaustion of a particular coal supply, new forms of utility regulation, developments in electricity markets, and so on. Thus, it is likely that one party or the other will wish to reopen a rate prescription either before the passage of 10 years or not long thereafter. Providing for expiration of rate prescriptions after 10 years will minimize the number of reopening or vacatur proceedings the Board will have to handle.⁵¹

Despite their endorsement of a 10-year SAC analysis period, the Coal Shippers take the position that a rate prescription should continue indefinitely. In their view, the burden should be on the railroad defendant to show that there is a basis to terminate or otherwise modify a rate prescription. (Coal Shippers Op. at 104.) Under the Coal Shippers' proposal, a rate would be regulated indefinitely unless the railroad sought to reopen the prescription and succeeded in justifying vacatur.

⁵¹ Beyond year 10, there are likely to be many petitions to reopen. Even in earlier years, parties are likely to be uncertain when a petition to reopen will be timely, and this will encourage multiple petitions. In the *Arizona Public Service* case, BNSF sought reopening soon after the Board issued a rate prescription, but that petition was denied. Some years later BNSF successfully obtained rehearing, based on the same argument, but the Board denied BNSF's request for a rate that would compensate it for under-recovery during the intervening period. See *Arizona Pub. Serv. Co. v. Burlington N. & Santa Fe Ry.*, STB Docket No. 41185 (STB served Dec. 13, 2004).

Such a rule would be plainly inappropriate. It is highly unlikely that the evidence presented in any rate case would support the conclusion that a rate should be regulated indefinitely. And a rate prescription with no termination date would be flatly inconsistent with the national rail transportation policy, which is "to allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail." 49 U.S.C. §10101(1); *see also* 49 U.S.C. § 10101(2) (stating policy "to minimize the need for Federal regulatory control over the rail transportation system . . ."). A rule that incorporates a presumption that rate prescriptions should continue indefinitely creates a regime of permanent regulation, rather than one of competition and response to demand. A rate prescription must have a finite end so that the railroad can regain the ratemaking initiative within some reasonable period. Otherwise, the Board fails to respect Congress's preference for rates set through market forces.

Moreover, once a decade has passed, there is no basis for placing on the railroad the burden to seek termination of the rate prescription. As discussed above and as the Board's proposal recognizes, it is virtually certain that there will be significant changes in market conditions within 10 years after a rate prescription issues. There is no good reason to require a railroad to demonstrate changed circumstances at that late date. The passage of a decade is itself sufficient grounds to assume that circumstances have changed and to permit the railroad again to establish a rate in response to market forces. At that point, with the backdrop of recent Board rate cases, the railroad and the shipper may well be in a position to negotiate a mutually beneficial rate agreement. If not, the shipper will be free to file a new rate complaint supported by up-to-date evidence.

The Coal Shippers' proposed regime of never-ending regulation is not only inconsistent with the statute and with the reality of changing market conditions; it would also unnecessarily complicate rate proceedings. If rate prescriptions did not expire of their own force, railroads would find it necessary to institute numerous mini-proceedings. Without fixed expiration dates, railroads would have a far greater incentive to seek reopening and vacatur of rate prescriptions earlier, before 10 years had passed, rather than simply waiting for a prescription to expire by its own terms. Under such a regime, railroads would seek to reopen every rate prescription at some point, and there would be repeated efforts to reopen cases if the railroad was unable to make the necessary showing to warrant vacatur the first time. In view of Congress's stated policy of letting market forces govern rates to the maximum extent possible, the Board likely would find it necessary to develop new standards for considering requests for vacatur of rate prescriptions that have been in place for many years.

In sum, the Coal Shippers' proposal for indefinite rate prescriptions should be rejected as inconsistent with both the statute and good public policy. The Board should provide for a 10-year SAC analysis period and for automatic termination of a rate prescription no later than 10 years following the date of the original order establishing the prescription.⁵²

VII. STANDARDS FOR REOPENING

UP continues to believe that the Board's proposed standards and procedures for reopening of rate cases (and vacatur of rate prescriptions in certain cases) are reasonable and should be implemented. None of the opening comments appears to cast any serious doubt on the

⁵² With respect to modifications to the DCF model needed to accommodate a 10-year analysis period, and the Coal Shippers' argument about amortization of interest payments (*see* Coal Shippers at 103), we refer to Mr. Baranowski's testimony on these subjects.

Board's proposal. While the Coal Shippers object to various aspects of the Board's proposal, their objections do not appear to be well founded.

Congress has given the Board substantial authority to fashion procedures for modification of rate prescriptions. *See* 49 U.S.C. §§ 721(a) (general rulemaking authority), 722(b) ("The Board may change, suspend, or set aside any ... action on notice."), 722(c) (Board may, because of substantially changed circumstances, reopen a proceeding or "change an action of the Board"). These provisions leave the Board considerable discretion in determining when it is appropriate to reopen a rate proceeding, the scope of evidence and the issues to be considered on reopening, and when vacatur of a rate prescription is appropriate.

Under the statute, the Board may reopen a proceeding or change a prior Board action "because of material error, new evidence, or substantially changed circumstances." 49 U.S.C. § 722(c). UP expects that the Board will use common sense in determining when circumstances have changed sufficiently to warrant reopening of a rate proceeding. Of course, the agency should give due regard to the importance of finality and repose. On the other hand, it would be inappropriate to leave in place a rate prescription that is plainly inconsistent with current facts. A carrier should not be locked into an outdated rate prescription where newly available information shows that the rate prescribed on the basis of the original evidence is too low or that the traffic in question should not be regulated at all. This would be inconsistent with Congress's intent that rail rates be governed by competition, rather than regulation, where possible. *See* 49 U.S.C. § 10101(1), (2). At the same time, a shipper should have the option of bringing a new rate complaint if there have been substantial changes in the circumstances since the Board rejected an earlier complaint.

UP agrees with the Coal Shippers that the Board should not reopen a rate proceeding on the basis of minor or short-term changes in an index or a forecast. (*See Coal Shippers Op.* at 114.) Rather, as the Board has previously recognized, reopening of a rate proceeding is appropriate only in the case of significant, long-term shifts.⁵³ The Board should take care, however, not to wait so long to reopen a case that it essentially freezes a rate prescription in place for years after it is evident that a long-term shift has occurred.

UP also agrees with the Coal Shippers that rate prescriptions should not routinely be reopened solely because the Board has made certain changes to rate case methodology in this proceeding. (*See Coal Shippers Op.* at 115-17.) A practice of reopening and revising all rate prescriptions whenever the Board changes any rule governing rate cases would be inconsistent with the interest in finality and repose. On the other hand, UP hopes and expects that the changes adopted in this proceeding will bring the SAC methodology more closely in line with SAC theory and with common sense. Where a change in methodology constitutes a significant correction of prior practice and where application of the new methodology would produce a substantial change in the outcome of a SAC analysis or a variable cost calculation, the Board should reopen the proceeding on that basis alone. Moreover, the Board should consider the effect of a methodology change along with other factors when a party seeks reopening.

The Board's discussion of the issues and types of evidence it will consider in a reopening proceeding and of when vacatur of a rate prescription will be appropriate appears reasonable and consistent with common sense. The Coal Shippers' argument that the parties should be free to relitigate all issues (including the SARR traffic group and SARR configuration)

⁵³ *See Arizona Pub. Serv. Co. v. Atchison Topeka & Santa Fe Ry.*, 3 S.T.B. 70, 75 n.16 (1998).

on reopening is not well founded. (*See Coal Shippers Op.* at 109-114.) Parties have a full opportunity to litigate all issues following the filing of the initial complaint. If the Board decides to reopen a proceeding for a particular reason, it is appropriate to tailor the issues and evidence to the basis for the reopening. The Board need not open the door to a complete new evidentiary presentation. Allowing a full range of evidence to be presented on rehearing would be essentially the equivalent of allowing litigation of a new complaint. There is an interest in not allowing parties to relitigate endlessly within the same proceeding. The Board should exercise its discretion to limit the issues and evidence to match the basis for reopening.

The Coal Shippers are also off base when they object that the Board's proposed limitations on what can be litigated on reopening and when a rate prescription will be vacated will somehow disadvantage shippers. (*See Coal Shippers Op.* at 112-13, 114 n.93, 115.) The decisions about what issues and evidence should be considered on reopening and when vacatur is appropriate should be governed by common sense, not by some artificial criterion. If either a shipper or a railroad seeks rehearing for reasons that would call for more than limited adjustments to the original SAC evidence, it makes sense to vacate the rate prescription and start from scratch. The prospect that shippers may present such reasons more often than railroads does not mean that the parties should relitigate every case, even the cases in which the basis for reopening is more limited.

The Coal Shippers also argue that the Board lacks authority to suspend the prescriptive effect of a rate order without an evidentiary hearing when it decides to reopen a rate proceeding. (*See Coal Shippers Op.* at 106-09.) This argument is not persuasive. As noted above, Congress has delegated broad authority to the Board to develop procedures for the modification of rate prescriptions. The statute expressly grants the Board the authority to

“suspend . . . any . . . action on notice” (49 U.S.C. § 722(b)) and to “change an action of the Board” where there has been a substantial change in circumstances (49 U.S.C. § 722(c)). Both of these provisions appear broad enough to authorize suspension of a rate prescription. The Board must make a finding that there has been a substantial change in circumstances in order to reopen a proceeding, but no particular form of hearing is required in connection with that finding.

The Coal Shippers cite 49 U.S.C. § 10704(a) as support for their arguments. While that section provides that the Board may prescribe a rate after a “full hearing,” it does not by its terms limit when the prescription may become effective. Again there is no requirement of a full hearing in connection with a suspension or change under 49 U.S.C. § 722. All that is required under the latter statute is notice and sufficient evidence to support a finding of a substantial change in circumstances.

The Board’s proposed approach is a reasonable accommodation of the interests of both shippers and railroads. It minimizes short-term injury to the shipper, by avoiding unnecessary vacatur and giving the shipper time to anticipate its potential liability for a higher rate in the period following reopening. At the same time, the Board’s proposal avoids irreparable injury to the railroad in cases where the Board eventually decides that the rate should have been higher. And, of course, if the shipper prevails on reopening, it may obtain reparations for the period following reopening. Thus, the updated rate will be effective for the period following reopening, regardless of which party prevails on reopening.

Contrary to the Coal Shippers’ claim, the Board’s proposal is not inconsistent with *Arizona Grocery Co. v. Atchinson, Topeka & Santa Fe Ry*, 284 U.S. 370 (1932). In that case the Board’s predecessor did not take any action to suspend the rate it had previously

prescribed or otherwise to give notice that the rate might eventually be deemed ineffective for some period prior to issuance of a new rate prescription. Instead, the ICC acted retroactively, prescribing a new rate and at the same time awarding reparations covering the period since the earlier rate prescription. The agency in effect imposed the new rate retroactively, without any prior action to suspend the old rate. In contrast, under the Board's proposal, the agency would act prospectively, taking formal action to suspend the prescription based on the finding required by 49 U.S.C. §722 and providing advance notice that a different rate might come into effect in a future period.⁵⁴

Moreover, the Court in *Arizona Grocery* made clear that in prescribing a rate the Board engages in legislative action. *See Arizona Grocery*, 284 U.S. at 387-88. If Congress chose to legislate a scheme under which the prescriptive effect of a rate would be suspended during a rehearing proceeding, there would be no doubt about its authority to do so. In view of the broad authority Congress has delegated to the Board in this area, the agency plainly has the authority to promulgate such a scheme.

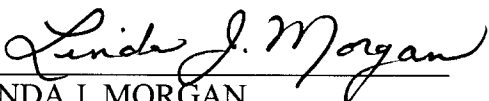
There are other ways the Board could achieve the same result. The Board could simply vacate the existing rate every time it determined that there was doubt about a prescription and reopened a rate proceeding. This would leave the shipper to pay a new rate established by the railroad, subject to possible recovery of reparations later. Alternatively, the Board could provide in every order prescribing a rate that the prescription should "continue in effect until

⁵⁴ Presumably at the time it sought reopening the railroad would advise the Board and the shipper of the new rate it proposed to establish. This would then serve as the measure for any recovery by the railroad if the rehearing resulted in a determination that there was no longer a basis to regulate rates for the traffic in question. UP agrees with BNSF that the new rate the railroad proposes to establish should not be subject to a pre-approval process. (*See BNSF Op.* at 72.) Any pre-approval requirement would be inconsistent with the statute, which gives the ratemaking initiative to the railroads.

[date], or until further order of the Board, whichever is earlier.” The Board may wish to consider using the latter approach, which would provide both advance notice and flexibility. But there should be no objection to the Board’s current proposal, which accomplishes a similar result through a different procedure.

Respectfully submitted,

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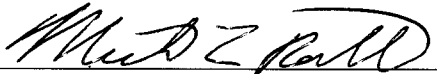

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May 31, 2006

CERTIFICATE OF SERVICE

I, Michael L. Rosenthal, hereby certify that on this 31st day of May, 2006, I caused a copy of the Reply Submission of Union Pacific Railroad Company to be served by first-class mail or a more expeditious method of delivery upon all persons who have filed a notice of intent to participate in STB Ex Parte No. 657 (Sub-No. 1).


Michael L. Rosenthal

REPLY VERIFIED STATEMENT

OF

JOHN J. KORALESKI

My name is John J. Koraleski. I am Executive Vice President, Marketing and Sales for Union Pacific Railroad Company ("UP"). I have held my current position since 1999. In all, I have been with the railroad for more than 30 years. I have also served as Executive Vice President, Finance and as Chief Financial Officer of UP, and as controller of Union Pacific Corporation. I hold a bachelor's and a master's degree in business administration from the University of Nebraska at Omaha.

In my current position, I am responsible for the railroad's six major business units. I deal with a wide range of customers from all across our network, and one of the most important parts of my job, especially in today's environment of constrained capacity, involves helping to determine how the railroad should respond to the many competing demands these customers are making on our scarce capacity.

I understand that the Board and several parties in this proceeding have proposed methods for establishing maximum rates that assume that each shipper would make a uniform contribution to total costs or pay a uniform markup over variable costs to cover total costs. In other words, maximum rates should be set as if railroads did not have to engage in differential pricing. In this statement, I first discuss in general terms why differential pricing is important and unavoidable in setting rail rates. I then discuss why proposals to abandon differential pricing concepts in rate cases make no sense and, in particular, why revenue-adequate railroads would use differential pricing. Finally, I discuss why differential pricing takes on an even greater importance in the current capacity-constrained environment facing UP.

A. Differential Pricing Is Essential In Setting Rail Rates That Will Cover Costs And Properly Direct Investment Decisions.

I understand that the Board and several parties in this proceeding have proposed formulas for establishing rates in stand-alone cost cases that rely on uniform cost allocations or uniform markups. Of course, that is not how railroads actually set rates – at least that is not how we set rates at UP. We do not use fixed formulas. We set rates based on market conditions, which take into account, among other things, the shipper's demand for service (which reflects factors such as the shipper's transportation and sourcing alternatives and the market demand for its product), and our ability to supply the service (which reflects factors such as the costs we incur to provide the requested service, incremental capacity requirements imposed by the shipper's traffic, and competitive alternatives for using the capacity that would be consumed in moving the shipper's goods).

As with any business, UP needs to be able to cover its full costs (including a margin sufficient to justify reinvestment), and the ability to engage in differential pricing is central to our efforts. Our full costs include variable costs that can be attributed to specific movements, such as crew and fuel costs for a particular train, and fixed costs that cannot be attributed to specific movements, such as the cost of the land underlying the right-of-way, terminals, and other fixed assets.

How do we determine how much each movement should contribute to covering our fixed costs if we do not set prices based on uniform cost allocations or markups? We rely on the market. Shippers that are more sensitive to price changes – typically those with more alternatives to using our service – are willing to pay rates that contribute relatively less towards covering our fixed costs. Shippers that are less sensitive to price changes – typically those with fewer alternatives to using our service – are willing to pay rates that contribute relatively more

towards covering our fixed costs. Setting market-based rates that reflect these differences is “differential pricing” – shippers with a higher relative demand for our service pay rates that result in a higher relative contribution to our fixed costs. This means that the customers that need our service the most and that derive the most value from our network should pay more to support that network.

In considering the critical role played by differential pricing, it is important to remember that there are not simply two distinct groups of shippers – those who are sensitive to price changes and those who are not. Shipper demand depends on more than whether a plant is served by more than one railroad. Even a utility with a plant served by a single railroad might have the option to transport coal by barge, or it might have the option to produce more electricity using an alternative fuel, or it might be able to shift generation among plants served by different railroads, or it might be able to buy electricity off the grid, or its own customers might have other options that constrain its ability to pay higher rail rates. There is a spectrum of demand that reflects the broad range of options our customers have.

The proposals in this proceeding that ignore or discount the vital role played by differential pricing have the potential to cause significant harm by unduly disrupting market-based rate structures. Rates and rate structures are key to how railroads and shippers interact. From a customer’s perspective, the rate the customer is willing to pay for a service reflects how much the customer values that service – it is how the customer tries to attract the railroad resources necessary to provide that service. From the railroad’s perspective, the rate a customer is willing to pay affects whether we will agree to provide the service in the first place, and whether we can reinvest to continue to provide that service over time. Anything that distorts market-based rates and market-based rate structures will disrupt the flow of important

information between railroads and customers and distort important decisions about which customers railroads should serve and how much and where railroads should invest.

B. Differential Pricing Makes Sense For Revenue-Adequate Railroads.

I understand that some parties in this proceeding have argued that it is appropriate to disregard differential pricing in stand-alone rate cases because a revenue-adequate railroad would not engage in differential pricing. I disagree strongly with the suggestion that a revenue-adequate railroad would not engage in differential pricing.

Even if a railroad were revenue adequate, it would still need to find some way to set its rates, and I can think of no practical approach other than to rely upon market-based rates, under which those shippers with the highest relative demand would still be expected to make the highest relative contribution to fixed costs. Railroads do not use differential pricing (rather than uniform cost allocations or markups) because they are revenue inadequate – they use differential pricing because it provides the best chance of attaining *and* maintaining revenue adequacy, while at the same time expanding capacity to meet demand. If a railroad tried to extract some uniform contribution to costs from all movements once it achieved revenue adequacy, its rates for some shippers would be higher than those shippers would be willing to pay, and those shippers would no longer use its services. Then either the remaining shippers would have to pay higher rates (even though most had not been willing to do so before), or more likely, the railroad would slip back into revenue inadequacy.

Moreover, as a practical matter, unless the Board or some other agency is going to regulate every rail rate, I do not see what mechanism a railroad could reasonably use to set prices other than market demand, or what mechanism would be fairer. Any pricing system based strictly on costs and uniform allocations would give rise to a tremendous number of disputes about cost calculations – many of which would have to be resolved by the regulator. Moreover,

costs and thus the required allocations would be constantly changing as both the mix and level of traffic changed. Market-based pricing eliminates all of these concerns. In addition, as discussed above, any pricing system based on costs and uniform allocations would almost certainly set some rates too high and others too low, which would result in inefficient allocation of resources by both shippers and railroads. Market-based pricing – in other words, differential pricing – means that shippers who value rail service more will pay relatively higher rates for that service, but it also means that railroads will have the appropriate incentives to invest the resources needed to supply that service.

C. Differential Pricing Remains Essential In Today's High Demand, Capacity-Constrained Environment.

Especially in the current market environment, UP needs the rate-making flexibility that differential pricing provides. Even in today's environment of strong demand for rail service and constrained capacity, UP could not require all shippers to pay a uniform cost allocation or markup and still retain sufficient traffic to achieve revenue adequacy. UP faces severe capacity constraints on significant portions of our network. At the same time, however, there are other parts of our network that are not constrained. Likewise, some types of equipment are in relatively constant high demand and others experience greater fluctuations. Where there is excess capacity, we need the flexibility to offer lower rates in order to encourage the use of rail assets by shippers that make some contribution to fixed costs and help maintain the viability of the entire network. And as long as some traffic is contributing less than some pro-rata share towards fixed costs, we need the ability to charge other traffic higher rates if we are ever going to cover our full costs. At the other end of the spectrum, where our capacity is constrained, the ability to charge differentially higher rates helps ensure that the capacity is being used by the

shippers that place the highest value on our service, and it allows us to earn the revenues we need to fund capacity expansion.

Our need to engage in differential pricing is magnified by the complex nature of railroad networks. There is often no simple dividing line between traffic that uses the capacity-constrained segments of our network and traffic that uses lower-density segments. A significant amount of traffic moves over both types of segments as it traverses our network from origin to destination. As a result, we cannot simply set prices so high that they would discourage all lower-rated traffic from moving over constrained lines; there will be some lower-rated traffic that moves over constrained lines but contributes to the costs of a lower-density segment that it also uses.

In addition, we cannot expect the current situation to continue forever, and the Board should not regulate as if it will. Even if we could charge all shippers a uniform markup and cover all our costs, such an approach would be extremely short-sighted. At some point, we will almost inevitably have excess capacity where capacity is tight today. Economic conditions will change, as they always do, and demand for rail services will not always be as strong as it is today. Furthermore, as we invest, there will often be step-wise increases in capacity, and we will find ourselves with excess capacity to fill. As these situations arise, we will need the flexibility to charge differentially lower rates to attract traffic that would make some contribution to fixed costs, and therefore we will need the ability to charge differentially higher rates for other traffic in order to close the gap and cover our full costs.

The ability to engage in differential pricing is particularly important in light of the decisions that face capacity-constrained railroads such as UP. UP has customers across our network that want us to invest to improve the service we provide them, but most investments will

benefit only certain customers or groups of customers. Because we cannot afford to fund all projects, we must make choices. Some customers will gain more capacity and others will not. As I explained above, any regulatory action that distorts market-based rates and market-based rate structures by preventing railroads from charging their high-demand customers relatively higher rates will disrupt the flow of important information between railroads and those customers and distort investment decisions.

Rates influence railroad investment in two ways – they influence where we invest, and they influence the amount of money we have available to invest. Distortions in differential pricing disrupt the market-based signals that would normally tell railroads where to invest and diminish the funds available to make those investments. If demand is high but rates are held artificially low, customers will be clamoring for more service, but railroads will lack the necessary incentives to provide that service and will be potentially unable to satisfy customers' demand.

In practical terms, over the past couple of years, we have invested nearly \$3 billion each year in capital dollars, but even that is not enough to satisfy all of our customers' demands, and therefore we must choose among projects that will benefit different customers or groups of customers. When we make these choices, we invest in the projects that offer the most attractive returns. If artificial constraints on rates make it relatively less attractive to invest in projects that would benefit certain customers or groups of customers, it becomes relatively more attractive to invest in projects that would benefit others, and that is where more of our money will go. If that happens, we would be misallocating our investment relative to true market demand. Moreover, when we invest in projects that generate lower returns than we could have

earned had there been no constraints, the lower returns reduce our future ability to make additional investments in our network.

D. Conclusion

The current environment highlights the need to consider carefully the rules that apply in stand-alone cost cases. In response to higher prices for natural gas and other coal and higher demand for electricity, demand for rail transportation of coal from mines in the Powder River Basin has surged, and all forecasts predict increased demand for years to come. The market response has been to bid up the price for rail transportation. That market reaction signals a need to invest in expanding capacity of our coal network, and it provides us with the resources we need to make investments.

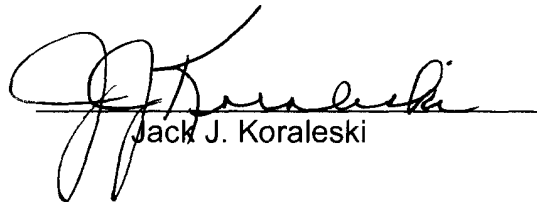
At the same time, we are also facing growing demand to handle intermodal, industrial products, and other traffic. Customers are also asking us to add non-coal capacity – to doubletrack the Sunset Corridor, expand and modernize our terminals, grow our locomotive fleet, and add cars, and more. Overall, the demands for investment in capacity are exceeding our ability to fund those capital expenditures. In such a situation, where demand exceeds supply, the market signals where the investments should be made.

Particularly in this environment, if rates are to be regulated, they must be regulated carefully to ensure minimal interference with market-based signals and to assist rail carriers in attaining revenues sufficient to support a sound rail network. The distorting effects of regulation will be greater if the rules in rate cases ignore differential pricing principles and market-based responses.

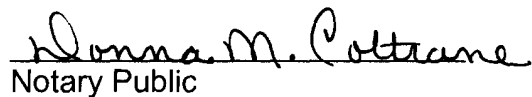
VERIFICATION

Jack J. Koraleski, Executive Vice President - Marketing & Sales of Union Pacific Railroad Company, under penalty of perjury, declares and verifies that he has read the statement in Ex Parte No. 657, knows the facts stated therein, and that said facts are true as stated.

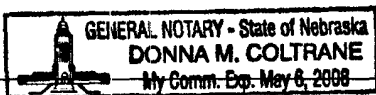
Dated: May 30, 2006.


Jack J. Koraleski

Subscribed and sworn to before me this 30th day of May, 2006.


Notary Public

My Commission Expires:



REPLY VERIFIED STATEMENT

OF

KEVIN NEELS

My name is Kevin Neels. I previously filed a verified statement in this proceeding that was included in the opening submission of Union Pacific Railroad Company (UP).¹ A summary of my qualifications was in that statement.

Scope of My Testimony

I have been asked by UP to address the comments and proposals concerning cross-over revenue allocation contained in the initial comments filed by other parties to this proceeding. I focus my remarks on (1) the consensus that the Board's proposed Average Total Cost (ATC) method, and by implication all other approaches that allocate contribution based on relative costs, is inherently arbitrary and should not be adopted; (2) the arguments of the Coal Shippers² and others that the Board should continue to rely upon the Modified Straight-Mileage Prorate (MSP) method or related mileage-based methods to allocate cross-over revenues; and (3) the arguments of Arkansas Electric Cooperative Corporation (AECC) for dividing cross-over traffic revenues in a way that assigns 100 percent of the contribution earned on that traffic to the stand-alone railroad (SARR).

I have also been asked to address two points relating to the initial comments that have been filed concerning maximum rate determination: (1) the argument of the Coal Shippers that a revenue adequate railroad would not need to engage in differential pricing, and (2) the arguments of the Coal Shippers and others that URCS variable costs could be used as a proxy for marginal costs to develop Ramsey prices.

¹ Opening Submission of Union Pacific Railroad Company, Verified Statement of Kevin Neels (Neels VS).

² Joint Opening Comments of Western Coal Traffic League, Concerned Captive Coal Shippers, Western Fuels Association, Inc., Edison Electric Institute, National Rural Electric Cooperative Association, and American Public Power Association (Coal Shippers Op.).

I. The Participants In This Proceeding Agree That ATC And Other Cost-Based Allocations Of Contribution Are Flawed, Because There Is No Meaningful Way To Allocate Fixed Costs.

There is remarkable agreement among railroads and shippers that the Board's proposed ATC method for allocating cross-over traffic revenues suffers from an incurable defect: the impossibility of allocating fixed costs to individual traffic movements or individual segments of any particular movement in anything but an arbitrary way. In my initial statement I noted that:

"Economists have for years advised the Board that there is no non-arbitrary way to assign joint costs to individual traffic movements, much less to individual portions of individual portions of individual traffic movements."³

The Coal Shippers concur:

"The Board's ATC method attempts to allocate a defendant carrier's total system costs to a particular shipper's traffic. Significantly the Board does not address the long-held, fundamental principle of railroad costing that fixed costs cannot be rationally allocated to particular customers on a cost of service basis."⁴

The Coal Shippers' witness, Professor George H. Borts, echoes this view:

"Also, ATC runs into a fundamental theoretical problem in trying to allocate fixed costs."⁵

Mr. Thomas D. Crowley, another witness for the Coal Shippers, agrees:

"First, the allocation of fixed costs – including the Board's proposed allocation based on route miles—is arbitrary, and clearly resembles the fully allocated costing procedures rejected shortly after the institution of the Staggers Rail Act."⁶

That there is such widespread agreement on the impossibility of allocating fixed costs should come as no surprise. The impossibility of doing so is, as the Coal Shippers point out, a

³ Neels VS, p. 3.

⁴ Coal Shippers Op., p. 52.

⁵ Coal Shippers Op., Verified Statement of George H. Borts (Borts VS), p. 19.

⁶ Coal Shippers Op., Verified Statement of Thomas D. Crowley (Crowley VS), p. 8. See also Comments of BNSF Railway Company, Verified Statement of Joseph P. Kalt (Kalt VS) p. 39 (criticizing methodologies that "allocat[e] revenues through arbitrary rules that delineate divisions of through rate revenues between incumbent and SARR, vainly justified by arguments about cost contribution").

fundamental principle of railroad costing. Nonetheless, ATC – and indeed any method of allocating cross-over revenue that assigns contribution to various segments of a through movement based on relative costs or other metrics – demands precisely such an allocation. As I explained in my initial statement, within an interconnected rail network it is frequently difficult and often impossible to determine which traffic movements and contribution margins are covering which fixed costs. Each movement uses a number of different segments, and the vast majority of segments are supported by multiple movements. The extent to which a particular segment will need to draw upon the contribution generated by a specific traffic movement will depend on how many other traffic movements rely upon that same segment, how much contribution they generate, and how many other segments must be supported by that contribution. These interdependencies render futile any effort to allocate contribution. That the Board's ATC proposal violates such a fundamental and widely-accepted principle is a clear sign that it is fatally flawed.

As I also pointed out in my initial statement in this proceeding, the only way that the Board can avoid making these arbitrary allocations of contribution is to refrain from such allocations altogether. It should allocate the portion of revenue needed to cover variable costs based on the costs actually incurred on each segment (on-SARR and off-SARR), and decline to allocate any portion of revenues in excess of variable costs away from the incumbent, thereby preserving the contribution needed by the incumbent's network to support the off-SARR portions of traffic movements that the complainant has chosen to rely upon to achieve economies of density. This approach is in substance the Efficient Component Pricing Rule (ECP).⁷

⁷ Neels VS, pp. 14-15. I note that in a statement filed in this proceeding on behalf of the Arkansas Electric Cooperative Corporation (AECC Op.), Mr. Michael Nelson proposes a method of allocating contribution that also avoids arbitrary allocations, but that leads to results that are simply incorrect. AECC Op., Verified Statement of Michael A. Nelson (Nelson VS). I discuss Mr. Nelson's proposal below.

II. The Board Should Reject Proposals By The Coal Shippers And Others To Retain The Modified Straight-Mileage Prorate Method Of Allocating Contribution From Cross-Over Traffic.

Although I agree with the Coal Shippers in rejecting the Board's ATC proposal, I disagree with their recommended solution to the cross-over traffic revenue allocation problem. The Coal Shippers have recommended, essentially, that the Board continue to rely upon the MSP method of allocating cross-over traffic revenues to the SARR.⁸ In my initial statement, I discussed the theoretical and practical problems associated with continued use of MSP. I stand by those earlier comments, and continue to recommend that the Board reject ATC and MSP in favor of ECP.

The Coal Shippers' economic arguments in favor of MSP rest largely upon three assertions. *First*, the Coal Shippers argue that the Board has incorrectly framed the objective served by SARRs' use of cross-over traffic as one of approximating the results of a full-SAC test. Opposing the Board's position, they view the SARR as having an absolute right to construct (in the hypothetical, contestable world) any subset of the lines it chooses and to interchange traffic with the residual incumbent at revenue divisions it would "negotiate" in that market.⁹ The Coal Shippers argue that holding complainants to a standard that would replicate the outcome of a full stand-alone cost test without cross-over traffic would erect an impermissible barrier to entry by the SARR. This barrier would, they argue, arise from the fact that real-world railroads need not necessarily offer end-to-end service to all of their customers, but are instead free to interchange traffic with other carriers.¹⁰ *Second*, they argue that, when assessing what the outcome of negotiations between the SARR and the incumbent would be, the SARR must be viewed as a replacement for the incumbent, and not a competitor to the

⁸ See, for example, Coal Shippers Op., p. 47.

⁹ In fact, of course, MSP does not involve any actual "negotiation" between the SARR and the residual incumbent. Under MSP, the SARR unilaterally establishes the size of its division because it designates the interchange point with the incumbent and forces the incumbent to accept a mileage-based prorate of the through revenue.

¹⁰ Coal Shippers Op., pp. 39-42.

incumbent.¹¹ Finally, they argue that MSP accurately reflects the market-based revenue divisions that a contestable market would yield.¹²

None of these assertions is correct, at least as they are presented by the Coal Shippers.

A. The Board Has Correctly Determined That a SAC Test Using Cross-Over Traffic Must Approximate the Outcome of a Full SAC Test Without Cross-Over Traffic.

As my opening testimony demonstrated, there is absolutely no doubt that MSP – like ATC and any other arbitrary allocation of contribution based on relative costs – will fail to approximate the results of a full SAC test in network configurations akin to those presented in typical SAC cases involving Western railroads.

The Board is plainly correct in viewing cross-over traffic as a short-cut to a full SAC test rather than as an end in itself. The stand-alone cost test was designed to apply to a *stand-alone* entity.¹³ In the stand-alone cost test, the stand-alone entity is supposed to provide by itself all of the services required by its customers, sharing neither costs nor revenues with the incumbent. No trade would take place between the stand-alone entity and the incumbent, and so there would be neither a market nor market prices.

The stand-alone cost test was devised as a tool to assist in identifying the market outcomes that would obtain in complex markets involving multi-product competitor firms utilizing production technologies characterized by economies of scale and scope. In such markets, the fact that a group of customers might be able to break away from such a firm, set up

¹¹ *Id.* at 27-29.

¹² The various parties offering submissions on behalf of shippers differ in the confidence with which they are willing to argue that revenue divisions in a contestable market would be described by MSP. The Coal Shippers are willing to go only so far as to state that “[t]he Board’s MMP and MSP methodologies provide reasonable and well-founded methods to set market-based divisions on cross-over traffic.” (*Id.* at 48.) Professor Borts is even more cautious, stating only that “[i]n the absence of reliable evidence of actual divisions, the better alternative is to rely on appropriate surrogates like MMP and MSP.” (Borts VS, p. 17.) Both of these statements fall well short of clear statement that MSP or MMP accurately describes the revenue divisions one would actually see in a contestable market.

¹³ *Coal Rate Guidelines, Nationwide*, 1 I.C.C.2d 520 (1985); see also Neels VS, p. 4; BNSF Op., Kalt VS at 34-35.

their own dedicated production facility, and lower their costs thereby has obvious implications for the outcomes that a contestable market would lead to, and for the extent to which the existing price structure reflects competitive outcomes. The stand-alone cost test is used in such circumstances to identify a price ceiling that would have to hold in a competitive market. In other words, insights into market outcomes are a *result* of the stand-alone cost test, not an *input* to it.

The Board has correctly determined in its Notice for this proceeding and in recent decisions that the objective of allowing cross-over traffic in SAC tests is to approximate a full SARR without cross-over traffic outcome while at the same time lowering the cost and complexity of carrying out a SAC test.¹⁴ Its goal in allowing truncated SAC presentations is to make the relief the Board can provide under the *Guidelines* more accessible to shippers.¹⁵ The Board has not sought to alter the fundamental nature of the SAC test by embedding the SARR in a web of cost and revenue sharing arrangements with the incumbent. The Board's focus on assuring that the results of a truncated SAC test using cross-over traffic reflect with reasonable accuracy the results that a full SAC test would generate is thus, from the standpoint of economic theory and sensible public policy, entirely appropriate.

One of the key arguments put forward by the Coal Shippers in their efforts to be absolved of responsibility for having to meet the standard of a full SAC test is that imposition of this requirement would erect a "barrier to entry."¹⁶ This is a red herring, however, as there is no conceivable barrier associated with the Board's view that aim of any SAC test is to compare the entire costs and the entire revenues for a group of traffic handled by the incumbent *from origin-to-destination*. The only requirement that a full SAC test imposes on complainants is the requirement that the members of the traffic group pay the full costs of the facilities required to

¹⁴ EP 657 Notice, p. 17.

¹⁵ In the context of a discussion of cross-over traffic in its *Otter Tail* decision the Board stated that "We must guard against the SAC process becoming so complex and expensive as to deny captive shippers meaningful access to the rate relief provided for under the *Guidelines*." *Otter Tail Power Co. v. BNSF Ry.*, STB Docket No. 42071 (STB served Mar. 24, 2006), p. 12.

¹⁶ Coal Shippers Op., pp. 39-42.

serve them. This requirement is one of the most basic requirements of a market economy, and so insisting that it be met can hardly be construed as imposing a barrier to entry.

In attempting to construe the Board's focus on the outcomes of a full SAC test as a barrier to entry, the Coal Shippers have characterized a barrier to entry as "any type of costs that a new entrant would have to incur that was not actually incurred by the defendant carrier."¹⁷ They argue then that because in the real world railroads are not required to offer end-to-end service for all of the traffic they carry, neither should this requirement be imposed on the SARR.¹⁸

This argument is contrary to the facts, however, and it is irrelevant to the treatment of cross-over traffic. The problem of cross-over traffic revenue allocation arises in precisely those situations in which the defendant railroad already *is* providing end-to-end service and hence already *has* incurred all of the costs required to do so. It is impossible therefore to argue that a full SAC test requires the SARR to do anything that the incumbent has not already done. Moreover, any other approach would fail to ensure that the members of the traffic group can actually cover the full costs of the facilities required to serve them.

B. If the Board's Objective Were to Mimic Negotiated Outcomes Between a Truncated SARR and the Incumbent in a Contestable Market, ECP Would Provide the Correct Division of Cross-Over Traffic Revenues.

Even if one were to accept the view of the SAC test articulated by the Coal Shippers and agree that the SARR in a contestable world is free to enter by building a truncated system and entering into negotiations with the incumbent over how to divide the revenues generated by the joint handling of cross-over traffic, ECP would provide the analytically correct answer to the cross-over traffic revenue allocation problem.

The Coal Shippers have asserted that in place of a full SAC analysis one can simply rely upon the cross-over traffic revenue divisions generated by MMP or MSP. In a trivial sense they are obviously correct, if only because the Board *has* used these methods in the past. But that

¹⁷ Coal Shippers Op., p. 39.

¹⁸ *Id.*

does not mean that they can be counted upon to provide even a crude approximation to a market-based revenue division in a contestable market. In fact they cannot.

1. *ECP Accurately Reflects the Outcomes of SARR-Incumbent Revenue Division Negotiations in a Contestable World.*

It must be emphasized at the outset that, in the case of a SAC presentation, the market we are considering is a *contestable* market, and the market outcomes we are attempting to model must be *contestable* market outcomes.

In calling for the use of market-based revenue divisions for cross-over traffic, shippers' submissions generally fail to discuss in any detail the nature of the market whose revenue divisions they propose to rely upon. Such comments as they do make, however, indicate that they expect the revenue divisions applied to cross-over traffic to resemble revenue divisions observed in real-world interchange movements. For example, in their effort to legitimize use of the MMP method, the Coal Shippers cite its use to establish revenue divisions in the Board's waybill sample of actual freight movements.¹⁹ Similarly, Professor Borts recommends the use of MMP or MSP "in the absence of reliable evidence of actual divisions."²⁰ The clear implication in statements such as these is that one can use these methods to simulate real-word market outcomes.

The revenue divisions one might expect to see in a contestable market will be very different, however. As I explained in my initial statement, the revenue divisions generated by application of ECP reflect accurately the market outcomes that one would expect to observe in a contestable market. These are the market-based divisions called for by shippers, correctly understood and calculated.

The contestable market scenario addressed by the SAC test begins with the incumbent providing end-to-end service to all of the traffic in the SARR traffic group. Then the SARR enters the market. The SARR provides end-to-end service to the issue traffic, and perhaps to

¹⁹ Coal Shippers Op., p. 32.

²⁰ Borts VS, p. 17.

other movements in the traffic group. By definition, however, the cross-over traffic cannot rely wholly on the SARR. Instead, the SARR can handle this traffic only with the assistance of the incumbent.

Under what circumstances, then, will this assistance be forthcoming? The incumbent will have an incentive to interchange traffic with the SARR if and only if the amount of the total end-to-end revenue that it pays to the SARR is less than the cost it would avoid by participating in this interchange. Paying revenues to the SARR in excess of this amount would place the incumbent in a position in which it could increase the amount of contribution it could earn if instead of interchanging traffic with the SARR it provided end-to-end service itself. In a contestable market there would be nothing to prevent the incumbent from offering such end-to-end service. Hence, there is no reason to expect in a truly competitive marketplace any outcome that leaves the SARR with more revenue than the incumbent's avoided costs.²¹

In their Joint Opening Submission, the Coal Shippers emphasized the ruling by the Board's predecessor in *Nevada Power II* that the SARR should be viewed as a replacement for rather than a competitor of the incumbent.²² I would respectfully argue, however, that this ruling is inconsistent with contestable market principles, and for this reason, incorrect. Ultimately, however, the calculation of the SARR's share of cross-over revenues in a contestable market does not turn on whether the SARR is regarded as a replacement for or a competitor of the incumbent.

A contestable market is one in which there are no barriers to entry or exit. Just as the SARR is free in such a contestable market to enter, the incumbent is free to remain and others are free to enter. To require otherwise would be to place arbitrary regulatory constraints on the operation of that market. The response of the incumbent to entry by the SARR is therefore more appropriately analyzed as an empirical matter. Whether the incumbent withdraws entirely from the routes that the SARR has elected to replicate or remains in competition with the SARR for

²¹ Neels VS, pp. 16-17.

²² Coal Shippers Op., p. 28 (citing *Bituminous Coal – Hiawatha, UT to Moapa, NV*, 10 I.C.C.2d 259 (1994) ("*Nevada Power II*").

portions of that business will depend upon which alternative it finds more economically advantageous. And even if the incumbent elects to withdraw, it remains free in a contestable market to reenter at any time. The possibility of such reentry will by itself constrain the prices charged by the SARR.

As long as the incumbent is free to reenter the market and provide end-to-end service to cross-over traffic, the contribution it could earn by doing so will place a floor under the price that it will be willing to accept to handle cross-over traffic on behalf of the SARR. The only revenue it would be willing to leave in the hands of the SARR would equal the costs it could avoid by interchanging traffic with the SARR rather than entering on its own. This is, of course, exactly the outcome produced by the application of ECP. A contestable market will arrive at the same result, regardless of whether the SARR is regarded as a replacement for or a competitor of the incumbent.

2. *Viewing the SARR as a Competitor, and Positing a Negotiation With the Residual Incumbent in Which the Latter Insists on a Division That Leaves the SARR With Revenues Equal to the Incumbent's Avoided Costs, Does Not Entail Any "Incumbent Competitive Response" of the Sort That the ICC Discussed in Nevada Power II as a Barrier to Entry.*

The Coal Shippers' comments suggest that regarding the incumbent as an actual or potential competitor of the SARR would entail an impermissible "incumbent competitive response." As UP's initial comments explained, however, negotiations over revenue divisions involve no competitive response at all. Rather, the SARR is seeking to use a portion of the incumbent's system that it has chosen not to replicate, and thus does not compete with. And the incumbent does not insist on an ECP-based division in order to disadvantage the SARR competitively, but only to preserve the contribution it is already earning and that *it could continue to earn by declining to interchange traffic with the SARR*. Moreover, the SARR faces no barrier to entry because it is free to reject the incumbent's offer and instead replicate all of the necessary portions of the incumbent's network so as to obtain for itself some or all of the contribution that the incumbent earns on the off-SARR cross-over segments.

Moreover, in a contestable world, the incumbent would have no incentive to retaliate against an entrant. Even if an entrant were temporarily driven out of the market by an episode of

retaliation, the entrant would re-enter as soon as prices returned to their former level. There would be no possibility of recoupment by the incumbent. Retaliation would always impose losses on the party attempting retaliation.

I have explained above how normal competition in a contestable marketplace between the SARR and the incumbent will lead to the cross-over traffic revenue divisions specified by ECP. There is no legitimate way in which this competitive interplay between the SARR and the incumbent can be construed as retaliation by the incumbent. In a contestable market the SARR is free to enter, but it must be prepared to deal with the competition.

3. *Mileage-Based Allocations Like MSP Do Not Mirror "Market-Based" Divisions That Would Obtain in a Contestable World.*

MMP and MSP are in no way related to the revenue divisions one might expect to see in a contestable market. There is nothing in the shipper submissions that ties MMP and MSP back to contestable market principles. And a proper application of those principles leads one to an entirely different outcome – namely, ECP.

In my initial statement in this proceeding, I demonstrated that the application of MSP to a simplified version of UP's network produced results that were clearly and systematically incorrect. MSP-based revenue divisions implied that some portions of the network were earning profits and some were losing money, despite the fact that more detailed and accurate analysis demonstrated clearly that no one portion of the network could exist without all of the others.²³ I also demonstrated that application of MSP led to situations in which the outcome of a truncated SAC analysis indicated a need for rate relief despite the fact that the corresponding full SAC analysis failed to produce evidence of cross-subsidy.²⁴ These analyses demonstrated that MSP cannot be relied upon to reproduce the revenue divisions one would expect to see in a contestable market, because one would never expect in a contestable market to see the outcomes I derived in my initial statement. MSP generates them because it gives the wrong answer.

²³ Neels VS, p. 11.

²⁴ *Id.* at 13.

It is not surprising that MSP should give biased and incorrect answers, given that it totally ignores the factors that would be expected to influence revenue divisions in a contestable market. As I have explained above, a proper analysis of those factors leads to revenue divisions based upon ECP.

III. AECC's Proposal To Allocate 100 Percent Of Cross-Over Traffic Contribution To The SARR Is Misguided And Should Be Rejected.

Testifying on behalf of AECC, Mr. Michael Nelson argues that revenue divisions for cross-over traffic should assign 100 percent of the contribution generated by that traffic to the SARR.²⁵ The arguments offered in support of this proposal are either incomplete, incorrect, or both. Collectively they fail to establish that this proposal deserves even serious consideration, much less adoption.

Mr. Nelson first notes that none of the cross-over traffic revenue allocation methods cited by the Board in its Notice in this proceeding (ATC, DARA, and the various "mileage block" methodologies) provides an allocation of revenue that ensures the revenue adequacy of the off-SARR segments used by cross-over traffic.²⁶ As I explained in my initial statement, one of ECP's virtues is that eliminates the bias toward under-recovery of the costs of off-SARR segments because it leaves in place in the SARR world the contribution margins that in the real world are supporting the various off-SARR lines and facilities upon which the truncated SARR cross-over traffic depends.²⁷

In the discussion that follows this statement, however, Mr. Nelson explains that his actual concern is *not* that other approaches may under-allocate revenue to the off-SARR segment, but that they might over-allocate revenues to those segments. Noting that "the rail industry as a whole has achieved improved financial health,"²⁸ Mr. Nelson suggests that ATC, DARA, and

²⁵ Nelson VS, p. 12.

²⁶ *Id.* at 10.

²⁷ Neels VS, p. 16.

²⁸ Nelson VS, p. 10.

mileage-block methods might assign *too much* contribution to off-SARR segments, allowing the allocation of “supracompetitive earnings” on these segments.²⁹

From an empirical standpoint, Mr. Nelson’s concerns are groundless. As I demonstrated in my initial testimony, both MSP and ATC over-allocate revenues to the SARR and underallocate revenues to the off-SARR segments in scenarios that akin to the SARR configurations actually employed by complainants. Complainants, who are free to define the SARR configuration and traffic group in whatever way they choose have a powerful incentive to seek out such situations and use them to their advantage. Assigning the SARR 100 percent of contribution would only exacerbate the errors generated by these methods.

In support of his proposal, Mr. Nelson cites a recent submission to the Board, in which Mr. Warren Wilson, the UP’s Senior Director of Rail Line Planning discusses the economics of rail line abandonment.³⁰ However, Mr. Wilson’s remarks actually contradict Mr. Nelson’s position. It is true, as Mr. Wilson explains in his statement, that in considering the *abandonment* of a line, a railroad will weigh the fixed costs of keeping the line open against the total contribution generated by the traffic using the line.³¹ In that situation, closure of the line would result in the loss of the full contribution generated by the traffic using the line. But UP would only consider the full contribution generated by the traffic if it handled the movement from end-to-end in the first place. UP would not consider any contribution earned by a connecting carrier. Thus, Mr. Wilson’s statement does not support Mr. Nelson’s circular suggestion that a SARR should be credited with the full contribution from cross-over traffic because it would make decisions as though it would be credited with the full contribution.

Moreover, Mr. Wilson’s remarks actually emphasize the importance of ensuring coverage of the revenue needs of off-SARR segments. Contribution is needed first and foremost to defray the fixed costs of less dense line segments that have fewer traffic movements to share that

²⁹ *Id.*

³⁰ *Id.* at 12.

³¹ STB Ex Parte 575, Reply Comments of the Union Pacific Railroad Company, March 28, 2006, Reply Statement of Warren C. Wilson, p. 3 n.1.

burden, and may well be exhausted by that burden, leaving other traffic to cover the fixed costs of the high-density segments SARRs are far more likely to replicate. As discussed above, Nelson's proposal to assign contribution from cross-over traffic to the typical SARR virtually guarantees that the fixed costs of less dense segments will remain uncovered.

It is absolutely essential in order to have a valid SAC test that the SARR refrain from reliance on non-SARR traffic revenues to support off-SARR residual incumbent segments. The AECC/Nelson proposal would place *any* SARR that had cross-over traffic in a position where it had to rely upon revenues from traffic outside of its traffic group. Such revenues would be the only source of support for the fixed costs of off-SARR segments. Thus, the AECC/Nelson proposal could be counted upon to lead to erroneous outcomes in virtually 100 percent of the cases in which it is applied, finding rates unreasonable even when they do not cover full SAC costs.

There is no unfairness to preserving contribution on the incumbent, as ECP would do, for all of the reasons set forth in my original statement. This is the only way in which the Board can assure the viability of off-SARR segments. Hence, this is the only way to be sure that the Board is not over-allocating revenue to the SARR. And while the defendant railroads must accept whatever traffic group and SARR configuration postulated by complainants, complainants are free to set these parameters to their advantage, building out the SARR as they see fit to maximize the contribution earned from local traffic.

IV. Shippers Are Incorrect To Argue That A Revenue-Adequate Railroad Would Not Have To Rely Upon Differential Pricing.

The Coal Shippers argue that attainment of revenue adequacy eliminates the need for a railroad to engage in differential pricing.³² This argument is clearly incorrect. The need for railroads to engage in differential pricing is not a consequence of revenue inadequacy. Instead,

³² Coal Shippers Op., pp. 16-17.

as the *Guidelines* recognized, “the cost structure of the railroad industry necessitates differential pricing of rail services.”³³

As a practical matter, if a railroad could not continue to price differentially once it achieved revenue adequacy – *i.e.*, if it were required to price by applying a uniform cost allocation or a uniform markup over marginal costs to all of its traffic that was large enough to cover its total costs – it would immediately lose that new-found revenue-adequate status as shippers that had been allowed to pay differentially lower prices withdrew their business in response to the rate increase.

Moreover, railroads operate in a dynamic environment in which they will never be able to maintain a perfect match between traffic levels and capacity. In this type of environment, differential pricing plays a vital role. Along lines where there is excess capacity, the railroad will charge relatively lower rates in an effort to stimulate traffic and generate greater contribution toward coverage of fixed costs. Along lines where demand exceeds capacity, the railroad will charge relatively higher prices in order to ration demand and generate funds for capacity expansion.

Arguments that achievement of revenue adequacy eliminates the relevance of and need for differential pricing are clearly incorrect, and betray a fundamental misunderstanding of railroad economics.

V. URCS Variable Costs Should Not Be Used As A Proxy for Marginal Costs In Developing Ramsey Prices.

Shippers have suggested two alternatives to the Board’s proposed new methods for determining the amount of rate relief to grant to complainants upon the conclusion of a SAC analysis. AEP Texas North has proposed a method that it calls the Generalized Percent Reduction Method (GPRM).³⁴ Western Fuels Association and Basin Electric Power

³³ *Guidelines*, 1 I.C.C.2d at 526.

³⁴ Opening Comments of AEP Texas North Company (AEP Texas North Op.), pp. 10-16.

Cooperative, Inc., have proposed a similar method that they call the Reduced Markup Method.³⁵ These methods reflect similar philosophies and differ only in terms of the details of their implementation.³⁶ Both attempt to implement a pattern of rate reductions that preserves the relative markups over variable costs that existed originally within the SARR traffic group. Proponents of these methods argue that they result in post-rate relief rates that conform more closely to Ramsey pricing principles than the rates produced by the percent reduction method, or by either of the Board's proposed new methods.³⁷

Both methods attempt to draw inferences regarding the price elasticity of demand for individual shippers by calculating percentage markups over variable cost. The submission by AEP Texas North contains a mathematical derivation of the familiar result that under Ramsey pricing the markup over marginal cost will be proportional to the inverse of the own-price elasticity of demand.³⁸

While I do not take issue with their mathematical derivation, I disagree with their proposal for how it should be implemented empirically, and urge the Board to reject it.

The theoretical Ramsey pricing result establishes a relationship between a shipper-specific price elasticity of demand and the markup over *marginal* cost. AEP Texas North's method, however, focuses on markups over *URCS Phase III system wide average variable* costs. URCS costs differ from true marginal costs in a number of important respects. First, the capital component of URCS costs is based upon embedded historical costs rather than the forward-looking incremental costs that would be relevant for Ramsey pricing purposes. Second, URCS costs are based upon historical assumptions regarding the variability of road property investment that are not applicable to lines operating at capacity. On such lines the only way to carry more

³⁵ Additional Opening Comments of the Western Fuels Association and Basin Electric Power Cooperative, Inc., pp. 16-17. WFA/Basin Electric also present another method which they call the Reasonable Allocation Method, or RAM. I will not discuss this method.

³⁶ GPRM would calculate contribution margins using URCS Phase III variable costs. The Reduced Markup Method carries out a similar calculation using the variable costs of the SARR.

³⁷ AEP Texas North Op., p. 9.

³⁸ *Id.*, Ex. A.

traffic is through a proportional expansion of capacity. The marginal cost of additional traffic on such lines must therefore include the full costs of the additional capacity that would be required to accommodate it. URCS costs do not fully reflect such incremental capacity costs. Finally, because URCS costs are based upon system wide averages, they will fail to account for significant cost differences within the SARR traffic group, and will as a result provide highly distorted estimates of the demand elasticities associated with individual traffic movements. As a result of these problems I would expect that URCS costs would present a biased picture of true marginal costs, and one that moreover would contain substantial measurement error.

The netting out process called for by GRPM amplifies the relative significance of discrepancies between URCS costs and true marginal costs. In other words, while the absolute amount of bias and error (*i.e.*, the difference between URCS costs and true marginal costs) remains constant, the base on which rate adjustments are to be calculated (the contribution margin) shrinks relative to what it would be under the percentage reduction method.

Consider, for example, two shippers, both of whom have marginal costs of \$1,200 per unit and pay revenue of \$1,800 per unit. Suppose also that the URCS overstates the marginal costs of the first shipper by \$300 per unit, while understating the marginal costs of the second user by \$300 per unit. These measurement errors are small relative to revenue or even to marginal cost. They are large, however, relative to contribution margin. The percent reduction method would treat the two shippers identically. Under GPRM, however, the Board would erroneously conclude that the second shipper paid contribution margins three times those of the first shipper, and so should be granted three times as much rate relief. The net results of implementing GPRM using an imperfect measure such as URCS costs, therefore, will be to introduce a significant random element into the process of calculating rate relief.

I do not believe that URCS Phase III costs are a sufficiently accurate proxy for true marginal costs to serve as a basis for implementation of GRPM or other methods like it that attempt to base rate relief on adjustments to contribution margins.

VERIFICATION

I, Kevin Neels, declare under penalty of perjury that the foregoing statement is true and correct. Further, I certify that I am qualified and authorized to file this statement. Executed on May 31, 2006.

A handwritten signature in cursive script, appearing to read "Kevin Neels".

KEVIN NEELS

REPLY VERIFIED STATEMENT

OF

JOHN H. REBENS DORF

My name is John H. Rebensdorf. I am Vice President for Network Planning and Operations for Union Pacific Railroad Company ("UP"). I hold a Bachelor's Degree in Civil Engineering from the University of Nebraska and a Master's Degree in Business Administration from Harvard University. I began my railroad career in 1961 in the Mechanical Department of the Chicago, Burlington & Quincy Railroad Company, and between 1962 and 1967, I was employed in the Operating and Engineering Departments of the Chicago, Rock Island and Pacific Railroad Company. I joined Union Pacific Corporation in 1968. In 1971 I came to Union Pacific Railroad as Manager of Budget Research, becoming Assistant Controller in 1976, Assistant Vice President-Planning & Analysis in 1980, Assistant Vice President-Finance in 1984, Vice President-Strategic Planning in 1987, and Vice President-Network and Service Planning in 1998. I have held my current position since 2003, and have had significant responsibilities for UP's network operations since 1998.

Network Planning and Operations is responsible for operations planning; asset planning and utilization; network utilization and rationalization; service design and evaluation, including the railroad's transportation or service plan; joint facilities; and transportation research and strategic studies, including acquisitions and divestitures.

In comments filed with the Board in this proceeding, Coal Shippers¹ list various potential sources of railroad productivity improvement. They claim that a stand-alone railroad ("SARR") would benefit from such developments at the same rate and to the same degree as real railroads, despite profound differences in the nature and operations of a SARR and real railroads. In this statement, I address several of these potential sources of productivity gains and explain why they would not be available to a SARR. I also describe substantial expenditures required to identify, develop, and implement technology or processes that drive productivity gains.

Larger Trains

Coal Shippers claim that SARRs will experience productivity gains as train lengths and weights grow and they point to UP experiments for support. While the railroad industry as a whole may be able to increase the size of manifest and intermodal trains, that source of productivity would not be available to a SARR moving UP coal traffic. I will describe below how UP has fully exploited its opportunities to increase average tons per car and cars per coal train, given its current infrastructure and technology.

UP Experience with Larger Coal Trains. UP has succeeded in its campaign to increase the number of tons loaded in each coal train it hauls out of the Southern Powder River Basin ("SPRB"). Average tons per train increased by about 30 percent between 1992 and 2005. See Exhibit JHR-1, Union Pacific SPRB Coal Average Tons Per Train. The data show that since 2004 the rate of improvement is almost flat. UP has virtually

¹ "Coal Shippers" comprise several associations of coal receivers: the Western Coal Traffic League, Concerned Captive Coal Shippers, Western Fuels Association, Inc., Edison Electric Institute, National Rural Electric Cooperative Association, and American Public Power Association.

exhausted the opportunities to substitute high capacity aluminum cars for steel or lower capacity aluminum cars and to deploy distributed power ("DP").

Achieving average train size of nearly 15,000 net tons required a coordinated effort by engineering, mechanical, transportation and marketing personnel and substantial investment over more than a decade. UP had to upgrade its track to accommodate cars carrying 286,000-pound loads and to extend its sidings to hold 135-car trains. As Engineering upgraded the infrastructure, Mechanical tested and refined the DP technology and then developed operating practices and rules with Transportation to operate such trains safely and reliably. UP invested hundreds of millions of dollars in new AC locomotives equipped with DP technology as Transportation trained engineers. Marketing induced customers to substitute high capacity cars and to modify their unloading facilities to accommodate longer, heavier trains. This often required rate reductions so that coal customers shared the productivity gains.

Contrary to the hopes expressed by witnesses for Coal Shippers, UP does not currently see meaningful opportunities to increase coal train size.

Longer Coal Trains Are Not Currently Feasible. The Coal Shippers point to UP tests of "200 to 250 car" coal trains as evidence that train lengths will continue increasing. In fact, UP tested these trains for only a short time during 2003, before discontinuing the program. Altogether, UP tested fewer than 50 trains. We have no plans to resume testing of these trains. Not only was our physical infrastructure unable to handle these trains, but they posed a number of technological challenges. For example, existing braking systems, DP technology, and communications systems do not yet work safely and reliably on trains that are so long. We experienced braking problems and

difficulties maintaining radio communications between lead locomotives and mid- and end-of-train locomotives or end-of-train devices.

After we discontinued testing 200-plus car trains, we operated a fleet of 150-car coal trains for approximately one year. While these trains did not pose the same technological challenges, they still strained railroad and utility capacity. At UP's Bailey Yard in North Platte, Nebraska, which is the primary location for servicing coal trains, we had to restrict the 150-car trains to the handful of service tracks long enough to fit them. As a result, these trains were frequently held outside the yard on main tracks, which disrupted traffic flow. On the road, these trains created more problems, since they exceeded the capacity of many main line sidings, creating problems for dispatchers. In addition, we found that the cost of adding another locomotive (needed to move the extra weight) offset the benefit of the increased tonnage. We found that it is more efficient to operate what has now become today's standard maximum train length of 135 cars.²

We also found that few coal customers could accommodate a 150-car train at their generating plants. Trains longer than 150 cars pose a chicken-and-egg problem. Until we have enough customers who can take them, we will not make the necessary investment to modify car tracks and terminals or to increase the locomotive fleet.

A SARR could propose to operate 150-car trains, but it would face similar issues. Unless it operates the entire network to reach its customers, invests in modifications to utilities' unloading facilities, and expands its locomotive fleet, so that it will be able to operate 150-car trains as a standard, it will not realize the benefits of longer trains.

² UP is currently reviewing the possibility of resuming operation of some 150-car coal trains. However, such operations would be on a limited basis and solely to meet the unique needs of a handful of customers.

SARRs interchange most of their traffic with carriers like UP, and our existing infrastructure, as well as our customers' infrastructure, cannot handle 150-car coal trains as a standard.

Obstacles to Heavier Car Loads. As with train lengths, we do not anticipate further increases in car weights in the foreseeable future. After succeeding in persuading most of our SPRB coal customers to convert to high-capacity, 286,000-pound maximum weight, aluminum cars, we are now dealing with the track and infrastructure maintenance challenges associated with these heavier loads. Their impact has become evident everywhere they operate, whether in the form of shorter rail and ballast life, or the need to upgrade bridges and other critical infrastructure to handle their weight. We have also seen an increase in the particularly disruptive derailments arising from axle failure on these heavy-haul, high-mileage trainsets. We continue to enhance maintenance and inspection procedures to prevent such derailments. Heavier cars also require more braking power. UP recently tested three trainsets made up of cars rated for 315,000-pound maximum weights. We discontinued testing in part because we found that the cars did not have enough braking power.

At this point, we do not plan to launch a new campaign to switch to 315,000-pound loads for several reasons. First, we would have to make major capital investments before we could accommodate heavier railcars all the way to customers' generating plants and we would incur increased maintenance-of-way expenditures. Second, SPRB customers, who generally own or lease their own car fleets, would need to invest in new fleets of higher capacity cars. Customers would also have to upgrade their unloading facilities to accommodate the heavier cars' weight. Third, customers located on

shortlines or served by Eastern railroads might still be unable to receive the heavier cars if the serving railroad did not upgrade its own track and bridge infrastructure along the entire route.

Upgrading the Locomotive Fleet

Coal Shippers also argue that SARRs can increase their productivity by accelerating their replacement of existing capital assets with new, more productive assets. Specifically, they contend that if new, more productive locomotives are developed during the lifespan of their SARRs, they can simply replace their existing locomotives with new ones.³ Such a strategy may be feasible if the SARR leases, rather than purchases, its locomotives. Even so, a strategy of frequent locomotive replacement will impose extra costs on the SARR, and any productivity gains would not be comparable to those achieved by UP or other railroads.

If a SARR acquires its original locomotives pursuant to long-term financing or lease agreements (and assuming that the lease terms allow the SARR to require the lessor to take the locomotives back before the end of the lease), early termination will be costly due to penalties. Alternatively, a SARR could enter into a series of short-term agreements, but this would increase the lease cost, since the lessor would bear the risk of obsolescence before the end of the locomotives' useful lives. Furthermore, in replacing its locomotive fleet, a SARR would incur additional costs associated with replacement of its spare parts inventory required for locomotive maintenance, and with re-training of personnel responsible for locomotive maintenance and operations.

³ Typically the stand-alone cost rate cases filed against UP involve SPRB coal. Virtually all SPRB customers supply their own cars for the transportation. As a result, locomotives are the chief transportation equipment for which the SARR would control decisions to replace assets.

SARRs, of course, may upgrade to the newest available locomotives if they include the costs of doing so. But the lower operating costs of the new equipment would have to more than offset the costs of replacing the fleet—and would have to do so in the remaining portion of the SARR's projected lifespan—for this to be a rational choice. Unlike real railroads, whose fleets include older and less efficient locomotives, SARRs use their freedom to specify the lowest cost operating plan to power their coal trains with modern AC units equipped with DP capability.

UP has a fleet of 8,200 locomotives, comprised of a variety of models acquired over many years. Each year we retire the oldest and least efficient and acquire hundreds of modern models. The other Class I railroads pursue a similar strategy for modernizing their fleets, since no real railroad can afford to completely replace its fleet in a short period (even if the manufacturers could supply that many new units in that period). As a result, any improved locomotive efficiency realized by real railroads will not represent the productivity gain available to a SARR, which begins with a much younger, more homogeneous fleet.

Positive Train Control

Coal Shippers cite Positive Train Control ("PTC") systems and claim a potential 15 to 20 percent increase in train velocity they anticipate such systems will one day deliver. They neglect, however, to discuss the uncertainty about when PTC will be able to deliver those benefits and the significant costs associated with installing PTC.

The 15-to-20 percent increase in train velocities Coal Shippers project would become possible only if dynamic moving block ("DMB") technology were incorporated within a PTC system. DMB technology would permit trains to operate closer together

than would be possible if operations were governed solely by wayside signals, spaced at intervals in excess of minimum feasible train separation distances. But DMB technology remains experimental, is technologically challenging, and has not been approved for use by the Federal Railroad Administration.

UP plans to test existing PTC technology, without DMB technology, on two rail corridors. We expect to incur substantial testing and development costs before it is proven reliable enough to install. Assuming that PTC will ultimately be deployed across UP's network, the total capital expenditure will be immense and will be spread over many years. There will also be additional implementation costs, such as revision of operating rules and additional training of train crews, dispatchers, and operating managers.

Information Technology

Coal Shippers invoke the fast-paced change of information technology as a source of perpetual productivity gains for a SARR. They fail to provide much detail or explanation about how writing-off and replacing hardware and software every few years will deliver meaningful productivity gains for a SARR. The reality of gaining the benefits of information technology, which I understand to be computer hardware and software, including wireless communication devices, is more complex and imposes costs that Coal Shippers do not appear to take into account.

Certainly there are some aspects of information technology that may turn over quickly and may be captured with a fast replacement rate, but it is uncertain how much they contribute to railroad productivity. For example, off-the-shelf products such as Microsoft Office Suite software, laptop computers, PDA's, etc. become obsolete and

require upgrading on what can seem to be a continuous basis. How such upgrades would drive noticeable productivity gains, especially on SARRs with their streamlined administrative and management forces, remains to be seen. To some extent this upgrading is necessary because the vendors will no longer provide technical support for older, but still workable, versions of the software and the current software will not work on older hardware. The cost of replacement is then a cost to simply retain the productivity already attained, rather than to achieve a true productivity gain.

The more critical technology for operating a railroad is longer-lived and incremental in nature and involves large costs. UP operations and financial systems depend on a wide array of complex computer systems that we are expanding and upgrading continuously. Usually we add to existing hardware and software capabilities. Replacing complicated software, such as computer-assisted train dispatching, is a multi-year development project with long-lead times to test, train and implement over a long period. Maintaining and enhancing these complex systems, which are the brain and nervous system of a modern railroad, entails major expenditures and requires hundreds of UP employees.⁴

Commitment Of Human And Financial Resources Required To Achieve Productivity Gains

Coal Shippers also suggest that productivity is a natural occurrence that will result from the ability of the SARR's workforce to "learn by doing," from integration of not-yet-identified technologies into SARR operations, and from the adoption of best practices. Coal Shippers fail to recognize the source underlying real world railroads'

⁴ Similarly, if and when PTC becomes reliable enough to deploy, it will be an additional layer that will supplement existing systems and impose its own additional maintenance requirements besides the initial investment.

productivity increases: the resources these railroads commit to planning and process improvement and to the development and implementation of technology. UP and other major rail carriers devote significant human and capital resources to planning, operations research, process improvement functions, and training.

Many of UP's employees work full time in planning and development capacities. UP's Continuous Improvement group employs approximately 20 workers who devote their time to working with other UP employees to identify and eliminate work process bottlenecks. UP's Network Planning group, too, plays a number of productivity-enhancing roles. Its approximately 40 employees make recommendations regarding the most productive mix of assets to acquire, evaluate the best opportunities for adding capacity, and identify lines or resources for redeployment to meet customers' changing requirements. Various other departments, such as Mechanical, Engineering, and Operating, employ their own planning and industrial engineering personnel, who deal with issues ranging from incorporation of new technology into railroad operations to identification of and rolling-out best practices.

The resources UP commits to development, planning and process improvement are a primary driver of its productivity enhancement success. Most SARRs, on the other hand, with their thinly stretched workforces, are not in a position to seek out new areas for productivity growth. A SARR will generally incorporate the existing best practices of real world railroads from its first day of operations. But unless the SARR adds salaries and facilities for employees devoted to the process improvement function, it will not have the resources to identify and implement newly identified best practices on an ongoing basis.

WRPI Is No Role Model For A SARR's Potential Productivity Gains.

As an example of SARRs' ability to learn by doing and boost productivity immediately following its start of operations, Coal Shippers cite the experience of Western Railroad Properties, Inc. ("WRPI") and the productivity gains it achieved during its early years of operation in the SPRB. In fact, WRPI had very little in common with a typical SARR, and its experience offers little hope for productivity gains by current and future SARRs.

For the most significant sources of WRPI productivity improvement — economics of density, elimination of cabooses and the change to two-man crews — the SARR experience would be different from that of WRPI, or the productivity gain for the SARR would already be captured at the outset of SARR operations. When WRPI began operations in 1984, it moved fewer than two trains per day. By 1989 that increased to more than 10 trains per day with little additional track. This presents a classical illustration of economies of density. If volume grows over the life of a SARR, its economies of density should be embedded already in the cost analysis. If its volume remains flat, then there is no further productivity to be gained from economies of density.

Labor agreements in place when WRPI began operations required at least a three-man crew and a caboose. As end-of-train devices became available and railroads bargained for more efficient work rules, those practices disappeared. UP currently operates SPRB coal trains with two-man crews and EOTs. SARRs presumably will do the same. Moreover, since a SARR is not bound by work rules that UP agreement personnel have bargained for, it cannot share in any productivity gain that UP or other railroads may realize by eliminating such rules in the future.

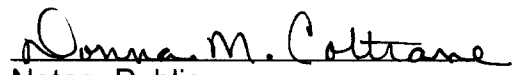
VERIFICATION

John H. Rebensdorf, Vice President - Network Planning & Operations of Union Pacific Railroad Company, under penalty of perjury, declares and verifies that he has read the statement in Ex Parte No. 657, knows the facts stated therein, and that said facts are true as stated.

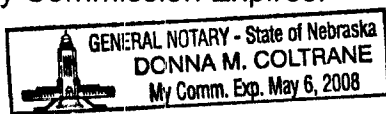
Dated: May 30, 2006.


John H. Rebensdorf

Subscribed and sworn to before me this 30th day of May, 2006.


Notary Public

My Commission Expires:



Union Pacific SPRB Coal

