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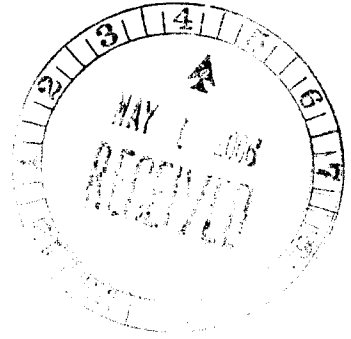
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May 1, 2006

216458



Via HAND DELIVERY

The Honorable Vernon A. Williams
Secretary
Surface Transportation Board
1925 K Street, NW
Washington, DC 20423

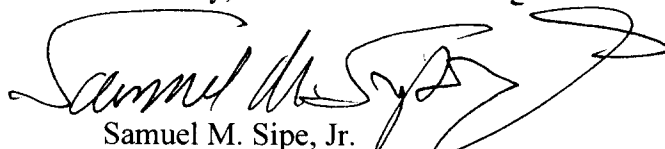
Re: **Major Issues in Rail Rate Cases, STB Ex Parte No. 657 (Sub-No. 1)
Comments of BNSF Railway Company**

Dear Secretary Williams:

Enclosed are the original and ten copies of the Comments of BNSF Railway Company ("BNSF") submitted in response to the Board's Notice of Proposed Rulemaking dated February 27, 2006 in the above-captioned proceeding. Also enclosed are three CDs containing electronic versions of BNSF's Comments. Please note that this filing contains color copies.

Please date stamp the extra copy of this letter and return it with our messenger.

Sincerely,


Samuel M. Sipe, Jr.
Counsel for BNSF Railway Company

Enclosures

cc: Parties of Record

216458

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

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

MAJOR ISSUES IN RAIL RATE CASES

**COMMENTS OF
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May 1, 2006

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**BEFORE THE
SURFACE TRANSPORTATION BOARD**

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

MAJOR ISSUES IN RAIL RATE CASES

**COMMENTS OF
BNSF RAILWAY COMPANY**

Pursuant to the Notice of Proposed Rulemaking ("NPRM") dated February 27, 2006 in Ex Parte No. 657 (Sub-No.1), *Major Issues In Rail Rate Cases*, as clarified by a decision served on April 14, 2006, BNSF Railway Company ("BNSF") hereby submits comments on the rules proposed by the Board regarding the application of the stand-alone cost ("SAC") test in rail rate cases and the procedures for reopening and vacating existing rate prescriptions.

I. INTRODUCTION AND SUMMARY OF COMMENTS

The Board held a hearing last year in Ex Parte No. 657 to address its application of the SAC test in rail rate reasonableness cases. In that hearing, BNSF urged the Board to convene a formal rulemaking proceeding to consider whether existing SAC standards and methodologies are consistent with policy objectives that led the ICC to adopt the *Coal Rate Guidelines* and with the economic principles underlying the *Guidelines*.¹ BNSF noted that when the *Guidelines* were adopted in 1985, the ICC expected that the new, market-based approach to the regulation of rail rates embodied in the *Guidelines* would give railroads a real prospect of achieving revenue adequacy. While the financial health of the railroad industry has improved and railroad operations have become much more efficient since the *Guidelines* were adopted, the objective of

¹ *Coal Rate Guidelines – Nationwide*, 1 I.C.C. 2d 520, 526 (1985) ("*Guidelines*" or "*Coal Rate Guidelines*").

railroad revenue adequacy has not been reached. It would be a bitter irony for the Board to abandon the regulatory policies that have allowed railroads to improve their financial health just as railroads approach the financial goal that the *Guidelines* sought to foster.

Moreover, serious challenges face the industry today that were not present when the *Guidelines* were adopted. Demand for rail service is increasing dramatically, particularly demand for transportation of Powder River Basin ("PRB") coal. The Department of Energy expects PRB coal production to increase by almost 300 million tons in the next 20 years. As demand increases, the need for substantial new capital investment in rail infrastructure is becoming increasingly urgent. Inappropriate regulation of rail rates could inhibit or distort capital investment in new capacity at this critical juncture in the railroad industry.

BNSF explained in its comments to the Board last year that implementation of the *Guidelines* through 20 years of case-by-case litigation has produced standards that unduly limit a railroad's ability to engage in demand-based pricing. As BNSF pointed out, two SAC decisions in the 1990s set BNSF's rates at the jurisdictional floor and two recent decisions set rates for BNSF at levels that exceed the jurisdictional floor by relatively small amounts. These results are not consistent with the statutory mandate that the Board apply its regulatory authority to assist railroads to become revenue adequate. The Board has repeatedly ignored its own Revenue Shortfall Allocation Method ("RSAM") calculations, which identify rates that BNSF must charge, on average, to shippers with inelastic demand in order to achieve revenue adequacy. The public interest in a sound rail transportation system will not be promoted by compressing rail rates in a narrow range out of a sense of fairness.

In addition, case-by-case litigation under the *Guidelines* has not produced coherent and predictable standards that would eliminate or reduce rate reasonableness litigation. The recent

surge in litigation over rail rates does not result from any market dislocation or abuse of market power. Rates on coal transportation have, until recently, declined steadily. The recent increases in rail transportation rates have been modest compared to the increases in other related markets. For example, the price of PRB coal has increased over 200 percent in the last couple of years.² Recent litigation over coal transportation rates is unrelated to market problems but instead results from a view among shippers that the SAC test can be manipulated through creative application of existing standards to produce lower rates.

BNSF therefore urged the Board to step back and initiate a rulemaking proceeding to review SAC standards that have evolved through case-by-case litigation since the *Guidelines* were established. The Board's February 27, 2006 NPRM initiates such a review. Several of the Board's proposals represent an appropriate effort to simplify application of the *Guidelines* and conform them to underlying CMP principles. However, the Board's proposals in one area – the setting of a maximum reasonable rate on the issue traffic in the event that the present value of revenues are found to exceed the present value of SAC costs – are seriously misguided and should not be pursued. The Board's proposal to abandon the percent reduction method that it has long adhered to departs from the basic logic of demand-based pricing that informs the *Guidelines*. It is not an exaggeration to say that the alternative proposals for the setting of a maximum reasonable rate floated by the Board depart so markedly from the *Guidelines* as to turn their back on Constrained Market Pricing principles.

There has been no change in the market, in the governing statute, or in the financial condition of railroads so dramatic as to justify a repudiation of the principles on which the *Guidelines* are based. It appears that after years of stating – and appearing to believe – that

² See Figure 1 of the Verified Statement of Dr. Darius Gaskins, attached to these comments.

differential pricing is the only way to achieve the public's interest in a financially viable railroad network, the Board has decided to repudiate it in favor of a new regime of cost-based rates. The Board proposes no theoretical framework for the new regime, and there is none.

A. The Board's Rate Setting Proposals Are Inconsistent with the Statute and the *Guidelines*

BNSF's comments in this proceeding focus largely on the serious flaws in the Board's three alternative proposals for the setting of a maximum reasonable rate for the issue traffic. Although the Board denies it, its rate setting proposals amount to a repudiation of demand-based differential pricing. Each of the Board's alternatives is based on a discredited premise that railroads should set prices to the maximum extent possible by allocating costs uniformly among its shippers.³ This regulatory approach, which nearly resulted in the bankruptcy of the railroad industry in the 1970s, was soundly rejected by economists and the ICC when the *Guidelines* were adopted. The *Guidelines* are instead based on the fundamentally different principle that railroads should be permitted to set prices based on *demand for rail services* to the maximum extent possible. The statute expressly instructs the Board "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). Regulatory imposition of uniform, cost-based rates, even for a segment of a railroad's traffic, would be directly contrary to this clear statutory mandate.

The Board's maximum reasonable rate proposals all have the effect of driving down a railroad's rates on its most highly rate traffic. This rate compression would be especially pernicious because, as the Board has recognized, it will over time become reflected in actual prices for many shippers as contracts expire and new shippers bring rate cases or threaten rate

³ See NPRM at 11 (Differential pricing is appropriate "only to the extent needed to cover SAC costs that could not be covered by a uniform allocation among all the traffic in the traffic group").

litigation.⁴ Thus, the Board's proposals, if adopted, would reduce the revenue contribution that the railroads can expect from their highest-demand customers. The adverse impact on revenue adequacy is obvious. So long as Class I railroads are revenue inadequate, such constraints on differential pricing would be fundamentally inconsistent with the *Guidelines*, the governing statute, and longstanding case law.

The Board's NPRM says nothing about how its new rate setting proposals would affect railroad revenue adequacy. That oversight in itself would be grounds for overturning a new rate setting rule if one were adopted. The Board is required by statute to consider railroad revenue adequacy in determining the reasonableness of rail rates. The Board has taken the position that it can avoid this responsibility in individual rate cases because it considered revenue adequacy when it adopted the *Guidelines*. By its own logic, the Board must consider revenue adequacy if it were to make a fundamental change to the *Guidelines*, such as adopting one of the new rate setting proposals, while railroads continue to face obstacles to the achievement of revenue adequacy. The day may come when Class I railroads become revenue adequate on a sustained basis, and, if so, the Board may need to consider changes to its maximum reasonable rate standards at that time. But until then, the Board cannot ignore the statutory mandate to assist railroads to achieve revenue adequacy and it cannot abandon the regulatory principles that were specifically intended to give railroads the opportunity to achieve revenue adequacy.

The Board's only rationale for the proposed radical change in regulatory policy is a purported concern over railroad "gaming" of the existing percent reduction methodology for the setting of a maximum reasonable rate. *See* NPRM at 7. While the concern over gaming may be legitimate, the Board's proposed solution is completely disproportionate to the perceived

⁴ *See Otter Tail Power Co. v. BNSF Ry. Co.*, STB Docket No. 42071, slip op. at 11 (served Jan. 27, 2006) ("*Otter Tail*").

problem. The Board fails to distinguish between inappropriate pricing behavior designed to manipulate the outcome of rate reasonableness litigation and a railroad's exercise of legitimate differential pricing. The statute permits and encourages railroads to engage in demand-based pricing. It would be irrational for the Board to presume that a railroad is improperly "gaming" the SAC test when it sets a commercially viable demand-based rate.

The Board's proposals reflect a conclusive presumption that a railroad's rates on high demand movements are the product of "gaming." There is absolutely no basis for such a presumption. There is no evidence that railroads have attempted to manipulate the SAC results in the setting of the issue traffic rate in any of the recent or pending cases. While shippers have frequently alleged that a challenged rate was the product of "gaming," the Board has found in every case either that the challenged rate was reasonable or that the rate was a valid exercise of differential pricing. The mere possibility that a railroad might attempt to "game" the SAC test in a future case does not justify the Board's proposed constraints on differential pricing. Rather than allowing a concern over "gaming" to undermine the core principle of differential pricing, the Board should use the occasion of this rulemaking proceeding to develop a valid test for "gaming" and apply that test in individual cases. As discussed below, BNSF proposes a practical test for assessing allegations of "gaming" that is based on readily available evidence relating to shippers' elasticity of demand. The Board cannot presume that "gaming" has occurred when there are means available to test for its existence.

**B. It Would Be Inappropriate to Constrain Demand-Based Pricing
When Substantial New Investments Are Needed in Rail Infrastructure**

Apart from the legal flaws in the Board's proposed alternatives to the setting of a maximum reasonable rate, those proposals would not advance the Board's policy interest in ensuring that adequate rail capacity will be available to meet increasing demand. New

constraints on railroads' ability to engage in demand-based pricing could discourage investment in rail infrastructure just at the time that rail capacity needs to expand. If an inappropriate cap is imposed on rates for the highest-demand shippers, railroads could be discouraged from making investments in services where demand is particularly strong.

As the Board is aware, the railroad industry is a very capital intensive industry. John Lanigan, BNSF's Executive Vice President and Chief Marketing Officer, noted in last year's Ex Parte No. 657 hearing that as a percentage of revenue, the railroad industry's capital expenditures significantly exceed those of its customers.⁵ From 1994 through 2004, BNSF invested \$2.4 billion in coal-related capacity. *Id.* at 4. In 2005, BNSF invested another \$216 million in coal capacity and completed a triple-track expansion of the Joint Line in the PRB between Walker and Shawnee. *Id.*

The need for capital investments in coal-related capacity has been growing at a much faster pace in the last few years as demand for PRB coal has been increasing at unprecedented levels. PRB coal production increased from about 100 million tons in 1980 to almost 500 million tons in 2004. *Id.* at 2. This explosion in demand is expected to continue. According to recent estimates by the Department of Energy's EIA, western coal production will increase by another 350 million tons between 2002 and 2025, with 280 million tons of this new production coming from the PRB. *Id.* at 4.

The effect on BNSF of the recent increase in demand for PRB coal transportation is illustrated by the tremendous increase in the average number of coal trainsets on BNSF's system. That number increased from 270 coal trainsets in January 2003 to almost 390 coal trainsets in

⁵ See Statement of John P. Lanigan, *Ex Parte No. 657 -- Rail Rate Challenges Under the Stand-Alone Cost Methodology* (dated April 26, 2005) at 1 and attached Exh. 1 (hereafter "Lanigan Statement"). For the convenience of the Board, the Lanigan Statement is included as an attachment to BNSF's comments.

December 2004. *Id.* at 2. The EIA's projected increase in PRB coal production is expected to result in 26 additional trainloads of PRB coal per day. *Id.* at 4.

Substantial capital investments will be necessary to meet this enormous growth. BNSF estimates that it will need to invest between \$500 million and \$800 million to expand track and terminal capacity to transport this increased PRB traffic. BNSF further estimates that it will need to spend between \$1 billion and \$1.2 billion on additional AC locomotives and between \$1.2 billion and \$1.3 billion on additional aluminum trainsets to handle the increase. *Id.* It would be bad policy for the Board to introduce new constraints on a railroad's ability to charge demand-based rates to shippers that have the highest demand for its service when such large capital investments need to be made.

C. The Board's NPRM Does Not Cover All Issues of Concern to BNSF in the Current Application of the SAC Test

In last year's hearing, BNSF discussed two issues of SAC methodology that are not addressed in the Board's February 27, 2006 NPRM. Specifically, BNSF asked the Board to reassess the current standards relating to traffic rerouting and the standards used to evaluate the parties' estimates of SARR construction costs. The Board's treatment of these issues can have a substantial impact on the results of a SAC analysis and the Board's standards and practices in these areas could be improved if they receive careful attention in a rulemaking. BNSF explained that in both areas, the Board has identified valid principles that should be applied but has failed to implement those principles in individual cases.

For example, on the issue of SARR construction costs, the Board has acknowledged that the complainant in a SAC case must present verifiable evidence demonstrating the feasibility of its construction cost estimate for a SARR. But the Board consistently disregards this requirement and accepts complainants' construction cost evidence based on little more than

speculation that there are “least cost” alternatives to real world construction practices. Rather than holding shippers to their burden of proof, the Board imposes on the *railroads* the burden of proving a negative. The Board requires that the railroads show that construction cost practices posited by the complainant could *not* be used. Since the Board pays little attention to the opinions of defendants’ construction cost experts on the issue of feasibility, the evidentiary burden that the Board has placed on defendants is difficult to meet. As a result, the Board accepts overly aggressive single-point cost estimates for a multitude of individual cost items that, in the aggregate, do not begin to reflect the real world costs of constructing a railroad.

The Board has apparently decided that SAC standards and methodologies in these two areas can be adequately developed through case-by-case litigation. While it is true that these issues involve factual assumptions that are case-specific, they also raise serious methodological concerns that should be addressed through an industry-wide notice and comment rulemaking. BNSF acknowledges that these issues are not the subject of the present rulemaking proceeding, but it urges the Board to consider these issues within this proceeding or in a separate rulemaking proceeding.

D. Summary of BNSF’s Position on the Proposed Rules

BNSF presents detailed comments on the Board’s proposed rules in Sections II through VII below. BNSF’s comments are supported by the testimony of five expert witnesses, whose verified statements are attached to these comments and incorporated herein. BNSF’s comments and the testimony of its experts are summarized below.

1. Rate Setting Methodology

As discussed above, BNSF opposes the Board’s proposed rules on the methodology to be used to set a challenged rate at the maximum reasonable rate for the issue traffic movement. Each of the three alternatives proposed by the Board suffers from the same flaw – each proposal

would eliminate differential pricing for a large segment of a railroad's coal shippers and would drive rates for those shippers to uniform, cost-based levels. The Board's proposals in this area are a major step backward in the development of economically rational standards governing railroad rates.

BNSF addresses the relevant law in Section II below and shows that the Board's proposals in this area are inconsistent with the *Guidelines*, the governing statute and the case law. In addition, BNSF's experts Professors Joseph P. Kalt, Ford Foundation Professor of International Political Economy, John F. Kennedy School of Government, Harvard University, and Robert D. Willig, Professor of Economics and Public Affairs, Woodrow Wilson School, Princeton University, explain that the Board's proposals are incompatible with the economic principles and policies underlying the *Guidelines*. Professor Kalt explains that any approach to the setting of railroad prices that allocates costs without regard to demand is fundamentally inconsistent with Ramsey pricing. Professor Willig, one of the original proponents of the contestable market theory underlying the *Guidelines*, explains that the Board's cost-based rate setting proposals are fundamentally inconsistent with contestable market theory. Dr. Darius W. Gaskins, Jr., a former chairman of the ICC, demonstrates that the Board's proposal to set uniform, cost-based rates for a large segment of BNSF's shippers ignores the substantial range of demand elasticity among those shippers. Finally, Mr. John C. Klick, Senior Managing Director, FTI Consulting, Inc., describes in detail the anomalies and bias that would result from the implementation of the Board's proposals, particularly in cases where a substantial amount of cross-over traffic is used.

The Board's sole rationale for proposing to do away with differential pricing on a large segment of a railroad's traffic base is the possibility that a railroad will abuse its rate setting

prerogative by establishing a rate for the issue traffic that is designed to influence the results of the SAC analysis. While the Board may have a valid theoretical concern over the possibility of “gaming,” Professors Kalt and Willig explain that the Board has failed to distinguish between a railroad’s legitimate exercise of demand-based pricing and the setting of a price that is excessive relative to demand for the purpose of distorting the results of the SAC analysis. The Board cannot abandon the economic principle of differential pricing that underlies the current approach to maximum rate regulation without identifying the factors that could constitute “gaming” of the SAC test such that the dramatic change in regulatory standards being proposed by the Board would be justified.

Professors Kalt and Willig explain that a rate that maximizes a railroad’s profits and is sustainable in the market cannot be considered an “artificial” rate that is designed to “game” the SAC test. A rate for a shipper with inelastic demand that is high but commercially viable is consistent with Ramsey pricing. Dr. Gaskins shows that data are readily available to test whether a railroad’s rates in particular instances are consistent with Ramsey pricing. As Dr. Gaskins explains, a rate that does not affect the dispatching of an electric generating facility is commercially sustainable and should therefore be presumed to be a valid Ramsey-based rate. That does not mean that the rate should be free from a rate reasonableness challenge if market dominance is established. It is possible that in setting Ramsey-based rates, a railroad will overshoot the amount of revenues that should be contributed by a group of shippers. But unless a rate is inconsistent with Ramsey pricing, there is no reason to assume that it is an artificial rate that can be disregarded in the SAC analysis. Unless “gaming” is established on a sound evidentiary basis, the current percent reduction methodology, which preserves the demand-based

rate structure established by the railroad in the first instance, is the best way to produce efficient prices if rates must be reduced.

BNSF also asks the Board to consider in this rulemaking proceeding an alternative and more straightforward approach to the setting of a maximum reasonable rate for the issue traffic that should be applied if the Board adopts BNSF's proposed contestable market approach to the setting of rates on cross-over traffic, discussed below. BNSF sponsored this approach in the pending *WFA/Basin* case⁶ and Professor Kalt describes it in his verified statement in this proceeding. As Professor Kalt explains, it is possible to use contestable market theory to address both the allocation of revenues to the SARR on cross-over traffic and the setting of a maximum reasonable rate with a single, unified approach. Professor Kalt's contestability pricing approach is described below in BNSF's discussion of the proper treatment of cross-over traffic.

2. Revenue Allocation for Cross-Over Traffic

The current approach used by the Board to allocate revenues to the SARR from cross-over traffic, the Modified Straight-Mileage Prorate ("MSP") approach, should be replaced because several shortcomings in the MSP approach create bias in the SAC results from complainants' increasing reliance on cross-over traffic. BNSF asks the Board to consider in this proceeding an alternative approach, presented by BNSF in the pending *WFA/Basin* case, that uses contestability theory to determine the rates that would exist in a contestable market on movements handled by a SARR for only part of the through movement. Unlike the MSP approach, the contestability pricing approach proposed by BNSF does not involve the inherently arbitrary effort to allocate revenues for a through movement between the SARR and residual incumbent. Professors Kalt and Willig explain the theory behind this "contestability pricing"

⁶ *Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. BNSF Ry. Co.*, STB Docket No. 42088 ("*WFA/Basin*").

approach and its implementation in a SAC analysis. Professor Kalt further explains that the use of contestable market theory to identify rates for cross-over traffic enables the Board easily to identify the maximum reasonable rate for the issue traffic in cases where the issue traffic is the only through movement on the SARR. Since contestability theory identifies the rates that would exist in a contestable market on cross-over movements, these rates would not be reduced if SAC revenues are found to exceed SAC costs. Instead, where the issue traffic is the only through movement on the SARR, all of the overcharge should be eliminated by reducing the issue traffic rate.

If the Board decides to continue to calculate revenues on cross-over traffic by allocating the incumbent's through revenue to the on-SARR and off-SARR portions of the movement based on the incumbent's relative on-SARR and off-SARR costs, then BNSF supports the Board's proposal to use an "Average Total Cost" ("ATC") approach as a much better alternative to the Board's current MSP approach. MSP does not meet the Board's stated objective that the allocation of through revenues should reflect the incumbent's average costs to provide service over the on-SARR and off-SARR portions of a through movement. Among other things, MSP fails to account for the significant effect of relative density on the average costs to provide service over different line segments. The ATC approach reflects economies of density and therefore is a superior methodology to any of the cost-based approaches that the Board has used to date.

BNSF also agrees with the Board's statement in the NPRM that the use of cross-over traffic in a SAC analysis is supposed to make the SAC test more manageable, not to change the results of a SAC analysis done without cross-over traffic or to otherwise introduce a bias into SAC results. However, as explained by Mr. Klick, the use of any cost-based allocation of

through revenues between the SARR and the residual incumbent, even a methodology like ATC that properly reflects the impact of density on costs, has the potential for introducing significant bias into SAC results. Therefore, in addition to adopting ATC, the Board should make it clear that it will allow the parties in SAC cases to present evidence showing that the allocation methodology used in a particular case introduces unwarranted bias. As Mr. Klick explains, if bias can be shown, the parties should be allowed to present adjustments that would reduce or eliminate the bias. Mr. Klick describes one such adjustment.

3. Indexing of Operating Expenses

BNSF opposes the Board's proposal to index operating costs for the SARR using a hybrid of the RCAF-U and RCAF-A indices beginning in year 2 of the DCF period. BNSF acknowledges that a SARR might experience productivity improvements not reflected in the RCAF-U at some point in the 20-year DCF period. That possibility arises because the Board uses a 20-year DCF analysis, and some productivity benefits may be felt by a SARR at some point in the 20-year period. But there is no reason to believe that *any* productivity would be experienced in the early years of a SARR. As explained by BNSF's expert Mr. Michael R. Baranowski, Senior Managing Director, FTI Consulting, Inc., a SARR starts out with a highly efficient route structure and with the most efficient operations that are possible based on available technology. While technological improvements will undoubtedly occur, they are not immediately available and they will require the SARR to make additional investments when they do become available. The benefits from new technology, therefore, cannot be assumed to be available to the SARR during the early years of its operations. Accordingly, if the Board shortens the DCF period to 10 years, as proposed in the NPRM, there is no reason to apply any productivity adjustment to operating costs.

If the Board does not shorten the DCF period, BNSF offers an alternative to the Board's proposal that would reflect productivity based on an examination of evidence relating to specific types of productivity that a SARR might experience and the possible timing of productivity gains. BNSF presented this alternative in the pending *WFA/Basin* case and it should be applied in both the *AEP Texas*⁷ and *WFA/Basin* cases, where it would not be appropriate to shorten the DCF period to 10 years, as discussed below. Mr. Baranowski identifies the operating expense categories where a SARR might experience productivity and describes a proposed methodology for reflecting possible productivity improvements in an operating cost index for the SARR.

4. Movement-Specific URCS Adjustments

BNSF believes that URCS system-average costs may understate the costs for unit coal train movements in areas such as fuel costs and the costs of locomotive equipment. Nevertheless, BNSF supports the Board's proposal to use system-average URCS costs in SAC analyses for the purpose of identifying the jurisdictional threshold for the Board's review of a challenged rate. Discovery and the presentation of evidence on movement-specific URCS adjustments have become costly, complex and time-consuming, but the variable cost calculations rarely have any impact in a SAC proceeding. Rate reasonableness cases tend to be brought by shippers with high demand for rail service. Therefore the rates at issue generally have relatively high revenue to variable cost ratios. Moreover, the jurisdictional threshold should rarely, if ever, come into play in the setting of a prescribed rate given the Board's RSAM findings that Class I railroads generally need to charge rates on average significantly above the jurisdictional threshold if they are to have an opportunity to achieve revenue adequacy.

⁷ *AEP Texas North Co. v. BNSF Ry. Co.*, STB Docket No. 41191 (Sub-No.1) ("*AEP Texas*").

BNSF urges the Board to make two clarifications to its proposal in this area. First, the Board correctly notes that the parties must identify certain characteristics of the issue traffic movement in order to produce an URCS system-average cost for the movement. The Board should include in the movement characteristics that it examines in calculating the system-average URCS whether a carrier uses a third party to provide a portion of the movement. The need to account for third-party service is addressed in more detail below in Section V. Second, the Board should give defendants an opportunity at the end of a SAC proceeding to submit movement-specific adjustments to URCS costs if the defendant can show, with clear and convincing evidence, that the adjustment is more accurate than system-average costs and that it will affect the level of any prescribed rate. BNSF also supports the Board's use of system-average URCS costs for purposes of identifying the jurisdictional threshold in small shipper cases, subject to the conditions described above, but it urges the Board to apply that approach with flexibility given the lack of experience with small shipper cases.

5. DCF Period

BNSF agrees with the Board that the need to project costs and revenues far into the future has complicated SAC litigation and has the potential for undermining the validity of SAC results and the validity of any rate prescription based on the SAC analysis. For example, as discussed above, any concern over productivity in SARR operating expenses from developments in technology that are inherently speculative arises only because of the Board's use of a DCF period that extends far into the future. Similarly, trends in coal transportation volumes and revenues become very difficult to predict beyond ten years. Shortening the DCF period to ten years and limiting the rate prescription to ten years, as proposed by the Board, is an appropriate and balanced way of dealing with these uncertainties. However, a shorter DCF period would

also mean that no productivity adjustment should be made to the operating cost index, as discussed above.

6. Standards Governing Reopening and Vacatur of Existing Rate Prescriptions

The standards and procedures outlined by the Board in the NPRM for reopening and vacating existing rate prescriptions is consistent with the approach followed by the Board in the *APS* case.⁸ BNSF supports the Board's proposal to adopt these standards and procedures as formal rules.

BNSF also agrees with the Board that the standards and procedures set out in the NPRM properly address the court's concerns in *Burlington Northern & Santa Fe Ry. Co. v. Surface Transportation Board*, 403 F.3d 771 (D.C. Cir. 2005). Vacatur of an existing rate prescription, regardless of the proponent of vacatur, can only occur after the Board has found that changes in fact or law have undermined the validity of the existing rate prescription. Similarly, the prescriptive effect of an existing rate prescription can be lifted only after the Board has concluded that there is evidence raising a serious question about the continued validity of the rate prescription. No retroactive effect can be given to such a finding. Thus, in the context of the *West Texas Remand*,⁹ it is clear that the existing rate prescription covering movements of coal from the Rawhide mine remains in effect and will remain in effect unless and until the Board concludes that there are grounds for reopening the existing rate prescription.

⁸ *Arizona Public Serv. Co. v. Atchison Topeka & Santa Fe Railway Co.*, STB Docket No. 41185 (served May 12, 2003, October 14, 2003 and December 13, 2004) ("APS").

⁹ *West Texas Utilities Co. v. Burlington Northern Railroad*, STB Docket No. 41191 ("*West Texas Remand*").

II. MAXIMUM RATE DETERMINATION

BNSF strongly opposes the Board's proposals for determining maximum rate levels in the event that revenues exceed SAC. The proposals are not consistent with the *Guidelines*, with the economics underlying the *Guidelines*, with the statute, or with precedent. There is no basis for abandoning the principles of demand-based pricing reflected in the current percent reduction methodology based on a concern that a railroad might game the SAC analysis when it sets rates for movements that might be challenged in a rate reasonableness proceeding. The possibility of gaming can be addressed through relatively straightforward evidentiary presentations to determine whether a challenged rate established by a railroad is commercially sustainable.

A. The Board's Proposals Must Be Evaluated in Light of Fundamental Legislative and Regulatory Principles Governing Rail Rate Regulation

The principles that underlie the Board's determination of maximum reasonable rates for rail carriers were adopted in the Staggers Act and are currently embodied in the ICC Termination Act ("ICCTA"). They arose out of Congress' recognition that a railroad industry that was chronically revenue inadequate could survive only by pricing its services in response to market forces. By the mid-1970s, the nation's railroads were in dire financial condition. The poor condition of the rail industry was, in large part, the result of pervasive and inflexible regulation. Regulation of rail rates prevented railroads from effectively responding to competitive challenges and precipitated a downward financial spiral because railroads lacked the ratemaking flexibility to retain shippers who could contribute only modestly to the coverage of joint and common costs. Persistent revenue inadequacy led to underinvestment, deteriorating infrastructure, and poor service.

Congress first addressed these problems in the Railroad Revitalization and Regulatory Reform Act of 1976 ("4-R Act").¹⁰ The 4-R Act sought to grant railroads greater flexibility in setting rates in competitive markets by removing the ICC's rate reasonableness jurisdiction over rates except where the railroad was found to have market dominance. When the ICC was slow to release its regulatory strangle-hold on the railroads under the 4-R Act, Congress quickly followed with the Staggers Act in 1980,¹¹ which adopted a more emphatic reliance on market forces in lieu of regulation.

Under the Staggers Act regime, as amended by the ICCTA in 1995,¹² Congress sought to replace regulation with a reliance on market forces. The ICC, and its successor Board, were directed, among other things, to allow market forces (competition and demand) to determine rates as much as possible, to minimize regulation, and to ensure that railroads were able to earn adequate revenues. These directives are explicit in the governing statute:

In regulating the railroad industry, it is the policy of the United States Government –

- (1) to allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail;
- (2) to minimize the need for Federal regulatory control over the rail transportation system and to require fair and expeditious regulatory decisions when regulation is required;
- (3) to promote a safe and efficient rail transportation system by allowing rail carriers to earn adequate revenues, as determined by the Board

¹⁰ Pub. L. No. 94-210, 90 Stat. 31 (1976).

¹¹ Pub. L. No. 96-448, 94 Stat. 1895 (1980).

¹² Pub. L. No. 104-88, 109 Stat. 803 (1995).

49 U.S.C. § 10101(1)-(3). The statutory requirements concerning railroad revenue adequacy were also unequivocal. Board determinations as to whether rail rates for transportation over which carriers have market dominance are reasonable must take account of “the policy of this part that rail carriers shall earn adequate revenues.” 49 U.S.C. § 10701(d)(2). Congress also directed the Board to:

maintain and revise as necessary standards and procedures for establishing revenue levels for rail carriers . . . that are adequate, under honest, economical, and efficient management, to cover total operating expenses, including depreciation and obsolescence, plus a reasonable and economic profit or return (or both) on capital employed in the business. The Board shall make an adequate and continuing effort to assist those carriers in attaining revenue levels prescribed under this paragraph.

49 U.S.C. § 10704(a)(2).¹³

Taking the Congressional deregulation directives to heart, the ICC worked over several years following enactment of Staggers to finalize rules governing maximum reasonable rates for coal transportation. The core problem the ICC faced in developing a rational approach to rail rate regulation was how to provide for coverage of costs that are not directly attributable to particular traffic movements. As the ICC described the issue in 1980:

It is a well-known characteristic of rail transportation that some costs vary directly with the level of a particular service, and can be allocated accordingly, while other costs are shared by two or more

¹³ The legislative history of the Staggers Act version of this language indicates how strongly Congress felt about revenue adequacy. According to the pertinent House Report:

Previous admonitions by the Congress that the Commission assist carriers in earning adequate revenue levels (49 U.S.C. § 10704) have not achieved their goals. As a result, the Committee is establishing a more straight forward mandate. This is a clear directive to ensure financially sound railroads, and the Commission is not to misuse the term ‘reasonable’ to circumvent this directive.

H. Rep. No. 1035, 9th Cong., 2d Sess., at 54 (May 16, 1980).

services, and hence cannot in any precise way be allocated directly to any one service on a per unit basis. These unallocable costs are commonly known as fixed or constant costs.

By the nature of constant costs, any accounting convention devised to allocate them among particular services must be to a degree arbitrary.

Coal Rate Guidelines – Nationwide, 364 I.C.C. 360, 364 (1980) (“1980 Guidelines”). The ICC noted that there were significant policy considerations attendant to the issue of cost coverage.

Choosing the wrong approach would produce economic inefficiency and harm all shippers on the railroad. As the ICC explained:

If too large a share of constant costs is allocated to services facing strong intermodal competition, the traffic may be lost to other modes. Remaining rail shippers suffer because fewer of them are left to share the constant costs, and there is a loss to the economy as a whole to the extent that some traffic moves by an inefficient mode. At the same time, underallocating constant costs can also lead to problems. If railroads are not able to cover their costs, in the long run investment, maintenance, and service ultimately will suffer to the detriment of all shippers.

Id.

The issue of cost coverage is complicated by the fact that the high fixed costs of providing rail service, combined with the existence of economies of scope, scale, and density, mean that a railroad’s marginal cost of providing service is lower than its average total cost of providing service.¹⁴ Competition compels railroads to price much of their traffic at levels lower than average total costs. To be financially viable, railroads must charge some shippers rates that are higher than average total costs. As the ICC explained in the *Guidelines*:

¹⁴ See, e.g., *Guidelines*, 1 I.C.C. 2d at 526 (“the railroads’ long-run marginal costs are less than their long-run average costs”); *Coal Rate Guidelines – Nationwide*, Ex Parte No. 347 (Sub-No. 1), slip op. at 7 (Feb. 8, 1983) (“1983 Guidelines”) (“the marginal cost of rail service is less than the average cost, because the fixed plant is used in a progressively more efficient manner”) (notes omitted).

Because competition compels the railroads to price some of their services below an arbitrarily assigned "costs", they must be able to price other services above their assigned "cost" in order to compensate. Otherwise, the carriers may never be able to cover all their costs and earn adequate revenues.

Guidelines, 1 I.C.C. 2d at 523.¹⁵ In sum, the ICC sought to identify an approach that would provide for the coverage of unattributable costs in excess of marginal or variable costs without engaging in arbitrary allocations of unattributable costs.

The solution to the challenge of cost coverage that the ICC identified is that railroads must be allowed to engage in demand-based, differential pricing.¹⁶ In this context, differential pricing meant not just that different shippers would pay different prices, but that the different prices paid by each shipper would be based on the demand of that shipper for the transportation service offered. As the ICC explained in the *1983 Guidelines*, "[i]t is only through a demand-based pricing system that the nonattributable costs can be allocated in an efficient manner." Slip op. at 9. Indeed, the ICC believed that Congress had mandated the use of differential pricing by introducing a quantitative market dominance limitation on the ICC's rate reasonableness jurisdiction and by requiring that rail rates be set by market forces wherever possible. Quoting the Staggers Act legislative history in its *1983 Guidelines*, the ICC explained:

Congress recognized that the market dominance limitation is the natural complement of differential (demand-based) pricing. Noting that it is "impossible" to distribute a railroad's fixed costs among various rates without taking competitive forces into

¹⁵ See also *1983 Guidelines*, slip op. at 3 (same); *Coal Rate Guidelines – Nationwide*, Ex Parte No. 347 (Sub-No. 1), slip op. at 2 (Dec. 16, 1981) ("*1981 Guidelines*") ("we recognized that rates on less competitive traffic had to be above fully allocated costs to compensate for rates on competitive traffic which were above variable but below fully allocated costs").

¹⁶ See, e.g., *Guidelines*, 1 I.C.C. 2d at 526 ("we explained at some length our belief that the cost structure of the railroad industry necessitates differential pricing of rail services"); *1983 Guidelines*, slip op. at 24 ("it is only through a differential pricing policy that total expenses can be recovered without the use of some external subsidy").

account, the House report acknowledged that “[d]ifferential pricing tends to optimize the advantage for all users of the service or purchasers of the goods.” . . . The Staggers Act changes were thus intended to “allow the forces of the marketplace to regulate railroad rates wherever possible.” . . . If demand-based pricing is allowed, “a carrier has no reason to keep a rate below the most beneficial level.” . . . Thus, the market dominance prerequisite for Commission rate jurisdiction must be viewed as a means for ensuring that differential pricing functions effectively wherever possible.

1983 Guidelines, slip op. at 6-7.

The Commission determined that Ramsey pricing, which “assigns a mark up above marginal cost on the basis of inverse demand elasticity,” provided the “appropriate analytical theory” for demand based pricing and a critical underpinning for maximum rate regulation. *1983 Guidelines*, slip op. at 9. In accordance with Ramsey pricing theory, railroads would be permitted to charge those shippers with the strongest demand the highest mark up above marginal cost while shippers with weaker demand would be charged lower mark ups. According to the ICC, “Ramsey pricing analysis yields economically efficient rates, because the resulting rates do not bias the demand patterns that would be achieved under marginal cost pricing.” *1983 Guidelines*, slip op. at 9. Indeed, the Commission determined that “Ramsey pricing, in principle, yields the least inefficient price structure.” *Guidelines*, 1 I.C.C. 2d at 527.¹⁷ In the NPRM, at 12, the Board acknowledged that “Ramsey pricing represents the most efficient way to price above marginal cost.”

The ICC’s endorsement of demand-based pricing on the Ramsey model is beneficial to railroads and shippers alike, and it satisfies the public interest in efficient, welfare maximizing

¹⁷ See also *id.* at 534 (“Ramsey price model represents the logical pricing patterns of an efficient firm”). As recently as 1996, the Board declared that constrained market pricing, which is supposed to replicate Ramsey pricing structures, “provides *the only* economically precise measure of rate reasonableness and therefore must be used wherever possible.” *Rate Guidelines – Non-Coal Proceedings*, 1 S.T.B. 1004, 1021 (1996) (emphasis added).

prices for the transportation of freight. "Ramsey pricing should encourage more shippers to purchase transportation service than if an arbitrary cost-apportionment formula were used."

1983 Guidelines, slip op. at 9. Under Ramsey, each shipper in the broader group makes some contribution to coverage of the railroad's fixed or unattributable costs, with the result that all shippers face lower overall costs and benefit from a larger network.¹⁸ Railroads that can charge higher mark-ups to their most demand inelastic customers have the opportunity for full cost recovery.¹⁹ Society benefits from the creation of sustainable, efficiently sized transportation networks whose configuration is a function of the interplay of supply of and demand for rail transportation service.

Due to the complexities of estimating demand elasticities, the ICC did not adopt a pure Ramsey pricing formula approach to maximum rate regulation. Instead, the Board adopted constrained market pricing. Constrained market pricing "allows carriers to use market demand as the basis for their rate-making. By this approach, the carriers take the ratemaking initiative, as contemplated by the statute, on all traffic." *1983 Guidelines*, slip op. at 10.²⁰ Where the railroad is market dominant, market-based prices are then subjected to four constraints: (1) revenue adequacy; (2) management efficiency; (3) stand-alone cost; and (4) phasing. *Guidelines*, 1 I.C.C.

¹⁸ *Guidelines*, 1 I.C.C. 2d at 540 ("So long as rates are above the short-run marginal cost . . . they make some contribution to the going-concern value of the firm. It would not be in the best interests of the carrier (or its other shippers) to forego the earnings from any traffic that would make such a contribution").

¹⁹ *1983 Guidelines*, slip op. at 10.

²⁰ See also *id.* at 23 (constrained market pricing granted railroads "the freedom to set prices according to individual shipper demand"); *Guidelines*, 1 I.C.C. 2d at 527 ("Under CMP, the carriers are expected to use the market demand which they observed as the basis for their pricing"); *id.* at 547 ("The pricing efficiency constraint directs that the resulting pool of unattributable costs be allocated among the carrier's shippers in accordance with Ramsey principles (*i.e.*, on the basis of relative demand elasticities)").

2d at 534. The ICC was “satisfied that the constraints and incentives CMP contains should lead to rates approximating Ramsey prices” *Guidelines*, 1 I.C.C. 2d at 527.²¹ As the ICC explained, constrained market pricing should produce “a rate structure which reflects long-run marginal costs, demand elasticity, and the differential pricing of unattributable costs – the same result that occurs under Ramsey pricing. Thus, in spite of the lack of mathematical precision in CMP, it should yield rates similar to those produced by Ramsey pricing.” *Guidelines*, 1 I.C.C. 2d at 534.

In deciding to encourage demand-based pricing as the cornerstone of the rate regulation regime, the ICC found that any approach to allocating unattributable costs that did not depend on shipper demand was economically inefficient and unlikely to lead to revenue adequacy. The *Guidelines* were emphatic on this point:

“Any means of allocating these costs among shippers other than actual market demand is arbitrary and may not permit a carrier to cover all of its costs. This is because non-demand-based cost apportionment methods do not necessarily reflect the carrier’s ability (or inability) to impose the assigned allocations and cover its costs. Thus, they frequently “over-assign” or “under-assign” the carrier’s unattributable costs to particular services.

Guidelines, 1 I.C.C. 2d at 526.²²

The ICC specifically rejected any approach that would treat all “captive” shippers – those served by a single railroad at origin or destination – as exhibiting the same demand and set their rates to some average level. Responding to an assertion that in establishing maximum reasonable rates all captive shippers should have their rates set to the same ratio of rates to

²¹ See also *id.* at 534 (“our purpose in CMP is to approximate Ramsey pricing”); 1983 *Guidelines*, slip op. at 11 (“the resulting rate structure should approximate that which would be achieved under the economically efficient Ramsey pricing system”).

²² See also *id.* at 523 (“meaningful maximum rate policy could not be founded on a strictly cost-based approach”).

marginal costs because such shippers have the same demand,²³ the ICC responded that such an approach

ignores the varying degrees of elasticity (or inelasticity) among "captive" shippers (*i.e.*, those over whose traffic the railroads have market dominance). The objective of Ramsey pricing is to permit recovery of unattributable costs in accordance with variations in demand. Setting all captive rates in the same proportion to marginal costs would be contrary to the principle of differential pricing, and could prevent a railroad from covering its total costs.

Guidelines, 1 I.C.C. 2d at 533.²⁴

The *Guidelines*, and the demand-based differential pricing principles they embraced, were upheld by the U.S. Court of Appeals for the Third Circuit in *Consolidated Rail Corp. v. United States*, 812 F.2d 1444 (3rd Cir. 1987). The Third Circuit agreed with the premises on which the *Guidelines* were based, including: (1) many shippers have competitive alternatives; (2) non-captive shippers cannot be required to pay their fully allocated costs or they will choose other modes of transportation; (3) cost-based allocation methods ignored shipper demand; and (4) Ramsey pricing "defines in mathematical terms the most efficient or optimum price." 812 F.2d at 1453-54.

In addition to differential pricing based on the Ramsey pricing theory, the other critical economic construct that underlies the *Guidelines* and implements Congress' directive to allow market forces to determine rates to the maximum extent possible is contestable market theory. Contestable market theory provides a framework for simulating competitive prices in industries such as the railroad industry where there are significant barriers to entry and exit. The conditions

²³ For practical purposes, establishing a uniform ratio of rates to marginal costs for captive shippers is the same as setting the R/VC ratio for all captive shippers at the same level.

²⁴ See also 1983 *Guidelines*, slip op. at 23 (rejecting approaches that did not reflect shipper demand as "too rigid to achieve our objectives of an efficient and financially sound rail system" because they "fail to recognize that there are degrees of captivity").

of competition can be simulated by positing the behavior of hypothetical firms in a market where there are no barriers to entry and exit.

As the ICC explained in the Guidelines,

The underlying premise is that a monopolist or oligopolist will behave or [risk losing] all of its markets to a new entrant. In other words, contestable markets have competitive characteristics which preclude monopoly pricing.

Guidelines, 1 I.C.C. 2d at 528. The SAC test was intended to implement contestable market theory by eliminating the “costs and other limitations associated with these entry and exit barriers . . . in order to approximate the cost structure of a contestable market.” *Id.* at 529. Once the conditions of competition are simulated, the SAC test can be used

to compute the rate a competitor in the market place would need to charge in serving a captive shipper or a group of shippers who benefit from sharing joint and common costs. A rate level calculated by the SAC methodology represents the theoretical maximum rate that a railroad could levy on shippers without substantial diversion of traffic to a *hypothetical* competing service.

Id. The ICC emphasized that “our use of SAC introduces the competitive standard of contestability into a non-competitive market. . . . The [SAC] calculation produces a simulated competitive price standard against which actual rates can be compared.” *Id.*

The SAC analysis identifies the “pool of unattributable costs to which the shipper must contribute.” *Id.* at 547. The SAC analysis itself does not indicate how responsibility for this pool of unattributable costs is to be allocated among the group of shippers that share common facilities. However, the ICC made it clear that the same principles of efficient, demand-based pricing that underlie the *Guidelines* must be applied to allocate responsibility for these costs. “Again, the pricing efficiency constraint directs that the unattributable costs of the SAC system be allocated among the users of the SAC system on the basis of the demand elasticities.” *Id.* at 548. Since the railroads are assumed to have established prices for the shipper group in relation

to perceived demand, the railroad's rate structure should therefore be preserved to the maximum extent possible: "In considering a rate prescription and/or reparations, we 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." *Id.*

Mr. Klick describes the 2-step process that results from the ICC's reliance on demand-based pricing and contestable market theory. The first step relies on the carriers "to use the market demand which they observed as the basis for their pricing." *Guidelines*, 1 I.C.C. 2d at 559. Demand-based prices would be established for a railroad's entire traffic base, since there is a range of demand even among sole-served shippers.²⁵ The second step recognizes that in setting demand-based prices, railroads might overshoot the amount necessary to cover costs for discrete groups of shippers. Thus, a cap on aggregate revenues generated through demand-based pricing would be determined using the SAC analysis. Within that cap on aggregate revenues, the railroad's rate structure would be preserved in allocating responsibility for the unattributable costs, consistent with the simulated conditions of competition required by contestable market theory.

B. The Board's Rate Setting Proposals Are an Impermissible Departure from Demand-Based Differential Pricing and Contestability Principles

Each of the three alternative maximum rate reasonableness proposals set out in the Board's February 27, 2006 NPRM is fundamentally inconsistent with the principles of Ramsey pricing and contestable market theory that are the foundation of the *Guidelines*. The three alternatives are described in detail in the statements of Professors Kalt and Willig and the statement of Mr. Klick. Professors Kalt and Willig address the Board's proposals from the

²⁵ See 1983 *Guidelines*, slip op. at 23 ("While certain of the proposals attempt to reflect demand by allocating the shortfall only to captive traffic, they fail to recognize that there are degrees of captivity.")

perspective of economic theory. Mr. Klick discusses the practical implications of the proposals and shows the anomalies that result from application of the proposed cost-allocation methodologies and the bias that is introduced when these proposed methodologies are used in SAC analyses that rely heavily on cross-over traffic.

The first, the Maximum Contribution Methodology ("MCM"), would allocate stand-alone costs among shippers on the basis of ton-miles. *See* NPRM at 9-10. Essentially, all shippers would be expected to pay the same average cost per ton-mile. If the incumbent railroad currently charges a given shipper less than the stand-alone railroad's average cost per ton-mile, that shipper's rate would not be increased, but higher-rated traffic would still be expected to pay the same average rate per ton-mile.²⁶

The second method, which the Board refers to as the Maximum Markup Methodology ("MMM"), substitutes the R/VC ratio for ton-miles for purposes of allocating stand-alone costs. *See* NPRM at 13. Under this approach, instead of calculating an average rate per ton-mile that each shipper must pay, the Board would calculate an average R/VC for the stand-alone railroad. Each shipper would be expected to pay rates based on this average R/VC unless its rates as charged by the incumbent railroad are lower than the stand-alone railroad average R/VC. As with the ton-mile approach, MMM anticipates that all higher-rated shippers will pay the same average rate.

The Board has also proposed a variant of MMM under which a fixed average dollar mark-up per ton-mile or car-mile would be used instead of the R/VC ratio. *See* NPRM at 15-16. Again, the expectation is that each shipper would pay the average dollar mark-up unless its

²⁶ The Board acknowledges that the starting point for analysis using the MCM approach is whether stand-alone costs can "be covered by a uniform allocation among all the traffic in the group." NPRM at 11.

current rate is lower than the sum of variable costs plus the uniform mark-up. Requiring that each shipper pay an identical mark-up in dollar terms is directly contrary to the Ramsey pricing principle that each shipper should pay a *different* mark up depending on its demand elasticity.

Under each of the three proposals, rates for all shippers of higher-rated traffic would be based on an allocation of identical cost per ton-mile or a uniform mark-up over variable costs. Relative *demand* for the railroad's service among this group of shippers would have no effect whatsoever on the relative level of the rates charged to these shippers. A railroad's ability to price differentially to this potentially large group of shippers would be eliminated completely.

In its NPRM the Board acknowledges that MCM (and presumably MMM) "would not reflect pure Ramsey pricing." NPRM at 12. Nevertheless, the Board maintains that its proposals would permit demand-based differential pricing and, therefore, "would be consistent with CMP, Ramsey pricing principles, demand-based differential pricing principles, and our statutory responsibilities." NPRM at 13. It is unclear how the Board reaches this conclusion, given the obvious limitation under the Board's proposals on the ability of a railroad to engage in demand-based pricing for shippers with higher relative demand for rail service. The Board apparently believes that the failure of each of its approaches to reflect demand is excusable because each approach permits *some minimal* differential pricing by allowing variation among rates for lower-rated traffic, even though no differentiation based on demand is permitted among higher-rated traffic. See NPRM at 12-13.²⁷ The Board's position appears to be that its rate reduction proposals are consistent with Ramsey pricing because *some* prices – those for lower-rated traffic

²⁷ These higher-rated shippers are, of course, exactly the same shippers that railroads must be able to charge higher rates to in order to make up for the costs not covered by the rates charged to traffic with better competitive options.

– may still be set to reflect demand in that they will be held at their preexisting levels rather than set at higher levels based on an allocation of average cost.

The Board's attempt to defend its proposals as being consistent with demand-based pricing is unavailing because they plainly do not permit demand-based pricing, particularly of higher-rated traffic where one would expect that differing demand elasticities among shippers with fewer competitive options would lead to substantial contributions in excess of marginal costs, contributions that would vary significantly based on the demand elasticities of individual shippers. The inconsistency of the Board's proposals with Constrained Market Pricing ("CMP") principles is readily seen from multiple perspectives, including (1) economic testimony proffered by BNSF in this rulemaking, (2) prior agency and court decisions addressing the proper implementation of differential pricing, and (3) the underlying statutory scheme.

1. The Board's Proposals Are Inconsistent with the Economics Underlying CMP

BNSF's economic witnesses, Professors Kalt and Willig, explain in their statements that the Board's proposals cannot be reconciled with Ramsey pricing or contestability principles, and therefore violate the economic principles underlying the *Guidelines*. As explained by Professors Kalt and Willig, the Board's proposals do not permit pricing in response to the perceived demand for service. The Board's approaches leave rates for lower-rated traffic unchanged while compressing rates for higher-rated traffic to some average measure. This outcome obviously ignores the observed demand characteristics for each shipper that were embedded in the defendant railroad's existing rate structure. Moreover, the Board's proposals are further

inconsistent with Ramsey pricing principles which dictate that *all* prices would need to be readjusted to new, efficient levels if an overcharge is found.²⁸

Professors Kalt and Willig also explain that the Board's rate setting proposals are inconsistent with contestability principles. Contestable market theory and the SAC test that implements this theory is supposed to simulate efficient prices that would exist in a competitive market. But a competitive market would not produce prices based on an arbitrary allocation of costs that disregarded demand. Prices that would result from the Board's proposed maximum reasonable rate proposals could never be sustained in a contestable market. A SARR that established a regime of cost-based rates reflected in the Board's proposals would be supplanted by a new entrant who was willing to offer shippers a more efficient set of rates that reflected their actual demand for the service offered by the SARR.

Professors Kalt and Willig also explain that misguided notions of "fairness" – *i.e.*, that it is somehow appropriate to charge everyone the same for rail service – are actually counter to the public interest and result in economic inefficiencies that damage railroads, shippers, and the public as a whole. Charging the same average price to customers with differing demand characteristics treats those in unequal positions as equal. What is truly fair, and consistent with the public interest, is to allow prices to be set at efficient levels, which are the demand-based differential levels dictated by Ramsey pricing principles. Efficient prices ensure the appropriate allocation of society's resources, promote a financially healthy rail network, allow shippers to enjoy lower rates overall, and result in the maximum net benefit to consumers.

²⁸ Under Ramsey pricing, responsibility for contributing revenue to the railroad is allocated among shippers in inverse proportion to each shipper's demand elasticity. A SAC test that shows an overcharge indicates that more revenue is being contributed by the shipper group than necessary to cover costs. As a result, when the overcharged revenues are eliminated, the relative demand elasticities can be maintained only if each shipper's contribution in excess of marginal costs is reduced.

2. The Board's Proposals Are Inconsistent with Prior Agency and Court Decisions

The ICC and the Board have explicitly rejected maximum reasonable rate approaches, like the ones proposed here, that are premised on the setting of uniform, cost-based rates for so-called captive shippers as inconsistent with the principles underlying the *Guidelines*. In the *Guidelines*, the ICC stated:

The objective of Ramsey pricing is to permit recovery of unattributable costs in accordance with variations in demand. Setting all captive rates in the same proportion to marginal costs would be contrary to the principle of differential pricing, and could prevent a railroad from covering its total costs.

1 I.C.C. 2d at 533. The ICC specifically rejected a proposed maximum reasonable rate proposal – referred to as Revenue Efficiency Allocation to Captive Traffic (REACT) – on grounds that it

appears to require a uniform markup for captive traffic. In other words, any revenue need shortfall that would remain once efficiency is achieved would be allocated on a pro-rata basis. We believe that the revenue need shortfall should be allocated on the basis of demand considerations, not an arbitrary percentage.

Id. at 559.

The *Guidelines* expressly direct the agency to preserve the railroad's rate structure as much as possible in setting a maximum reasonable rate. The *Guidelines* state that "[i]n considering a rate prescription and/or reparations, we 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." *Id.* at 548. Dr. Gaskins shows in the attached verified statement that BNSF charges a range of rates to so-called captive shippers based on the substantial differences in the demand characteristics of those shippers. The Board's proposed maximum rate methodologies would completely disregard BNSF's rate structure for these higher-demand shippers.

More recently, the Board rejected a proposal for setting small shipper rates by allowing railroads to charge a uniform mark-up based on the railroad's RSAM. The Board stated that the proposal was "premised on the general notion that a railroad can and should charge a single, uniform markup to all of its captive shippers. Such an approach is fundamentally inconsistent with demand-based differential pricing principles." *Rate Guidelines – Non-Coal Proceedings*, 1. S.T.B. at 1030.

In very recent SAC cases, the Board has continued to adhere to the view that it would be contrary to CMP principles to set maximum reasonable rates based on the allocation of costs uniformly across ton-miles or based on uniform mark-ups over variable costs. Ton-mile allocations were rejected as inconsistent with the *Guidelines* as recently as the *Public Service Co. of Colorado v. The Burlington Northern & Santa Fe Ry. Co.*, STB Docket No. 42057 (served June 8, 2004) ("*Xcel*"), where the Board reiterated its rejection of a ton-mile approach in *Carolina Power & Light Co. v. Norfolk Southern Ry. Co.*, STB Docket No. 42072 (served Dec. 23, 2003) ("*CP&L*"). In both decisions, the Board stated that an approach that allocates unattributable costs on the basis of an equal payment from each shipper per ton-mile is inconsistent with the *Guidelines* because it does not permit demand-based differential pricing. *Xcel*, slip op. at 37; *CP&L*, slip op. at 33.²⁹

²⁹ These recent decisions are consistent with a long line of Board and ICC precedent dealing with other ton-mile allocation schemes. In *Arizona Public Service Co. v. The Atchison, Topeka & Santa Fe Ry. Co.*, 2 S.T.B. 367, 392 (1997), in determining to use the percentage reduction to establish maximum reasonable rates, the Board declined to apply a "pro-rata allocation of a SARR's revenue needs on a ton-mile basis." The Board stated that an average "ton-mile allocation method does not take into account demand-based differential pricing." *Id.* In *Coal Trading Corp. v. The Baltimore & Ohio Railroad Co.*, 6 I.C.C. 2d 361 (1990), the ICC concluded that a "ton-mile methodology is not adequate" for allocating unattributable costs "because, among other flaws, it requires each ton-mile to receive the same revenues, precluding differential pricing." 6 I.C.C. 2d at 380. Prior to the adoption of the *Guidelines*, the ICC rejected a ton/ton-mile method which, it concluded, would not necessarily allow sufficient

The Board has also recently rejected allocation schemes based on R/VC ratios that are essentially identical to the current MMM proposal. In *Xcel*, the complainant proposed “to calculate the maximum R/VC percentage for the traffic group as a whole such that the total revenues from the traffic group would equal the total revenue requirement . . . without changing any rate . . . that has an R/VC percentage that is below that level.” *Xcel*, slip. op. at 37. The Board rejected the proposal because “it does not conform with Ramsey pricing principles.” *Id.* at 38. The Board acknowledged that the *Guidelines* dictate that “SAC costs should be allocated among the stand-alone group on the basis of Ramsey pricing principles.” *Id.* As the Board explained in detail:

The core economic principle behind Ramsey pricing is that the SAC costs should be allocated amongst the traffic group according to their relative demand elasticities. This means that shippers with highly inelastic demand are expected to bear relatively more of the SAC costs than shippers with more elastic demand. *Xcel*’s third proposal does not seek to achieve this outcome. Rather, under *Xcel*’s new approach, all movements in the traffic group with R/VC percentages in excess of the R/VC cap would be expected to bear equal shares of the SAC costs on an R/VC basis, even where they have differing demand elasticities. Even if such an approach would otherwise be reasonable, it would not comport with the fundamental economic theory of Ramsey pricing espoused in the *Guidelines*.

Id. The Board characterized the proposal as “a significant departure from the *Guidelines*” and stated that the proposal would require “setting aside the underlying Ramsey pricing principle.” *Id.*

In the circumstance of the current rulemaking, the Board apparently takes the view that prior criticisms of rates set on the basis of uniform cost allocations and uniform R/VC ratios are

differential pricing to permit rail carriers to achieve revenue adequacy. *Coal Rate Guidelines – Nationwide*, Ex Parte No. 347, slip op. at 3 (Sub-No. 1) (Dec. 16, 1981). The ICC stated that “there is wide agreement . . . that the proposed methodology does not necessarily result in rates which reflect demand.” *Id.*

inapplicable to its rate setting proposals because some rates – those on lower-rated traffic – would be left untouched, while only rates on higher-rated traffic are set on a uniform basis. But this reasoning is directly at odds with the Board’s reasoning in *Xcel*, where the lower rates would have been left untouched. Moreover, this very rationale was previously espoused by the Board’s predecessor and soundly rejected by the United States Court of Appeals for the D.C. Circuit. In an appeal from the ICC’s decisions in the *McCarty Farms*³⁰ grain rate litigation, where the agency had capped rates at uniform R/VC ratios for supposedly comparable traffic, the D.C. Circuit expressly rejected exactly the same line of reasoning that the Board relies on here. *Burlington Northern Railroad Co. v. United States*, 985 F.2d 589 (D.C. Cir. 1993) (“*Burlington Northern*”).

In *Burlington Northern*, the ICC argued that it was consistent with Ramsey pricing principles to require maximum rates not to exceed an average R/VC ratio for a selected group of supposedly comparable traffic. The ICC claimed that forcing rates to an average R/VC was just a variant of Ramsey pricing as long as only rates for “captive” traffic were affected. The court rejected this argument out of hand, deploring the “lack of any visible intellectual coherence in the R/VC method.” 985 F.2d at 599. The Court further stated that the agency’s reliance on uniform R/VC ratios was a variant of Ramsey pricing

only in the vaguest imaginable sense, namely, that it leaves the railroad’s lower rates alone. The principle for limiting the higher rates has no evident connection to any of the goals that the Commission said CMP/SAC was designed – indeed, well designed – to achieve.

³⁰ The D.C. Circuit appeal encompassed several ICC decisions styled in the decision as *McCarty Farms, Inc., v. Burlington Northern, Inc.*, 4 I.C.C.2d 262 (1988); Docket Nos. 37809, 37809 (Sub-No.1) and 37815S (served Feb. 21, 1989); Docket Nos. 37809, 37809 (Sub-No.1) and 37815S (served Mar. 27, 1991); and Docket Nos. 37809, 37809 (Sub-No.1) and 37815S (served Nov. 26, 1991).

Id. at 598. This statement is entirely apposite to the Board's rate setting proposals here and is controlling law on the issue of whether the Board may substitute uniform allocations of cost or uniform R/VC ratios for demand based prices. It may not.

3. The Board's Proposals Are Inconsistent with Statutory Requirements

The Board's rate setting proposals cannot be reconciled with the statutory mandate that the Board "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). To implement this statutory mandate, the *Guidelines* provide that "the carriers are expected to use the market demand which they observed as the basis for their pricing." *Guidelines*, 1 I.C.C. 2d at 527. As explained by Dr. Darius Gaskins in the attached statement, there is clearly a wide variation in demand among a railroad's so-called captive shippers and rates set by reference to market forces reflect this variation in demand. When "competition and demand for services" is allowed to establish rates, those rates clearly are not set at uniform revenues per ton-mile or uniform mark-ups over variable costs. Table I contained in Dr. Gaskins' statement shows the wide variation in rates and Ramsey prices for shippers involved in a number of recent challenges to BNSF rates. Any maximum reasonable rate approach that would drive rates for a railroad's sole-served shippers to uniform levels, as the Board proposes, would be a direct violation of the statute.

An important part of Congress' efforts to deregulate rail markets was to give railroads the rate-setting initiative instead of having the regulator establish rates by regulatory fiat. *See* 49 U.S.C. §10701(c); *see also Burlington Northern Railroad Co. v. Surface Transportation Board*, 75 F.3d 685, 693-95 (D.C. Cir. 1996) (Congress "decided to allow carrier-chosen rates to go into effect before the Commission had the chance to pass on them"). Contrary to these clear statutory mandates, the Board's proposals would effectively substitute the Board's judgment that rates for

high-demand shippers should be based on a uniform allocation of costs for a railroad's assessment of the rates based on perceived demand in the market. The D.C. Circuit in *Burlington Northern* rejected such an interference with the market as inconsistent with the governing statute. What the court said there applies here as well:

[I]f a profit-maximizing railroad charges more for the issue traffic than for the benchmark traffic, that would seem to represent a judgment – by the party with the greatest interest in making it correctly – that the issue traffic either costs more to transport or has a less elastic demand. If applied steadfastly, then, the R/VC method puts the Commission in the position of simply correcting (or purporting to correct) railroad management decisions as to what prices will most benefit the railroad.

985 F.2d at 597.

The courts, the ICC and the Board have also found that any maximum rate reasonableness approach that denies a railroad the ability to price in accordance with relative demand among its shippers would violate the statutory revenue adequacy mandate. The *Guidelines* are based on an explicit assumption that railroads must be permitted to engage in differential pricing to have an opportunity to achieve revenue adequacy. In both the 1983 *Guidelines* and the final *Guidelines*, the ICC found that “[a]ny means of allocating these costs among shippers other than actual market demand is arbitrary and may not permit a carrier to cover all of its costs.” *Guidelines*, 1 I.C.C. 2d at 526; 1983 *Guidelines*, slip op. at 8. Cost-based allocation methodologies are bound to fail because “the market effectively ignores the ‘scientific’ assignment of certain costs to each of the carrier’s rates.” 1983 *Guidelines*, slip op. at 8.

The courts have also recognized the link between differential pricing and revenue adequacy. As noted above, in *Burlington Northern* the ICC had sought to establish maximum reasonable rates for certain grain shipments based on a methodology “that limits a railroad to

charging rates for disputed traffic that yield no higher a ratio of revenue-to-variable-cost than the R/VC ratio of certain 'benchmark' traffic used for comparison." 985 F.2d at 595. The court found such an approach to be inconsistent with the revenue adequacy mandate since it failed to "reconcile the railroad's need for revenue to cover total costs with the least possible distortion of demand (i.e., railroad usage would approximate as nearly as possible the level that would prevail under perfect competition)." *Id.* at 596. See *MidAmerican Energy Co. v. Surface Transportation Board*, 169 F.3d 1099, 1106 (8th Cir. 1999) ("The Board has recognized that an important part of achieving revenue adequacy is differential pricing").

Not only would the Board's proposals undermine railroad revenue adequacy by imposing on them an inefficient rate structure, they would also drive railroads farther from revenue adequacy by reducing the revenues earned on demand-inelastic traffic. As explained by Mr. Klick in the attached statement, the effect of each of the Board's proposals would be to reduce significantly the maximum reasonable rate that railroads can charge to their highest demand shippers below the maximum rate levels that would be established under the percentage reduction method. The Board's tables in support of the proposed maximum reasonable rate alternatives provide stark evidence of the rate compression that would result from adoption of the Board's proposals. The Board has claimed in recent cases that it does not need to address the statutory revenue adequacy requirement in individual cases because it applies rate reasonableness standards that were designed to give railroads a chance to achieve revenue adequacy. By this logic, the Board may not repudiate the economic principles underlying the *Guidelines* that were designed to promote revenue adequacy without assessing the impact of its actions on revenue adequacy. The Board's examples suggest that its proposed rate setting methods would drive railroads further from revenue adequacy than the percentage reduction

methodology. The Board does not explain how this outcome could be justified given the statutory revenue adequacy mandate.

Complainants have argued that the Board should not be concerned about the impact on a railroad's ability to achieve revenue adequacy of a rate reduction on a single movement. But as the Board recognized in the *Otter Tail* case, whatever rate reasonableness methodology is adopted in SAC cases will have a broad impact in the market as existing contracts expire and rate challenges are brought or threatened.³¹ Over time, the Board's proposals would therefore result in a cap on the rates charged to a railroad's highest-demand shippers and a substantial reduction in revenues. The downward pressure on rates resulting from the iterative application of the Board's methodology would violate the *Guidelines* and the statutory revenue adequacy requirement, as the D.C. Circuit found in the *Burlington Northern* case. See *Burlington Northern*, 985 F.2d at 597. If the Board's proposals are adopted, a railroad's ability to establish differential prices for a large group of its shippers will be curtailed as the rates on the highest-demand shippers are driven down to a uniform, cost-based level.

C. The Board's "Gaming" Rationale Is Based on an Unsupported Presumption and Does Not Justify the Repudiation of Demand-Based Pricing

The Board's current approach to setting a maximum reasonable rate when SAC revenues are found to exceed SAC costs is to reduce all rates in the traffic group by an equal percentage. As the ICC explained in *Coal Trading*, the purpose of applying a percent reduction was to preserve the rate relationships reflected in the carrier's pre-existing rate structure:

The rate structure exhibited by the defendants over the complaint period is the necessary consequence of differential pricing and cost of service. Any revision of rates due to the imposition of rate prescriptions should, to the extent possible, retain the underlying relationships. Thus, overcharges must be distributed to the SARR

³¹ *Otter Tail*, slip op. at 11.

traffic group in a manner which will not substantially change rate relationships and, thus, disrupt the existing pattern of differential pricing unless it is demonstrated that the pattern is seriously flawed.

6 I.C.C. 2d at 435. *See also* NPRM at 7 (“The underlying rationale for the percent reduction approach has been that allocating SAC costs among the traffic group in proportion to the existing rate structure would implicitly reflect the varying demand elasticities within the SAC traffic group”). This approach gives effect to the *Guidelines*’ express directive to the agency that it set maximum reasonable rates “in a manner that would not introduce further distortions into the carrier’s pricing structure.” *Guidelines*, 1 I.C.C. 2d at 548.

Professors Kalt and Willig confirm in their statements that the principle of preserving an incumbent’s rate structure, and thereby the demand relationships it reflects, is in accord with Ramsey pricing principles and the public interests they safeguard, as is the fact that the percent reduction method replicates the downward pressure on *all* rates that would occur in a contestable market where the new entrant charges Ramsey rates. There have been no changes in the rail industry, the economic principles that apply to the rail industry, or the governing statutory framework, that would justify replacing the percent reduction methodology with a new methodology that ignores a railroad’s existing rate structure for a large portion of the railroad’s shippers.

The underlying economic structure of the railroad industry has not changed. High fixed costs and significant competition for much of their traffic still dictate that railroads must price above variable cost but below average total costs to retain customers with other shipping options. Thus, unless railroads are able to charge some shippers more than average total costs, they cannot cover their full costs in the long run. Indeed, the critical need for new investment in

railroad infrastructure makes it critically important for the Board to allow railroads to engage in demand-based pricing to the maximum extent possible.

Although their financial condition has improved, the Class I railroads have not achieved revenue adequacy. In the decade since the merger of Burlington Northern Railroad Company (“BN”) and The Atchison, Topeka and Santa Fe Railway Company (“ATSF”) to form BNSF, the Board has never found that BNSF’s return on investment exceeded its cost of capital.

Finally, the statutory scheme has not changed in any way that would permit the Board to abandon demand-based differential pricing. The statutory directives that the Board has limited power to regulate rates, that market conditions and demand are to determine rates to the maximum extent possible, and that railroads are to be permitted to and assisted in achieving revenue adequacy remain in place. The *Guidelines* were formulated in response to these statutory principles. As these underlying principles remain unaltered, it would be inappropriate for the Board to move in a new and irreconcilable regulatory direction.

The Board points to a single justification for abandoning the existing percentage reduction methodology that relies on and attempts to preserve the rate structure that the defendant railroad established in setting maximum reasonable rates. The Board’s sole proffered justification for adopting a new methodology to replace percentage reduction is that “a railroad could manipulate the outcome of the Board’s regulatory process” by setting a “rate that it expects to be challenged at a much higher level than it expects to sustain, in order to end up with a prescribed rate level that is to its liking.” NPRM at 7-8. According to the Board, the possibility of railroad “gaming” justifies the Board’s replacement of the railroad’s existing rate structure with a cost-based rate structure devised by the Board.

While the Board is correct that gaming “could” occur, the Board in its NPRM effectively treats this possibility as a conclusive presumption that gaming will occur in all cases. The Board offers no evidentiary support for this conclusive presumption. Moreover, the presumption is at odds with a railroad’s statutory right to set rates of its own choosing in the first instance.

If the Board is concerned about the possibility of gaming, it should articulate an economically rational definition of railroad “gaming” that could justify abandoning the percent reduction methodology in individual cases where gaming is found to exist. The mere fact that the rate set by a railroad will influence the level of any prescribed rate under the percent reduction methodology does not mean that the railroad has engaged in “gaming” the SAC analysis. Under the statute, the railroad must set a rate and it is expected to set a profit maximizing rate in response to demand. The Board cannot rationally conclude that a railroad has engaged in “gaming” when the railroad does exactly what the statute expects it to do. As explained by Professors Kalt and Willig, the Board must develop a definition of “gaming” that distinguishes between legitimate demand-based pricing and the setting of rates that are not commercially sustainable but are chosen only to influence the outcome of a rate reasonableness determination.

There is absolutely no evidence that railroads have, in fact, attempted to manipulate the results of Board rate proceedings by establishing artificially high rates. Dr. Gaskins shows that the rates set by BNSF in all of the recent cases were consistent with market conditions affecting shipper demand for the transportation service. In the eastern cases where the gaming issue first arose, all of the challenged rates were found to be reasonable.³² In the *Otter Tail* case, where the

³² The three cases were *Duke Energy Corp. v. Norfolk Southern Ry. Co.*, STB Docket No. 42069, *Duke Energy Corp. v. CSX Transportation, Inc.*, STB Docket No. 42070, and *Carolina Power & Light Co. v. Norfolk Southern Ry. Co.*, STB Docket No. 42072. On October 20, 2004,

complainant belatedly asserted a concern about "gaming," the Board also found that BNSF's common carrier rate was reasonable. It would be irrational for the Board to presume that a railroad has engaged in inappropriate gaming when it sets a rate that is found to be reasonable. In *Xcel*, where the Board did prescribe a maximum reasonable rate, the Board explicitly found that no gaming occurred. According to the Board, there was "no evidence here that BNSF sought to manipulate the Board's rate review process in setting the challenged rates." *Xcel*, slip op. at 38. And in the *WFA/Basin* case, which is still pending, BNSF has presented extensive evidence showing the commercial viability of the challenged rate.

As the foregoing demonstrates, the Board's presumption of gaming is not supported by the results of or evidence presented in actual SAC cases to date. To the extent that the presumption is based on a concern that railroads will set rates that are excessive relative to demand, then it is based on no evidence whatsoever and cannot be justified. It would be an abuse of discretion for the Board to change its regulatory approach on the premise that gaming is a problem in the absence of such evidence.

If the Board believes that there is a need to address the theoretical possibility of railroad gaming, the appropriate response is not to throw out demand-based differential pricing in the setting of a maximum reasonable rate. The appropriate response is to develop standards to identify gaming if in fact it does occur and then to provide an appropriate remedy in specific circumstances. Professor Kalt and Dr. Gaskins show that gaming allegations can be readily evaluated through objective criteria. The Board demonstrated in *Xcel* that it is capable of evaluating claims of inappropriate manipulation. There, the Board weighed specific evidence

upon reconsideration, the Board issued a combined decision covering all three cases and finding that the complainants had failed to demonstrate that the challenged rates were unreasonable in each case.

offered by the parties and reached the conclusion that BNSF had not inappropriately manipulated the challenged rate. The Board is perfectly well equipped to make the adjudicatory determination of whether gaming exists in a particular case. It would be arbitrary and capricious to rely on unsubstantiated presumptions of gaming in lieu of case-by-case determinations.

D. The Proposed Rate Reduction Methodologies Should Not Be Applied in Pending Cases

The NPRM states that the Board intends to apply “whatever new [rate setting] methodology we adopt (if any) in this rulemaking proceeding” to two pending cases that involve BNSF: *West Texas Utilities Co. v. BNSF Ry. Co.*, STB Docket No. 442088, and *AEP Texas North Co. v. BNSF Ry. Co.*, STB Docket No. 41191 (Sub-No.1). For the reasons set out above, the Board should not adopt any of its proposed new rate setting methodologies in this rulemaking. But even if it were to do so, it could not permissibly apply such a methodology to either of the two pending cases. The only justification cited by the Board for any departure from the percent reduction methodology is the possibility of railroad gaming. But there is no evidence of “gaming” in either case that would justify application of the new approaches.

In *AEP Texas*, there is no conceivable basis for a claim of railroad gaming. Complainants in the *AEP Texas* case challenge the reasonableness of rates on the movement of coal from mines other than the Rawhide mine. Movements from the Rawhide mine have been subject, and continue to be subject, to a rate prescription established by the Board in 1996 and subsequently modified. In the 1996 case that gave rise to the rate prescription on Rawhide movements, the Board made SAC calculations applicable to movements from PRB mine origins. BNSF has never priced the non-Rawhide movements that are the subject of the *AEP Texas* case in excess of the SAC maximum rates established by the Board in the 1996 decision. In pricing these movements no higher than the SAC maximum rates, BNSF sought the protection of the

Board's rate prescription. It would be irrational to conclude that in choosing the rate that the Board established as the maximum reasonable rate BNSF was attempting to game the SAC process.

Nor is there a valid basis for a "gaming" claim in the *WFA/Basin* case. BNSF submitted extensive evidence in *WFA/Basin* showing that the challenged rate was established at a commercially viable level.³³ Although the challenged rate was significantly higher than the expiring contract rate, there are multiple factors that explain and justify the increase. The expiring contract had been in force for 20 years and was the result of a settlement of litigation which resulted in the establishment of a low base rate. The contract contained an escalation provision that kept the contract rate much lower than prevailing market rates. Moreover, increased demand for transportation of PRB coal and the fact that the Laramie River plant is an extremely low cost plant with a high demand for transportation justify a rate substantially in excess of the expiring contract rate. Professor Kalt reconfirms in his statement in this proceeding that the characteristics of the rate challenged in *WFA/Basin* preclude a determination that it was a "gamed" rate. Dr. Gaskins presents an analysis of dispatch alternatives showing that the rate established by BNSF is fully consistent with demand considerations.

As BNSF did not manipulate its challenged common carrier rate to produce a favorable outcome under the percent reduction method, it would be impermissible for the Board to adopt a rate reduction methodology premised on a conclusion that BNSF engaged in gaming.

³³ BNSF Opening Nar. at II-21 to II-31 (filed April 19, 2005); BNSF Reply Nar. at III.A-25 to A-27, III.H-19 (filed July 20, 2005); Verified Statement of Robert A. Brautovich, at 2-5 (BNSF Reply Exh. III.A-5) (filed July 20, 2005); BNSF Rebuttal Nar. at IV-1 to 17 (filed Sept. 30, 2005.)

E. BNSF Urges the Board to Adopt an Alternative Maximum Reasonable Rate Methodology That Is Related to BNSF's Proposal for Setting Rates on Cross-Over Traffic

In the *WFA/Basin* case, BNSF's witness Professor Kalt sponsored an approach to the proper calculation of cross-over revenues that applied the economics of contestable markets to the circumstances of a SARR that enters the market to handle only a part of a through movement. *See* BNSF Reply Exhibit III.A-1.³⁴ Professor Kalt's statement in this proceeding summarizes that evidence. As discussed below, BNSF urges the Board to adopt Professor Kalt's "contestability pricing" approach for application in all SAC cases. The theory and calculations proposed by Professor Kalt are described in the following section of these comments.

As Professor Kalt explains, the use of a contestability analysis to calculate revenues on cross-over traffic also provides the basis for identifying the maximum reasonable rate on the issue traffic when that movement is the only movement handled by the SARR as a through movement. Under Professor Kalt's contestability approach, a rate is established for cross-over movements that would exist in a contestable market. Once such a rate is established, there is no need to modify the rate if SAC revenues are found to exceed SAC costs – it has already been set at the level that would exist in a contestable market. Accordingly, any difference between aggregate revenues generated by the SARR and SAC costs would be the result of overcharges on the issue traffic. The entire overcharge should be eliminated by reducing only the issue traffic rate.³⁵

³⁴ BNSF hereby incorporates its *WFA/Basin* Reply Exhibit III.A-1 by reference in this proceeding.

³⁵ In the event there is more than one through movement in the SARR, the rates on cross-over traffic would remain the same and any overcharge should be eliminated by applying the percent reduction methodology to the revenue on the movements handled as through movements.

III. REVENUE ALLOCATION FOR CROSS-OVER TRAFFIC

The Board requests comments on its proposed Average Total Cost (“ATC”) approach as the preferred methodology for allocating revenues between the SARR and residual incumbent on cross-over traffic. BNSF believes that the current default methodology used by the Board to allocate revenues on cross-over traffic – the Modified Straight-Mileage Prorate (“MSP”) approach – should be replaced because it has shortcomings that encourage the use of short-haul traffic and create bias in the SAC results. In lieu of the MSP approach, BNSF proposes that the Board consider an approach presented by BNSF in the pending *WFA/Basin* case that uses contestability theory to determine the SARR’s revenues on cross-over movements. Unlike the MSP methodology, the contestability approach does not involve the inherently arbitrary effort to allocate revenues for a through movement between the SARR and residual incumbent based upon the costs of each segment of the movement. However, if the Board decides to continue to determine revenues on cross-over movements by allocating the incumbent’s through revenues based on costs, then BNSF supports the Board’s proposed ATC approach as a superior methodology to those used previously by the Board because it reflects the important relationship between density and costs.

A. The Board Should No Longer Use the MSP Methodology to Calculate Revenues on Cross-Over Traffic

The Board explained in the NPRM that “[i]n allowing the use of cross-over traffic, we seek to make the analysis more manageable without introducing bias.” *NPRM* at 17. The Board further explained that “the goal in allocating revenue from cross-over traffic should be to ensure that a simplified SAC analysis using cross-over traffic will approximate a full SAC analysis . . . [and that a] full SAC analysis compares the total SAC costs against the total revenues the carrier is expected to earn from the traffic group.” *Id.*

The Board correctly recognized that the MSP approach “does not meet the stated objective” because it “allocates revenues according to a crude estimate of the relative *variable* costs of hauling the traffic over the relevant segments, rather than the *total* costs.” *Id.* at 18 (emphasis in original). As a result, the Board recognized that the MSP approach “fails to take into account the defining characteristic of the railroad industry – economies of scale, scope and density.” *Id.*

In the pending *WFA/Basin* and *AEP Texas* cases, BNSF pointed out a second serious flaw with the MSP approach – use of the 100 mile credit for the origination and termination of a coal unit train. As BNSF explained, use of the 100 mile credit overcompensates the originating and terminating carrier for the costs actually incurred to provide those services for a unit coal train operating in the PRB where no gathering operations are required and where loop tracks and flood-loading are commonplace.³⁶

The overstatement of credit for originating traffic in the MSP methodology encourages the complainant in SAC cases to load the SARR with relatively short-haul movements. For example, in the *WFA/Basin* case, the vast majority of the SARR’s revenues are derived from cross-over traffic and, in fact, of the 76 plants in the SARR traffic group, the only end-to-end movement served by the SARR is the issue traffic movement.³⁷ The SARR is only 220 miles long but depends on more than 9300 route miles, which are presumed to be financially viable. *Id.*

³⁶ BNSF Reply Nar. in *WFA/Basin* at III.A-32 to 33 (filed July 20, 2005); BNSF Reply Nar. in *AEP Texas* at III.A-78 to 79 (filed May 24, 2004). Contrary to complainants’ assertions in these cases, BNSF addressed both origin and line-haul costs in demonstrating that a 100-mile credit overstates the *relative* costs to originate and terminate unit coal trains. BNSF Reply Nar. in *WFA/Basin* at III.A-54 (filed July 20, 2005); BNSF Reply Exh. III.A-9 at 3 in *AEP Texas* (filed May 24, 2004).

³⁷ See Section IV of Kalt Statement.

Under the MSP methodology, the use of such short-haul cross-over traffic biases the SAC results and results in a larger rate reduction. The serial build-out exhibit discussed in Professor Kalt's Reply Statement in the *WFA/Basin* case illustrates this point.³⁸ As shown in that exhibit, using WFA/Basin's evidence, the 218-mile SARR built by the complainants would result in an overcharge of 42%. *Id.* However, under scenario #1 presented in the exhibit, if the SARR is extended from Guernsey through Northport to Sterling, an addition of 177 miles, the overcharge declines from 42% to 27%. *Id.* Under scenario #3, if the SARR is extended 1002 miles from Guernsey to Huntley, the overcharge declines to 1%. *Id.* Obviously, the MSP approach does not achieve the goal of approximating a full SAC analysis.

B. BNSF Proposes a Contestability-Based Approach to Allocating Cross-Over Revenues

As an alternative to revenue allocation algorithms, including MSP, BNSF proposes an approach to calculating the SARR's revenues on cross-over traffic based on the theory of contestability that is the foundation of the *Guidelines*. This contestability pricing approach also was presented by BNSF in the pending *WFA/Basin* case. As Professor Kalt explains in Section IV of his attached verified statement, a fundamental problem with the use of cross-over traffic in a SAC analysis is that there are no rates for portions of through movements and no observed demand for portions of through movements; hence, any revenue allocation is arbitrary. But the principles of contestability can be used to determine what rate would exist in a contestable market if a new entrant were to succeed in entering the market for only a portion of a through movement. It is not necessary to approximate the rate that a SARR could realize from a portion of a through movement by allocating through revenues based on relative on-SARR and off-

³⁸ In *WFA/Basin*, BNSF Reply Exh. III.A-1 (Kalt Reply Statement) at 12-13 and BNSF Reply Exh. III.A-4 (filed July 20, 2005).

SARR costs. Under simulated conditions of a contestable market where there are no barriers to entry or exit, the rates that a SARR could expect would be determined by reference to the avoidable costs of the incumbent on the portion of the route that was contested by the new entrant.

As Professor Kalt explains, the SARRs posited by complainants in recent cases have become implausible vehicles for entry into a rail market since they are designed only to take advantage of arbitrary revenue allocation rules for cross-over traffic. This approach ignores the assumption underlying the SAC test that the SARR may replace the incumbent only if it is a more efficient provider of service. Contestability pricing ensures that the “winner” of the contest for the portion of the through movement is the most efficient provider of the service – otherwise it will not win the contest – and it also ensures that the winner of the contest gets the full benefit of its superior efficiencies. It therefore allows the complainant in a SAC case to simplify its presentation of SAC evidence by relying on cross-over traffic to garner the benefits of its superior efficiency. But it also gives the complainant the option of positing construction of a more extensive SARR if the complainant believes that even greater revenues would be available by handling a movement from origin to destination and thereby capturing the incumbent’s existing rates for the through movement.

Use of contestability pricing has the added benefit that in certain cases, such as *WFA/Basin*, where all movements, except the issue traffic movement, are cross-over movements, the determination of the maximum rate on the issue traffic is straightforward. If the revenues for cross-over traffic are based on rates that would be established under conditions of contestability, then those rates would not need to be adjusted in the event that SAC revenues are found to exceed SAC costs. Where the issue traffic is the only through movement handled by the SARR,

as in the *WFA/Basin* case, any overcharge should be eliminated by reducing the issue traffic rate. This approach eliminates any concern about the possibility of gaming the SAC analysis in the setting of the issue traffic rate.

While BNSF is aware that the Board previously rejected use of a similar approach to establish revenues on cross-over traffic in its *Nevada Power* decision, BNSF believes the Board should reconsider that decision in this rulemaking proceeding. First, significant potential for shipper “gaming” of the SAC test has emerged as a result of shippers’ extensive reliance on cross-over traffic. When the *Nevada Power* decision was issued in 1994, it is reasonable to infer that the ICC did not anticipate such extensive use of cross-over traffic. Second, in the *Nevada Power* decision, the ICC had an incorrect view that an URCS-based measure of avoidable cost would “allow for only a minimal contribution to [the SARR’s] joint and common costs.”³⁹ However, URCS assumes that 50% of road property costs vary with traffic volume and, consequently, the portion of avoidable costs that relates to investments in right-of-way and track on a high density line can be quite large. Third, the ICC explicitly recognized when it adopted the *Guidelines* in 1985 that it might be necessary to revisit issues associated with the application of contestable market principles as the agency gained additional experience in administering the SAC test.⁴⁰ The Board has now gained sufficient additional experience with shippers’ extensive reliance on cross-over traffic to make it necessary to revisit the proper theoretical framework for assigning revenues on cross-over movements. Finally, as discussed above, use of contestability pricing offers a unified approach to both the issue of revenue allocation on cross-over traffic and the issue of the proper rate reduction methodology in the increasingly common scenario where

³⁹ *Bituminous Coal – Hiawatha, Utah to Moapa, Nevada*, 10 I.C.C. 2d 259, 266 (1994) (“*Nevada Power*”).

⁴⁰ *Coal Rate Guidelines*, 1 I.C.C. 2d at 525.

the issue traffic is the only through movement on the SARR. In Section IV.C of his attached statement, Professor Kalt elaborates on the reasons that the Board should reconsider its rejection in *Nevada Power* of an approach similar to a contestable market approach to determining revenue on cross-over movements.

C. In the Alternative, BNSF Supports the Board's Proposed ATC Approach For Allocating Cross-Over Revenues

If the Board decides to continue to calculate revenues on cross-over traffic by allocating the incumbent's through revenue to the on-SARR and off-SARR portions of the movement based on the incumbent's relative on-SARR and off-SARR costs, then BNSF supports the Board's proposal to use the ATC approach as a much better alternative to the Board's current MSP approach. First, as the Board recognizes in the NPRM, the ATC approach is superior to the MSP approach because, unlike the MSP approach, the ATC approach takes economies of density into account.⁴¹ ATC recognizes that a railroad's average total costs per unit of traffic are lower on high density lines. Second, as Mr. Klick explains in Section IV of his statement, the ATC approach is superior because the average variable cost component of ATC reflects much more accurately the relative efficiencies of handling trainload traffic than the MSP approach. As a result, the ATC approach reduces incentives for designing SARRs that rely on large volumes of very short-haul cross-over traffic intended to bias the results of the SAC analysis in favor of a complainant.

While the ATC approach is superior to the MSP approach for allocating revenues to cross-over traffic, Mr. Klick explains in Section IV of his statement that use of any cost-based allocation of through revenues between the SARR and residual incumbent, even a methodology like ATC that reflects the impact of density on costs, has the potential for introducing bias into

⁴¹ NPRM at 18, 19; *see also* Section IV of attached Klick Statement.

the SAC results. The existence of bias in particular cases may turn on characteristics of the SARR at issue in the case and/or the traffic group chosen by the complainant. As the Board acknowledges, use of ATC is intended to function as an *approximation* of the results that would be obtained if a “full SAC” were constructed.⁴² Mr. Klick explains in Section IV of his statement that this *approximation* may be “unbiased” in some circumstances and “biased” in others, depending upon the facts of the given case.

Consequently, carrier and shipper parties should be given an opportunity to present evidence showing that the allocation of revenues in a particular case has distorted the results that would be expected in a full SAC analysis. In addition, they should be permitted to show how the bias can be reduced or eliminated. In the pending *WFA/Basin* case, BNSF presented an alternative rate reduction methodology to address the bias created by the allocation of revenues to cross-over movements in a particular case. That alternative is described in Section V of Mr. Klick’s statement.

⁴² See *NPRM* at 17.

IV. INDEXING OPERATING EXPENSES

The Board proposes to use a hybrid index to account for the inflation of operating expenses over the DCF period. In several past cases, complainant shippers have urged the Board to use the RCAF-A index to reflect productivity that a SARR would supposedly experience. The Board's practice has been to use the RCAF-U. The Board properly rejected use of the RCAF-A (which reflects industry-wide productivity) on grounds that any productivity experienced by real-world railroads would be inapplicable to a brand-new, highly-efficient SARR that entered the market unencumbered by any historical inefficiencies associated with the structure of the railroad network or rail operations. The Board left it open, however, for complainants to present alternatives to the RCAF-U.

The Board has apparently concluded that complainants have not presented viable alternatives to the RCAF-U in the recent cases. Therefore, the Board seeks comments on an alternative that it has developed. The Board proposes to use a hybrid of the RCAF-U and RCAF-A indices, beginning with the RCAF-U and phasing in the productivity gains projected in the RCAF-A incrementally, starting in the second year of SARR operations, over 20 years.

BNSF opposes the Board's proposed hybrid index. It is entirely arbitrary and devoid of evidentiary support. While BNSF acknowledges that it is possible that a SARR will experience some productivity at some point in time over a 20-year period, there is no basis for believing that a SARR will experience *any* productivity in the early years of operations. The Board's anticipation of possible productivity gains in future years is based on speculation that technologies that cannot be identified today may offer opportunities to achieve more productive operations. But that speculation does not provide any basis for assuming that the SARR will experience *any* productivity in early years. If there are sources of productivity that may provide benefits in the foreseeable future, then the complainants should be required to present evidence

identifying those sources and showing that the SARR will be able to take advantage of those possibilities. An assumption, without any evidence to support it, that productivity benefits at any level will be available to a SARR in the early years of operations is inappropriate.

The Board's separate proposal to shorten the DCF period to 10 years, if adopted, offers a solution to the Board's productivity concerns. Since the possibility of SARR productivity improvements is associated with events that are not reasonably foreseeable today but rather with developments that might occur, if at all, far into the future, then the Board's adoption of a 10-year DCF would eliminate any rationale for coming up with an index that reflects the effects of productivity. Unless a complainant can present evidence to the contrary, there is no reason to believe that any productivity will be experienced during the first 10 years of a SARR, so there is no reason to apply any index in a 10-year DCF period other than the RCAF-U.

BNSF's expert, Michael R. Baranowski, explains in his attached verified statement why the Board should not use an index adjusted for productivity if the Board adopts a 10-year DCF period for the SAC analysis. As Mr. Baranowski explains, the most significant sources of industry-wide productivity identified by economists studying railroad productivity since the passage of the Staggers Act are, for the most part, not available to the SARR.⁴³ The main drivers of *structural* productivity – mergers, abandonments, line sales, improved track materials, and capacity improvements to meet changing traffic demands or to streamline facilities – do not apply to a SARR. Under SAC theory, the SARR is the most efficient, technologically advanced

⁴³ Winston, Clifford, "The Success of the Staggers Rail Act of 1980: Sources of Productivity Gains." The Brookings Institute, September 2005 (identifying the main drivers of industry-wide productivity achieved over the past twenty years as use of contracts to eliminate empty backhauls; unit trains; abandoning low density lines; eliminating duplicate tracks through mergers/rationalizations; eliminating cabooses/crews; labor union negotiations; intermodal operations; improved equipment; computer information systems; new MOW technology; and increased traffic volumes).

railroad for the traffic selected, and therefore, structural productivity is incorporated into the SARR from the beginning. Similarly, many of the key sources of industry-wide *operational* productivity, such as efficient unit train operations, elimination of empty backhauls, optimum number of crews and traffic volumes, are available to the SARR at the outset of its operations.

Because the SARR operating plan incorporates the benefits of all known productivity, it is unlikely that the SARR could be any more productive in the first ten years without a substantive redesign requiring a large infusion of additional capital. For example, replacing a still new and highly efficient locomotive fleet with newer, improved units would involve substantial purchase and lease costs. Complainants rely on the low cost of locomotives that are acquired under long-term leases to reduce SARR operating costs from year 1 of operations, so they cannot properly assume that the SARR will also achieve additional locomotive productivity from the acquisition in the near future of new, more efficient locomotives unless the cost of breaking the long-term leases is considered. In addition, complainants' proposals for longer trains and heavier loading cars would require certain modifications to the rail infrastructure that would take years to complete. The high cost of implementation would preclude the SARR from realizing any gains from these improvements until many years into the future.

Mr. Baranowski also demonstrates that other examples of potential productivity submitted by complainants in recent SAC cases are overstated or highly speculative.⁴⁴ Although

⁴⁴ Complainants in recent cases cited remarks by BNSF's CEO as evidence of anticipated productivity, but the CEO, in fact, stated the contrary: "[t]he potential for maintaining the rate of productivity enhancements as we go forward is a challenge. Each percentage point increase in productivity for our coal business is becoming increasingly difficult to attain." News Release, Sept. 10, 2002 "BNSF CEO Matt Rose Addresses WCTA Today." Likewise, another article cited to support a claim for future productivity concludes that "[a] major concern is that the recent rate of productivity improvement will be very difficult to sustain into the 21st century . . ." and that ". . . the prospects for productivity improvement are much diminished." Martland, Carl

complainants identify current research and development projects as “evidence” of future productivity improvements, productivity gains for the SARR are neither assured nor imminent. New materials and technologies must be field-tested for revenue service on participating railroads, and tested further by FRA for safety. As the FRA notes in its Five Year Strategic Plan, only a small portion of the projects under review will be implemented and the benefits will not be realized for some time into the future.

It is difficult to identify specific goals and outcomes for the FRA R&D program in a five-year timeframe. Only a portion of the projects will be completed within five years, and not all will produce results that can or should be implemented. ... At best, implementation of the results of only a small portion of the projects described herein will have begun five years from now. Effects of the projects described in this plan will begin to show up in railroad safety and efficiency statistics in earnest about ten years from now.⁴⁵

Thus, productivity from technologies, practices and products currently under research are too speculative to support an assumption that the SARR will realize gains anytime in the first ten years.

If the Board does not adopt a shortened DCF period, then it would be appropriate to adjust the operating cost index to account for possible productivity improvements in SARR operations in the later years of SARR operations if the record identifies likely areas of future productivity. Mr. Baranowski offers an alternative approach to incorporating benefits of future productivity into the DCF analysis that would apply in cases (including the pending *AEP Texas* and *WFA/Basin* cases) where the DCF period exceeds 10 years. Mr. Baranowski’s alternative

D., “Productivity and Prices in the U.S. Rail Industry: Experience from 1965 to 1995 and Prospects for the Future,” Transportation Research Forum, p.12.

⁴⁵ Five Year Strategic Plan for Railroad Research, Development and Demonstrations, Federal Railroad Administration, March 2002.

approach involves replacing the RCAF-U with the RCAF-A beginning in year 11 of the DCF period for specific categories of operating costs where it is reasonable to believe that a SARR will experience productivity in future years. Mr. Baranowski carries out a detailed review of SARR operating costs to identify areas where productivity might be experienced after the first 10 years of SARR operations and concludes that it would be appropriate to adjust the operating cost index for the categories of locomotive maintenance, materials and supplies, training costs, information technology, and maintenance of way. His proposed approach would avoid any overstatement of productivity in the early years while at the same time allowing the SARR to share equally with other carriers in the benefits of future technologies that promise significant operational productivity for the industry as a whole.

V. USE OF URCS SYSTEM-AVERAGE COSTS IN RAIL RATE CASES

BNSF agrees with the Board's proposal to use system-average URCS costs in SAC rate reasonableness cases to determine the jurisdictional threshold. Although BNSF is concerned that system-average URCS costs may understate the variable costs of BNSF's unit coal train movements in areas such as locomotive ownership⁴⁶ and fuel⁴⁷ costs, the benefits of the Board's proposal outweigh this concern. As explained further below, the Board's proposal is consistent with Congress' intent that a simplified costing system be used to assess market dominance, it avoids intractable concerns over adjustments to variability percentages, and it makes practical sense for the majority of cases since the jurisdictional threshold is seldom a determinative factor in rate reasonableness cases under the SAC test. However, BNSF urges the Board to make two clarifications to the proposal. First, in calculating system-average URCS costs, the Board needs to account for the possibility that the railroad uses a third party to provide a portion of the transportation service. As discussed below, the costs charged by third-party service providers are properly included in the variable costs calculation and could have a significant impact on

⁴⁶ BNSF currently uses a dedicated fleet of locomotives for unit coal train moves out of the Powder River Basin. These locomotives are generally among the highest horsepower and most expensive in BNSF's fleet. The URCS Phase III costing program, however, assumes system-average locomotive ownership costs which demonstrably understate BNSF's actual locomotive ownership costs for unit coal train moves. URCS Phase III also assumes that unit coal trains are powered by fewer than three locomotive units. In fact, BNSF commonly powers unit coal trains using four or more units which generally enables the trains to pull more tons and operate more efficiently.

⁴⁷ BNSF has conducted several special studies of unit coal train fuel consumption for recent rate cases that were accepted by the Board. Those studies have consistently shown that unit coal trains operating out of the Powder River Basin consume fuel at a rate that is above the URCS system-average fuel consumption rate. *See Texas Municipal Power Agency v. The Burlington Northern and Santa Fe Ry. Co.*, STB Docket No. 42056, slip op. at 58 (served Mar. 24, 2003) ("TMPA"); *Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Ry. Co.*, STB Docket No. 42057, slip op. at 137-38 (served June 8, 2004) ("Xcel").

whether a challenged rate exceeds the jurisdictional threshold. Given the magnitude of the potential impact on the jurisdictional threshold, this inquiry should be carried out at the beginning of the case. In addition, the Board should allow a railroad to present movement-specific adjustments to system-average costs at the end of a SAC case if the railroad can show by clear and convincing evidence that such adjustments are more accurate than system-average costs and would affect the level of any prescribed rate. The Board's legitimate concerns over the impact of movement-specific adjustments on URCS variability percentages would have to be addressed at that time.

BNSF also generally supports the Board's proposal to use system-average URCS to determine the jurisdictional threshold in rate cases brought under the *Small Shipper Guidelines*. However, BNSF urges the Board to make the same clarifications discussed above for application of URCS system-average costs in small shipper cases. In addition, the Board should apply this approach with greater flexibility in small shipper cases and it should permit the parties to submit evidence at the beginning of the case showing that application of a system-average cost in a particular case produces a material distortion in the variable costs of the issue traffic movement.

A. Current Procedures For Estimating Variable Costs are Unduly Burdensome and Seldom Justified

Under the current procedures, estimating variable costs for the issue traffic consumes a large and disproportionate amount of the parties' and the Board's resources, yet the results seldom affect the outcome of the case. Indeed, the Board dismissed the *PPL*, *AEPCO*, and *Otter Tail* rate cases against BNSF without ever addressing the parties' variable cost evidence. Moreover, the rate prescriptions in *Xcel* and *TMPA* are not affected by the Board's calculation of the jurisdictional threshold. The burdens associated with the presentation of three rounds of evidence on movement-specific adjustments to URCS Phase III costs, as well as the massive

discovery that complainants propound on the defendant railroad to support these evidentiary presentations, far outweigh the importance of the calculations that these efforts are intended to produce.

The jurisdictional threshold should rarely be an important factor in SAC litigation. Rate complaints are generally brought by shippers with the highest demand for service. These shippers are likely to have relatively high R/VC ratios. Moreover, if the Board is applying the SAC analysis consistent with its statutory goal of assisting railroads to earn adequate revenues, any rate prescription typically should be well above the R/VC jurisdictional threshold. The Board calculates each year the RSAM percentage – the average markup to variable cost that a railroad would need to charge for its traffic that generates revenue in excess of 180 percent of variable cost in order to earn adequate revenues.⁴⁸ In its most recent decision, the Board found that for the period 2001 to 2004, BNSF would have needed to earn *average* revenues of 315 percent of its variable costs for traffic that generates revenue in excess of 180 percent of variable cost in order to achieve revenue adequacy.⁴⁹

As the Board acknowledges, use of a simplified set of unadjusted system-average costs is generally consistent with the language and intent of 49 U.S.C. § 10707(d)(1)(B). In mandating use of a simplified costing system, Congress intended, among other things, to provide railroads with a clearly delineated “safe harbor,” insulated from challenge rates that are equal to or less than 180 percent of variable costs. In recent rate cases, however, virtually each cost item in the URCS analysis has been disputed as complainants have sought to reduce substantially the

⁴⁸ The Board views such traffic as the pool of “potentially captive” traffic from which railroads could make up revenue shortfalls. *Rate Guidelines – Non-Coal Proceedings*, STB Ex Parte No. 347 (Sub-No. 2) (served April 25, 2006).

⁴⁹ *Id.*

jurisdictional threshold through movement-specific adjustments. Complainants' views that URCS system-average costs can be reduced substantially by manipulating a railroad's cost data through supposed movement-specific adjustments has undermined Congressional intent and has needlessly increased litigation costs.

A key example of this assault on the URCS system-average costs is complainants' repeated efforts to reduce the jurisdictional threshold through purported movement-specific adjustments to road property investment costs. Proponents of adjustments to BNSF's road property costs have argued that system-average costs overstate BNSF's road property costs because they do not account for supposed economies of density on BNSF's high density coal routes out of the Powder River Basin. However, as BNSF has repeatedly pointed out, and the Board has now acknowledged, the massive reductions to road property costs advocated by the complainants in their movement-specific adjustments are due, in part, to the improper application of a variability factor that assumes system-average density for the route.⁵⁰

The example of road property investment costs also illustrates the complexities and distortion that result from the complainants' attempts to calculate movement-specific adjustments without proper data supporting such adjustments. In order to calculate the adjustment, complainants purport to calculate segment-specific net investment by subtracting accumulated depreciation from gross investment for each line segment on the issue route. However, BNSF does not maintain, or report in its R-1, accumulated depreciation on a line segment-specific basis. Complainants therefore rely instead on demonstrably inappropriate estimates of BNSF line segment-specific accumulated depreciation. Those estimates are generated using a different accounting methodology than BNSF uses for regulatory costing

⁵⁰ See NPRM at 24-25.

purposes. They overstate the accumulated depreciation on high-density line segments and therefore generally result in a large understatement of net investment on BNSF coal routes.⁵¹ As the Board acknowledges, Congress intended to lessen the regulatory recordkeeping burden on railroads. Complainants' use of data that are not suited to the assessment of movement-specific costs has the perverse effect of imposing a regulatory penalty on the railroad for reducing its regulatory recordkeeping as Congress intended.

B. The Board Should Add One Operating Characteristic to the Nine Operating Characteristics Used to Generate a System-Average Cost

In order to estimate a movement's variable cost using URCS Phase III, certain movement-specific characteristics must be defined and input into the URCS Phase III program. The Board identified nine characteristics in its proposal.⁵² Although the URCS Phase III program prompts the user to input additional movement-specific characteristics, these nine movement characteristics comprise the basic data set required for the URCS program to generate a variable cost estimate for a particular movement.

The Board should add to its list of nine operating characteristics that should be included in the initial estimate of the movement's variable costs the use of a third-party transportation service provider. Railroads often sub-contract out a portion of the transportation service. For example, in *FMC*, UP paid a third party to provide terminal switching.⁵³ In the *AEPCO* case, BNSF paid Southwestern Railroad, a bridge carrier, to operate approximately 50 miles of the

⁵¹ This issue is discussed in detail in BNSF's Rebuttal Evidence filed in the *AEP Texas* rate case, among other evidentiary filings. BNSF Rebuttal Evidence, at I-3 to I-33, STB Docket No. 41191 (Sub-No. 1) (filed July 27, 2004).

⁵² See NPRM at 26, n.30.

⁵³ *FMC Wyoming Corp. v. Union Pacific R.R.*, STB Docket No. 42022, slip op. at 67 (served May 12, 2000).

issue move between Deming, New Mexico and Rincon, New Mexico. The third parties in these examples charged the railroads, not the shippers, directly for these services on a per car basis. Payments to third parties are not included in URCS and therefore URCS will not accurately reflect the railroad's costs where third parties provide a portion of the transportation service.

These third-party charges can have a very large impact on the R/VC ratios and should be accounted for in estimating a movement's variable costs from the outset. The proper treatment of such charges is well established. The law makes it clear that payments to third parties are variable costs that should be included in the calculation of the movement's variable costs.⁵⁴ Since the law is clear on the proper treatment of these payments and in light of their potential impact on the jurisdictional threshold, it makes practical sense to include third-party charges in the calculation of the jurisdictional threshold at the beginning of the case.

C. If the Jurisdictional Threshold Becomes a Factor in the Setting of Maximum Reasonable Rates, the Railroad Should Be Permitted to Come in at the End of the SAC Analysis and Propose Refinements to System-Average Variable Cost Estimates

Rate prescriptions are unlikely to implicate the jurisdiction threshold, as discussed previously. However, if the Board sets a rate at a level close to the threshold, a railroad defendant should be entitled to present additional evidence on the R/VC calculation to ensure that the prescribed rate does not fall below the jurisdiction threshold. It is unlikely that such additional evidence will be needed in SAC cases, and the railroad proponent should be required

⁵⁴ *Pielet Bros. Trading Co. v. Chicago and North Western Transp. Co., et al*, No. 39756 (ICC served Aug. 11, 1987); *Pielet Bros. Scrap Iron & Metal, Inc. v. The Atchison, Topeka and Santa Fe Ry. Co., et al*, No. 39814, 1987 ICC Lexis 251 (ICC decided June 16, 1987); *Cabot Corp. v. Southern Pac. Transp. Co., et al*, No. 40464 (ICC served Jan. 9, 1991); *Petition of the Denver & Rio Grande Western R.R. & Salt Lake, Garfield & Western Ry. for Review of a Decision of the Public Serv. Comm'n of Utah Pursuant to 49 U.S.C. 11501*, No. 39060 (ICC served Mar 2, 1983), *aff'd in relevant part sub nom., Utah Power & Light Co. v. ICC*, 747 F.2d 721, 740 (D.C. Cir. 1984), *reh'g denied*, 764 F.2d 685 (D.C. Cir. 1985).

to show by clear and convincing evidence that the adjustments are justified and that they would affect the prescribed rate. The proponent of those adjustments would have to address any changes in the variability percentages that might be required as a result of any movement-specific adjustment that it proposes.

The types of adjustments that could become relevant at this stage of the SAC proceeding would include refinements to the URCS Phase III analysis to include additional train and operating characteristics. As described above, URCS Phase III requires only nine operating characteristics in order to generate a variable cost estimate for a movement. If only the required data set is used, URCS makes assumptions regarding other operating characteristics such as the round trip miles and the number of locomotives, which may not be correct. URCS calculates round trip miles for train load shipments by doubling the loaded miles. Often, however, to increase efficiency, service to the shipper, and operational fluidity, BNSF uses a different, sometimes longer route for empty trains returning to the origin.⁵⁵ URCS also assumes that the costed movement uses the system-average number of locomotives per train, which is fewer than three for BNSF. However, to increase the number of tons that a unit coal train can move, BNSF has increased the number of locomotives per train and has introduced such innovations as distributed power. BNSF's modern unit coal trains are typically powered by three or more high horsepower locomotives and often exceed 110 cars in length.⁵⁶ A simplified URCS Phase III cost estimate, *i.e.*, an estimate based on only the nine required characteristics, would fail to

⁵⁵ This currently occurs, for example, on BNSF coal routes between Pueblo, Colorado and Amarillo, Texas where BNSF uses directional routing to speed the flow of traffic. As a result of the directional routing, trains traveling between Pueblo and Amarillo traverse a longer route in the empty direction than in the loaded direction, but BNSF's ability to deliver coal timely to its utility customers is improved.

⁵⁶ The AEP Texas and Laramie River trains average 120 plus cars and are typically powered by at least four locomotives.

account for the increases in locomotive unit miles. In essence, this would penalize BNSF for incurring these costs even though the net effect of these operational changes generally is to reduce the movement's overall variable costs on a per ton basis by increasing the number of loaded tons per train.

The URCS Phase III program allows a user to override the default assumptions by prompting the user to enter additional movement-specific operating characteristics. Some of these characteristics, such as tare weights, empty miles and number of locomotives, are readily ascertainable from the operating data that the railroad produces in discovery relating to the SAC analysis and are routinely agreed upon by the parties at Ex Parte No. 657 technical conferences.

D. Unadjusted URCS Variable Costs Should be Used in the First Instance to Identify the Jurisdictional Threshold in BNSF's Pending Rate Reasonableness Cases

The Board should apply its new rule relating to the use of system-average URCS costs to establish the jurisdictional threshold in the pending cases. The parties have not developed a record that would allow the Board to account for the impact on URCS variability percentages of movement-specific adjustments to unit costs. Moreover, BNSF has shown that the most significant of the proposed movement-specific adjustments – those relating to road property and maintenance of way costs – are inappropriate and cannot be accepted. The Board has acknowledged the flaw in complainants' evidence on these critical issues.⁵⁷

However, there are a number of operating characteristics of the issue traffic trains, beyond the nine operating characteristics identified by the Board in footnote 30 of the NPRM,

⁵⁷ NPRM at 24-25.

that the Board should consider in calculating the jurisdictional threshold.⁵⁸ There is no controversy over these operating characteristics because the parties have already agreed to them in the course of the litigation. Moreover, use of these operating characteristics in calculating URCS variable costs does not involve any changes to unit costs and therefore does not implicate the URCS variability percentages. These changes can be easily made and they will yield a more accurate calculation of the jurisdictional threshold.

E. Small Shipper Cases

In its April 14, 2006 decision, the Board asked for comments on its proposal that the variable cost standards adopted for large rate cases would also apply to the determination of the jurisdictional threshold in cases brought under the *Small Shipper Guidelines*.⁵⁹ The Board specifically declined to consider in this proceeding how variable costs should be calculated for purposes of applying the *Small Shipper Guidelines* standard of rate reasonableness.⁶⁰

BNSF generally supports the Board's proposal to treat the jurisdictional determinations in cases brought under the *Small Shipper Guidelines* consistent with its treatment of major rail rate cases, so long as the Board applies the same standards and procedures BNSF proposes above. However, BNSF also urges the Board to allow somewhat greater flexibility in the initial determination of the jurisdictional threshold in rate cases brought under the *Small Shipper Guidelines*. Unlike the major rail rate cases, stakeholders have no meaningful experience with rate cases under the *Small Shipper Guidelines*. There are likely to be issues that arise in the

⁵⁸ In addition to the nine required operating characteristics, the Board should include the following agreed upon train and operating characteristics in its variable costs calculations: tare weights, empty miles, and number of locomotive units.

⁵⁹ *Major Issues in Rail Rate Cases*, STB Ex Parte 657 (Sub-No. 1) at 2 (served April 14, 2006).

⁶⁰ *Id.*

calculation of variable costs that are unique to the particular movement at issue and could have a significant impact on the jurisdictional threshold.⁶¹ The Board should not foreclose the submission of evidence at the beginning of a case if a party can show through clear and convincing evidence that use of system-average costs produces a material distortion in the variable cost calculations that can be remedied by taking account of movement characteristics.

⁶¹ One foreseeable issue relates to URCS costing of movements in private and carrier owned rail cars. URCS does a poor job of accurately reflecting costs for private and carrier owned rail cars for certain shipments. The disparity between URCS car cost assumptions and the real world costs can be substantial, particularly for certain kinds of commodities such as chemicals. Since the actual equipment costs are readily ascertainable, a correction should be easy to implement and could have a significant impact on the jurisdictional threshold. Another issue might relate to the risks and costs associated with the transportation of hazardous materials.

VI. DCF PERIOD

The Board proposes shortening the DCF analysis period used in SAC cases to 10 years rather than the 20 years used in the past. As explained by Mr. Baranowski in the attached verified statement, the Board's proposal could, in some cases, unduly favor complainants by reducing the benefits of the netting of SARR overages and underages.

Nevertheless, BNSF does not oppose the Board's proposal so long as the Board also declines to adjust the operating cost index for the supposed effect of productivity gains in SARR operations. The Board's principal reason for shortening the DCF period is to reduce the importance of inherently speculative future events in the SAC calculations. The Board correctly notes that it is difficult to predict tonnage and revenue trends beyond 10 years and therefore the SAC calculations are likely to be more accurate by focusing on events in the more immediate future. That allows the SAC calculations to be based on developments that can be reasonably foreseen. This rationale, however, calls for the Board's use of an operating cost index that does not account for productivity if a 10-year DCF period is adopted. As discussed above, any productivity improvements that a SARR may experience would be associated with future developments that are not foreseeable when the SARR begins operations. The impact of speculative future events, including speculative productivity improvements, can be eliminated by focusing the SAC calculations on the first 10 years of the DCF period and applying an index of operating costs that does not reflect speculative productivity gains.

BNSF also urges the Board to make it clear that its proposal to shorten the DCF period would limit any rate prescription to a maximum of 10 years. BNSF agrees with the Board that the shorter duration of a rate prescription would more accurately reflect the trend in the rail industry toward shorter contract periods and would constitute a more realistic recognition of the significant market changes that occur over time. As changed circumstances would quite possibly

require vacatur of existing prescriptions before the end of the 20-year analysis period, the shorter analysis period would reduce the cost and complexity associated with SAC presentations and eliminate the need for subsequent regulatory processes to vacate an obsolete prescription.

The Board also requested comments on whether any adjustments to the electronic spreadsheets used in SAC cases must be made to reflect the shorter analysis period. Mr. Baranowski discusses in his verified statement how the Board's proposal can be implemented with minimal changes to the DCF spreadsheets. *See Baranowski V.S. at 22.*

Finally, the Board should not change the DCF period in the pending *AEP Texas* and *WFA/Basin* cases. The evidence in those cases has been filed and a change in the DCF period could lead to additional evidentiary filings that would unnecessarily complicate and prolong those cases. Nevertheless, the Board is correct that uncertainty over future events after year 10 of the DCF period undermines the validity of a rate prescription that lasts more than 10 years. Therefore, if a rate were prescribed in either case, which BNSF does not believe would be warranted, the Board should limit the rate prescription to the period corresponding to the first 10 years of the DCF period.

VII. STANDARD FOR REOPENING, VACATING AND FILING A NEW CASE

BNSF generally supports the Board's proposal to apply an even-handed standard for reopening rate reasonableness cases. It is appropriate to require any party requesting reopening (whether to vacate a rate prescription or for some other purpose) to make a showing that material error, new evidence, or substantially changed circumstances warrant reopening the proceeding. BNSF also supports the Board's proposed approach to preventing either party from suffering irreparable harm during the pendency of a reopening. In the event that the Board decides, based upon an evaluation of evidence, to reopen a rate case but does not immediately vacate the prescribed rate, the Board proposes to lift the prescriptive effect of the rate prescription, require the carrier to collect no more than the prescribed rate during the pendency of the proceeding, require the shipper to make the railroad whole for any underpayments at the end of the proceeding, and require the railroad to make the shipper whole for any overpayments at the end of the proceeding. Again, this approach is even-handed and protects the railroad as well as the shipper.

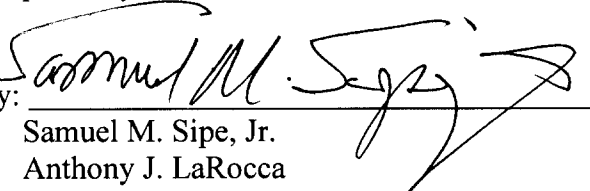
BNSF notes that if the requested relief is vacation of the prescribed rate as opposed to recalculation of a prescribed rate, the Board will need information on the rate that the railroad would have charged but for the prescribed rate. A railroad should be entitled to state what that rate would be without any requirement that the Board pre-approve the proposed rate level. Such an approach is consistent with the statutory scheme, which permits railroads to establish rates in the first instance, subject to subsequent review by the Board only if the rail carrier has market dominance and the rate exceeds the jurisdictional threshold. If, after the original prescribed rate is vacated, a shipper believes that the but-for rate is unreasonable, the shipper would remain free to challenge the but-for rate in a new complaint proceeding and to seek reparations for any overcharges flowing from the but-for rate. The shipper should not, however, be permitted by

virtue of filing a new complaint to delay making the railroad whole for underpayments under the but-for rate or to avoid full payment of the but-for rate for new shipments after the existing rate prescription has been vacated.

BNSF also agrees with the Board that the standards and procedures set out in the NPRM properly address the court's concerns in *Burlington Northern & Santa Fe Ry. Co. v. Surface Transportation Board*, 403 F.3d 771 (D.C. Cir. 2005). As the court found, vacatur of an existing rate prescription, regardless of the proponent of vacatur, can only occur after the Board has concluded that changes in fact or law have undermined the validity of the existing rate prescription. Similarly, the prescriptive effect of an existing rate prescription can be lifted only after the Board has concluded that there is evidence raising a serious question about the continued validity of the rate prescription. No retroactive effect can be given to such a finding. Thus, in the context of the *West Texas Remand*, *West Texas Utilities Co. v. Burlington Northern Railroad*, STB Docket No. 41191, it is clear that the existing rate prescription covering movements of coal from the Rawhide mine remains in effect and will remain in effect unless and until the Board finds grounds for reopening and reopens Docket No. 41191. The effect of this

conclusion on the issues raised in STB Docket No. 41191(Sub-No.1) is addressed in BNSF's Motion to Dismiss filed in that docket on May 18, 2005.

Respectfully submitted

By: 

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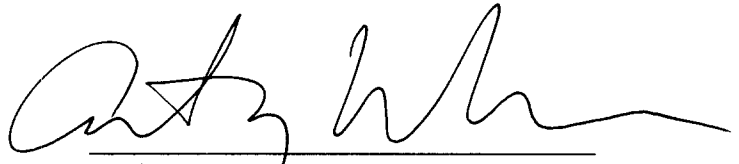
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May 1, 2006

ATTORNEYS FOR
BNSF RAILWAY COMPANY

CERTIFICATE OF SERVICE

I, Anthony J. LaRocca, hereby certify that on this 1st day of May, 2006, I caused a copy of BNSF Railway Company's Comments 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).



Anthony J. LaRocca

**Hearing Before the Surface Transportation Board
April 26, 2005**

Ex Parte 657

**RAIL RATE CHALLENGES UNDER THE
STAND-ALONE COST METHODOLOGY**

**Statement of
John P. Lanigan**

My name is John P. Lanigan. I am BNSF's Executive Vice President and Chief Marketing Officer. I appreciate this opportunity to appear on behalf of BNSF Railway Company to discuss the Board's treatment of rate reasonableness cases.

The Board's decision to hold a hearing on the subject of rate reasonableness challenges is timely. BNSF has been a defendant in eight rate cases filed since the summer of 2000. These cases raise numerous legal issues that I will leave to Professor Kalt and Mr. Sipe to discuss. I would like to discuss the importance of these cases to BNSF and the importance of the Board's rate reasonableness standards to BNSF's ability to maintain and expand the railroad network. The Board is well aware that demand for rail service is increasing dramatically. Rail capacity is becoming extremely tight for the first time since 1979. It is particularly important that the Board not give in to the short-sighted requests for rate reductions by coal shippers at a time that BNSF's revenue needs are growing and the market is demanding additional capital investment.

Railroads are capital intensive. As a percentage of revenue, the railroad industry's capital expenditures significantly exceed those of its customers. (Exhibit 1) About half of our capital

spending goes to maintain the rail network. An increasing portion of our capital is being spent to expand the network in response to growing demand. (Exhibit 2)

There are limited sources of revenues that can be used to fund these capital investments. It has been well documented that rail transportation rates have declined substantially since the early 1980s. (Exhibit 3) This decline in coal rates shows that there are strong and diverse sources of competition in the market that limit BNSF's ability to generate the revenues needed to maintain and expand the costly rail infrastructure. If shippers are able to use rate litigation to keep rates artificially low, when growing demand would support higher rates, there are few other areas where BNSF can generate the needed revenues.

Coal transportation is an important part of BNSF's business. Coal transportation represents about 21 percent of our total revenues and over a third of our revenue ton-miles. (Exhibit 4) Coal transportation is particularly important to western railroads. (Exhibit 5) Last year BNSF handled over 250 million tons of coal.

The demand for coal transportation is increasing dramatically. PRB coal production has gone from about 100 million tons per year in 1980 to nearly 500 million tons in 2004. (Exhibit 6) In the last couple of years alone, BNSF has seen the demand for coal transportation skyrocket. The average number of coal trainsets in service has gone from about 270 in January 2003 to almost 390 in December 2004. (Exhibit 7) Further growth is almost certain. Eastern utilities are looking increasingly to PRB coal to address emissions concerns associated with eastern coal. Numerous PRB test burns have been conducted and more are planned. (Exhibit 8)

What does this mean for coal transportation rates? Increasing demand means that rates should be going up, particularly when large amounts of additional capital are needed to satisfy this increasing demand. Coal shippers are high consumers of a railroad's capital. Heavy coal

trains require high levels of maintenance. As I showed earlier, about half of our annual capital expenditures go to maintaining the rail network. In addition, BNSF has invested heavily in state-of-the-art locomotives that are dedicated to our coal shippers. In light of the growing demand for coal transportation and the need for increasing investment in coal-related infrastructure, coal shippers cannot reasonably expect rail rates to continue their two-decades long decline.

The amount of revenue that is at stake in coal rate cases is very large. In the 1996 West Texas Utilities decision, the Board ordered BNSF to reduce its rates by 31 percent. WTU's successor, AEP Texas, has returned to the Board asking for further rate reductions. In the 1998 Arizona Public Service decision, the Board ordered a 44 percent rate reduction. BNSF has estimated that the Arizona Public Service rate prescription cost BNSF between \$55 and \$60 million by the time the rate prescription was removed late last year. Last month BNSF was ordered to pay reparations to Xcel Energy of over \$11 million. Otter Tail, AEP Texas and Basin Electric are asking for substantial additional reparations in their cases in the tens of millions of dollars.

BNSF does not believe that these shippers are entitled to any rate relief, but BNSF must consider the large amounts of revenue at risk when it makes pricing decisions. Coal shippers are sophisticated customers of rail transportation service. They regularly threaten to file rate litigation in our contract discussions in an effort to obtain rate concessions. BNSF has taken these threats seriously. One reason that coal rates have steadily declined is that BNSF has often sought to avoid the substantial risks of litigation by agreeing to reduced rates in contract negotiations.

But now, more than ever, the Board must be careful not to impose artificial rate caps through rate regulation. The Board should not prevent BNSF from earning the revenues needed

to maintain and expand the railroad network. As coal demand increases, the need for additional capacity is stronger than ever. BNSF has historically reinvested its revenues in rail infrastructure, so any artificial limits on the revenues BNSF can earn will only reduce the investments we are able to make. The entire community of shippers that we serve would be adversely affected.

Coal shippers have been the beneficiaries of our capital infrastructure investments. From 1994 through 2004, BNSF invested \$2.4 billion in coal-related capacity. BNSF is investing another \$216 million this year alone in coal capacity. (Exhibit 9) In 2004 and 2005, BNSF will have acquired 23 additional coal train sets and 117 AC locomotives for our coal shippers. A triple-track expansion of the Joint Line in the PRB between Walker and Shawnee will be completed in 2005.

The need for capital investments in coal-related capacity is growing at a fast pace. The Department of Energy's EIA estimates that western coal production will increase 350 million tons from 2002 to 2025. 280 million tons of that new coal production will come from the PRB. (Exhibit 10) BNSF expects that this will result in 26 additional trainloads of PRB coal per day. Substantial new capital expenditures will be needed to meet this tremendous growth. BNSF estimates that it will need to spend between \$500 and \$800 million expanding track and terminal capacity to handle this increased coal traffic. BNSF will need to spend between \$1 billion and \$1.2 billion on additional AC locomotives and between \$1.2 and \$1.3 billion on additional aluminum trainsets. (Exhibit 11).

The Board must protect the interests of all shippers in having a rail network capable of meeting this growing demand. BNSF therefore urges the Board to apply its rate reasonableness

standards in a way that protects legitimate claims by shippers without becoming an obstacle to the necessary expansion of the rail network.

BNSF Railway

Challenges to Railroad Rates Under the "Stand-Alone Cost" Methodology
Hearing Before The Surface Transportation Board, April 26, 2005

John Lanigan
Executive Vice President and Chief Marketing Officer



Railroads Are Capital Intensive

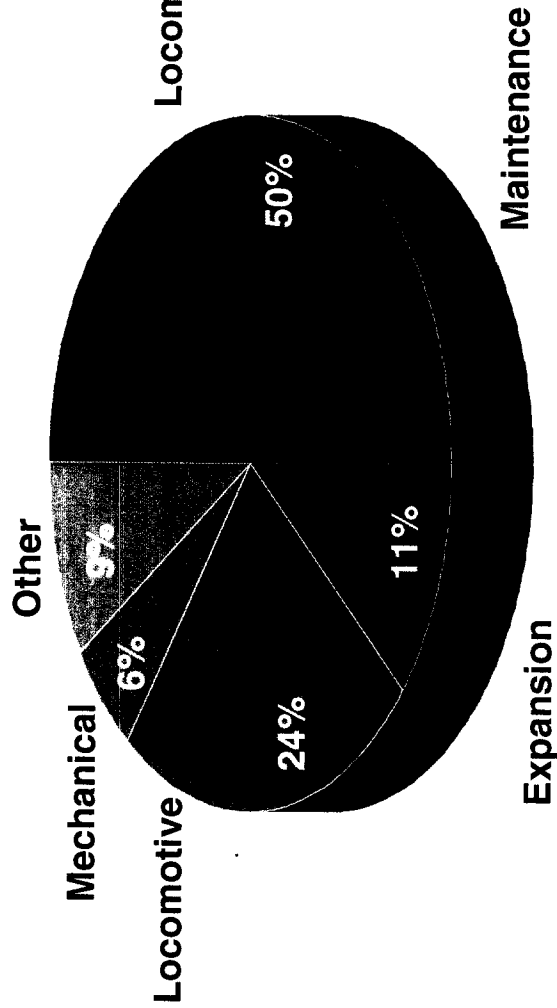
Exhibit 1

All manufacturing	3.8%
Food	2.7%
Transportation equipment	3.0%
Wood products	3.2%
Machinery	3.3%
Primary metal products	3.8%
Paper	4.9%
Chemicals	4.9%
Utilities	13.9%
Railroads	16.0%

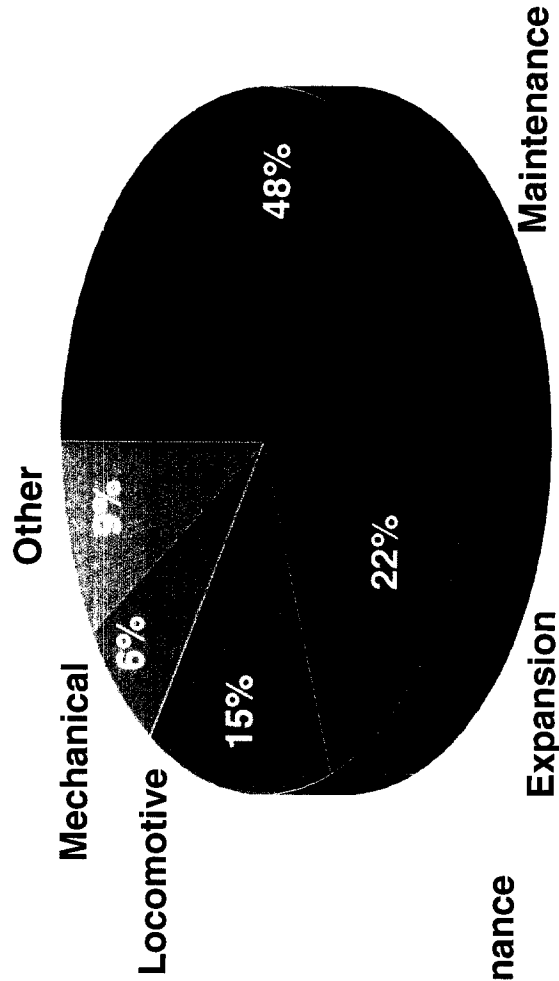
An Increasing Portion of Capital Expenditures Is For Expansion of Capacity

Exhibit 2

2004 Total
(\$1.99 billion)



2005 Total
(~ \$2 billion)



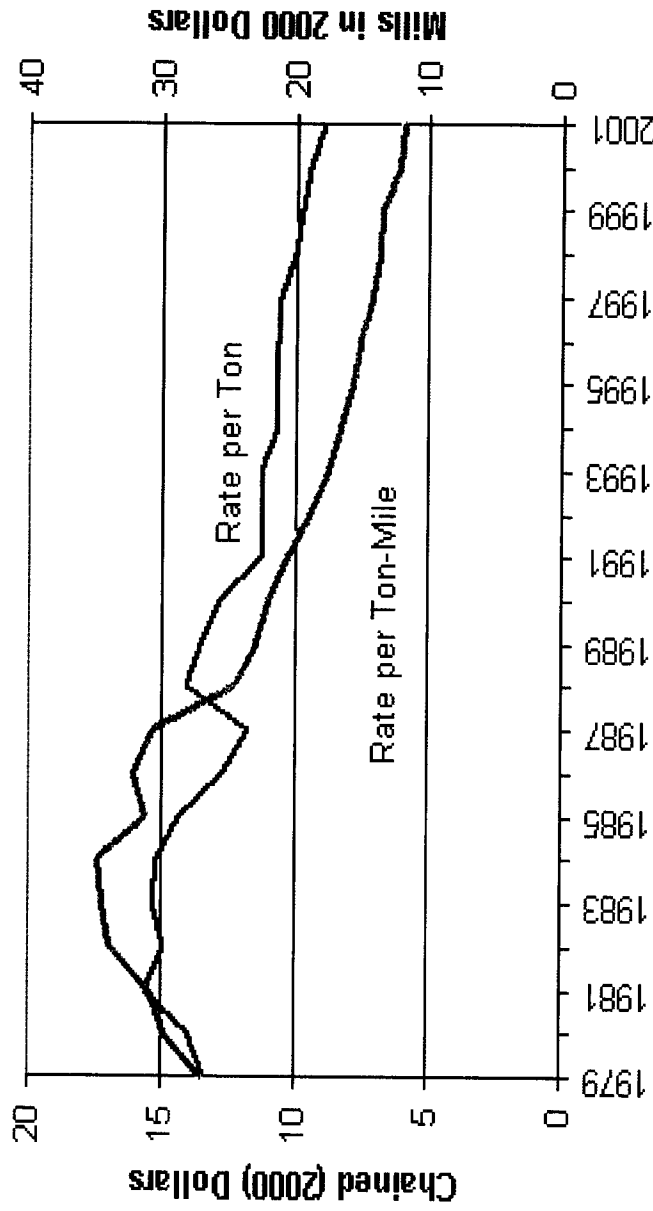
Coal Transportation Rates Have Declined Dramatically Since 1979

Taken From EIA 2004 Study:

Coal Transportation: Rates and Trends in the United States, 1979-2001
(with Supplementary Data to 2002)

Exhibit 3

Figure S1. Trends in Coal Transportation Rates, 1979-2001



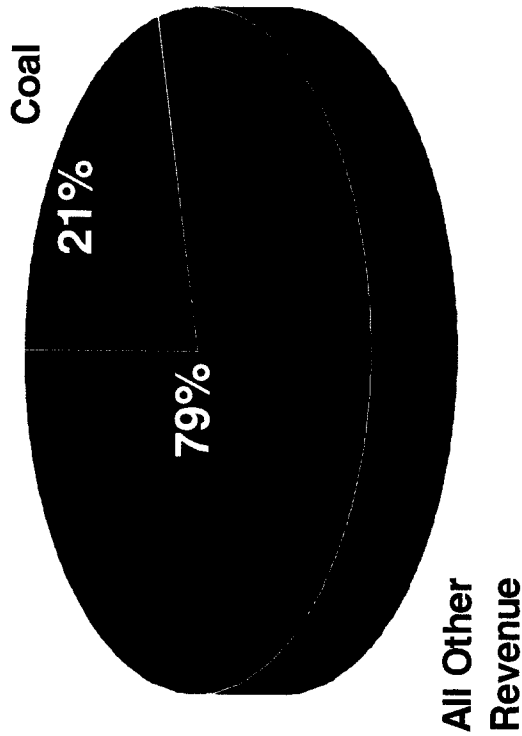
Source: Energy Information Administration, Coal Transportation Rate Database, April 2004. Chained (2000) dollars are calculated by using gross domestic product implicit price deflators.

Coal Is An Important Source of Revenue

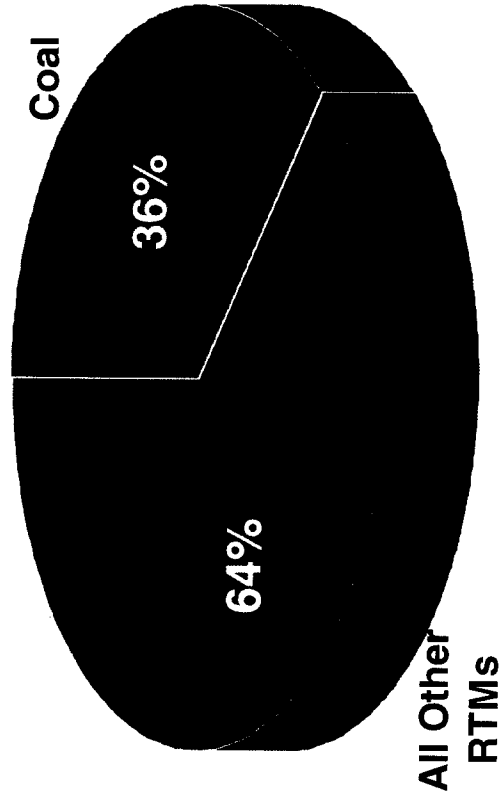
Exhibit 4

Coal represents 21% of RR revenue and 36% of revenue ton miles

Coal as a Percent
of Total Revenue



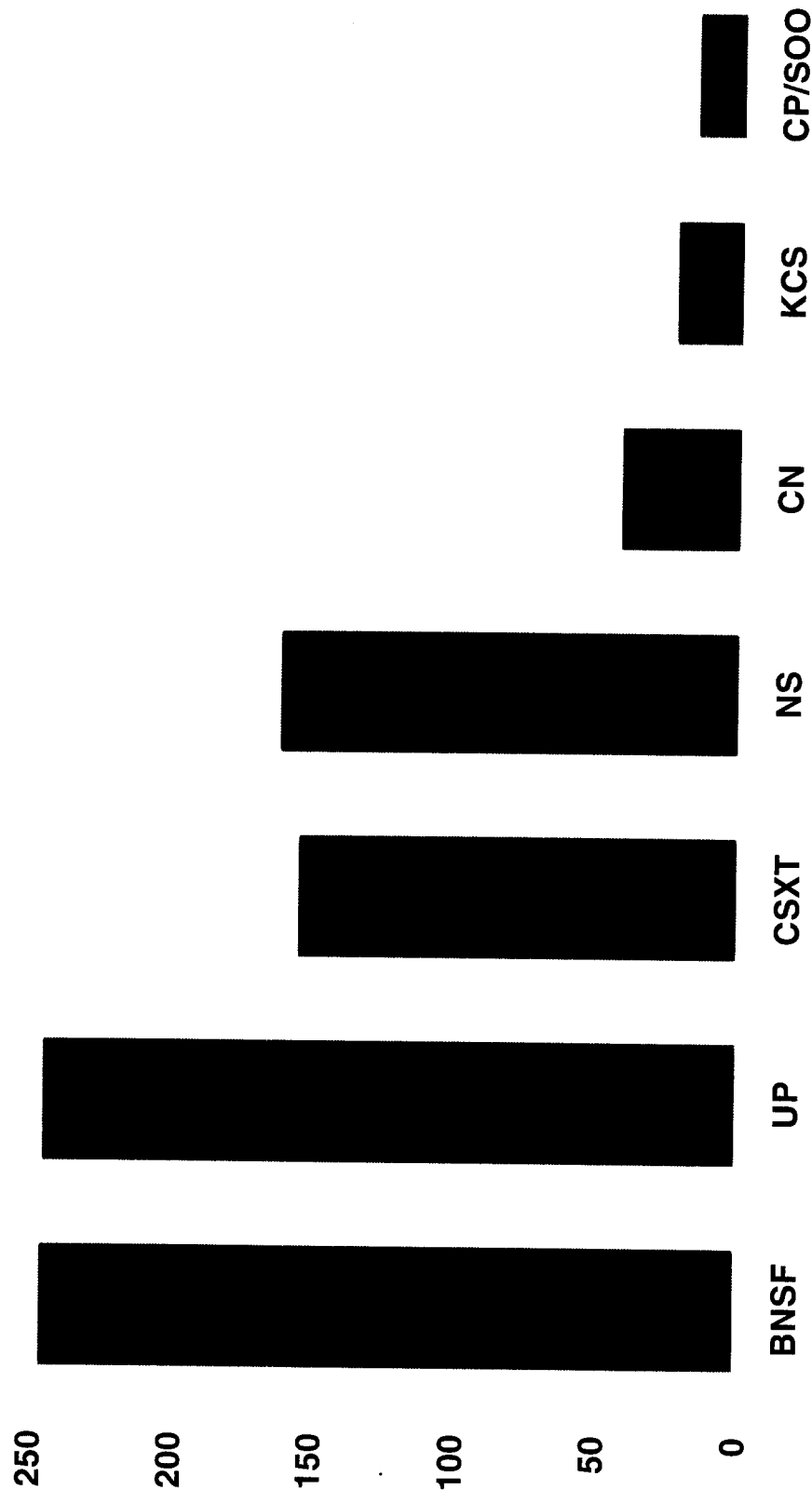
Coal as a Percent
of Total Revenue Ton Miles



Coal Is A Key Commodity for the Rail Industry

Exhibit 5

Million Tons

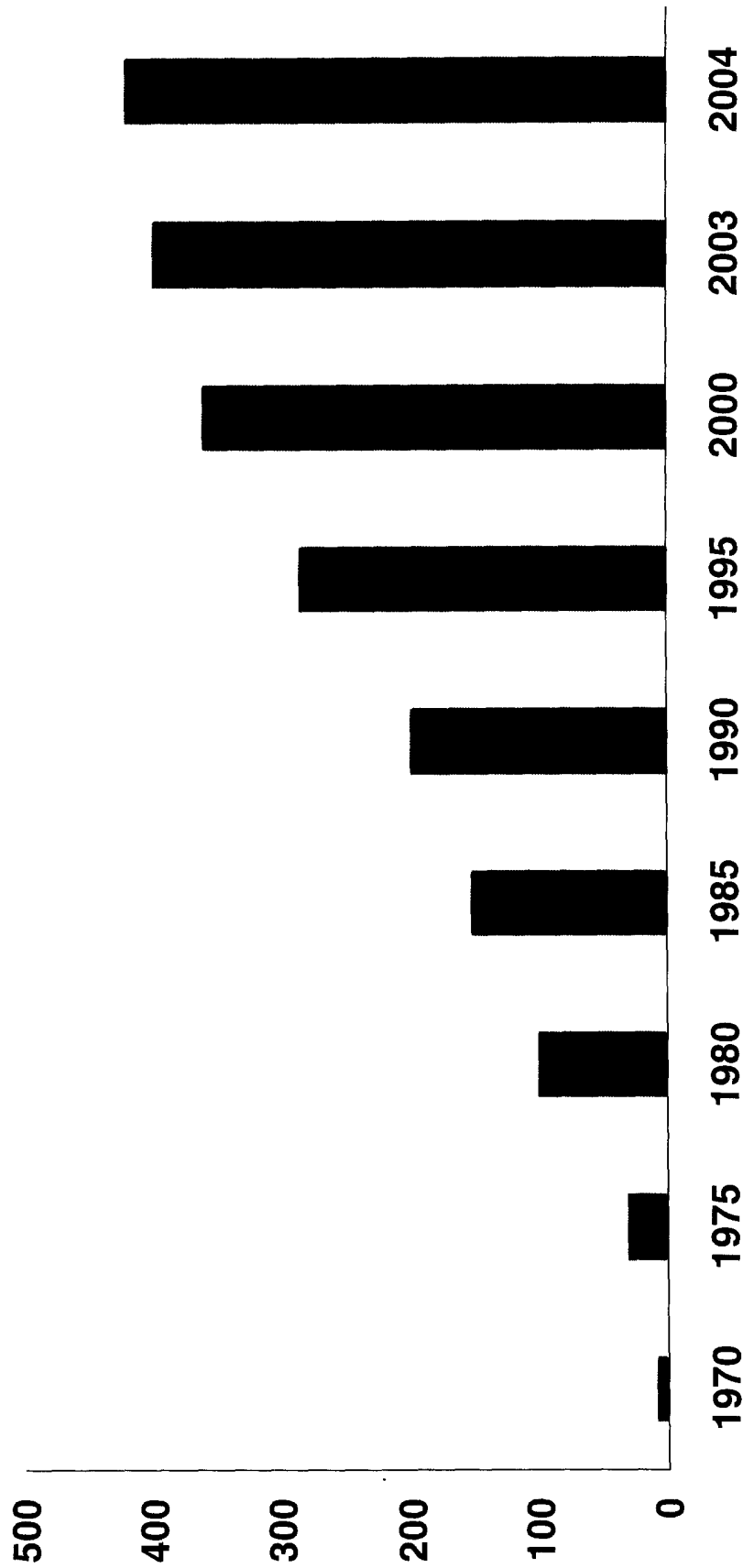


BNSF
RAILWAY

PRB Coal Production Has Increased Dramatically

Exhibit 6

Million Tons

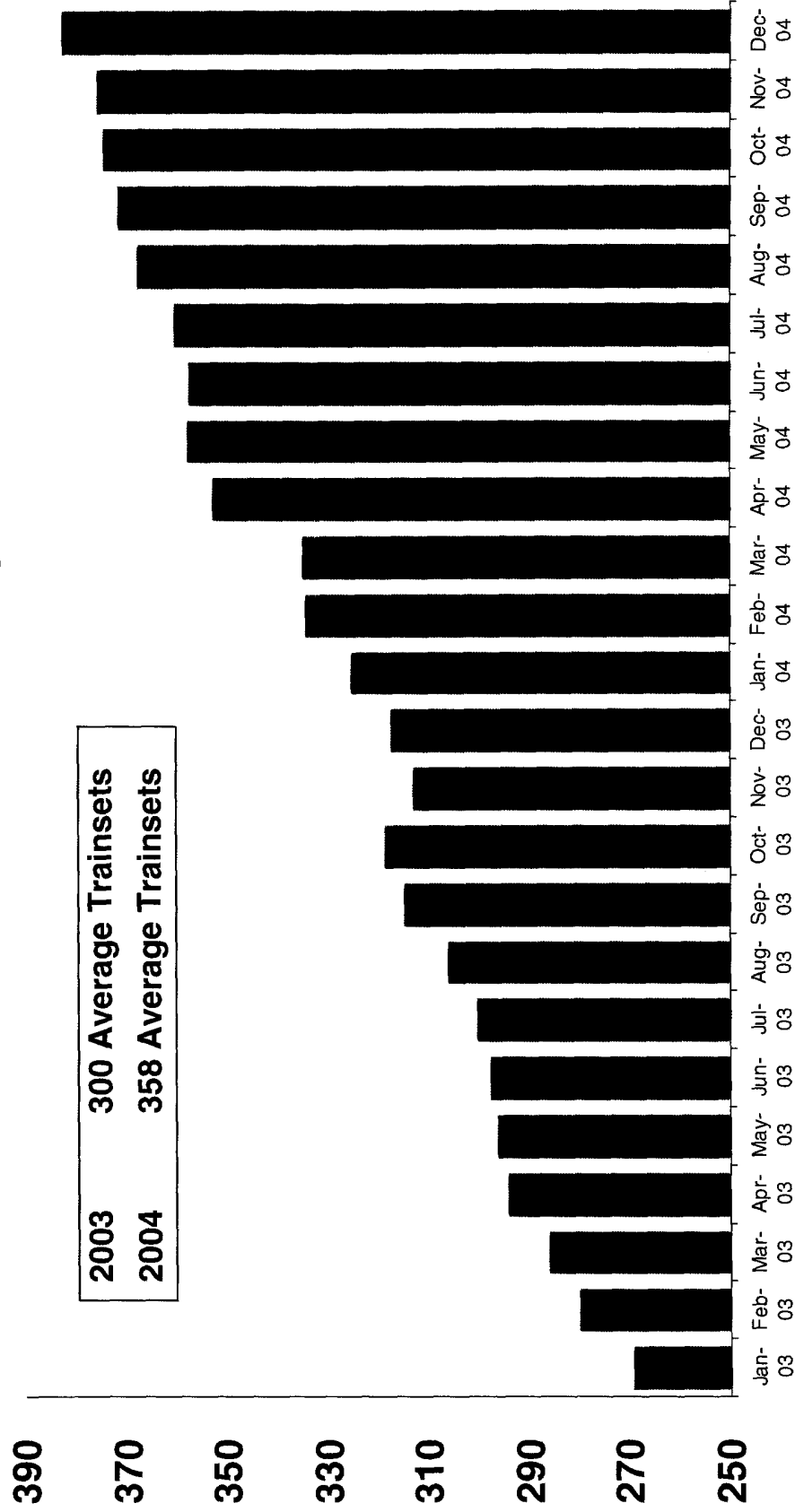


BNSF
RAILWAY

BNSF Average Monthly Coal Trainsets in Service Have Increased Since January 2003

Exhibit 7

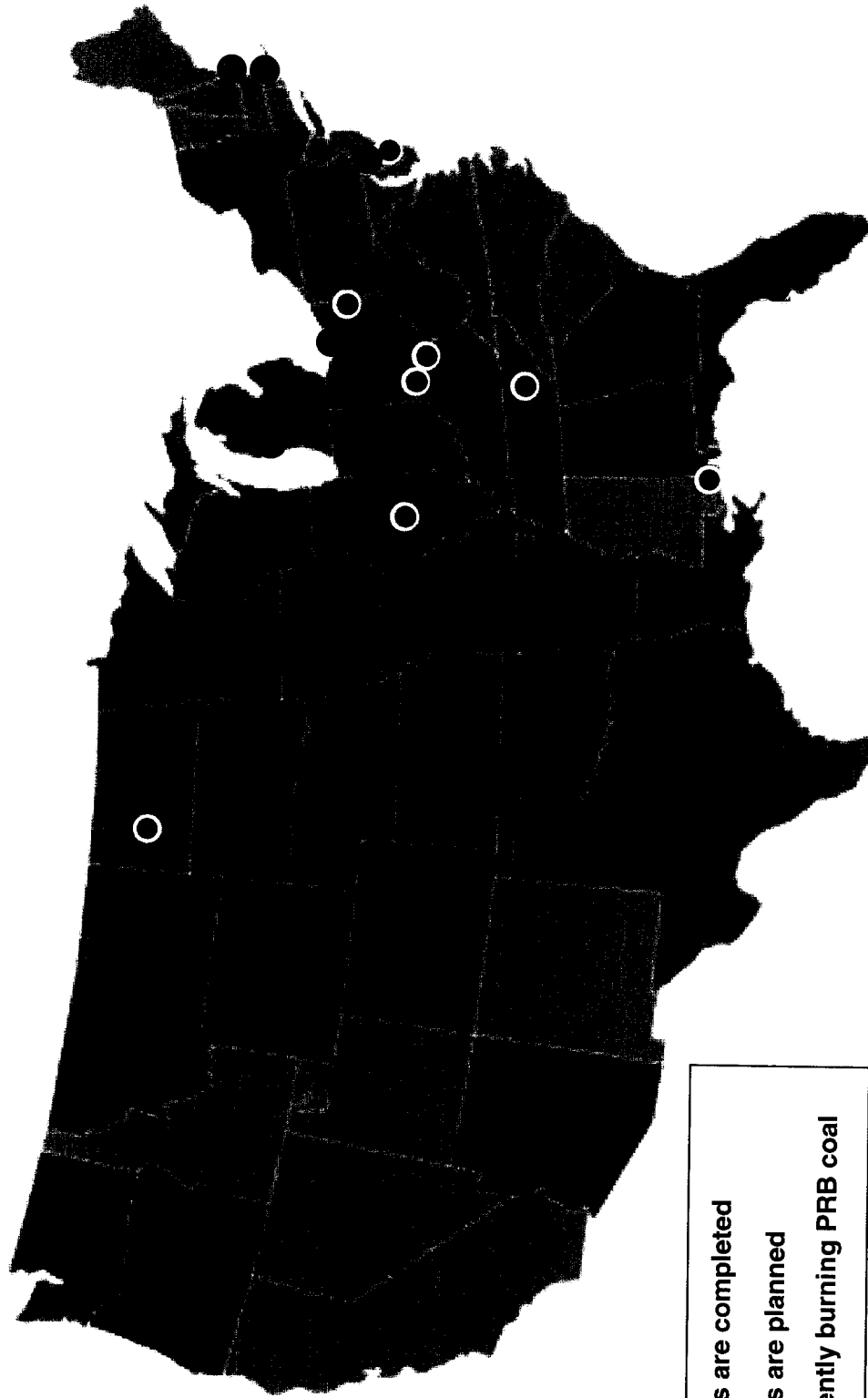
Average Trainsets in Service



Demand for PRB Coal Continues to Grow

PRB Test Burns

Exhibit 8



- Tests are completed
- Tests are planned
- Currently burning PRB coal

BNSF
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BNSF Has Made Substantial Coal Capacity Investments

\$2.4 billion invested through 2004
\$216M planned for 2005

Exhibit 9

Year	Loco- motives	Cars	Joint line	Corridors	\$ Millions	
					Terminals	Total
1994	\$247	\$22	\$13	\$10	\$2	\$294
1995	247	58	18	44	12	379
1996	118	19	19	41	22	219
1997	160	20	7	63	27	277
1998	235	22	8	134	17	416
1999	270	23	13	49	4	359
2000	56	0	0	13	1	70
2001	0	0	0	0	0	0
2002	0	0	0	0	0	0
2003	85	48	0	8	10	151
2004	102	104	15	5	17	243
2005F	<u>82</u>	<u>85</u>	<u>5</u>	<u>18</u>	<u>26</u>	<u>216</u>
Total	\$1,602	\$401	\$98	\$385	\$138	\$2,624

BNSF
RAILWAY

EIA Projects Large Increases in PRB Coal Demand Through 2025

Exhibit 10

- Total growth
 - West +350 million tons
 - Interior +35 million tons
 - Appalachia -2 million tons
- Western impact
 - 80% of West is PRB = 280 million tons
- BNSF impact
 - + 26 trainloads per day

BNSF
RAILWAY

Substantial New Investments Will Be Needed To Meet Growing Demand

Exhibit 11

- Capacity investment (\$ millions)
 - Track/terminal \$500 - \$800
 - AC locomotives \$1,000 - \$1,200
 - Aluminum trainsets \$1,200 - \$1,300
- Total \$2,700 - \$3,300

BNSF
RAILWAY

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

**Ex Parte No. 657 (Sub-No. 1)
MAJOR ISSUES IN RAIL RATE CASES**

**Verified Statement of
Joseph P. Kalt, Ph.D.
On Behalf of BNSF Railway Company**

May 1, 2006

I. INTRODUCTION

I.A Witness Background and Qualifications

My name is Joseph P. Kalt. I am the Ford Foundation Professor of International Political Economy at the John F. Kennedy School of Government, Harvard University. The Kennedy School is Harvard's graduate school of public policy and public administration. In addition to my work at the Kennedy School, I am also a Senior Economist at Lexecon, an economics consulting firm and a division of FTI Consulting. I hold B.A., M.A., and Ph.D. degrees in economics and am a specialist in the economics of competition, antitrust, and regulation, with particular emphasis on the energy, natural resource, and transportation sectors. Throughout my professional career I have conducted research, published, taught, and testified extensively on the economics of competition and regulation, with a particular emphasis on regulated industries. I have studied extensively the economics and regulation of the railroad industry and have presented expert testimony before the STB on numerous occasions.

Prior to joining the faculty of Harvard's Kennedy School of Government as a Professor with tenure in 1986, I served as an Instructor, Assistant Professor, and Associate Professor in the Department of Economics at Harvard (1978-86). In the Department of Economics, I had primary responsibility for teaching graduate and undergraduate courses in the economics of regulation and antitrust. At the Kennedy School, my teaching responsibilities have included the economics of regulation and antitrust, economics of public policy and policy design, natural resource and environmental policy, and economic development on American Indian reservations. I have also been the Kennedy School's Academic Dean for Research, Faculty Chair of the Environmental and Natural Resources Program, Faculty Chair of the Economics and Quantitative Methods Section, Chair of Degree Programs, and Chair of Ph.D. Programs.

I.B Overview

In its decision implementing a rulemaking in *EP 657: Major Issues in Rail Rate Cases*, the Surface Transportation Board ("STB" or "Board") has identified six issues it seeks to address: (1) alternatives to the Percent Reduction Methodology ("PRM") for establishing maximum rates for coal transportation; (2) new methods for allocating

revenue from so-called cross-over traffic; (3) incorporating a productivity adjustment to forecasts of future operating expenses; (4) eliminating movement-specific adjustments to the Uniform Railroad Costing System ("URCS"); (5) shortening the period of Stand-Alone Cost ("SAC") analysis from 20 years to 10 years; and (6) new standards for re-opening and vacating prior Board decisions.

I have been asked by BNSF Railway Company ("BNSF") to comment specifically on the economic and policy implications of the first two of these issues: the rate prescription methodology and revenue allocation for cross-over traffic in the context of the *Coal Rate Guidelines* ("*Guidelines*").¹ The *Guidelines* form the regulatory and economic framework for judging the reasonableness of challenged rates and setting maximum allowed rates when challenged rates are determined to be contrary to the *Guidelines*. The *Guidelines* incorporate the economic principles of competitive, demand-based differential (Ramsey) pricing in a regulatory framework that serves the public's interest in establishing reasonable rates, while also recognizing that the public has an abiding interest in policies that provide railroads with the opportunity to earn reasonable returns and move toward revenue adequacy. The Board's focus in this rulemaking should be on evaluating whether the proposed changes to SAC analysis represent a proper application of the regulatory framework articulated in the *Coal Rate Guidelines*.

I find that, among the alternative methodologies for reducing challenged rates considered by the Board in *EP 657: Major Issues in Rail Rate Cases* (i.e., Percent Reduction Methodology and the so-called Maximum Contribution Methodology ("MCM") and Maximum Markup Methodology ("MMM") options), a properly applied Percent Reduction Methodology is most consistent with the public interest principles embodied in the *Guidelines*. Indeed, the alternatives of MCM or MMM (and variants thereof), if adopted, would constitute the kind of cost-based ratemaking that the *Guidelines* correctly recognize as being inherently arbitrary and inconsistent with the public's interest in an efficient and sustainable railroad sector and efficient demand-based, differential pricing of railroad transportation.

The Board is concerned, however, that PRM engenders the possibility of "gaming" of the ratemaking process by carriers. Yet, as I discuss below, it would be

inappropriate to cast off rate design mechanisms that are most consonant with the public's interest in order to avoid the mere prospect of gaming. Rather, proper rate design and gaming are separable regulatory challenges that should be addressed with separate tools. The demand-based pricing principles embraced by the *Guidelines* provide the tools for ratemaking that is in the public interest, while sound techniques of public administration, administrative procedure, and regulatory processes can and should be applied to attack prospects of gaming of the regulatory process by carriers or complainants in coal rate cases. In particular, I set forth below a definition of "gaming" by carriers and standards for testing for such gaming. These provide for direct evidentiary development of screens for gaming that can allow the ratemaking process to avoid throwing out the core principles of the *Guidelines* while protecting the process against gaming.

As the Board has recognized, the extant treatment of revenues from so-called "cross-over traffic" in SAC analyses (i.e., traffic which a Stand-Alone Railroad – "SARR" – attracts away from the residual incumbent railroad for part, but not all, of that traffic's move) is subject to bias in the design and revenues of the SARRs designed by complainants.² In particular, as I discuss below, current treatment of cross-over traffic in coal rate cases provides complainants with incentives to design bizarrely inefficient Stand-Alone Railroads that are overwhelmingly loaded with non-issue, cross-over traffic that can provide markups of rates over variable costs and associated contributions to covering the SARR's fixed capital costs. So doing reduces the need for rates on the challenged traffic to provide coverage of SARR costs and enhances the likelihood of finding that challenged rates are well in excess of those needed to allow the SARR to cover its stand-alone costs. Such incentives for gaming by complainants can be avoided by consistent application of the principles of contestability and Constrained Market Pricing ("CMP") that are embedded in the *Guidelines*.

¹ *Coal Rate Guidelines*, Nationwide, 1 ICC 2d 520C (August 8, 1985) (hereinafter "*Guidelines*").

² STB Docket No. 42069, *Duke Energy Corporation v. Norfolk Southern Railway Company*, Decision (November 5, 2003) at 22 (hereinafter "*Duke/NS Decision*"); STB Docket No. 42072, *Carolina Power & Light Company v. Norfolk Southern Railway Company*, Decision (December 22, 2003) at 31-32 (hereinafter "*CP&L/NS Decision*")

The evolving history of case-by-case adjudication under the *Guidelines* has moved the treatment of cross-over traffic away from such consistency. The present rulemaking provides an opportunity for correcting such divergence; consistent application of the economic framework of the *Guidelines* provides the tools for implementing needed correction.

II. ECONOMICS OF THE COAL RATE GUIDELINES AND MAXIMUM RAIL RATE REGULATION

The appropriate starting point for analyzing the central economic policy issues that have been raised in this proceeding is found in the economic underpinnings of the *Coal Rate Guidelines*. These underpinnings are keyed to the economic realities of the rail industry. Railroads operate as *networks* which are subject to substantial *economies of scale and scope*. The network nature of railroading means that building and operating rail systems entail joint and common costs that are shared by shippers who have their freight shipped over a system that simultaneously links a multitude of shippers' desired origins and destinations. The attendant economies of scale and scope (volume and reach across geographies and commodities) mean that it would not be efficient to have a multiplicity of rail systems serving all shippers' locales. Instead, one large system in a region can provide service at lower unit costs to a multitude of shippers, locales, and freight types.

Not only is railroading a network industry subject to economies of scale and scope, but it is also subject to differential competition across freight types and locales. Some areas are thick enough with shippers that they can support multiple railroads in the same area; and some freight types are more readily subjected to competition from barges, trucks, or the ability of customers to substitute away from rail delivery by turning to substitute products or locales to meet their needs (such as by turning coal into electricity at the mine mouth and "shipping" such converted coal over electric transmission lines, instead of moving coal by rail to distant power plants). The variegated pattern of competition across the rail network gives rise to the need for *differential pricing* of rail services across freight types, geography, and shippers. With marginal (variable) costs generally below fixed plus variable costs and substantial portions of the network subject

to competitive limits on pricing that prevent rail rates from being sustained at levels that would allow substantial contribution of revenue toward the coverage of fixed costs, other portions of the network, where shippers' demands for rail service are not so tempered by an ability to turn away from rail toward alternatives, must be able to generate larger contributions of revenue above variable costs if a railroad is to be able to cover its total costs and attract investment needed to replenish and expand the system. Differential pricing is a necessity in the rail sector.

These realities of the railroad sector are explicitly and implicitly recognized in the provisions of the Staggers Act. The Act enables railroads to rationalize their systems to make them efficient, provides a framework where a railroad has freedom to price and compete where doing so does not end up in monopoly abuse, and eschews old-style embedded cost-of-service regulatory ratemaking in favor of allowing carriers to tune the rates and service offering to the demands that they face. At the same time, the Staggers Act framework is not unmindful of concerns that such freedom and reliance on market forces not turn into monopolistic abuse in settings where a rail carrier is market dominant. The Act provides for regulation to set a railroad's maximum rates where the railroad is market dominant and its unchecked rates yield revenues that are more than 180% of its variable costs.

II.A Guides to Ratemaking: Contestability and Ramsey Pricing

The ongoing challenge in setting maximum allowed rates under the Staggers Act is how to determine when a particular rate is too high in a regulatory system that otherwise recognizes the absolute necessity of differential pricing. In the case of the *Coal Rate Guidelines*, this challenge is addressed by invoking two key economic concepts: contestability and Ramsey pricing.

Contestability: Under the *Guidelines'* Constrained Market Pricing, the total revenue needed by a rail system or subset of a rail system to ensure that it is able to cover its costs plus a reasonable rate of return is determined via the principles of contestability. A market is contestable when it is free of barriers to entry and exit that can otherwise impede competitors from contesting to be a supplier of customers' needs. Under such conditions of free entry and exit, even if the market is served at lowest cost by having a

single large firm with economies of scale and scope survive, that single large firm will not be able to exact monopoly prices and profits. If it tries, it is immediately subject to entry and attack by freely entering contestants. Under contestable market conditions, surviving suppliers can realize only their costs plus a reasonable (i.e., competitive rate of) return. As the *Guidelines* note: "The theory of contestable markets is more general than that of 'pure competition' because it does not require a large number of firms. In fact, even a monopoly can be contestable. The underlying premise is that a monopolist or oligopolist will behave [competitively] or [lose] all of its markets to a new entrant."³

The real world of the railroad industry is not actually contestable. Depending as it does on access to rights of way, NIMBY impediments to location and expansion, the sinking of capital by literally bolting it to the ground, and the like, railroading is subject to various barriers to entry and exit. Thus, applying the economics of contestability in rail markets is a hypothetical exercise. As the *Guidelines* put it, under CMP and its tool of implementation, Stand-Alone Cost analysis, "rates will be judged against *simulated* competitive prices."⁴ SAC analysis represents the imposition of the economics of "contestability" – i.e., competition to be a service provider under conditions of free entry and free exit – applied in a setting in which economies of scale, scope, and/or density make it generally more efficient to meet customers' needs through one (or a few) large firm(s), rather than a panoply of small (and, hence, higher-cost) firms. Under contestability, differential rates charged by a railroad would not exceed what a hypothetical entrant in a contestable market would charge; and overall revenue would be restricted by the threat of competition in the absence of barriers to entry and exit such that a railroad would not be able to realize excess profit (i.e., overall revenues in excess of the amount needed in the long run to cover costs plus a competitive rate of return on capital). The hypothetical entrant envisioned in the SAC analysis thus breaks even. That is, the SAC rates are those that would allow a complainant's hypothetical Stand-Alone Railroad to stand alone and survive economically.

³ *Guidelines* at 528.

⁴ *Guidelines* at 528.

Ramsey Pricing: The *Guidelines* not only address the question of controlling monopolistic abuse through CMP; they also address the need for differential pricing. They do so by invoking the principles of Ramsey pricing.⁵

Differential pricing is particularly vexatious for regulatory authorities, since “differential” can be so easily seen or portrayed as “discriminatory.” If differential pricing is a necessity in the railroad sector, different shippers will be making different contributions to the coverage of system fixed costs by paying higher markups over variable costs even when the different shippers use the same facility. The perhaps natural tendency in such situations is to try to assign responsibility for contributions to the coverage of fixed costs by looking to some notion of who, proportionately, “causes” the costs to be incurred, e.g., by seeing which shippers use the system’s shared facilities the most, as reflected in volume of traffic, ton-miles, and the like. The difficulty with such cost-causation approaches, however, is that shippers who use the system the most may not be tolerant of price increases in the sense that raising their rates substantially above variable cost may simply drive them off the system if they have alternatives to rail transportation or rail-transported goods. Under such conditions, shippers’ demands for rail service are said to be elastic. That is, they show elasticity – expansion and contraction – in their use of the system when rates fall or rise. On the other hand, some shippers value rail transportation intensely and, and if rates are higher, are willing to pay those rates and keep up their use of the rail network with but little abatement in the face of higher prices. These types of shippers have *inelastic* demand.

In a very real sense, costs are “caused” by consumers in accord with how intensely they value, rather than how much they use, the system. That is, what causes a rail network to be built and sustained are shippers with relatively inelastic demands. If all shippers had very elastic demands such that they drastically cut their demand when rates were raised above variable costs, and no rate structure that could recover enough revenue above variable costs to cover fixed costs could survive this exodus of demand, the rail network would simply not cover its full costs. It would not be built, or, if built, would not be sustained. What makes it worthwhile for society to build a rail network are

⁵ *Guidelines* at 526-528.

shippers who do value rail transportation intensely enough that they will keep sufficient demand on the system as rates are raised above variable costs to allow the coverage of total system costs. In other words, what causes it to be worthwhile to the nation's economy to build and sustain a rail network are the relative intensities of shippers' demands, as reflected in the "elasticity" of their demands when rates rise above variable costs. As discussed further below, this is what the Ramsey pricing principles explicitly account for and why, upon embracing Ramsey principles as the public interest guides for differential pricing and fixed-cost recovery, it was profoundly insightful for the *Guidelines* to warn: "Any means of allocating these costs among shippers other than actual market demand is arbitrary and may not permit a carrier to cover all of its costs. This is because non-demand-based cost apportionment methods do not necessarily reflect the carrier's ability (or inability) to impose the assigned allocations and cover its costs [owing to differential shipper valuations and differential competitive constraints on carriers]." ⁶

Differential pricing also presents the regulator with problems of *efficiency* in the allocation of the regulated service across customers. What economics refers to as "first-best" efficiency is obtained when prices are set equal to *marginal* costs (commonly represented as variable costs in the regulatory context). When prices are set equal to the incremental costs that are incurred by society to supply a customer with a good or service, the forces of the marketplace ensure efficiency in the sense that maximum value is squeezed out of society's scarce resources for ultimate consumers. In an otherwise well-functioning marketplace,⁷ the costs of providing incremental rail service represents the value that railroads have to pay to bid the requisite labor, fuel, and materials away from other sectors of the economy, and this value ultimately represents the value consumers derive from having those resources devoted to other sectors (as reflected by consumers willing to pay to have goods and services delivered to them in those other sectors). When rates in one sector – such as rail – are held above incremental costs, consumers forgo a range of rail transportation and rail transported goods that has greater

⁶ *Guidelines* at 526.

⁷ For example, a marketplace that does not allow the ability to freely pollute the environment and therefore requires producers to bear all of the costs of producing goods and services.

value to them than the resources they would use up in using more rail transportation and the goods and services those resources could produce for consumers in other sectors. In short, prices above marginal (variable) cost are inefficient; they prevent the economy from using society's scarce resources to produce the mix of goods that consumers most value.

Ramsey pricing describes a set of rules that simultaneously address the paired challenges of (1) limiting the total revenues of a firm to no more than its total costs (including a reasonable return to cover the cost of capital), and (2) minimizing the distortions to efficiency and the associated public interest in an economy that maximizes consumers' well-being when some of this distortion is unavoidable because the survival of the firm in question (as well as the output it delivers to satisfy ultimate consumer demands) requires differential markups above variable costs.⁸ The Ramsey rules achieve these companion results by (1) setting prices such that the customers with the most inelastic demands pay the greatest relative markups above marginal costs⁹ per unit of service, and (2) setting the set of markups per unit of service across all customers such that, when the markups are multiplied by each customer's volume of service, the total adds up to the amount needed to cover the shared system's total cost (including a competitive return on capital). In other words, Ramsey prices overall are high enough to cover total costs, and higher markups of price over variable cost are paid by customers who demonstrate the most inelastic demands (i.e., customers who value the service most intensely insofar as they do not substantially reduce their purchases when prices are raised). The result is that Ramsey pricing for railroads minimizes the burden on shippers as a whole (and ultimately the consuming public that covers shippers' costs) of the need to generate revenues in excess of variable costs in order to cover total costs.

While easy to portray as discriminatory (e.g., because everyone does not pay the same markup above variable cost, or those who use the system the most do not necessarily pay the highest prices), Ramsey pricing actually treats similarly situated

⁸ This minimization of the loss to consumer well-being that arises because first-best pricing at variable cost is not achievable causes Ramsey pricing to be labeled "second-best" pricing. In other words, the best we can do in the real world in which differential pricing is unavoidable.

⁹ I.e., expressing markup of price above marginal cost as a percent of price.

customers similarly. That is, customers who place particularly high value on use of the system in the sense that they do not reduce their use of the system when prices rise as much as other, lower-paying customers – and hence the customers for whom society's resources are most urgently diverted into producing the output of the system – make the highest contribution to paying for and sustaining the system. The Ramsey pricing rules are the outcome of due consideration of the *entire* public's interest in a healthy economy that maximizes to the extent possible the value of output yielded to the public from the nation's scarce resources.

Attempting to cover a rail network's costs by deviating from the Ramsey principles actually harms the public. It does so by distorting price signals to ultimate consumers as non-Ramsey rail rates get reflected in the prices of the things consumers buy, thereby distorting the mix of outputs made available to consumers; and it does so by sending investors distorted signals as to the relative intensities of shippers' demands. Instead of providing investors with incentives to supply rail services in proportion to the intensity of shippers' needs, non-Ramsey pricing sends investors signals telling them to shift the supply of rail services in accord with what the *Guidelines* recognize are inherently arbitrary regulatory assignments of the relative importance of shippers' needs. I suppose we could wish that the nation's capital, labor, fuel and other resources were not scarce, and that we could supply every need of every shipper without worrying about costs. But that is not the case. Ramsey pricing addresses the necessary balancing by providing rail services and allocating responsibility for cost recovery in accord with the intensity of shippers' demands and, ultimately, the value that rail service contributes to the final consumers who stand behind the willingness and ability of freight shippers to pay for rail service. As I discuss below, it is for precisely the anti-consumer reason that the alternatives (MCM, MMM, etc.) put forward in *EP 657: Major Issues in Rail Rate Cases* as candidate rate prescription methodologies under the *Guidelines*' SAC tests are inconsistent with the public interest. Said another way, relative to the long-standing Percent Reduction Methodology of rate prescription, MCM and MMM are demonstrably and starkly contrary to Ramsey pricing principles.

II.B The *Public Interest*

The emphasis on the public interest is appropriate here. The Staggers Act and derivative policies such as the *Coal Rate Guidelines* have played critical roles in reversing the decay of the railroad sector and promoting development of a more efficient rail transportation network. At the same time, the Interstate Commerce Commission (“ICC”) noted upon adoption that the *Guidelines* are based on rather “sophisticated economic theories”¹⁰ – theories of how to design rates to provide maximum public benefit. With the passage of time since the intense study that went into the *Guidelines*, and with the intervening filtering and refiltering of “sophisticated” economic frameworks through the rough-and-tumble of case-by-case adjudication, it should not be surprising that regulators, appeals courts, and litigants themselves would have but imperfect understandings of those frameworks. Under such conditions, and with the politics and process of maximum coal rate regulation pitting private shipper against private railroad, the broader *public* interest can get lost. In particular, the broader public has interests ranging from ensuring a financially sound and sustainable rail network that can lubricate a modern, continent-wide economy with efficient transportation to rail pricing that reflects the full costs to society of running trains over dangerous highway crossings and through congested cities. Yet, the broader public does not generally show up in the STB hearing rooms.

In these settings, the understandable tendency of well-meaning regulators can subtly shift from promotion and protection of the public interest to minimizing conflict and finding a fair “balance” between the interests of the parties that do show up in the hearing rooms. “Fairness” is a laudable goal of public policy. But when the broad public’s interest is not given voice in the rough-and-tumble of policymaking via litigated disputes by accurately incorporating that voice in the standards and precedents of applicable regulation, the well-meaning “balance” that is struck can be imbalanced against the public interest, indeed. This is especially true in an industry like railroading, and goes a long way toward explaining how public policy could have ever been so persistently misapplied as to produce the decrepit U.S. rail industry of the mid-1970s.

¹⁰ *Guidelines* at 525.

The network nature of the system means that untoward policies that engender inefficient price signals and network-wide revenue inadequacy can be wittingly or unwittingly pursued by individual shippers in their individual cases because the adverse effects of poor policy can be diffused almost imperceptibly across the system and its multitude of shippers via case-by-case incrementalism. And the extremely long-lived capital of the railroad industry can allow years of incremental policymaking which is inconsistent with the public interest to persist without showing up as the kind of stark system-wide decay and crisis that might eventually bring the broader public into the hearing rooms. Those years can extend well beyond the time horizons of legislative and regulatory decision-makers who otherwise are concerned with the public interest, but who do not find it well-articulated and understood in requisite detail in statutory and regulatory criteria and do not find it appearing in the case-by-case hearing rooms.

As applied to railroading under the *Guidelines*, the Ramsey pricing principles reflected in the *Guidelines* recognize that behind the demands of the many shippers of the many rail-transported commodities are consumers who value those commodities. Indeed, the *Guidelines* were adopted in the presence of the so-called Long-Cannon factors, which mandate that, when the Board finds it necessary to intervene and establish the rates of a carrier determined to have market dominance, such regulatory rate-setting "shall give due consideration to...the amount of traffic which contributes only marginally to fixed costs and the extent to which, if any, rates on such traffic can be changed to maximize the revenues from such traffic; and...[to] the carrier's mix of rail traffic to determine whether one commodity is paying an unreasonable share of the carrier's overall revenues."¹¹ These factors are embedded in the *Guidelines*, which note that: "under CMP, a carrier must charge as much of the unattributable costs as demand will permit."¹² Of course, concepts such as "unreasonable share" and "as much as demand will permit" are subject to ambiguity (e.g., all demands are a function of price, so that interpreting "as much as demand will permit" necessarily means balancing higher prices against lost volumes and, thus, taking elasticities into account). Ramsey pricing principles give effect to these

¹¹ U.S.C. 10701(d)(2).

¹² *Guidelines* at 539.

Long-Cannon factors and address the Long-Cannon challenge of balancing by assessing concepts of “unreasonable share” and “as much as demand will permit” against the standard of the public interest¹³ – i.e., the national *public* interest in a healthy and efficient economy that maximizes the benefits to the nation’s citizens that can be garnered from our scarce resources.

III. ALTERNATIVE METHODS OF RATE PRESCRIPTION

SAC analysis under the *Guidelines* proceeds by assessing the revenues realized at extant rates – including the rate under challenge – against the total costs of a Stand-Alone Railroad, SARR, that is designed by a complainant to compete in the simulated contestable market of Constrained Market Pricing. Given the design of the SARR and the assertions of the complainant as to what traffic the SARR would carry as the “winner” of the contestability contest, the challenged rate is subject to reduction to a Board-set maximum if the SARR’s revenues at extant incumbent rates exceed the stand-alone costs of the SARR. The principles behind this framework are that, in a contestable market, only efficient SARRs could survive (since inefficient SARRs would have higher costs or worse service and could not make the winning offers to customers), and that a SARR that made offers of rates that resulted in higher than the minimum total revenue needed to enable the SARR to stand alone would be “beaten” in the contest for customers by efficient SARRs offering rates that would allow the SARR to break even (including a reasonable return needed to attract capital). “Winning” SARRs’ overall revenues do not yield excess profits.

III.A The Percent Reduction Methodology for Rate Prescriptions

A finding under SAC analysis that a complainant’s candidate SARR would earn excess profits if it charged extant incumbent rates provides justification under CMP for lowering the challenged rate. Since the ICC’s *Coal Trading* decision in 1990,¹⁴

¹³ This is actually the explicit standard by which the mathematics of the Ramsey principles derive allocations of shares of responsibility for cost coverage across customer types. See Ramsey, Frank, “A Contribution to the Theory of Taxation,” *Economic Journal*, March 1927.

¹⁴ ICC Docket No. 38301S, *Coal Trading Corporation, et al., v. The Baltimore and Ohio Railroad Company, et al.* (January 17, 1990) at ¶184 (hereinafter “*Coal Trading*”).

challenged rates that are found to be excessive under the SAC analysis have been subject to a Percent Reduction Methodology for bringing such rates into compliance with the *Guidelines*. Under PRM, the challenged rate is reduced by the percentage by which calculated SARR revenues at extant rates exceed the SARR's stand-alone costs.¹⁵ Thus, for example, if the SARR's stand-alone costs are \$1000, and application of the challenged incumbent's extant rates to the SARR's traffic implies excess revenues of \$100, the challenged rate is reduced 10%. This approach hearkens to Ramsey principles insofar as it recognizes that pre-reduction pricing by the commercially rational incumbent would result in rates carrying the Ramsey principles of differential pricing in which higher markups, and hence generally higher rates,¹⁶ are borne by customer types with less elastic demands. And while in the *Guidelines* the ICC recognized that it could not implement or test for perfect Ramsey pricing,¹⁷ upon adopting the PRM rate reduction procedure in *Coal Trading*, the ICC observed that "[t]he rate structure exhibited by the defendants over the complaint period is the necessary consequence of differential pricing and cost of service. Any revision to rates due to the imposition of rate prescriptions should, to the extent possible, retain the underlying relationships. Thus, overcharges must be distributed to the SARR traffic group in a manner which will not substantially change rate relationships and, thus, disrupt the existing pattern of differential pricing unless it is demonstrated that the pattern is seriously flawed."¹⁸ In accord with Ramsey guides to satisfying the public interest, the ICC and the Board have repeatedly noted that maintaining existing rate relationships has been a primary goal of the Percent Reduction

¹⁵ The ambiguity in the calculation of this percentage that is introduced when candidate SARRs involve cross-over traffic is discussed at length below.

¹⁶ As noted, Ramsey pricing ties higher proportionate markups above variable (marginal) cost to lower elasticities of demand. In the absence of the information that would be needed to calculate each shipper's proportionate Ramsey markup (i.e., individual shippers' demand elasticities and the marginal costs of serving each shipper), it is reasonable to take higher rate levels set by the marketplace to be reflective of lower demand elasticities and higher proportionate markups. Profit-seeking carriers not constrained by regulation in their pricing will set markups in the marketplace that vary inversely with demand elasticity, and it is implausible that marginal (or variable costs, in practice) vary across customer types as much as the very wide range of rates seen in the marketplace.

¹⁷ Owing to the informational burdens that would be engendered by attempting to figure out each shipper's or shipper type's demand elasticity and the marginal costs of serving each shipper. See *Guidelines* at 527.

¹⁸ *Coal Trading* at ¶170.

Methodology.¹⁹ The Board reiterates in the present rulemaking that: “The underlying rationale for the percent reduction approach has been that allocating SAC costs among the traffic group in proportion to the existing rate structure would implicitly reflect the varying demand elasticities with the SAC traffic group.”²⁰

III.B PRM and the Question of “Gaming”

Notwithstanding the foregoing, the Board has now come forward in this rulemaking and sought comment upon alternatives to PRM of rate prescription in SAC cases. At the core of its justifications for searching for alternatives to PRM, the Board expresses serious concern that the PRM methodology is subject to “gaming” by carriers whose rates are subject to challenge under the *Guidelines*. The nature of the concern is straightforwardly illustrated by a stylized caricature: If a carrier observing conditions in the marketplace saw that (1) the commercially reasonable, profit-maximizing rate that it would want to charge shipper A for a particular move would be, say, \$60 *if* the rate were completely free of any oversight or opportunity for regulatory challenge, and (2) if the carrier calculated that a rate set at \$80 would be successfully challenged and, under PRM, be reduced by 25% (i.e., to \$60), wouldn’t the carrier have an incentive to “game” the CMP process by setting its initial rate at \$80 and thereby end up with its desired rate of \$60?

Obviously, in the real world, “playing” such a strategy would be highly risky for a carrier since it would be guessing that it could know the ultimate PRM number in a complicated and contentious SAC process, and that it would be, as a number of railroads have been, subject to claims of gaming by the complainant and the likelihood of the Board deciding that the railroad had, indeed, gamed the process. To the extent it “gamed” a rate and set it above the profit-maximizing rate it prefers, the “gaming” carrier

¹⁹ STB Docket No. 42057, *Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company*, Decision (June 7, 2004) at 36-37 (hereinafter “*Xcel/BNSF Decision*”); *CP&L/NS Decision* at 30-31.

²⁰ *Ex Parte* No. 657 (Sub-No. 1), *Major Issues in Rail Rate Cases*; Docket No 41191, *West Texas Utilities Company v. BNSF Railway Company*; STB Docket 41191 (Sub no. 1), *AEP Texas North Company v. BNSF Railway Company*; STB Docket No. 42088, *Western Fuels Association Inc., & Basin Electric Power Cooperative v. BNSF Railway Company*; STB Docket No. 42095, *Kansas City Power and Light Company v. Union Pacific Railroad Company*, Decision (February 27, 2006) at 7 (hereinafter “*EP 657: Major Issues in Rail Rate Cases*”).

would be suffering losses in demand (from the excessively high price) and leaving profits on the table by pricing above the profit-maximizing level. Nevertheless, the Board's proffered possible alternatives to PRM in *EP 657: Major Issues in Rail Rate Cases* take the prospect of such gaming quite seriously – to the point of designing possible alternatives that take Staggers Act initial rate freedom entirely away from carriers in SAC cases by removing the challenged rate in such cases from any role in deriving an ultimate Board-prescribed maximum rate.

III.C The Board's Alternative Proposals

MCM: Under the proposed Maximum Contribution Methodology, the candidate SARR's total SAC costs in each year of the analysis would be initially apportioned equally among the SARR's traffic groups on a ton-mile basis. If the apportioned ton-mile amount were found to exceed actual rates being paid to the incumbent by any shipper (i.e., low-rated shippers whose rates are not high enough to cover the initial MCM amount), the resulting overage would be apportioned back among the shippers for whom the initial equal apportionment left room between the actual rates they were paying and the equal apportionment ton-mile charge. This process would be iterated up through higher and higher-rated shippers until the total SARR costs were allocated across shippers. As the Board's numerical illustrations of MCM make clear, it would be expected that a shipper paying a challenged rate would generally be a highly rated shipper.²¹

MMM: Under the proposed Maximum Markup Methodology, the candidate SARR's total SAC costs in each year of the analysis would be initially apportioned such that every movement in the SARR's traffic group would pay its variable cost (as calculated using the Board's Uniform Railroad Costing System) plus an equal percentage markup²² above variable cost such that the sum of all markups on a dollar basis would cover the SARR's total dollars of fixed costs. As under MCM, if this allocation of

²¹ *EP 657: Major Issues in Rail Rate Cases* at 9-13.

²² The Board also entertains a variant of MMM in which all shippers would initially be allocated fixed costs on an equal dollar markup above variable cost, with subsequent rounds of iteration to avoid raising any shipper's rate. See *EP 657: Major Issues in Rail Rate Cases* at 15. The analysis of MMM in the text here applies with equal force to this variant of MMM.

markups on an equal revenue-to-variable-cost (“R/VC”) basis implied higher rates than actually being paid by lower-rated movements, the resulting overage on such movements would be iteratively allocated and reallocated to higher-rated movements until all of the SARR’s costs would be covered.²³

The MCM and MMM approaches address the Board’s fears of gaming by carriers by ignoring the rate that a carrier sets pursuant to its rate-setting rights under the Staggers Act and, instead, deriving the rate to be allowed as the maximum on the issue traffic as a residual allocation of the SARR’s stand-alone costs. The challenged rate is ignored whether or not it reflects “gaming” and without any evidentiary determination whatsoever that it, in fact, is a “gamed” rate. Rather, the maximum Board-set rate would be built via a bottom-up approach of iterative reallocations of SARR costs until all SARR costs are accounted for.

This draconian and all-carriers-are-always-guilty approach to fears of gaming would represent extremely poor design of the regulatory process. It would embody a blanket and irrebuttable presumption of “guilty of gaming.” In so doing it would effectively gut carriers’ statutory rights to set their rates in the first instance, and to defend those rates as commercially reasonable via the exercise of due process. Moreover, in a number of key respects, and notwithstanding suggestions to the contrary in *EP 657: Major Issues in Rail Rate Cases*, the proffered MCM and MMM approaches to rate reduction in SAC cases are sharply inconsistent with the principles of contestability and Ramsey pricing that otherwise put the *Guidelines* in such good standing with principles of regulatory policy that protects the public interest. As discussed in detail below, it is not necessary for the Board to eschew its capacities as a finder of fact capable of basing findings of gaming or no gaming on evidence and to throw out protection of the public interest in ratemaking in order to deter, prevent, and detect gaming. Let us begin, however, by examining the economics of MCM and MMM.

III.D The Economics of MCM and MMM

Both the MCM and the MMM approaches to rate reduction in SAC cases begin with a presumption of, or appeal to, some concept of “equality” in the allocation of

²³ *EP 657: Major Issues in Rail Rate Cases* at 13-16.

coverage of the joint and common costs of the SARR system. In the case of MCM, the process of rate prescription begins by initially allocating the total costs of the SARR equally to all ton-miles paid for by all customers, whether or not those customers differ in their elasticities of demand – as the extant differential actual rates reveal they do, and as Ramsey principles would have us ask on behalf of the public's interest in an efficient rail system with minimally distortive pricing of rail services above their marginal costs.

Not only is such an approach to pricing contrary to the public interest in precisely the Ramsey sense, but, as suggested above, while MCM's "equal cost for all" may "sound" fair, its version of fairness actually constitutes treating unequal parties equally. When customers differ in their elasticities of demand, as they surely do when extant actual rates are set differentially by carriers, any given increase in price above marginal cost implemented to ensure coverage of fixed costs implies a larger proportionate reduction in use of the rail system by customers with more elastic demands – and a concomitant disappearance from the nation's economy of that amount of the contribution of the valuable services rail transportation provides to the economy and its ultimate consumers. Recognizing that prices above marginal costs have some, albeit different, effects on the demands of both high-elasticity and low-elasticity shippers, Ramsey principles, as discussed above, find the balance points across different shippers that minimize this distortion to the nation's economy.

Looked at from the perspective of valuation, the notions of equality of treatment from which MCM and MMM launch themselves and then proceed to iterate toward coverage of the SARR's total costs amount to saying to low-elasticity-of-demand shippers: "Even though you don't value rail service at the margin very much, we're going to maximize the amount of fixed-cost coverage we load onto you so that we can minimize the fixed-cost coverage we load onto those who really value incremental rail service highly." While this approach is defended in *EP 657: Major Issues in Rail Rate Cases* by reference to the Long-Cannon factors noted above (especially the concept of "maximizing" the revenues of traffic otherwise only contributing "marginally" to fixed

costs),²⁴ it fails to give “due consideration” to the *public’s* interest insofar as it ignores Ramsey principles in determining contributions to fixed-cost coverage.

In fact, the *Guidelines* recognition of contestability as key to maximum rate regulation in the public interest carries important implications for understanding the implications of MCM and MMM. In the “simulated”²⁵ competition of CMP, an efficient SARR able to “beat” an incumbent’s rates would have the effect of inducing a general rate reduction across the full spectrum of shippers. In finding the rates that maximize the public interest and provide for coverage of the costs of a SARR that has costs which are less than the revenue generated at the challenged incumbent’s rates, contestability and Ramsey pricing by contestants would adjust all rates. That is, we would expect downward pressure on all rates, from the highest to the lowest,²⁶ subject only to a floor at marginal cost. The Percent Reduction Methodology of rate prescription passes this minimal Ramsey test of yielding downward pressure on all rates, from high to low, in the simulated competition of CMP. Moreover, PRM preserves the hierarchy of rates that the marketplace reveals to be consistent with Ramsey recognition of relative elasticities. MCM and MMM do not pass even these minimal tests.

In fact, in the illustrations of MCM and MMM provided by the Board in *EP 657: Major Issues in Rail Rate Cases*, it is clear that the structure of MCM and MMM have the effect of putting *de facto* floors (at levels above marginal, or variable, cost) under low rates, while compressing higher-end rates toward equality. This is seen in Figures 1 and 2, which reproduce Tables 3 and 5, respectively, as they appear in *EP 657: Major Issues in Rail Rate Cases*. Figure 1 is the Board’s comparison of MCM with PRM (labeled “Percent Reduction”). As indicated, Shipper 5’s pre-prescription rate is \$5 per ton. This precisely equals its post-prescription “SAC Rate” of \$5 (and this \$5 rate exceeds the

²⁴ *EP 657: Major Issues in Rail Rate Cases* at 12.

²⁵ *Guidelines* at 528.

²⁶ Albeit by how much would depend on such matters as the ways in which elasticities of demand may change over the sizable ranges contemplated and sometimes found in SAC cases, and how generally unmeasurable marginal costs differ from variable costs, as well as how marginal costs vary with changes in volume implicit in the interaction of demand elasticities and contemplated price changes. These are precisely the boundaries that the ICC ran into in the *Guidelines* as it contemplated, but had to reject, the possibility of being able to implement Ramsey pricing at the detailed level of individual shippers and movements. See *Guidelines* at 527.

variable cost of serving that shipper, indicated by the Board to be \$4.55 in the example²⁷). Contrary to the economics of contestability and Ramsey pricing, Shipper 5 would see no benefit from the simulated competition that the *Guidelines* direct us to employ in determining maximum rates on issue traffic.²⁸ The same result occurs under MMM in Figure 2. MCM and MMM do not employ the simulated competition of contestability called for by the *Guidelines*.

Figure 1

Table 3 from EP 657: Major Issues in Rail Rate Cases
Comparison of MCM and Percent Reduction

Traffic Group	Rate per ton	Total Revenue	SAC Rate per ton		Contribution Towards SAC Costs	
			Percent Reduction	MCM	Percent Reduction	MCM
Complainant	\$25	\$250	\$19.84	\$16.44	\$198	\$164
Shipper 2 (captive)	\$20	\$160	\$15.87	\$16.44	\$127	\$132
Shipper 3 (captive)	\$15	\$90	\$11.90	\$12.33	\$71	\$74
Shipper 4 (captive)	\$10	\$80	\$7.94	\$10	\$63	\$80
Shipper 5 (competitive)	\$5	\$50	\$3.97	\$5	\$40	\$50
		\$630			\$500*	\$500

* The total does not add up due to rounding.

²⁷ EP 657: Major Issues in Rail Rate Cases at Table 4, page 14.

²⁸ Note that Ramsey principles indicate that competition in the contestable setting would put downward pressure on all prices that start out higher than variable (proxying for marginal) cost. The existence of an excess of price over variable cost indicates that the elasticity of demand is such that there is some "room" for the recovery of contributions to coverage of fixed costs even for rates that are relatively low and close to variable cost. If the recovery of revenues above variable costs is reduced (e.g., by competition from a SARR in a contestable setting), Ramsey pricing reduces revenue contributions from all customers paying rates above variable cost.

Figure 2

Table 5 from EP 657: Major Issues in Rail Rate Cases
Comparison of MMM and Percent Reduction

Traffic Group	Rate (per ton)	MMM		Percent Reduction		Contribution To SAC Costs	
		SAC Rate	Rate Relief	SAC Rate	Rate Relief	MMM	Percent Reduction
Complainant	\$25	\$16.03	36%	\$19.84	20.63%	\$160	\$198
Shipper 2	\$20	\$15.39	23%	\$15.87	20.63%	\$123	\$127
Shipper 3	\$15	\$14.43	4%	\$11.90	20.63%	\$87	\$71
Shipper 4	\$10	\$10	0%	\$7.94	20.63%	\$80	\$63
Shipper 5	\$5	\$5	0%	\$3.97	20.63%	\$50	\$40
						\$500	\$500*

* The total does not add up due to rounding.

At the high end of rates, similar violations of the principles and processes embedded in the *Guidelines* are evident, as well. For example, Figure 1 indicates that MCM produces identical rates for the Complainant (i.e., Shipper 1) and Shipper 2. In the Board's examples, this is starkly inconsistent with Ramsey pricing. With the variable costs of serving the Complainant and Shipper 2 as indicated by the Board,²⁹ the market-driven pre-prescription rates of \$25 and \$20 per ton, respectively, indicate that the Complainant's demand is less elastic than Shipper 2's demand. Meanwhile, if MCM is to be consistent with the simulated competition of the *Guidelines* and the demand-based pricing principles of Ramsey pricing, this relationship between their elasticities would had to have flipped. This is wholly implausible as an economic matter.³⁰ Moreover, the bottom-up alternatives to PRM that have been proposed ask us to presume this to be a general case insofar as MCM and MMM are algorithms for pulling down challenged rates relative to all other rates and readily yield the kind of upper-end equalization of rates seen in Figure 1.

Importantly, by ignoring Ramsey in such gross ways (and thereby yielding the kind of implied elasticity "flipping" and upper-end rate equalization seen in Figure 1³¹),

²⁹ I.e., \$8.33 and \$8, respectively, *per EP 657: Major Issues in Rail Rate Cases* at Table 4, page 14.

³⁰ See note 26 above.

³¹ See, also, the rate equalization and rate "flipping" in Figure 3, below.

MCM and MMM are also rejecting the economics of contestability that form the heart of the simulated competition that drives CMP under the *Guidelines*. Specifically, MCM and MMM would not be “winning” outcomes of a contestable process. Because Ramsey principles guide us to rates that minimize the burden on shippers as a whole of the need to generate revenues in excess of variable costs that allow total SARR costs to be covered, a SARR competing in the simulated contestable marketplace of free entry³² and offering shippers Ramsey rates readily “beats” a SARR offering MCM or MMM rates. This is because the former SARR’s offerings are more attractive to the group of shippers that the SARRs are assumed to be competing for. The process of free entry and free exit in the contestability setting means that the SARR offering MCM or MMM pricing is not protected from such better competitors. MCM and MMM are rejections of contestability.

By eschewing even minimal Ramsey principles, and by embodying algorithms that represent methods of rate prescription that tilt the balance of SAC cases toward shippers and away from carriers when compared to the Board’s precedent of PRM, MCM and MMM fail to minimize the burden on the public as a whole of total cost coverage for the SARR. By ignoring basic Ramsey principles and ratcheting down rates relative to a PRM approach, MCM and MMM make a mockery of the admonition of the *Guidelines* that CMP give meaning to the statutory criterion of revenue adequacy³³ and effectively ignore the public’s interest in ratemaking that can provide the basis for investing in and sustaining a healthy and growing rail network with adequate capacity to serve the public’s demand for rail services.

Finally, the misguided notions of “equality” of burden that are the launching points of MCM and MMM represent a falling into a central fallacy of ratemaking that the ICC ran into prior to the Staggers Act, that the *Guidelines* fully recognized, and that has long plagued regulators seeking to establish maximum rates for systems of shared joint and common cost. In particular, while the discussion of MCM and MMM in the rulemaking makes reference to “demand-based” principles in defending MCM and

³² Free entry is taken to mean free of impediments to competition, including transaction costs that might prevent a Ramsey-pricing SARR from dealing with the burdens of total cost coverage on shippers as a whole.

³³ *Guidelines* at 526.

MMM,³⁴ the methodologies are essentially bottom-up cost-allocation algorithms. Referred to as “fully distributed cost” (“FDC”)³⁵ approaches to rate structure design, systems such as MCM and MMM fully distribute the costs of the SARR by starting with the aforementioned precepts of “equal” treatment (albeit, of the unequal) and then proceeding iteratively to redistribute, if necessary, any detected “overage” of FDC costs relative to extant rates under a principle that that no shipper should have its rates raised by contestability. This principle is defended as “demand-based”; but being able to utter the phrase “demand-based” does not satisfy the notion of “demand-based” pricing *consistent with the public interest* as embodied in the Ramsey principles. Non-Ramsey FDC pricing is “[a] common method of pricing used by regulatory commissions [and] begin by allocating all of the utility’s costs to various customer classes and services... The particular method may appear quite reasonable, but the essential point is that it is necessarily arbitrary” vis-à-vis the public interest.³⁶ In their recognition of the Ramsey principles, the *Guidelines*, too, point out the arbitrariness of non-Ramsey cost allocation and recovery ratemaking systems.³⁷

“By definition,”³⁸ the Ramsey principles yield the rate structure that maximizes the public interest in an efficient rail system and economy. And, as we have seen, MCM and MMM fail to satisfy such basic aspects of Ramsey pricing as the fact that Ramsey pricing by a SARR implies downward movement of all rates. It certainly does not imply FDC “equality of” cost allocation or the “no upward movement of rates” that MCM and MMM invoke. The arbitrary, FDC character of MCM and MMM is obvious in the fact that the rulemaking only invokes “demand-based” justifications when it confronts the case of otherwise having to raise a low rate to a higher level. This is clear from Figure 3, in which the pre-prescription rates assumed in Figure 1 (i.e., the Board’s Table 3) have each been scaled up by \$10. In the Board’s example of a SARR with costs of \$500, the

³⁴ EP 657: *Major Issues in Rail Rate Cases* at 9, 11.

³⁵ See, for example, Viscusi, W. Kip, *Economics of Regulation and Antitrust*, 2nd ed. (Cambridge: MIT Press, 1995), at 392.

³⁶ *Ibid.* at 391-92.

³⁷ *Guidelines* at 526.

³⁸ Viscusi, *op. cit.*, at 393.

initial round of equal cost allocation under MCM results in all shippers paying a rate of 13.1 cents per ton-mile. In Figure 3, even Shipper 5 is paying 15 cents per ton-mile at pre-prescription rates; all shippers can pay the 13.1 cents rate. Hence, no rounds of iterative reallocation are necessary, and all shippers end up paying a SAC rate of 13.1 cents per ton-mile. In fact, Shippers 1 (the Complainant), 2, and 5 all end up paying a rate per ton of \$13, while Shippers 3 and 4 end up paying the lowest rates of all (\$9.75 per ton) and have switched positions in the hierarchy of rates with Shipper 5. The FDC ratemaking in Figure 3 is wholly contradictory of the Ramsey and contestability principles of the *Guidelines*. Indeed, this holds for both Figure 3 (in which MCM does not require any of the purported “demand-based” iterative redistribution of SARR costs across shippers) and for the iterative FDC processes envisioned in Figure 1.

Figure 3

Modified[†] Table 3 from EP 657: Major Issues in Rail Rate Cases
Comparison of MCM and Percent Reduction

Traffic Group	Rate per ton	Total Revenue	SAC Rate per ton		Contribution Towards SAC Costs	
			Percent Reduction	MCM	Percent Reduction	MCM
Complainant	\$35.00	\$350	\$16.67	\$13.00	\$167	\$130
Shipper 2 (captive)	\$30.00	\$240	\$14.29	\$13.00	\$114	\$104
Shipper 3 (captive)	\$25.00	\$150	\$11.90	\$9.75	\$71	\$59
Shipper 4 (captive)	\$20.00	\$160	\$9.52	\$9.75	\$76	\$78
Shipper 5 (competitive)	\$15.00	\$150	\$7.14	\$13.00	\$71	\$130
		\$1,050			\$500	\$500*

[†] Table 3 modified such that "Rate per ton" column is raised by \$10 for each shipper.

* The total does not add up due to rounding.

In short, in key respects, MCM and MMM constitute rejections of the *Guidelines*. I recognize that reaching this conclusion may require working through what the *Guidelines* warn, as noted above, are “sophisticated economic theories.”³⁹ Yet, those theories represent descriptions of the public’s interest in the present proceeding – a public that extends far beyond the interested parties that will participate in the proceeding. Importantly, MCM and MMM are fundamentally inconsistent with the simulated competition that follows from the economics of contestability that sit at the heart of CMP

and the *Guidelines*. Moreover, in key respects, they result in ratemaking that is not demand-based in the critical public interest sense of Ramsey pricing.

III.E Dealing with “Gaming” – Using the Right Tools for the Job

The Board notes that: “Under the *Guidelines*, a carrier’s joint and common costs – those that cannot be attributed to particular traffic and thus are to be shared by all the traffic using the facilities and services – should be allocated...based on Ramsey pricing principles.”⁴⁰ Nevertheless, the Board is concerned that, to make CMP under the *Guidelines* fully workable, long-standing precedent supporting the use of PRM needs to be discarded in favor of approaches such as MCM or MMM in order to deal with prospects of “gaming” of the rate reduction methodology by carriers. As noted above, the Board is particularly concerned that PRM implies incentives for a carrier to set an artificially high rate in the hope that, if a successful challenge is mounted at the Board, the ultimate rate set by Board will come out closer to the carrier’s truly desired rate.

The proposal to discard PRM in favor of MCM or MMM represents an attempt to take on two issues – proper rate reduction and prospective gaming of rate prescriptions – with a single, blunt instrument. Rather than discarding PRM in favor of a rate reduction methodology that stands in stark contradiction to the applicable (i.e., Ramsey) guides to ratemaking that most accord with the overall public interest, however, sound principles of regulatory practice argue for separating the question of appropriate rate reduction in SAC cases from the question of “gaming.” Let us examine tools and concepts that can be applied to the definition, detection, and discouragement of gaming by carriers.

Definition: “Gaming” in this context can be properly defined as the challenged carrier setting the challenged rate at more than the carrier would actually prefer to set in the absence of a system of rate oversight. This latter rate (i.e., the rate the carrier actually prefers) is the not-regulated, commercially sustainable rate that maximizes the carrier’s profits in light of marketplace supply and demand conditions. Such a rate is commercially reasonable, while a “gamed” rate has the attribute of leaving the carrier sorry it set that rate if, in fact, it is not successfully challenged and reduced through CPM.

³⁹ *Guidelines* at 525.

⁴⁰ *EP 657: Major Issues in Rail Rate Cases* at 6.

That is, a “gamed” rate is not commercially reasonable or sustainable for the carrier⁴¹; it is higher than the carrier’s profit-maximizing rate for the movement(s) at issue. Indeed, if a rate is profit-maximizing, it is, by definition, not a gamed rate. By implication, a concomitant sign of a gamed rate would be a carrier reducing the rate as a result of and following an unsuccessful challenge by a shipper or shippers before the STB.

Note that it would not be reasonable to define a not-gamed rate as the rate that the carrier or some other party believed to be the likely outcome of a Board SAC analysis – as if “gaming” were setting any rate higher than the maximum rate subsequently dictated by such an analysis. Such a definition would possess a kind of circularity: “If the Board ultimately forces the carrier to reduce the challenged rate, the challenged rate must have been ‘gamed.’” Even more importantly, any definition with such characteristics would have the effect of turning carrier statutory rate-setting freedom into “a carrier cannot set a rate in the first instance higher than the rate that is subsequently determined by SAC analysis to be the maximum permissible rate.”

Detection: Of course, it would not be satisfactory to only be able to detect a gamed rate *after* an unsuccessful rate challenge. *Ex ante*, however, the Board is appropriately in the position of a finder of fact, capable of taking and interpreting evidence on the prospect of gaming by a carrier. At its heart, the challenge is to assess whether or not a challenged rate is commercially reasonable in the sense that it can be rationally sustained as the rate which maximizes the carrier’s profits in light of marketplace supply and demand conditions. From an evidentiary point of view, inquiry can be guided by several signposts:

- **Elasticity of Shipper Demand.** All else equal, a low elasticity of demand for rail transport services implies not only a higher price under Ramsey rules, but a higher profit-maximizing price by an unconstrained carrier. While, as a general matter, measuring elasticities of demand across a multitude of shippers and commodity types would be quite complicated, the rail transportation of coal is subject to straightforward examination for the

⁴¹ For the reasons stated here, “commercially reasonable” and “commercially sustainable” are used interchangeably throughout my discussion.

commercial reasonableness of a carrier's rate. Owing to (1) the tendency of coal-fired power plants to be most efficient when up and running at full capacity, or not at all, and (2) the modern marketplace of marginal cost-based competition among power generators that was ushered in by the Federal Energy Regulatory Commission in the 1990s, coal-fired power generators' demands for delivered coal (and the rail transportation that typically makes the delivery) are properly seen as extremely inelastic with respect to price up to the point that the delivered price makes a power plant's operation uncompetitive in the marketplace. Raising rail rates so as to push the delivered price of coal up to, but not over, that level is consistent with Ramsey pricing and rational profit maximization by a carrier; going farther and pushing the power plant to the point of dropping off the network generally is not commercially rational.

Companion testimony filed on behalf of BNSF in this proceeding by Dr. Darius Gaskins, former chair of the ICC, demonstrates the nature of evidentiary development that can undergird the search in a rate case for "gaming."⁴² Reflecting the extensive public scrutiny and oversight of the electric power sector, data on the competitiveness of various power plants, their dispatch characteristics, their market areas, their costs, their power contracts, and other salient attributes are widely available. Focusing on six recent SAC cases before the Board, Dr. Gaskins calculated the break-point of commercially sustainable rail rates for complaining shippers' power plants. He reports that there is substantial variation in the competitive position and companion commercial costs of rail-delivered coal of the six power plants. Accordingly, the break-points of commercial reasonableness vary, and Dr. Gaskin's work indicates both that it is not an onerous task to determine such breakpoints, and that gaming would be detectable by examination of the determinants of shippers' demand elasticities.

⁴² See *EP 657: Major Issues in Rail Rate Cases*, Statement of Darius Gaskins.

- **Strength of Shipper Demand:** Information and data on the strength of the marketplace and the financial strengths and weaknesses of a shipper subject to a challenged rate can also be highly relevant to evidence-based inquiries into prospects of a carrier gaming a challenged rail rate. Thus, for example, all else equal, a commercially sustainable rate is more likely to be a high rate when the affected power plant customer of the rail-shipped coal is lower cost relative to competitors and on firm footing financially. In *Western Fuel*, for example, the Laramie River Plant affected by a rate increase by BNSF is one of the lowest-cost plants in the nine-state region served by its owner (Basin Electric), and would remain so following the challenged rate increase. Moreover, Basin Electric has consistently generated positive returns and even rebates to its cooperative members.⁴³ Under such conditions, a higher rail rate does not threaten the ability of the buyer to continue to purchase rail-delivered coal and is commercially reasonable in the “not gamed” sense.
- **Underlying Supply and Demand Conditions:** In markets where there is a tight supply of capacity relative to demand, prices can be expected to increase. Indeed, “reasonable” price movements are not solely downward in direction. In well-functioning markets, prices will appropriately rise when supply and demand conditions tighten. Such price movement signals to the economy – customer and supplier alike – where and when resources are scarce and in need of conservation by consumers and augmentation by producers. Accordingly, evidentiary examination of the prospects for or claims of gaming by a carrier in a SAC case properly considers the underlying supply and demand conditions extant at the time a challenged rate is in effect. The stronger is demand relative to supply of rail services, the higher are commercially reasonable and sustainable rail rates and the more likely it is that a carrier will rationally raise a non-gamed rate to a higher level

⁴³ STB Docket No. 42088, *Western Fuels Association Inc., & Basin Electric Power Cooperative v. BNSF Railway Company*, Opening Evidence of BNSF Railway Company, Narrative and Exhibits at II-27 (hereinafter “*WFA Opening Evidence of BNSF*”).

The case of Powder River Basin ("PRB") coal exhibits the nature of relevant issues and evidence in a "gaming" inquiry. First, rising oil and natural gas prices have been putting upward pressure for several years on the demand for coal, as power generators and others find it economic to burn as much coal as feasible. In this environment, the number of trainsets running in BNSF's service and moving coal out of the Powder River Basin increased over 40% – from 270 in January 2003 to almost 390 in December 2004, with further growth occurring as more and more eastern utilities conduct test burns on PRB coal.⁴⁴ The federal Energy Information Administration of the U.S. Department of Energy estimates that PRB coal production will grow from a level of 398 million tons per year in 2004 to 615 million tons annually in 2024.⁴⁵ Second, on the supply side, it is clear that such strong demand can and does strain capacity. A number of independent analysts report such trends as: by late 2003, Powder River Basin's Joint Line was "operating near the threshold of capacity" and that as a result, "outages [mine and track] will be inevitable"⁴⁶; in "Wyoming's Powder River, there is no shortage of coal, but transportation capacity going east has been reached"⁴⁷; and "rail capacity on the Southern PRB's Joint Line, operated by both UP and Burlington Northern Santa Fe, is at or very near maximum."⁴⁸

Attempts to insulate the rail industry – both carriers and shippers – from the forces of the marketplace had spelled ruin by the time of the Staggers Act. Accordingly, responding to changing supply and demand conditions with flexible pricing and with adjustments of rail supply offerings is a central objective of the Act. As applied in the context of coal rate challenges, when

⁴⁴ Statement of John Lanigan, Ex Parte 657, *Rail Rate Challenges Under the Stand Alone Cost Methodology* (April 26, 2005), at 2 and Exhibit 7.

⁴⁵ U.S. Energy Information Administration, *Annual Energy Outlook 2005*, Supplemental Table 111.

⁴⁶ "Capacity Issues and Trends in the PRB," *Platts Coal Outlook* (November 17, 2003).

⁴⁷ "Coal Coming On: Demand Likely to Increase in 2005," *The Billings Gazette* (January 16, 2005).

⁴⁸ "Coal Market Reaching Fever Pitch as Prices, OTC Volumes Soar," *Platts Coal Outlook* (December 8, 2003). See also "KFX Project Raises Possibility of Arch Reviving Coal Creek Mine," *Platts Coal*

supply and demand conditions are tight, it is in the public interest to have rail rates adjust upward to bring supply and demand into balance, to signal railroads and other transportation providers where expansion of investment is called for, and to signal railroads' direct and indirect users that rail services are relatively scarce. The implied upward pressure on price makes rail rate increases of some amount commercially sustainable when supply and demand conditions are tight. Thus, evidence on underlying supply and demand conditions provides highly relevant information to an inquiry into asserted gaming of percent reduction by a rail carrier.

- **Contextual Information on “Facts and Circumstances”:** In any case of a rate increase for rail transportation of coal it can be expected that there are facts and circumstances that bear upon whether or not the increase is commercially reasonable. Thus, for example, rail transportation contracts in the coal sector have historically tended to be relatively long-term. Depending on such matters as the initial rate struck under a contract, the particular escalation terms of the contract, and the evolution of the marketplace relative to those terms, the rail rate under a contract as that contract comes to its expiration may be substantially out of step with the marketplace. Under such circumstances, moving new rates to their commercially reasonable levels may imply substantial changes in rates – up or down.

A particularly illustrative case of the foregoing has been provided in the *Western Fuels* case. In *Western Fuels*, by the time of contract expiration in 2004, the carrier (BNSF) and Western Fuels had been operating since 1984 under a contract that had been the product of a legal settlement, rather than merely extant market forces in the 1980s. Moreover, the contract at issue contained escalation provisions that had the effect of holding down rates relative to rates that would have been more reflective of evolving market conditions.⁴⁹ As a result, the fact that rates went up upon contract expiration,

Outlook (March 29, 2004), and “Shippers, Railroads Need Joint Solutions to Problems,” *Platts Coal Outlook* (March 21, 2005).

⁴⁹ *WFA Opening Evidence of BNSF* at II-25 – II-26.

even that they went up substantially, does not indicate that the new and challenged rate was “gamed” and was not commercially sustainable. The facts and circumstances of a rate increase clearly are relevant to interpreting the reasonableness of any given rate increase.

Even more generally, the timing and magnitude of a challenged rail rate increase warrant consideration in light of the interaction of market conditions, shipper situations, and the objectives and strategies of rail management. In this regard, verified statements and related, very context-specific information can be provided by carriers, and it is proper regulatory process for the Board to expect the carrier in a SAC case to speak to issues of whether the carrier is “gaming” the CMP rate prescription process or not.

Discouragement: As noted, at the core of the MCM/MMM proposals is the stated intention of the Board to discourage the “gaming” of CMP rate prescriptions by carriers. Notwithstanding the substantive inappropriateness of rate prescription methodologies – MCM and MMM – that eschew in key respects the contestability and Ramsey precepts of the *Guidelines*, it is certainly appropriate for the Board to concern itself with conducting CMP *process* in such a manner so as to discourage gaming through procedural disincentives. In this regard, familiar tools of litigatory process – rebuttable presumptions, burdens of proof, and the like – are at hand. These can include:

- **Safe Harbors:** In a number of contexts that share characteristics with the matters at hand, we have experience with so-called “safe harbor” policies that are designed to reduce litigation outcome uncertainty, save on litigation costs, balance multiple competing objectives, and avoid draconian approaches that cut off achievement of one or more objectives. Thus, for example, in federal merger policy, we seek to encourage mergers that make firms more efficient and competitive, while trying to avoid mergers that would harm competition. Accordingly, the familiar *Horizontal Merger Guidelines* of the U.S. Department of Justice and the Federal Trade Commission provide a series of screens and safe harbors by which we assess whether or not a merger is subject to challenge based upon cut-off points related to market shares and

market concentration (i.e., the so-called Herfindahl-Hirschman values in the *Merger Guidelines*). Similar safe harbor approaches are embodied in federal tax policy, federal electric power merger regulation, and the regulation of oil pipeline transportation.

In the context posed by the Board in *EP 657: Major Issues in Rail Rate Cases*, safe harbors naturally suggest themselves. For example, we can make use of the economics noted above to the effect that a gamed rate would be a rate that would tend to drive a customer off the use of coal transported under the rate, or at least that a gamed rate would be a rate that, but for gaming incentives, would not actually be desired by the carrier because it was inconsistent with rational profit maximization. Thus, any common carrier rate that has been on the books for a certain period of time (e.g., one year) and has moved traffic without incurring a rate challenge could be deemed commercially reasonable and not “gamed” for purposes of applying PRM. Similarly, if a rate persists for a certain period of time (e.g., one year) and volumes moved under that rate have not declined during that period by a given percentage relative to total rail movements of coal in the region, that rate could be deemed commercially viable and not “gamed” for purposes of applying PRM. Reflecting the relevance of whether or not the prior contract in a particular case succeeded in keeping rates in step with market conditions, any new common carrier rate that is no more than a given percentage higher than an expiring contract rate could reasonably be deemed to be commercially viable and not “gamed” for purposes of application of PRM.

- **Rebuttable Presumptions and Burdens of Proof:** Rebuttable presumptions and the assignment of burdens of proof are familiar mechanisms by which the design of regulatory processes and standards can be used to encourage or discourage particular litigation strategies. Thus, for example, safe harbor criteria of the foregoing types can be combined with particular evidentiary requirements and burdens so as to discourage “gaming” of initial rates. As in the case of the *Merger Guidelines*, zones could be established under which, for example, a rate increase of less than X% is presumptively “safe” as being

not gamed; in the range of a X%-Y% increase, the challenging shipper has the burden of demonstrating that a challenged rate is not commercially reasonable (e.g., by demonstrating that it could not be economic for the carrier to raise and sustain the challenged rate absent gaming); and above Y%, the burden of demonstrating commercial reasonableness shifts to the carrier. Similarly, zones for assigning evidentiary burdens could be applied to post-increase volume reductions of specified amounts relative to a base of all volumes shipped in a relevant comparison group of coal movements. Failure of a carrier to meet its burden of proof for a rate increase outside of the safe harbors would nevertheless put the Board in possession of the proffered evidence on the matter and permit the Board to determine a commercially reasonable rate – i.e., a rate sustainable as the profit-maximizing rate for the carrier, given applicable supply and demand conditions – under the “detection” criteria set out above. This rate then would be the rate to which PRM would apply if the SAC analysis found an overage of SARR revenues relative to SARR costs.

- **Penalties for Gaming:** In keeping with the definition of “gaming” set out above, “gaming” of the rate prescription process would represent a conscious litigation strategy that would not be viable as a pure profit-maximizing business strategy in the absence of gaming incentives. If a challenged rate increase were in excess of the first level safe harbor (which would appropriately be used to limit litigation costs) and there were demonstration beyond a reasonable doubt of intentional and strategic gaming of the regulatory process, it could be eminently reasonable to “slam” a carrier by, for example, ignoring the rate set by the carrier and having the Board establish a value for a commercially reasonable rate – i.e., a rate sustainable as the profit-maximizing rate for the carrier, given applicable supply and demand conditions – based on evidence developed under the “detection” criteria set out above. This rate then would be the rate to which PRM would apply if the SAC analysis found an overage of SARR revenues relative to SARR costs.

The foregoing provide illustrations of the kinds of tools that well-designed regulatory processes have at their disposal in order to incentivize parties to not game those processes. In the matter at hand, application of clear criteria for defining, detecting, and discouraging the prospective gaming that motivates concerns over the continued use of the long-standing Percent Reduction Methodology in SAC cases provides the means by which to avoid throwing the public interest principles of the *Guidelines* (i.e., contestability and Ramsey pricing) out with the “bath water” of “gaming.”

IV. THE PROPER TREATMENT OF CROSS-OVER TRAFFIC IN SAC ANALYSIS

Arguably, the most contentious issue that has been recurring in recent coal rate cases has concerned the proper treatment of so-called “cross-over” traffic. The Board has viewed inclusion of such traffic as “a well-established practice in SAC cases that enables these cases to focus on the facilities and services that are used by the complainant shipper, and it prevents SAC cases from becoming unmanageable.” In *EP 657: Major Issues in Rail Rate Cases*, the Board describes its current method of determining SARR cross-over revenues as intended “to make the analysis more manageable without introducing bias. Thus, the goal in allocating revenue from cross-over traffic should be to ensure that a simplified SAC analysis using cross-over traffic will approximate a full SAC analysis, which provides origin-to-destination service for the entire [SARR] traffic group.”⁵⁰

The challenge for the Board in achieving the stated objectives has been to determine the level of revenue to be attributed the SARR’s cross-over traffic. Unfortunately, the Board’s shortcut approach, taken to avoid requiring complainants to propose “full” SARRs, is not succeeding in avoiding bias. Under its current method of cross-over revenue allocation, the Board proceeds as if the complainant has proposed the full SARR, and imagines its competition in the contestability setting to allow the SARR to capture a modified mileage prorated portion of the entire through revenues, rather than the revenues that the shortcut SARR actually proposed would be expected to garner if it

⁵⁰ *EP 657: Major Issues in Rail Rate Cases*, at 17.

competed *as a shortcut* SARR in the contestability setting. In fact, the Board's adoption of its shortcut approach to allocation of cross-over revenues amounts to a shortcut methodology for which the Board acknowledges it lacks a methodology applicable to the case of "full" SARRs:

We face a dilemma, however, if we attempt to allocate revenues based on the relationship between a simplified and full SAC analysis. The full SAC costs for a particular cross-over movement cannot be judged without a full SAC analysis, an undertaking that would defeat the purpose of using cross-over traffic in the first place. Even if we knew the total replacement costs of the off-SARR segments used by cross-over movements, we have no method for allocating a share of those investment costs to just the cross-over movements.⁵¹

The result is that the Board's current shortcut method amounts to an approximation of a full and proper method that the Board has not been able to specify. Epistemologically, this means that the shortcut approximation cannot even be assessed as approximating the desired target: If the proper method of determining SARR revenues on non-issue traffic the SARR is designed to compete for cannot be specified in the full SARR analysis, the shortcut method cannot be said to be an acceptable approximation of something that doesn't exist – i.e., a full and proper method of allocation.

For its part, the Board acknowledges that its approach to cross-over traffic "introduces some imprecision into the SAC analysis."⁵² With no effective means of determining whether a SARR's proposed portions of cross-over moves are more efficiently provided by the SARR than the incumbent, such that the SARR would actually win the contest for such portions of moves in the simulated competition of contestability, prior SAC analyses have allowed for arbitrarily designed SARRs that have upwards of 90% of revenues attributable to cross-over traffic.⁵³ In the *Western Fuels* case, more than 95% of the proposed SARR's revenues are purportedly garnered from cross-over traffic,

⁵¹ *EP 657: Major Issues in Rail Rate Cases*, at 17.

⁵² STB Docket No. 42057, *Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company*, Decision (January 19, 2005) at 7.

⁵³ *Duke/NS Decision* at 17; *Xcel/BNSF Decision* at 13. STB Docket No. 42070, *Duke Energy Corporation v. CSX Transportation Company Inc.*, Decision (February 3, 2004) at 20.

and the issue traffic is the only through move carried on the SARR. The SARR is but 220 miles long, yet depends on more than 9,300 route miles, or approximately 40%, of BNSF's overall network.⁵⁴ In such situations, the design of the SARR is not being driven by the economics of an efficient competitor seeking to win by offering rates that beat the next best alternative, but by the incentive to include many short-haul movements that are highly profitable due to the arbitrary rules that have evolved to allocate revenue between the SARR and the residual incumbent.

The Board has recognized that, under its current system of cross-over allocation, a complainant can selectively choose highly rated (i.e., high revenue and low cost) traffic on the SARR and rules-based revenue divisions to "game" the process⁵⁵ by designing a SARR to capitalize on divisions that reward small SARRs with very large amounts of highly rated cross-over traffic from which they garner hypothetical revenue divisions. With the overwhelming majority of a SARR's revenues coming from cross-over traffic, the challenged traffic must carry proportionately less of the revenue burden needed to yield the SARR overall revenues that cover its stand-alone costs. This increases the likelihood that the incumbent's actual rates will be found to be in excess of the rates needed by the Stand-Alone Railroad and, hence, unreasonably high. In the case of *Western Fuels*, for example, the complainant's SARR, coupled with the Board's method of allocating cross-over revenues to the SARR, yielded the untenable implication that cross-over revenues alone were sufficient to cover the stand-alone costs of the proposed SARR. That is, zero revenue was required to be earned on the issue traffic to allow the SARR to cover its stand-alone costs.⁵⁶

Significantly, in *EP 657: Major Issues in Rail Rate Cases*, the Board proposes to continue to base SARR cross-over revenues on a proration of the traffic's through revenues at extant incumbent rates. Under the proposal, the prorated split of through revenues would be based upon an allocation of "Average Total Cost" ("ATC") across the

⁵⁴ STB Docket No. 42088, *Western Fuels Association Inc., & Basin Electric Power Cooperative v. BNSF Railway Company*, Reply Statement of Joseph P. Kalt, Ph.D., at 11 (hereinafter "*WFA Kalt Reply Statement*").

⁵⁵ *CP&L/NS Decision* at 31-32.

⁵⁶ *WFA Kalt Reply Statement* at 11-12.

shortcut SARR's segments and the residual incumbent's segments of the moves of cross-over traffic. ATC does offer a better means to take into account economies of density, but still offers opportunity for bias in SARR design. Complainants would continue to have incentives to "game" the SAC analysis when prorated ATC allocation of cross-over revenues is coupled with the Board's MCM/MMM proposals for rate prescription. Specifically, as described above and as evident in Figures 2 and 3 above, it is in complainants' interests to minimize the iterations that reallocate cost responsibility from lower-rated, non-issue traffic to higher-rated, issue traffic. Doing so holds down the prescribed rate for the latter, and can be accomplished by biasing the selection of SARR traffic so as to pick up large amounts of relatively highly rated cross-over traffic. The more of the burden of the SARR's costs that can be carried by such traffic, the less need there is to load that burden onto the issue traffic in SAC rate prescriptions.

All of this raises the question of whether cross-over traffic can be handled without introducing bias. As set out below, this is, indeed, feasible. The answer lies in working through the economics of contestability. Doing so yields the rates and revenues that a SARR could expect to garner on cross-over traffic. In fact, as discussed below, the economics of contestability can be employed not only to generate cross-over revenue allocations that are consistent with the principles of contestability embodied in the *Guidelines*, but these economics can also be employed to structure complainants' incentives so as to eliminate the sources of bias emanating from both the present practice of cross-over revenue allocation and the Board's proffered proposal in *EP 657: Major Issues in Rail Rate Cases*.

IV.A Designing Efficient SARRs

A properly framed SAC analysis compels the regulatory process to confront the increasingly salient question arising in rate proceedings: What kinds of SARRs would rational new entrants design in order to compete in the face of putatively excessive rates for challenged traffic? Are SARRs that are overwhelmingly dependent on cross-over traffic credible entrants in a contestable market? Answers to these questions are to be found in the realization that, in a contestable market setting, SARRs would design – *and price* – efficient systems that would stand a chance of "winning" the competitions of a contestable market. This is the framework within which to analyze cross-over traffic.

Instead, SAC cases have become dominated by rules that are not derived from behavior consistent with contestable markets. As a result, recent cases have seen SARRs that are implausible vehicles for entry into a rail market and that appear to be designed only to take advantage of the arbitrary revenue allocation rules.⁵⁷

If railroading were actually contestable, an actual SARR would be unconstrained by barriers to entry in designing its system and competing for whatever traffic it wished – including cross-over traffic. But it would do so in an economic context in which it could not rationally expect to win traffic for which it is not the efficient alternative or not priced lower than the next best alternative (as offered in the contest by the incumbent). In terms of cross-over traffic, this means that a SARR could expect to realize cross-over revenues only to the extent that it offers service to shippers that is more efficient than the service of the incumbent and that is priced so as to beat the best offer the incumbent can make in the contest for the portions of the moves at issue. On the other hand, if hypothetical SARRs designed for litigation purposes are not subjected by the regulatory process to these constraints of efficiency and competitive pricing, but can capture cross-over revenue in excess of the revenues that would be yielded by a contestable marketplace, complainants can be expected to game the system by designing SARRs so as to maximize cross-over revenues and, thereby, minimize the revenues that the issue traffic must generate to leave the SARR economically sustainable as a Stand-Alone Railroad.

Thus, inclusion of cross-over traffic is not theoretically “wrong” or inconsistent with contestability, but the proper regulatory treatment of cross-over revenues under SAC analysis must entail consistent application of the economics of contestability to answer how behavior in contestable settings would set rates on cross-over traffic. The resulting rates *are* the revenues that a SARR could garner on cross-over traffic. That is, sound application of the CMP principles of contestability embodied in the *Guidelines* derives the *prices* a SARR could charge and still win the competition for its portions of cross-

⁵⁷ *Duke/NS Decision* at 25-30. *CP&L/NS Decision* at 22. STB Docket No. 42056, Texas Municipal Power Agency v. The Burlington Northern and Santa Fe Railway Company, Decision (March 21, 2003) at 22-24. STB Docket No. 42054, PPL Montana v. The Burlington Northern and Santa Fe Railway Company, Decision (August 19, 2002) at 7-8. STB Docket No. 42071, Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of The

over moves, rather than allocating revenues through arbitrary rules that delineate divisions of through rate revenues between incumbent and SARR, vainly justified by arguments about cost attribution.⁵⁸

The appropriate starting point for determining revenue on cross-over traffic is found in the economics of the competition that would take place between a residual incumbent and a SARR under simulated conditions in which neither is subject to barriers to entry or exit (i.e., conditions of contestability). Such competition yields the straightforward result that prices that the “winner” can charge in a contest in a contestable market will not exceed the avoidable costs of the next best alternative (i.e., the loser). In the SAC context, the next best alternative to the SARR’s carriage of its portion of a cross-over move on its system is the carriage of that same portion of the cross-over move by the incumbent on its system.

Contestability in this setting proceeds as if both the SARR and the incumbent shout out offers to shippers for the portion of the cross-over traffic that is brought into the contest by the SARR’s selection of its system design and the SARR’s selection of the traffic it wants to chase (i.e., its marketing strategy). We can readily ask, as the SARR and the incumbent confront shippers in the contestable marketplace and shout out their offers for the contested portion of the cross-over move, how low will their competition take their prices? Neither party will go lower with its offered rate than the costs it can avoid if it is the loser in the competition: If it offered rates lower than its avoidable costs, it is at risk of winning business on which it will incur a loss. Thus, for example, if one of the railroad’s avoidable costs on the contested portion of the cross-over traffic is \$32 and it were to win the competition with an offered rate of \$30, it would suffer a \$2 loss. That railroad is better off dropping out of the competition when rates are pushed even the slightest amount below \$32. This means that the lower (avoidable)-cost contestant can win the competition by lowering its rates to an amount essentially equal to the higher (avoidable)-cost competitor less one cent. Thus, if the lower-cost competitor has

Burlington Northern and Santa Fe Railway Company (October 8, 2003) at I.12 to I.17, III.A.59 to III.A.68.

⁵⁸ *Duke/NS Decision* at 18-20.

avoidable costs of, say, \$28, it can win the hypothetical competition by offering a rate one cent below \$32 (i.e., the avoidable costs of the less efficient competitor).

This outcome of a contestable market for contested portions of cross-over traffic is, of course, the familiar result of competition and the reason the public has an abiding interest in competition: In well-functioning competitive markets, the efficient contestants win and drive out the inefficient contestants, and prices are driven down to no more than the costs at which the next best alternative could survive. In the context of competition over contested portions of cross-over moves, the direct implication of the economics of contestability embodied in the *Guidelines* is that the revenue properly allocated to a SARR under coherent SAC analysis on cross-over traffic is the avoidable costs of the incumbent that are associated with that traffic. If the SARR is actually more efficient at carrying the contested portion of cross-over moves than the incumbent, the SARR will thereby appropriately be treated as the “winner” in SAC analysis, and it will capture contributions to the joint and common costs of its own network. Such contributions are precisely those that competition under contestability yields. In terms of the hypothetical above, the SARR is more efficient (with costs of \$28), and the disciplining forces of competition yield it a rate of \$32 (less one cent) upon winning the contest for the contested portion of the cross-over move. Upon losing the competition when rates get even the slightest below the incumbent’s assumed avoidable costs of \$32, the incumbent is compelled to exit the service which was contested. The incumbent exits without constraint under conditions of contestability – i.e., the incumbent is assumed to have no sunk costs on the contested service that would otherwise induce it to stay in the competition at rates below \$32.

IV.B Cross-Over Revenues under Contestability

The foregoing outcomes of competition for cross-over traffic obviously yield *prices* which are, at the same time, the proper *revenue allocations* under the contestability embodied in the *Guidelines*. That is, working out the economics of contestability answers the cross-over revenue allocation question. The resulting prices (rates) and revenue allocations are the product of the relative efficiency of the SARR and its choice of target traffic. Thus, if the SARR chooses to design and market itself (as in the *Western Fuels* case noted above) so as to compete in the contestable market of SAC analysis for

only a portion of a route and only a portion of the traffic on that route,⁵⁹ it thereby chooses to compete against the avoidable costs of the incumbent on the corresponding portion of the route for the corresponding portion of the traffic on that route. This is the unavoidable contest that is created.⁶⁰

If, on the other hand, the complainant chooses to design a SARR to capture through moves of non-issue traffic, SAC analysis permits the complainant to include the incumbent's full through revenue of the movements in the SAC calculations. When a through movement is included in the SARR, the rates for the movement are known – they are the rates charged by the incumbent. Since the purpose of the SAC analysis is to determine whether the *rates charged* by the incumbent on the traffic included in the SARR are generating a cross-subsidy, and the rates for through movements are known, no further inquiry needs to be made into the revenues available to the SARR for a through move. In the case of cross-over traffic, however, there is no pre-existing actual rate for the part of the through movement that the SARR proposes to carry. Thus, the revenue that would be available to the SARR for that cross-over movement has to be determined by reference to economic principles.

Note the proper, anti-“gaming” incentives that flow from this application of the economics of contestability. Assuming a SARR that is rational and attempting to be the efficient winner of the competitions it enters, the reasonable conclusion to be drawn when the SARR chooses to compete only for cross-over non-issue traffic (as in the *Western Fuels* case) is that the SARR has concluded that a build-out to capture the through

⁵⁹ As noted, in the *Western Fuels* case, the only through movement carried by the SARR is the issue traffic. All other traffic is cross-over, and the SARR does not provide service to several non-utility customers, which originated substantial tons on BNSF in 2004. See *WFA Kalt Reply Statement* at 17.

⁶⁰ In fact, the economics that generate the conclusion that a contestable market for cross-over moves would yield prices (rates) and corresponding revenue allocations to a SARR that are no higher than the incumbent's avoidable costs are analytically parallel to those that govern the pricing in so-called “rat tail” settings, which the Board has encountered frequently in the context of merger analyses. In those analyses, the Board has properly recognized, and the federal courts have endorsed the economic reasoning, that a railroad serving a portion of a through move will win the competition against a railroad proposing to carry the entirety of a through move when the former railroad's costs are less than the latter's avoidable costs on the contested portion of the move; and that, upon winning, the former railroad will realize a division which is not greater than those avoided costs. See *Western Resources, Inc., v. Surface Transportation Board and the United States of America*, 109 F.d 782 (D.C. Cir. 1997) at 786-788.

revenues on non-issue traffic would not be the most efficient way of entering the market. On the other hand, this outcome with respect to SARR revenues implies that a complainant would have corresponding incentives to "build" (propose) more extensive SARRs if and when it is efficient to do so (i.e., when such a SARR would be in the public interest).

Observe that these outcomes are also consistent with the Board's desire for "simplification" of SAC computations that does not penalize the shipper. In fact, these outcomes offer only a win/win situation for the proponent of a SARR. Assuming that the SARR would be more efficient than the incumbent and, therefore, that the SARR's incremental costs would be lower than the incumbent's avoidable costs, the SARR has two ways to benefit from economies of scale, scope, and density. Without expanding the SARR configuration beyond the lines necessary to serve the issue traffic, a SARR proponent can nonetheless generate net revenues that offset the costs of building and operating the issue traffic line segments by adding cross-over traffic and earning such revenues in excess of its incremental costs. On the other hand, if the shipper believes that even larger amounts of net revenues can be generated to cover stand-alone costs by expanding the SARR configuration to handle some or all of the cross-over traffic movements from their incumbent origin to their incumbent destination, and obtaining (for the purposes of determining whether there is an overage relative to SAC) the incumbent's full revenues for those movements for which the SARR replicates the entirety of the incumbent's current service, the shipper is free to take this action instead. In neither case is the shipper's SAC result saddled with potential losses that might be generated if it were forced to expand the SARR by building line segments that generate incremental revenues below the forward-looking costs of constructing and operating these lines.

It is consistent with sound and feasible regulatory policy that a SARR that builds a larger system in order to carry non-issue traffic on its through moves (when such traffic would otherwise be cross-over on a less extensive SARR) garners the incumbent's *rates* on such through traffic when seeking to determine if the incumbent's extant rates generate an overage relative to SAC. This approach is consistent with rebuttable presumptions that the SARR that is designed to compete effectively for through movements of non-issue traffic has costs on through moves of that traffic which are less

than extant rates (otherwise the SARR would not have any incentive to be designed to contest for such traffic). For a SARR that chooses *not* to compete for through movements of non-issue traffic, but only for cross-over portions of through moves, it is appropriate that that SARR garner no more than the full avoidable costs (taking none to be sunk) of the incumbent since that allocation is the allocation a competitive contestable market would make in a contest for cross-over traffic, and there are no extant rates to turn to when a SARR enters and proposes to take only cross-over portions of through moves currently being carried by the incumbent.

In the case of both the SARR that elects to contest only a portion of a move (i.e., seeks cross-over traffic) and the SARR that builds out its system further and elects to contest all of the traffic on a complete route, the SARR is a replacement for the incumbent on the movements included in the SAC analysis. As the Board properly recognized in *Nevada Power*,⁶¹ the incumbent should be accorded no competitive advantage due merely to its incumbency (i.e., having already sunk much of its costs in building its network and serving a particular route and/or traffic). The economics of contestability accord no such advantage to the incumbent since, like the SARR, the incumbent has no barriers to exit or entry due to irretrievably sunk costs, and the incumbent is as footloose as the SARR. If the incumbent loses all of the traffic on a portion of a cross-over move in the contest with the SARR, the incumbent is treated as exiting and harboring no protections from sunk costs *on the contested traffic*. Accordingly, the incumbent avoids all of the fixed and variable costs of the contested traffic; that is, the incumbent hypothetically eschews the building of tracks duplicative with those of the SARR and the SARR replaces the incumbent. If the incumbent loses part of the traffic on a portion of a cross-over move, it still must build its line to serve the traffic for which the SARR does not offer service,⁶² but the incumbent continues to be

⁶¹ Interstate Commerce Committee, No. 37038, *Bituminous Coal – Hiawatha, Utah to Moapa, Nevada*, Decision (October 12, 1994) at 265-267 (hereinafter “*Nevada Power Decision*”).

⁶² It is appropriate to require that the incumbent be assumed to have to build its portion of the cross-over route under the circumstances in which a SARR markets its service to only a portion of the potential cross-over traffic. To do otherwise is to imply that the potential cross-over traffic that the SARR elects not to serve would be left without service altogether. Allowing a SARR to implicitly deny and destroy service to a certain class of customer is not consistent with the use of CMP and SAC analysis

treated as exiting the service of the contested traffic and harboring no protections from sunk costs *on the contested traffic*. In that case, the SARR replaces the incumbent entirely (in the sense of a full accounting of avoidable costs) for the traffic that the SARR does win.

This approach fully addresses concerns the Board/Commission has about entry barriers.⁶³ Under the economics of contestability set out above, the competition that is simulated does not involve the real world incumbent, with all of its sunk costs, barriers to exit, and the like. Rather, the revenue determination on cross-over traffic under contestable conditions is derived assuming that the incumbent is, like the SARR, free to enter and exit and has no more of a foothold than the SARR. As part of the contest, no rates are being reduced to preclude entry by the SARR. In the case of cross-over traffic, there are no rates to reduce since none exist. The purpose of the contestability analysis is to determine what the rates for the cross-over movement would be in a true contestable market.

The allocation to the SARR of revenue for cross-over traffic on the basis of the incumbent's avoidable costs arises not because the incumbent is protected by barriers to entry or exit or has some other first-mover advantage. Rather, the allocation on the basis of the incumbent's avoided costs arises because, under contestability, the free-to-enter-and-exit "incumbent" is just as flexible as the SARR entrant. The incumbent enters the simulated contestable market with its own system and that system's particular configuration, joint and common costs, and efficiency attributes. Under the contestability approach set out here, cross-over revenues for the SARR are kept consistent with the economics of contestability that generate the winning rates in the particular contests that the SARR "wins" given both the system design of the incumbent and the system design of the SARR. Accordingly, in the simulated competition invoked by the *Guidelines*, the SARR completely replaces the incumbent in those services and on those routes where the SARR "wins," and the contestability standard establishes revenues for the SARR on cross-over moves under the assumption that none of the incumbent's costs of serving the

as protectors of the public interest, since the public has an interest in maintaining service to customers that the SARR eschews. This issue is prominent in *Western Fuels*.

⁶³ *Nevada Power Decision* at 265-266.

cross-over traffic are sunk. That is, SARR revenue is established at the level of *all* of the incumbent's *avoidable* costs of serving the cross-over traffic.

In short, revenues that are retained by the incumbent for off-SARR portions of the cross-over movements under consistent application of the *Guidelines* are not reflective of an incumbency advantage. Rather, the contest set up by the SARR's choice of system design and marketing strategy leaves the incumbent as the efficient – and necessary – provider of rail service to interline with the SARR and provide the incumbent's portion of cross-over moves. As a direct consequence, setting SARR cross-over revenues at the level of the costs avoided by the incumbent that the SARR replaces carries proper incentives for complainants when designing their SARRs. It is the nature of the Board's approach to SAC analysis that a complainant is allowed to assert that its SARR can and would win the contests for the traffic it elects to serve.

Concomitantly, with respect to cross-over traffic, the SARR should be allowed to collect no more than the competitive prices that a contestable market would set for the SARR's portion of cross-over moves. Permitting the SARR to capture more than the avoided costs of the incumbent on the SARR's portion of cross-over traffic – as under both the current modified mileage prorate methodology and the Board's ATC proposal in *EP 657: Major Issues in Rail Rate Cases* – amounts to allowing the SARR to capture above-competitive rates for the traffic it elects to serve. The consequence is then what economics refers to "cross-subsidy" of the challenged *issue* traffic: above-competitive pricing of cross-over traffic cross-subsidizes issue traffic by reducing the amount of revenue a SARR needs to collect from the issue traffic. This is the reason why cases such as *Western Fuels* arise with the untenable implication that the issue traffic needs to contribute *no* revenue in order for the SARR to cover its costs and survive as a stand-alone railroad (see above).

Appropriately applied SAC analysis under the contestability conditions envisioned by the *Guidelines* can allow a SARR to pursue any traffic it desires with any system it desires. Such freedom, however, must be accompanied by an ability to realize revenues on non-issue cross-over traffic that do not exceed the SARR's competitor's (i.e., the residual incumbent's) avoided costs of serving such traffic. Consistent application of

these economics of contestability obviously would provide complainants with incentives to design efficient SARRs where such systems have realistic possibilities of winning competitions and where resulting revenues allow the SARR to cover its costs and contribute to its joint and common costs precisely to the extent that it could hypothetically offer the shipping public more efficient service. The complainants would also have incentives to “build” larger and more efficient SARRs to the extent that such systems were truly more efficient and the SARR could convert cross-over traffic to complete routings on its own system. In fact, complainants would have incentives to build and market efficient systems, whatever the size, since efficiency improvements would be the source of net revenue contribution from non-issue traffic. In so doing, they would more closely adhere to the goals and the standards of the *Guidelines*.

IV.C Prior Precedent and Cross-Over Revenue under Contestability

I recognize that the ICC previously felt it was rejecting the application of contestable market principles in establishing revenues on cross-over traffic in its *Nevada Power* decision. Fortunately, the present rulemaking provides an appropriate venue for reexamining the propriety of that decision. For several reasons this conclusion should be reconsidered.

First, as the Board recognized in the *Duke/NS* and *CP&L/NS*⁶⁴ decisions and as discussed above, significant potential for shipper “gaming” of the Stand-Alone Cost test has emerged as a result of shippers’ extensive reliance on cross-over traffic. It is reasonable to infer that at the time it rendered *Nevada Power*, the ICC did not anticipate that shippers would make such extensive use of cross-over traffic.⁶⁵ As we can see in the cases such as *Western Fuels*, the overwhelming reliance on cross-over traffic and prior approaches to revenue allocation for cross-over traffic has led to significant “gaming” of the Stand-Alone Cost test.

⁶⁴ *Duke/NS Decision* at 22; *CP&L/NS Decision* at 31-32; and *Nevada Power Decision* at 265-266.

⁶⁵ In the *Nevada Power* case, the parties had the opportunity to supplement the record. Nevada Power proposed expanding the scope of its SARR to build out more of the UP’s system, UP objected, and the Commission ultimately considered the original SARR the complainant proposed. Given the unique circumstance surrounding the structure of the SARR in *Nevada Power*, it is understandable that the Commission expressed skepticism toward UP’s arguments concerning cross-over traffic.

Second, because Union Pacific prevailed in the *Nevada Power* proceeding, it had no opportunity to appeal the ICC's decision that (1) permitted cross-over traffic, (2) employed a modified mileage prorate in estimating divisions on cross-over traffic, and (3) rejected Union Pacific's testimony on application of contestability principles as the basis for establishing revenue divisions on cross-over traffic. This absence of framework and opportunity to more fully consider the economics embodied in the *Guidelines*, coupled with the evolution of cases and case strategies, has made cross-over matters particularly controversial and contentious. It is appropriate at this time to examine and apply the underlying economics that the *Guidelines* are based upon.

Third, in terms of implementing a URCS-based measure of avoidable cost, the ICC had an incorrect view in *Nevada Power* that such a measure would "allow for only a minimal contribution to NPRR's joint and common costs."⁶⁶ It is my understanding that URCS assumes that 50% of road property costs vary with traffic volume. Thus, on a high density line, the portion of avoidable costs that relates to investments in right-of-way and track can be quite large.⁶⁷

Finally, in a related vein, the ICC explicitly stated when it adopted the *Guidelines* in 1985 that it might be necessary to revisit issues associated with the application of CMP principles as it gained additional experience:

We [] consider the guidelines to be a workable approach to the case-by-case resolution of rate complaints in market dominant situations. We realize, however, that the workability of the guidelines is most appropriately evaluated in light of experience. The test of experience is appropriate because CMP is based on rather sophisticated economic theories which require careful interpretation and application. We may well find, after some experience with applying the guidelines, that modifications are needed to make this approach to maximum rate regulation for coal traffic fully workable.⁶⁸

⁶⁶ *Nevada Power Decision* at 266.

⁶⁷ See, for example, *WFA Kalt Reply Statement* at 24.

⁶⁸ *Guidelines* at 525.

IV.D Cross-Over Traffic and Rate Prescription

As we have seen, application of contestability principles to establish revenue on cross-over traffic movements is consistent with the theory underlying the *Guidelines'* development of CMP as protection of the public interest and serves to assign to cross-over traffic the maximum amount of revenue the SARR could achieve on this traffic if it operated in a real, competitive, contestable market. The reason that SAC rates on cross-over traffic fall out directly and simultaneously from the application of the economics of contestability under the *Guidelines* is because these economics go directly to the question of prices that competitive behavior under contestability would yield. And prices (rates) are the ultimate objective of SAC analysis. On cross-over traffic, the SARR can expect to earn revenue equal to the avoided costs of the incumbent. Moreover, in practice, a URCS-based standard for measuring avoided costs may provide a reasonable starting point for determining proper cross-over revenues "earned" by a SARR.⁶⁹ A URCS-based measure of avoidable costs avoids problems of sunk costs that might otherwise be a source of advantage to an incumbent. By including a component of fixed costs that vary with traffic, the implementation of a URCS-based measure of avoided costs would preclude the incumbent from exploiting any advantages created by its sunk costs.

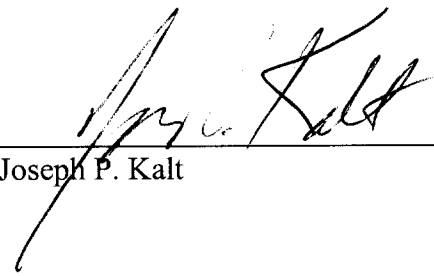
The result that setting cross-over revenues at the avoided costs of the incumbent on cross-over segments yields the rate reduction effects of contestability on cross-over traffic means that, in applying a rate reduction methodology such as PRM to the overall traffic of the SARR, no further reduction is required on cross-over traffic. PRM would properly be applied only to through traffic carried by the SARR in light of the design it has chosen.⁷⁰ The Ramsey effects of downward pressure on all rates would then be reflected in through traffic rates (via PRM) and via the movement of cross-over rates and revenue down to the incumbent's avoided costs on the cross-over segments.

⁶⁹ The URCS-based standard provides substantial revenue recovery for road property and maintenance of way on high density lines.

⁷⁰ In the particular case of *Western Fuels*, with the only through traffic carried by the SARR being the issue traffic, and all other sources of revenue for the SARR being cross-over moves, it is not even necessary to go to the step of PRM if SAC analysis indicates an overage of SARR revenues and stand-alone SARR costs: Knowing the SARR's revenues on cross-over traffic (i.e., the incumbent's avoided costs on the cross-over moves) leaves the SAC rate on the issue traffic as a residual of total SAC costs minus cross-over revenues. See *WFA Kalt Reply Statement* at 32-33 and 36.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 28, 2006



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EXPERT TESTIMONY

BP America Production Company, *et al.*

In the State of New Mexico, County of Santa Fe First Judicial District, Case No. D-0101-CV-200001620, Laura Dichter, et al., Plaintiffs v. BP America Production Company, et al., Defendants. On Behalf of Defendants, Affidavit, February 8, 2006.

ExxonMobil Corporation; BP America; Coral Energy Resources; ChevronTexaco; ConocoPhillips

In the United States District Court for the District of Columbia, Cause No. 1:04CV00940, City of Moundridge, Kansas et al., Plaintiffs, v. Exxon Mobil Corporation, et al., Defendants. On Behalf of Defendants, Affidavit, January 11, 2006.

TAPS Carriers (BP Pipelines (Alaska) Inc.; ConocoPhillips Transportation Alaska, Inc.; ExxonMobil Pipeline Company; Koch Alaska Pipeline Company, LLC; Unocal Pipeline Company)

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Designated TAPS Carriers (BP Pipelines (Alaska) Inc.; ExxonMobil Pipeline Company; Koch Alaska Pipeline Company, LLC; Unocal Pipeline Company)

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BP America Production Company F/K/A Amoco Production Company, Shell Exploration and Production, Inc., and Occidental Permian, Ltd.

In the District Court of Kleberg County, Texas, Cause No. 03-445-D, Camp Gilliam, Plaintiff, v. BP America Production Company F/K/A Amoco Production Company, Shell Exploration and Production, Inc., and Occidental Permian, Ltd., Defendants, On Behalf of Defendants, Expert Report, November 18, 2005; Deposition, January 10, 2006.

General Motors Corporation, General Motors of Canada, Ford Motor Company, Ford Motor Company of Canada, Toyota Motor Sales, U.S.A., Toyota Canada, American Honda Motor Company,

Honda Canada, DaimlerChrysler, DaimlerChrysler Canada, DaimlerChrysler Motors Co., Mercedes-Benz USA, Mercedes-Benz Canada, Nissan North America, Nissan Canada, and Volkswagen of America

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OXY USA, Inc.

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US Bancorp

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PPL Corporation

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SBC Communications, Inc.

Before the Federal Communications Commission, Washington, DC, In the Matter of Special Access Rates for Price-cap Local Exchange Carriers, WC Docket No. 05-25, RM-10593, Statement, June 13, 2005

General Electric and Bechtel

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SELECTED PRESENTATIONS

Transcript of Keynote Address, "Setting the Agenda: What Will Drive Energy's Future?" *Congressional Quarterly Forum*, "The Politics of Oil: U.S. Imperatives, Foreign Consequences," Washington, D.C., September 13, 2005.

"The Role of the Tribal Courts and Economic Development," Bureau of Indian Affairs *Tribal Courts in the 21st Century*, Billings, MT, August 16, 2005.

"Linking Tribal Sovereignty to Economic Self-Determination in Indian Country," *The Tribal Leaders Forum*, "Sovereignty in Crisis," Las Vegas, NV, May 27, 2005.

"Competition and Regulation in the North American Electricity Industry: Can These Two Seemingly Opposed Forces Coexist?" (with Charles Augustine and Joseph Cavicchi), 24th Annual North American Conference, USAEE/IAEE, Energy, Environment, and Economics in a New Era, Washington, DC, July 8-10, 2004.

"The State of U.S. Railroads and the Challenges Ahead," briefing of Capitol Hill staff, Association of American Railroads, April 17, 2003.

"The State of the Railroad Industry and the Challenges Ahead," briefing of Roger Nober, Chairman, US Surface Transportation Board, Association of American Railroads, January 28, 2003.

"The Wealth of American Indian Nations: Culture and Institutions," Federal Reserve Bank of Boston, December 11, 2002.

"The Roots of California's Energy Crisis: Law, Policy, Politics, and Economics," Regulation Seminar, Center for Business and Government, Kennedy School, Harvard University, November 7, 2002.

"Public Policy Foundations of Nation Building in Indian Country," National Symposium on Legal Foundations of American Indian Self-Governance," Mashantucket Pequot Nation, February 9, 2001.

"Twenty-Five Years of Self-Determination: Lessons from the Harvard Project on American Indian Economic Development," Udall Center for Studies in Public Policy, University of Arizona, November 13 - 14, 1999.

Proceedings of the Fourth Annual DOE-NARUC Natural Gas Conference, Orlando, FL, February 1995.

Keynote Address, "Sovereignty and American Indian Economic Development," Arizona Town Hall, Grand Canyon, AZ, October 1994.

"Is the Movement Toward a Less-Regulated, More Competitive LDC Sector Inexorable?, (Re)Inventing State/Federal Partnerships: Policies for Optimal Gas Use," U.S. Department of Energy and The National Association of Regulatory Utility Commissioners Annual Conference, Nashville, TN, February 1994.

"Cultural Evolution and Constitutional Public Choice: Institutional Diversity and Economic Performance on American Indian Reservations," Festschrift in Honor of Armen A. Alchian, Western Economic Association, Vancouver, BC, July 1994.

"Precedent and Legal Argument in U.S. Trade Policy: Do they Matter to the Political Economy of the Lumber Dispute?" National Bureau of Economic Research, Conference on Political Economy of Trade Protection, February, September 1994.

"The Redesign of Rate Structures and Capacity Auctioning in the Natural Gas Pipeline Industry," Natural Gas Supply Association, Houston, TX, March 1988.

"Property Rights and American Indian Economic Development," Pacific Research Institute Conference, Alexandria, VA, May 1987.

"The Development of Private Property Markets in Wilderness Recreation: An Assessment of the Policy of Self-Determination by American Indians," Political Economy Research Center Conference, Big Sky, MT, December 4 - 7, 1985.

"Lessons from the U.S. Experience with Energy Price Regulation," International Association of Energy Economists Delegation to the People's Republic of China, Beijing and Shanghai, PRC, June 1985.

"The Impact of Domestic Regulation on the International Competitiveness of American Industry," Harvard/NEC Conference on International Competition, Ft. Lauderdale, FL, March 7 - 9, 1985.

"The Welfare and Competitive Effects of Natural Gas Pricing," American Economic Association Annual Meetings, December 1984.

"The Ideological Behavior of Legislators," Stanford University Conference on the Political Economy of Public Policy, March 1984.

"Principal-Agent Slack in the Theory of Bureaucratic Behavior," Columbia University Center for Law and Economic Studies, 1984.

"The Political Power of the Underground Coal Industry," FTC Conference on the Strategic Use of Regulation, March 1984.

"Decontrolling Natural Gas Prices: The Intertemporal Implications of Theory," International Association of Energy Economists Annual Meetings, Houston, TX, November 1981.

"The Role of Government and the Marketplace in the Production and Distribution of Energy," Brown University Symposium on Energy and Economics, March 1981.

"A Political Pressure Theory of Oil Pricing," Conference on New Strategies for Managing U.S. Oil Shortages, Yale University, November 1980.

"The Politics of Energy," Eastern Economic Association Annual Meetings, 1977.

WORKSHOPS PRESENTED

Federal Reserve Bank of Boston; University of Indiana; University of Montana; Oglala Lakota College; University of New Mexico; Columbia University Law School; Department of Economics and John F. Kennedy School of Government, Harvard University; MIT; University of Chicago; Duke University; University of Rochester; Yale University; Virginia Polytechnic Institute; U.S. Federal Trade Commission; University of Texas; University of Arizona; Federal Reserve Bank of Dallas; U.S. Department of Justice; Rice University; Washington University; University of Michigan; University of Saskatchewan; Montana State University; UCLA; University of Maryland; National Bureau of Economic Research; University of Southern California.

OTHER PROFESSIONAL ACTIVITIES

Board of Trustees, The Communications Institute, 2003 - present

Board of Trustees, Fort Apache Heritage Foundation, 2000 - present

Mediator (with Keith G. Allred), Nez Perce Tribe and the North Central Idaho Jurisdictional Alliance, MOU signed December 2002

Mediator, *In the Matter of the White Mountain Apache Tribe v. United States Fish and Wildlife Service*, re: endangered species management authority, May - December, 1994

Steering Committee, National Park Service, 75th Anniversary Symposium, 1991 - 1993

Board of Trustees, Foundation for American Communications, 1989 - 2003

Editorial Board, *Economic Inquiry*, 1988 - 2002

Advisory Committee, Oak Ridge National Laboratory, Energy Division, 1987 - 1989

Commissioner, President's Aviation Safety Commission, 1987 - 1988

Principal Lecturer in the Program of Economics for Journalists, Foundation for American Communications, teaching economic principles to working journalists in the broadcast and print media, 1979 - present

Lecturer in the Economics Institute for Federal Administrative Law Judges, University of Miami School of Law, 1983 - 1991

Research Fellow, Energy and Environmental Policy Center, John F. Kennedy School of Government, Harvard University, 1981 - 1987

Editorial Board, MIT Press Series on *Regulation of Economic Activity*, 1984 - 1992

Research Advisory Committee, American Enterprise Institute, 1979 - 1985

Editor, *Quarterly Journal of Economics*, 1979 - 1984

Referee for *American Economic Review*, *Bell Journal of Economics*, *Economic Inquiry*, *Journal of Political Economy*, *Review of Economics and Statistics*, *Science Magazine*, *Journal of Policy Analysis and Management*, *Social Choice and Welfare*, *Quarterly Journal of Economics*, MIT Press, North-Holland Press, Harvard University Press, *American Indian Culture and Research Journal*

TEACHING EXPERIENCE

Native Americans in the 21st Century: Nation Building I & II (University-wide, graduate and undergraduate); Introduction to Environment and Natural Resource Policy (Graduate, Kennedy School of Government); Seminar in Positive Political Economy (Graduate, Kennedy School of Government); Intermediate Microeconomics for Public Policy (Graduate, Kennedy School of Government); Natural Resources and Public Lands Policy (Graduate, Kennedy School of Government); Economics of Regulation and Antitrust (Graduate); Economics of Regulation (Undergraduate); Introduction to Energy and Environmental Policy (Graduate, Kennedy School of Government); Graduate Seminar in Industrial Organization and Regulation; Intermediate Microeconomics (Undergraduate); Principles of Economics (Undergraduate); Seminar in Energy and Environmental Policy (Graduate, Kennedy School of Government)

HONORS AND AWARDS

First American Public Policy Award, First American Leadership Awards 2005, "Realizing the Vision: Healthy Communities, Businesses, and Economies," National Center for American Indian Enterprise Development, Phoenix, AZ, June 9, 2005.

Allyn Young Prize for Excellence in the Teaching of the Principles of Economics, Harvard University, 1978 - 1979 and 1979 - 1980

Chancellor's Intern Fellowship in Economics, September 1973 to July 1978, one of two awarded in 1973, University of California, Los Angeles

Smith-Richardson Dissertation Fellowship in Political Economy, Foundation for Research in Economics and Education, June 1977 to September 1977, UCLA

Summer Research Fellowship, UCLA Foundation, June 1976 to September 1976

Joseph P. Kalt

Dissertation Fellowship, Hoover Institution, Stanford University, September 1977 to June 1978

Four years of undergraduate academic scholarships, 1969 - 1973; graduated with University Distinction and Departmental Honors, Stanford University

Research funding sources have included: The National Science Foundation; USAID (IRIS Foundation); Pew Charitable Trust; Christian A. Johnson Family Endeavor Foundation; The Ford Foundation; The Kellogg Foundation; Harvard Program on the Environment; The Northwest Area Foundation; the U.S. Department of Energy; the Research Center for Managerial Economics and Public Policy, UCLA Graduate School of Management; the MIT Energy Laboratory; Harvard's Energy and Environmental Policy Center; the Political Economy Research Center; the Center for Economic Policy Research, Stanford University; the Federal Trade Commission; Resources for the Future; and The Rockefeller Foundation.

INITIAL VERIFIED STATEMENT

OF

ROBERT D. WILLIG

I. INTRODUCTION

My name is Robert D. Willig. I am Professor of Economics and Public Affairs at the Woodrow Wilson School and the Economics Department of Princeton University, a position I have held since 1978. Before that, I was Supervisor in the Economics Research Department of Bell Laboratories. My teaching and research have specialized in the fields of industrial organization, government-business relations, and welfare theory.

I served as Deputy Assistant Attorney General for Economics in the Antitrust Division of the U.S. Department of Justice from 1989 to 1991. I also served on the Defense Science Board task force on the antitrust aspects of defense industry consolidation and on the Governor of New Jersey's task force on the market pricing of electricity.

I am the author of *Welfare Analysis of Policies Affecting Prices and Products*, *Contestable Markets and the Theory of Industry Structure* (with William Baumol and John Panzar), and numerous articles, including "Merger Analysis, IO Theory, and Merger Guidelines." I am a co-editor of *The Handbook of Industrial Organization*, and have served on the editorial boards of the *American Economic Review*, the *Journal of Industrial Economics* and the MIT Press Series on regulation. I am also an elected Fellow of the Econometric Society.

Since leaving Bell Laboratories, I have been a consultant to firms in various sectors of the economy. I have worked as a consultant with the Federal Trade Commission, the Organization for Economic Cooperation and Development, the Inter-American Development Bank, the World Bank, and various private clients. I have served as a Director of Competition Policy Associates,

Inc. ("COMPASS"), an economic consulting subsidiary of FTI Consulting, Inc. based in Washington, DC, and was a member of Consultants in Industry Economics, LLC. A list of my articles and other professional publications and activities is presented in my curriculum vitae, attached in Exhibit No. __ (RDW-1).

I testified extensively before the Interstate Commerce Commission ("ICC") in the Ex Parte No. 347 (Sub-No. 1) proceeding,¹ as it sought to develop standards for regulating the maximum level of railroad rates in a manner that would be consistent with the industry's need to achieve long-term revenue adequacy and with other elements of the public interest. I was also a signatory to the "Verified Statement of Economists Supporting the Principles of Constrained Market Pricing" that was filed in that proceeding on June 1983 (for the Commission's benefit, I have included a copy of this statement as Exhibit No. __ (RDW-2)). These deliberations culminated in the ICC's adoption of Constrained Market Pricing ("CMP") and the stand-alone cost ("SAC") test in its 1985 decision in the Ex Parte No. 347 (Sub-No. 1) proceeding.² I also testified in several ICC rate reasonableness proceedings, subsequent to the adoption of CMP.

I have been asked by BNSF Railway Company ("BNSF") to address in this verified statement certain proposals made by the Board in its recent decision in Ex Parte No 657 ("Decision").³ Specifically, I have been asked to address two issues that I understand have become a focus of attention in recent rate reasonableness proceedings before the Surface Transportation Board ("STB" or "Board"). The first issue relates to how rates should be adjusted in the event the Board determines that revenues for a stand-alone traffic group exceed the stand-alone costs of providing service to that group. The second issue is the proper treatment of what

¹ Ex Parte No. 347 (Sub-No. 1), *Coal Rate Guidelines, Nationwide*.

² Ex Parte No. 347 (Sub-No. 1), *Coal Rate Guidelines, Nationwide*, decided August 8, 1985, 1 I.C.C.2d at 520 ("Guidelines").

³ STB Ex Parte 657 (Sub-No. 1), *Major Issues in Rail Rate Cases*, February 27, 2006.

has come to be known as “cross-over” traffic, *i.e.*, traffic that is included in the stand-alone traffic group for which the stand-alone railroad (“SARR”) does not fully replicate and provides only a portion of the service actually provided by the defendant railroad(s). Inclusion of cross-over traffic in the stand-alone traffic group requires the SAC proponent to hypothesize “interchanges” between the SARR and the incumbent railroad(s) that obviously do not take place in the real world, and to make assumptions about the way the incumbent’s end-to-end revenues would be attributed to the SARR for providing only a subset of the incumbent’s service.

As *Guidelines* emphasizes, the CMP regulatory paradigm, including the SAC test, was expressly tied to two important economic theories (which I discuss in detail below), and it therefore goes without saying that disputes over how the paradigm is properly to be *applied* should be resolved by referring back to the theories on which *Guidelines* is based.⁴ I therefore address the Board’s proposals in light of the theories of demand-based pricing and contestability that are the foundations of *Guidelines*. Proposals that are inconsistent with these underlying economic theories cannot somehow simultaneously be consistent with *Guidelines*. Since demand-based pricing and contestability constitute a framework for regulating in accord with consumer welfare and with the need for revenue adequacy, proposals that are inconsistent with the *Guidelines* and its underlying framework are apt to work against the public interest.

The ICC noted, when it adopted *Guidelines*, that CMP and the SAC test were based to a significant extent on work that was performed by Dr. William J. Baumol and me on contestable market theory.⁵ As I explain in detail below, the rate reduction methodologies proposed by the Board in the *Decision* are not consistent with contestability theory or with demand-based

⁴ The *Guidelines* were formally adopted in a 1985 decision by the ICC that is published at 1 I.C.C. 2d at 520. As that decision notes, however, a more in-depth discussion of the underlying economic logic was set forth in a February 24, 1983 decision in the Ex Parte No. 347 (Sub-No. 1) proceeding (“*Guidelines - 1983*”).

⁵ *Guidelines* at 528.

Ramsey Pricing principles. To the contrary, the Board's proposals are antithetical to the principles underlying the *Guidelines* because they would impose on the rail industry various cost allocation mechanisms that are unrelated to the demand for the rail services exhibited by each of the railroad's shippers.

The reason asserted in the *Decision* for seeking to depart from its long-standing practice of employing the "percent reduction method" – *i.e.*, that the percent reduction method is potentially susceptible to "manipulation" by rail carriers – cannot be used to justify wholesale abandonment of the principles of contestability and demand-based pricing. As I explain below, there are ways for the Board to test for potential manipulation that can feasibly distinguish between a railroad's legitimate exercise of demand-based pricing, and an attempt to artificially influence the results of applying the SAC test.

With respect to cross-over traffic, it is appropriate that the Board seek ways to simplify the test – and use of cross-over traffic is not necessarily or endemically inconsistent with contestability theory. However, if cross-over traffic is relied upon, it is critical – as the *Decision* recognizes – that the results of such a SAC study closely approximate the results that would be achieved by conducting what the Board terms a "full SAC" study, *i.e.*, one that does not rely at all on cross-over traffic but that does enlarge the ambit of the stand-alone railroad to include the full routes, the full costs and the full revenues of what would have otherwise been the cross-over traffic.⁶ Parties to individual rate reasonableness cases *must* have the opportunity to present evidence on this issue. This is critical to the future of rail transportation because distorted inclusion of cross-over traffic has the potential to bias SAC sufficiently severely to render the resulting regulation a serious artificial impediment to revenue adequacy and socially desirable pricing.

⁶ See, *Decision* at 17.

II. THE ECONOMIC THEORIES UNDERLYING THE *GUIDELINES*

A. Overview

Under sound economic principles, as well as under the terms of the Staggers Rail Act of 1980, a regulatory provision that effectively impedes the railroads' achievement of financial viability should be avoided in order to protect the public interest. In particular, regulatory rules should not unduly impede railroads from competing for funds in financial markets, particularly at a time when the rail industry's shippers are clamoring for additional capacity.

Any system of rate regulation that is based upon fully distributed (or "fully allocated") costs, where fixed and common costs are apportioned on a basis other than demand, is inconsistent with proper economic principles because prices set by that method will impede the achievement of revenue adequacy, and will lead to inefficiency by discouraging innovation and by generating prices that are inconsistent with those that would exist in the contestable market environment that the SAC test seeks to replicate.⁷ Prices set on the basis of fully allocated costs create "rate compression" that seeks too much from shippers who do not find rail service particularly valuable, and too little from shippers who value rail service highly. This restricts the overall quantity of services that would be delivered by railroads, and impedes attainment of revenue adequacy. Fully-allocated cost-based pricing is also inefficient, because it does not optimize the volume of traffic over the rail network and, therefore, does not maximize consumer welfare. Inefficient prices are inconsistent with contestable market behavior.⁸

As economists have long recognized, the twin principles of economic efficiency and revenue adequacy lead to demand-differentiated prices, sometimes referred to as Ramsey prices. These prices apportion all unattributable fixed and common costs of a railroad among its services

⁷ See, "Verified Statement of William J. Baumol and Robert D. Willig, April 13, 1982, Ex Parte No. 349 (Sub-No. 1), *Coal Rate Guidelines – Nationwide* ("April 13, 1982 V.S.") at 21.

⁸ *Id.*

on the basis of the values of those services to consumers. These levels of the value of service can be mathematically expressed as the reciprocals of consumers' elasticities of demand. By providing that each service is priced at a mark-up over marginal costs that is inversely related to the elasticity of demand for that service, economically efficient differential pricing combines cost and demand factors in an economically appropriate manner.⁹

Ramsey pricing principles also result in lower prices for shippers, generally, by establishing a set of rates that encourages the purchase of more transportation services by more shippers overall than do artificial, fully distributed cost-based mechanisms.¹⁰ In the real world, this creates a larger traffic base over which unattributable costs can be spread. For the same reason, in the contestable market world hypothesized in conducting the SAC test, a new entrant would price all traffic according to demand-based principles because this would maximize overall traffic values and minimize the average mark-up required across all movements handled by the SARR. As I discuss in more detail below in Section III, a SARR that ignores relative shipper demand might not be sustainable, and it would be efficiently motivated to move to demand-based pricing in order to protect itself from customer defections and inefficient entry. Ramsey pricing principles maximize the opportunity for rail carriers to earn an adequate return on capital, and foster innovation and efficiency in the provision of rail transportation services by rewarding carriers who achieve cost reductions. Thus, net benefits to all consumers are maximized, while, simultaneously, the public's interest in a viable rail system is promoted.¹¹

⁹ *Id.* at 22.

¹⁰ *Id.* at 23.

¹¹ Economically efficient differential pricing also is entirely consistent with permitting market forces, rather than regulation, to control rates for transportation services to the greatest extent possible. When a particular type of traffic is subject to effective competition, direct or indirect, regulatory intervention is unjustified because competition will produce efficient prices without regulatory guidance. Furthermore, so long as an individual railroad's earnings fall short of its cost of capital, the need for regulatory constraints upon any of that carrier's rates is minimal and – to the extent such a constraint prevents the carrier from earning adequate return in the future – is

B. Pricing and the Public-Interest

Prices serve two separate functions in a free-market economy. First, prices determine the distribution of wealth. Thus, increases in wages make workers richer and employers less well off. Second, prices guide the allocation of resources – efficient prices encourage resources to be used most efficiently in ways that most effectively serve the needs of consumers.¹²

By demanding particular goods or services, consumers bid their prices to a level sufficient to attract the materials, labor, and capital inputs necessary for their production. If prices do not reflect consumer preferences – and are held below the levels at which supplies are adequate to satisfy consumer demand – insufficient quantities of inputs will be attracted to the production of goods and services that are highly valued by consumers. By the same token, if prices are set above the levels at which supplies are adequate to satisfy consumer demands, too many resources will be attracted to the production of goods and services that are not as highly valued by consumers. Prices also guide investment decisions, influencing not only the overall magnitude of the accumulation of capital during a particular period, but also determining the apportionment of that capital among the different industries and their various economic activities.

In short, properly determined prices prevent economic waste by encouraging increased consumption of those items whose resource cost has been reduced by innovation or by discovery

contrary to the public interest. By definition, there is no danger that such a carrier is receiving excessive overall profits derived from market power or any other cause.

In addition, if regulation constrains the rate for any service supplied by a railroad not yet earning adequate revenues *below* the level which consumers of that service are prepared to pay rather than do without the service, then, in the long run, even those consumers will be harmed as the carrier finds it unprofitable to invest the necessary replacement and maintenance capital, causing a deterioration in service. Hence, for a railroad whose net revenues fall short of its cost of capital, the prices which promote the most efficient use of transportation services are those that maximize net revenues on each service.

¹² As Alfred Kahn explains this concept: “The only economic function of price is to influence behavior. This is a notion that traditional regulators have great difficulty accepting.” 101 *Public Utilities Fortnightly*, 13-17 (January 19, 1978). See any economics textbook for a detailed exposition. For example, Baumol, W.J. and Blinder, A.S., *Economics Principles and Policy* 590-91 (1979).

of new sources or new materials; discouraging consumption of items that require large quantities of relatively scarce resources; assuring the availability to each economic activity of the combination of inputs which keeps its relative costs to a minimum; and assuring the availability of capital and other inputs to productive activities whose outputs clearly justify their costs.

Rate regulation should serve the public interest by contributing as far as it can to this efficiency of resource allocation. That is, prices should be regulated in such a way that their effects upon the allocation of inputs, upon the relative quantities of outputs demanded by consumers, and upon the formation of new capital contributes to the economy's production capacity to serve consumer needs as effectively as possible, *i.e.*, in a way that mimics competitive/contestable market behavior.

One of the most crucial functions of prices is that they yield total revenues sufficiently large to cover long-run production costs. If this requirement is violated for a particular service or set of services, that service or set of services must, sooner or later, disappear from the set of the economy's outputs; and in the short-run, service quality and the efficiency with which it is produced can be expected to deteriorate. Private enterprise simply refuses to supply capital to activities that do not cover their costs – even if these activities have benefits that exceed their costs.¹³

The roles played by prices in allocating inputs, in adjusting demands and in apportioning new capital are all part of the mechanism of “consumer sovereignty” – the way in which consumers, having decided consciously or unconsciously upon their preferences and priorities, require the economy to respond by providing the appropriate goods and services in the appropriate quantities as efficiently as possible. In this process it is the consumers who

¹³ As put by the Commission in its *Guidelines – 1983* decision at 7: “Thus, if the railroads are to provide adequate service to the shipping public, then we must construct a maximum rate standard which gives them the opportunity to achieve adequate revenues.”

ultimately decide the uses to which capital assets will be put, and it is prices which transmit the required information about consumer demands and enforce their satisfaction by suppliers.

These common sense principles underlie Ramsey pricing.¹⁴ Ramsey prices, by definition, induce the most efficient allocation of resources among all the sets of prices that are compatible with the financial viability of the service provider. That is, they provide the firm with the opportunity to generate overall revenues sufficient to cover the efficient total costs of the enterprise.

Economically efficient prices can *never be incompatible* with the level of earnings required to offset the total costs of an efficient provider. No prices can *guarantee* that a railroad will earn adequate returns overall – if demand for its services are insufficient, or the railroads' operations are conducted inefficiently, even demand-based prices cannot be expected to lead to profitable operation.¹⁵ But once the railroads are permitted to charge economically appropriate prices, any regulatory impediments to financial viability will have been cleared away, and it is then up to the railroads to take advantage of the opportunity by means of economy of operation, quality of service and effective marketing effort. Recognition of these facts is what lead the ICC to adopt CMP, including the SAC test, as the core of its approach to regulating rail rates.

C. What is Meant by "Efficiency in Pricing?"

In addition to promoting revenue adequacy, economically efficient prices have the important property of optimally allocating resources among their many possible uses. Economists judge the efficiency of prices in terms of the efficiency of the allocation of resources that they induce – *i.e.*, the extent to which resources are channeled by prices into their best uses.

¹⁴ This pricing approach is today termed Ramsey pricing because Frank P. Ramsey, an English economist, mathematician, and philosopher, first derived its basic principles and studied its implications for taxation in "A Contribution to the Theory of Taxation," 37 *The Economics Journal* 47-61 (March 1927).

¹⁵ See, "Verified Statement of William J. Baumol and Robert D. Willig, May 11, 1981, Ex Parte No. 349 (Sub-No. 1), *Coal Rate Guidelines – Nationwide* ("May 11, 1981 V.S.") at 33-34, 39, 68-69.

Resources are utilized best when they yield the largest possible value to consumers, net of the costs of supplying them. Thus, *the most efficient prices maximize the net benefits obtained by consumers.*

A simple example may help to clarify this concept. Suppose a product can be shipped between two points with equal speed and care by rail or by truck, either movement yielding the shipper a gross benefit of \$1,500. Suppose also that the marginal costs incurred to move the freight by rail are \$1,000, while those for the truck movement are \$1,300. If prices for the rail and truck movements were \$1,400 and \$1,350, respectively, the shipper will choose the truck movement, because it is the cheaper one for him. The net social benefit of this choice is $\$1,500 - \$1,300 = \$200$ — *i.e.*, the gross value to the shipper, net of the marginal cost of supply. (Another equivalent view of this calculation is that the net social benefit of \$200 is equal to the surplus value to the shipper, over and above his payment for it, $\$1,500 - \$1,350 = \$150$, plus the profit of the truck carrier, $\$1,350 - \$1,300 = \$50$). In contrast, if prices were \$1,300 and \$1,350 for the rail and truck movements, respectively, the shipper would choose the rail movement, which results in a higher net social benefit of $\$1,500 - \$1,000 = \$500$. Consequently, the prices of \$1,300 and \$1,350 are more efficient than the prices of \$1,400 and \$1,350 because they induce a more efficient utilization of transportation resources.

Vigorous competition between unconstrained profit-oriented carriers automatically results in efficient prices. Either firm would prefer to carry the freight at some price above its cost, rather than not carry it at all. Hence, the rail carrier will bid the price down to just below \$1,300, because the truck carrier cannot cover his cost at that price or less. The prices that result from competition, say \$1,299 and \$1,301 for rail and truck movements, are optimally efficient

because they yield the highest net benefits (\$500) and guide the freight to move in the least costly way.

Free competitive markets automatically yield the prices that are efficient.¹⁶ Where suitable competitive pressures are present, the ICC and the Board have long recognized that no intervention is needed to assure adoption of the efficient prices. Thus, regulatory attention to prices in competitive markets is totally inappropriate. Market forces perform far better than regulators or economists in determining what those prices should be.

But in markets without effective competitive constraints, economists look to demand-based Ramsey pricing principles, and to contestable market theory, to determine the price for each particular service provided by a firm that is efficient, as did the ICC when it adopted the *Guidelines*. Standards for pricing based on any other criteria – such as arbitrary cost allocations – impede revenue adequacy and create inefficient use of society's resources.

D. The Importance of Ramsey Pricing in Achieving Ratemaking and Regulatory Objectives

In sharp contrast to pricing based on fully-allocated costs, Ramsey pricing serves the public interest by yielding the greatest net benefits to all shippers, in total, among the prices that are compatible with the financial viability of the railroad.¹⁷ Any other prices are not efficient for two reasons:

1. Prices that are incompatible with financial viability cause service to deteriorate in the short run, and discourage the investment required to eliminate service problems in the long run. Absent public subsidies, privately owned railroads can neither upgrade nor maintain their facilities if they cannot cover all their costs over the long-run, including the cost of capital.

¹⁶ See Baumol and Blinder, *op. cit.*, p. 591.

¹⁷ The Commission acknowledged these propositions in “embrac[ing] the basic Ramsey principles” and in concluding that Ramsey pricing “is the appropriate analytical theory.” *Guidelines – 1983* at 9).

2. Just as important, rates that are inconsistent with the principles of Ramsey pricing diminish shippers' total net benefits, and thereby give a group of shippers less value for their transportation dollars.¹⁸ Such inefficient rates discourage traffic that could otherwise obtain benefits from utilizing railroad facilities that exceed the costs the traffic causes. The lost traffic incurs alternative transportation or other production costs that are higher than necessary, to the ultimate expense of productivity and consumer's purchasing power. In addition, the traffic that remains on the railroad must bear more of the railroads' fixed and common costs due to the loss of the contribution that the discouraged traffic could have provided.

In contrast, Ramsey prices result in lower prices for shippers generally, by encouraging the purchase of more service by more shippers, thereby creating a larger traffic base for the carrier over which unattributable costs can be apportioned. As I noted earlier, by apportioning all unattributable costs on the basis of the values of the services to shippers, Ramsey pricing reflects both cost *and* demand factors in an optimal manner. Ramsey prices maximize the opportunity for rail carriers to achieve financial viability, so that services can be supplied on an innovative, efficient, and continuing basis. Thus, net benefits to all shippers are maximized while the general public interest in a viable rail system is well-served.¹⁹

Some particular shippers, however, may argue against Ramsey pricing because they seek, in effect, to have greater weight placed on their own real incomes than is placed on the real incomes of others. These pleas should be ignored and the Ramsey pricing principles that work for the *general* good should be adopted.

¹⁸ April 13, 1982 V.S. at 20-21.

¹⁹ Maximizing shippers' net benefits is the same as maximizing their total overall real income. Ramsey prices achieve this by placing equal weight on the real income of each and every shipper. No one shipper or group of shippers is singled out as being especially meritorious or deserving of more consideration than any other. In this regard, Ramsey pricing is fundamentally fair.

1. Ramsey Prices Promote Revenue Adequacy

As has already been emphasized, adequacy of revenues is a fundamental condition for economic efficiency. No service will be supplied over the long-run by private enterprise in the absence of adequate revenues; and in the short-run, inadequate maintenance, replacement and/or capacity expansion can be expected to lead to deterioration in service quality. Without adequate revenues, no matter what relative prices are adopted, efficient service cannot be expected in the long run. Fortunately, permitting a revenue inadequate firm to maximize its net revenues also encourages railroads to make decisions and to engage in behavior patterns that serve the public interest.

(a) First, Ramsey prices assure that when net-revenue-maximizing prices can be determined movement by movement and shipper by shipper, all prices will equal or exceed the corresponding marginal costs. Otherwise, the movement would be a drain on net revenues which the carrier would prefer to avoid, and could avoid by the simple expedient of raising the price (which would either eliminate the movement or increase its revenues). Prices that equal or exceed marginal costs induce the movement of any and all traffic whose value to the shipper exceeds its marginal cost. This is a fundamental requirement of efficiency in pricing.

(b) Second, under Ramsey prices, the deviations between prices and marginal costs will be higher for traffic whose value to shippers is higher. More specifically, the mark-up of price above marginal cost will vary inversely with what economists call the elasticity of demand.²⁰ That is, traffic whose value to shippers is low, as indicated by a relatively large reduction in demand when price is raised slightly, will have a relatively small percentage mark-up of price over marginal cost, and the reverse will be true of items with a large value of service

²⁰ The elasticity of demand of a service is defined as the percentage decrease in the quantity demanded in response to a one percent increase in its price.

to shippers as shown by a low elasticity of demand (a small propensity to reduce demand in response to a rise in price).²¹

It is both necessary and efficient for traffic with higher value to shippers to be assessed higher markups. The higher markups are needed to make a contribution toward fixed and common unattributable costs, and because it is the higher value traffic that can move at the higher prices. If the unattributable costs are not fully covered over the long-run, the system will deteriorate.

(c) Third, Ramsey prices avoid cross subsidies automatically, because a service (or group of services) can be the beneficiary of a cross subsidy only if revenues generated by its price (or their prices) are below its (their) marginal or incremental cost. In such a case, net revenues can always be increased either by adopting a new price (or prices) for that service (or group of services) that eliminates the cross subsidy or, if that is not possible, by dropping the service (or group of services) altogether. In either case, elimination of the cross subsidy will constitute an addition to the firm's net revenues. Thus, under a regime of net revenue maximization, the problem of cross subsidies automatically takes care of itself.

(d) Fourth, Ramsey prices must be responsive to competitive pressures. A rise in price will surely not contribute to net revenue if it simply causes significant volumes of the affected traffic to be lost. Ramsey prices are effectively constrained by intermodal competition, intramodal competition, product competition and geographic competition. The value of rail service to the shipper is, of course, affected by each of the above forms of competition, and all of this must be taken into account in the determination of net-revenue maximizing rates, which the railroads themselves surely are in the best position to assess.

²¹ See, "Verified Statement of William J. Baumol and Robert D. Willig, July 28, 1983, Ex Parte No. 347 (Sub-No. 1), *Coal Rate Guidelines – Nationwide* ("July 28, 1983 V.S.) at 5.

(e) Finally, any arbitrary constraint upon rates that is imposed by regulators – such as the requirement that the prices of certain types of traffic reflect a common revenue per ton-mile, or a common mark-up over variable costs – must necessarily reduce the railroads' net revenues, and must necessarily damage further their ability to raise the capital they require. Any other inflexibilities imposed by regulation, such as delays in the process by which required rate changes are carried out, likewise damage railroads' ability to earn adequate returns and raise required capital.

2. Ramsey Pricing is Equitable

Ramsey prices are not only efficient, they are equitable. First, they are non-discriminatory in the sense that services with similar economic characteristics will have similar Ramsey prices, whatever the commodities shipped, whatever the route and whatever the identity of the shipper. That is, two different services with the same elasticities of demand will be priced at the same percentage mark-ups above marginal costs. Two different services with the same marginal costs and with the same demand elasticities will bear identical Ramsey prices.

Second, under Ramsey pricing, consumers who value rail service highly bear more of the railroad's unattributable fixed and common costs. Unattributable costs are necessary for the supply of all of the carrier's services, and it is certainly not inequitable for those who value the supply of those services more highly to bear a greater portion of those requisite costs. In fact, Ramsey prices allocate the unattributable rail carrier costs among the various services in such a manner that the mark-ups over marginal costs paid by consumers of each service is proportional to the values of the service.

It should be emphasized – in the context of CMP and the SAC test – that since it is only the forward-looking costs of an *efficient* hypothetical competitor that are covered by Ramsey

prices, application of Ramsey pricing in this context is not equivalent to “charging what the traffic will bear.”²² Rather, Ramsey prices are lower, overall, than those that the traffic would bear, provided that the rail carrier could, if unconstrained by regulation, earn a rate of return on its capital in excess of its cost of capital. On the other hand, if “all that the traffic will bear” is just the cost of carrying that traffic, then, of course, that is what efficiency and equity dictate that the traffic should pay.

E. Ramsey Pricing, Contestability and Constrained Market Pricing

In the deliberations that led to the adoption of *Guidelines*, the ICC recognized that there were certain impediments to applying Ramsey pricing principles directly as a mechanism for assessing rate reasonableness. The most obvious was the analytical impossibility of developing demand elasticities for every movement on a particular rail system, which is made more difficult by the difficulty of calculating marginal costs for each and every movement. But the ICC was also concerned that railroad cost structures might be inefficient, and that the lack of effective competition in certain of a railroad’s markets might permit unreasonably high prices – even though the railroad was revenue inadequate overall. CMP was designed as a regulatory process that would lead to economically efficient Ramsey prices despite these potential impediments.

First, the ICC recognized that market forces would incent railroad management to adopt pricing and output decisions consistent with profit maximization, particularly so long as overall carrier revenues are inadequate. Of course, because market information is inevitably imperfect, and costs and business conditions are constantly changing, management will not necessarily achieve more than a close approximation to absolute maximization of net revenues. Business decisions that best balance risks and best weigh imperfect information *ex ante* will rarely appear

²² As noted in Baumol and Bradford, *op. cit.*, p. 278, Ramsey prices were characterized by Hadley during the nineteenth century as “not charging what the traffic cannot bear.”

optimal with the benefit of hindsight. Nevertheless, *Guidelines* explicitly recognizes that because railroad managements are closest to the market and have the most to gain, it is the railroads themselves who are best equipped to make the decisions concerning their own operations, and the pricing on individual movements that is most likely to lead to overall net-revenue maximization. Thus, in describing CMP, *Guidelines* states that in the first instance, "the carriers are expected to use the market demand which they observed as the basis for their pricing...they need not calculate the precise elasticity of demand for every movement." *Guidelines* at 527.

CMP then applies contestable market theory in order to ensure that rates set with respect to the market demand which is observed by the railroads do not, either individually or collectively, compensate railroads for inefficiencies or force certain demand-inelastic shippers to pay for facilities they do not utilize and thereby cross-subsidize other rail customers.²³ *Guidelines* recognizes that this is possible because barriers to entry into and exit from the railroad industry prevent competitors from easily entering certain markets. As the ICC noted, in adopting the *Guidelines*:

This [SAC] test is used to compute the rate a competitor in the market-place would need to charge in serving a captive shipper or a group of shippers who benefit from sharing joint and common costs. A rate level calculated by the SAC methodology represents the theoretical maximum rate that a railroad could levy on shippers without substantial diversion of traffic to a hypothetical competing service. It is, in other words, a simulated competitive price. (The competing service could be a shipper providing service for itself or a third party competing with the incumbent railroad for traffic. In either case, the SAC represents the minimum cost of an alternative to the service provided by the incumbent railroad).

* * *

²³ July 28, 1983 V.S. at 7.

The costs and other limitations associated with these entry and exit barriers must be omitted from the SAC analysis in order to approximate the cost structure of a contestable market. This "netting out" of barriers removes any advantages which the existing railroad has (over a hypothetical "stand-alone" system) that are attributable to monopoly power. Such a process makes market dominant rail traffic contestable in theory, thus eliminating the potential for monopoly profits.

In sum, our use of SAC introduces the competitive standard of contestability into a non-competitive market. The stand-alone cost, as we define it here, approximates the full economic costs, including a normal profit, that need to be met for an efficient producer to provide service to the shipper(s) identified. This cost calculation produces a simulated competitive price standard against which actual rates can be compared. *Guidelines* at 528-529.

Thus, CMP requires in the first instance that railroads set prices with respect to the market demand they observe for each movement, but constrains overall revenue levels generated by each movement, and each combination of movements, to levels that would be observed in a contestable market.²⁴

With this background, I now turn my attention to the proposals for rate reduction and revenue allocation set forth in the Board's *Decision*.

III. THE RATE REDUCTION ISSUE

As noted earlier, if the SAC test shows that total revenues generated by the stand-alone traffic group exceed the SAC costs, then the rates must be adjusted to eliminate the excessive revenue contribution.²⁵ The only rates that actually will be adjusted in a given proceeding are the rates at issue in that proceeding. This is as it should be, because the complainant is the only party seeking relief, and the issue traffic rates are therefore the only rates over which the Board

²⁴ *Id.* at 8.

²⁵ As I discuss below, this seemingly innocuous statement has been rendered complex by the extensive use of cross-over traffic in most of the recent stand-alone cost cases before the Board.

has jurisdiction. But the Board has also recognized that its rate reasonableness decisions in one proceeding could eventually affect rate levels for movements of traffic that were not at issue in the first proceeding, but were included as non-issue movements in the first proceeding's stand-alone traffic group – because these shippers may be encouraged to bring rate challenges of their own before the Board in the future.

Furthermore, under the economic principles of demand-based pricing and contestability that underlie CMP, a finding that stand-alone revenues exceed SAC indicates that existing rate levels overstate the positive Ramsey-based mark-ups that are appropriate for *every* member of the stand-alone traffic group. As a result, re-adjustment of the rate levels, consistent with these principles, would maintain existing rate relationships for the individual members of the stand-alone traffic group – *i.e.*, the movement with the highest percentage mark-up *prior* to re-adjustment will remain the movement with the highest percentage mark-up *after* re-adjustment; the movement with the second highest percentage mark-up *prior* to re-adjustment will remain the movement with the second highest percentage mark-up *after* re-adjustment; and so forth.

These observations flow directly from the Ramsey pricing principles discussed earlier, *i.e.*, that mark-ups above marginal cost on each individual movement will be in inverse proportion to its elasticity of demand, that revenue adequacy be fostered and that prices be subject to the constraint that revenues overall not exceed those required to cover total forward-looking, efficient costs of the system. If the SAC study suggests that the total forward-looking costs of the SARR are lower than total revenues, each movement's positive mark-up above marginal costs will be lowered to a new level – still in inverse proportion to its price elasticity of demand – to the point at which the SAC-based revenue requirement is just met. It follows from this general principle that, in the event that total revenues should be lowered to become

consistent with the pertinent SAC, *i.e.*, the total forward-looking costs of the SARR, rates should optimally be adjusted in a manner that is determined by the demand characteristics of the traffic, and these demand characteristics may be inferred from the pricing of the traffic prior to the mandated adjustments.

The rate reduction proposals presented in the *Decision* are fundamentally inconsistent with these principles. Instead of following Ramsey pricing principles, the Board's proposals ignore demand elasticities for much of the stand-alone traffic group and, as a result, destroy existing rate relationships. Furthermore, by failing to conform to Ramsey pricing principles, these proposals create inefficient pricing patterns that would not be sustainable in a contestable market.

Both the Maximum Contribution Methodology ("MCM") and the Maximum Markup Methodology ("MMM") proposed by the Board segment the stand-alone traffic group into two categories. Category 1 is comprised of movements at the lower end of the revenue per ton-mile (MCM) or revenue-to-variable cost ratio (MMM) spectrum – which under the Board's proposals receive no rate decrease at all if revenues exceed SAC; category 2 is comprised of movements at the higher end of the revenue per ton-mile (MCM) or revenue-to-variable cost ratio (MMM) spectrum, which are driven to a single common revenue per ton-mile or revenue-to-variable cost ratio that is calculated to ensure that revenues, across all members of the stand-alone traffic group in both categories 1 and 2 combined, are just sufficient to meet the stand-alone revenue requirement.²⁶

²⁶ Although the Board's *Decision* implies that the dividing line between category 1 and category 2 is the dividing line between "competitive" and "captive" traffic, respectively, there is little logic to this position. For example, for any given stand-alone railroad, the dividing point between category 1 and category 2 is almost certainly different under MCM than under MMM – with movements that would be considered "captive" under MCM considered "competitive" under MMM, or vice versa. Similarly, the dividing point between category 1 and category 2 under MMM for one stand-alone railroad could differ wildly from the dividing point between category 1 and category 2

The Board's proposals are fundamentally at odds with the principles of demand-based pricing and contestability for two reasons. First, even if category 2 traffic could, on some objective basis, be deemed to be "captive," it would be clearly inconsistent with Ramsey pricing principles to ignore differences in demand elasticities for captive traffic movements. The ICC drew this conclusion at the time *Guidelines* was adopted, and it remains valid today:

The [Revenue Efficiency Allocation to Captive Traffic (REACT)] proposal appears to require a uniform markup for captive traffic. In other words, any revenue need shortfall that would remain once efficiency is achieved would be allocated on a pro-rata basis. We believe that the revenue need shortfall should be allocated on the basis of demand considerations, not an arbitrary percentage. *Guidelines* at 1 I.C.C.2d at 559.²⁷

Nevertheless, both MCM and MMM would drive all "captive" rates to the same revenue per ton-mile or revenue-to-variable cost ratio, respectively – ignoring the differences in demand elasticities implicitly reflected in the range of pre-reduction revenues per ton-mile or revenue-to-variable cost ratios exhibited by these traffic movements. In short, this approach to the category 2 traffic is not only on its face inconsistent with demand-based pricing principles – because it effectively ignores differences in demand among the category 2 shipments – it was explicitly rejected by the ICC at the time the *Guidelines* were established.

The second fundamental inconsistency with economic principles arises because the Board's proposals reflect no rate reductions for movements in category 1, what the Board implies are the "competitive" movements in the stand-alone traffic group. We have already seen that when the revenue requirement must be reduced, Ramsey pricing principles would reduce all

for another stand-alone railroad – suggesting that movements with R/VC ratios in excess of 150, for example, are "competitive" in one case, and "captive" in another.

²⁷ See, also, *Guideline s– 1983* at 23: "However, none of the possible allocation devices would lead to rates that reflect individual shipper demand. Therefore they are necessarily too rigid to achieve our objectives of an efficient and financially sound rail system. While certain of the proposals attempt to reflect demand by allocating the shortfall only to captive traffic, they fail to recognize that there are degrees of captivity. Demand for rail service is variable, not only by commodity and movement, but also from time period to time period."

positive markups from traffics' rates in the stand-alone group – on its face, therefore, this feature of MCM and MMM is intrinsically inconsistent with Ramsey principles. And if these category 1 movements can pay lower rates, the category 2 “captive” movements would be able to carry higher rates – so this assumption overstates the rate reduction required by the “captive” category 2 rates, all other things being equal.

Perhaps anticipating this argument, the Board's *Decision* adopts a “no harm, no foul” stance – implicitly arguing that since the “competitive” category 1 movements are already paying the existing rate levels, it would be inconsistent with the “important principle that a railroad should recover as much of its costs as possible from each shipper served before charging differentially higher rates to its captive shippers” to reduce them. Even in a competitive/contestable market, the Board seems to say, a new entrant would be foolish to reduce rates on these movements below current levels. This makes sense only for the possible but surely exceptionally rare traffic that is priced right at marginal cost before the mandated adjustments. Such traffic carries no mark-up, presumably because its demand is so highly elastic that a higher price would cause the traffic to leave the railroad. Reducing rates on such traffic would yield prices below marginal costs, which are inefficient and distortionary. For all traffic, with positive mark-ups above marginal costs, the Board's “no harm, no foul” proposal is dramatically inconsistent with contestable market principles.

In the contestable market world that the stand-alone cost analysis is meant to replicate – a world without entry and exit barriers – the SARR is forced to set prices for *all* of the traffic it carries in the face of pervasive competition from potential entrants. As I demonstrated above, the total cost of entering the market can be most efficiently recovered from each shipper by following Ramsey pricing principles – *i.e.*, by setting rates that generate contributions above

marginal cost in inverse proportion to each shipper's demand elasticity. As a result, the SARR is impelled to establish rates, across *all* of the shipments it carries, on this basis. If it does not, it may be vulnerable to displacement by a competitor that offers consumers more benefits by pursuing Ramsey Pricing. To see why this is so, imagine that a SARR decided to hold rates on "competitive" shippers above the Ramsey optimal level – given a particular level of joint and common cost that must be recovered – in order to charge lower-than-Ramsey optimal rates overall on the "captive" traffic. This would cause volumes of competitive traffic to be suppressed by more than volumes of "captive" traffic would be stimulated, because the competitive traffic's overall level of demand elasticity is higher than that for the "captive" traffic. As a result, the joint and common costs of the system would need to be recovered from fewer movements of traffic than would be the case under Ramsey pricing – which is socially inefficient and problematic to sustain. A second entrant, charging Ramsey-optimal prices, might be able successfully to enter the market by undercutting the prices being assessed and thereby stimulating additional traffic movements along with their concomitant contributions to fixed and common costs.²⁸

In general, economic theory has established that an enterprise unprotected by entry barriers, as in contestable markets, can best protect itself from market incursions by competitors by setting its prices in accordance with the principles of Ramsey optimality.²⁹ Since a large portion of a rail carrier's costs are fixed and common, it will have particularly compelling incentives to set rates in a manner that will discourage defections of shippers and market erosion

²⁸ The same would be true in reverse, *i.e.*, in a circumstance in which the SARR tried to assess higher-than-Ramsey optimal rates on the "captive" traffic in order to charge lower-than-Ramsey optimal rates on "competitive" traffic. This is the sort of cross-subsidy the SAC test was designed to prevent – and the type of cross-subsidy the Board's recent rulings in *PPL* and *Otter Tail* have explicitly concluded is inappropriate in the context of the SAC test, because the internal cross-subsidy on which it relies is inconsistent with contestable market theory.

²⁹ See W. J. Baumol, E. E. Bailey and R. D. Willig, "Weak Invisible Hand Theorems on the Sustainability of Prices in a Multi-Product Monopoly," American Economic Review, June 1977, p. 350.

to competing suppliers of transportation services. Among pricing policies that generate adequate revenues, it is Ramsey pricing that most effectively discourages such defections and market erosion. This is simply because at any one time the Ramsey prices yield shippers the greatest total net benefits possible from prices that yield adequate revenues.³⁰

Although the Board claims, at page 13 of its *Decision*, that its MCM and MMM proposals would “permit . . . demand-based differential pricing” and, therefore, are “consistent with CMP, Ramsey pricing principles, [and] demand-based differential pricing principles,” the above discussion demonstrates that this is emphatically not the case. Assuming one can infer relative demand elasticity from the URCS-based contribution margins observed for each of the movements in the stand-alone traffic group (or, less reliably, from the revenues per ton-mile relied upon by MCM), the MCM and MMM procedures generate results that are systematically *inconsistent* with demand-based Ramsey pricing, contestable market theory and, therefore, CMP by completely ignoring relative demand elasticities for the movements that are arbitrarily categorized as “captive,” and by setting prices on so-called “competitive” traffic that ignore Ramsey pricing principles and the requirements of the contestable market theory on which the SAC test rests.

In effect, the Board’s MCM and MMM proposals would result in a readjustment of the SARR rate structure that is largely divorced from the relative demand elasticities of the individual members of the stand-alone traffic group. As an economist, and as one of the experts on which the ICC explicitly relied to develop CMP, I can say with confidence that it is hard to imagine proposals that would be more antithetical to CMP. Because the Board’s MCM and MMM proposals are so inconsistent with the demand-based pricing and contestability principles that under-gird CMP, they would constitute a dangerous step backward for public policy

³⁰ April 13, 1982 V.S. at 44-45.

towards railroads, with predictable implications for less efficient utilization of joint and common costs, less consumer value from rail services and less support for long term revenue adequacy.

Finally, the “rate compression” that is particularly apparent under MCM and MMM with respect to the higher-margin Category 2 traffic (but occurs as well with the Category 1 traffic) would have pernicious effects on railroad rate-setting, investment and operational creativity. If railroads are discouraged from developing or otherwise investing in services for which demand is particularly strong (and, therefore, for which rates could generate relatively high levels of contribution), the railroads’ customers will find the carriers less willing and less able to make the investments that shippers most strongly desire. As I suggested would be the case above in Section II, the rate compression on the highest contribution traffic that would result from the Board’s proposals would undermine the incentives that prices paid by shippers would otherwise create for railroads to make these investments.

The Board’s proposals allegedly are designed to address an asserted concern about the *possibility* of “manipulation” by the carriers of the percent reduction approach that the ICC and the Board have used consistently to calculate reasonable rates since the *Coal Trading* decision was rendered more than 15 years ago. One searches the *Decision* in vain for a useful definition of “manipulation,” but all that exists is the suggestion that a carrier anticipating a rate regulatory proceeding “could set a rate that it expects to be challenged at a much higher level than it expects to sustain.” This discussion fails to consider how, as an economic matter, one might distinguish between an effort on the part of a carrier to influence improperly the outcome of a SAC analysis and the rational demand-based pricing that *Guidelines* directs carriers to employ. A more reasoned approach would define what constitutes regulatory “manipulation” in economic terms, and would explore what analytic steps might practically be taken to discern what pricing is

manipulative in that sense. Knowledge that such analyses can be practically accomplished might well discourage rail carriers from undertaking any manipulative pricing in the first place, and enable the uncovering of any undeterred manipulative pricing. An approach of this kind could successfully avert concerns about regulatory manipulation while avoiding a wholesale departure from the principles of demand-based pricing and contestable market theory that underpin the *Guidelines*.

As an economic matter, it is in fact possible to define and test for the sort of “manipulation” that rightfully concerns the Board *consistent with* the legitimate need railroads have to engage in demand-based differential pricing as is explicitly recognized in *Guidelines*. The relevant inquiry is whether the challenged rate is consistent with perceived market demand, or whether it is excessive relative to this demand – in which case it would be reasonable for the Board to assume that the rate has been set for the purpose of manipulating the SAC test. If a new rate established by a rail carrier is one that would have been set for ordinary business purposes in the absence of regulation, it cannot be deemed manipulative. A rate increase would meet this criterion if it were expected to increase net revenues from market transactions, inasmuch as it would not repress so much traffic as to outweigh the increased price per unit of traffic that remains. To conduct such an analysis meaningfully, it is crucial to focus on the impacts of the price as separate from other exogenous influences on the level of demand facing the firm and the market. Thus, for example, if a rate established by a carrier on a coal movement to an electric generating station has a minimal effect on the dispatch of that station (and, therefore, would have a minimal effect on coal volumes shipped to the plant, all other things being equal), this would be reliable evidence that the Board could rely on to conclude that that rate entailed no

manipulation. I understand that Dr. Gaskins is filing a statement in this proceeding showing how this sort of analysis can be done from publicly available data.

The public policy point, here, is that the Board's *Decision* proposes measures that undermine CMP and are dangerous to the public interest in order to protect against manipulation of the SAC test that is presumed to be sufficiently important and pervasive. It seems that a far better approach to any such problems would be to avoid compromising the successes of CMP, and to instead embrace straight-forward evidentiary tests that can be utilized to determine whether railroads are in fact engaged in such manipulation. If the evidence demonstrates that a defendant railroad has not engaged in manipulation in a given case, there is no reason for the Board to depart from its prior rate reduction procedures. I understand that the Board essentially followed the approach I am recommending here in the *Xcel* proceeding, so it is clearly feasible. It would be economically advantageous to deal directly with the Board's concern, rather than trying to address it indirectly by replacing the Board's long-standing rate prescription approach with proposed methodologies that are economically irrational, artificially compress rates and undermine consumer benefits and the achievement of railroad revenue adequacy.

IV. CROSS-OVER TRAFFIC

As I suggested earlier in this statement, the use of cross-over traffic in a SAC analysis raises difficult methodological issues – but in my view it is not necessarily incompatible with the contestable market theory that underlies the SAC test. As the quotation I cite above from pages 528-529 of *Guidelines* makes clear, the SAC test is designed to determine how much it would cost an entrant in a contestable market to construct and operate efficiently – and uses these forward-looking costs of entry as a cap on the defendant railroad's rates.

When *Guidelines* were developed, the ICC envisioned that the proponent of a particular stand-alone railroad system would start by first identifying the route structure required to serve the issue traffic. Next, it would identify other traffic that could move end-to-end on those line segments. Finally, the proponent would engage in a process of identifying traffic that moved *in part* over the stand-alone railroad, and determining whether the cost of extending the SARR route structure enough to capture those movements in their entirety would generate revenues in excess of the cost of extension. If so, overall profits would be increased by doing so. This process would result in a single “optimal” stand-alone railroad system for serving the issue traffic, and if the costs of entry for that competitor are less than the revenues currently charged by the incumbent, then the incumbent’s rates would be deemed unreasonably high. Thus, in a contestable market a competitor will successfully enter if it is (1) *willing* to do so at the rates currently charged by the incumbent, and (2) *able* to provide service over the long run by generating total revenues equal to or in excess of its forward-looking, long-run costs. The entrant’s ability to succeed requires that its would-be customers are *willing* to give it their business, and this is assumed to follow if the SARR offers comparable quality at equivalent prices to the services of the incumbent.

It is possible that a new competitive SARR could choose to enter the market by providing only a portion of the service that the defendant provides for one or more movements in the stand-alone traffic group. In that case, of course, the SARR must continue to rely on the “residual incumbent” (*i.e.*, the portion of the incumbent that is not duplicated by the SARR) to provide the balance of the service to each of these cross-over movements; and the same “willing and able” standard should be applied to assessing the residual incumbent’s behavior – with respect to cross-over traffic – as is implicit in the SAC test envisioned by *Guidelines*. The residual

incumbent clearly would be *willing* to handle the non-SARR portion of cross-over movements as long as its contribution on each movement is unaffected, leaving it no worse off than it would have been if it handled the entire movement. Under the *able* portion of the standard, the SARR must now ensure *both* that the revenues it receives from issue, local and cross-over traffic is in total sufficient to cover its long-run costs *and* that the revenue the residual incumbent receives – from its portion of the cross-over traffic moves *plus* net revenues from other traffic moving over the required residual incumbent lines is sufficient to make these residual incumbent lines viable over the long run.

Both of these conditions are explicitly met when a “full SAC” analysis is undertaken – because a “full SAC” analysis includes the total revenue of all traffic in the stand-alone traffic group and the full costs of handling that traffic. Furthermore, in both the *Otter Tail* decision and in the *Decision* in this proceeding, the Board has found that the SAC results from applying a SARR that employs cross-over traffic should not be significantly different from the results achieved by conducting a “full SAC” analysis. The question is how to resolve the “dilemma” that the Board identifies, *i.e.*, that one can only know what the “full SAC” results would be by undertaking the effort to analyze such an entrant – precisely the burden that use of cross-over traffic is supposed to eliminate.

One approach would be to embrace a procedure proposed by Professor Kalt – what he calls “contestability pricing.” Because “contestability pricing” would attribute revenue to the SARR, for cross-over movements, equal to the cost avoided by the residual incumbent, the residual incumbent’s contribution on each cross-over movement is unaffected, thereby ensuring that the residual incumbent would be “willing” to partner with SARR to handle cross-over traffic “end-to-end.” Contestability pricing is also a sound economic approach because (1) it permits

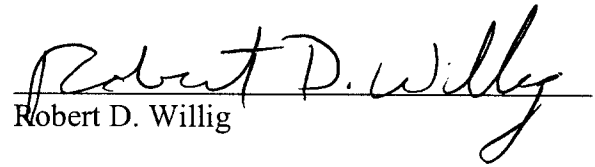
the SARR to keep the full benefit of any superior efficiencies, vis a vis the incumbent, that it can generate – which is conservatively consistent with competitive/contestable market behavior – and (2) it creates the right incentives for the SAC proponent to build the “full SAC” if it believes that the net revenues earned by the residual incumbent exceed its forward-looking costs (since the SARR could capture those net revenues by extending the system). From the railroad industry’s standpoint, “contestability pricing” is clearly (and perhaps highly) conservative, because it would not require that the revenues that contestability pricing provides for the residual incumbent on cross-over traffic meet the “able” portion of the standard. As a result, contestability pricing might leave the residual incumbent unable to survive over the long-run (a fact that would become apparent in a “full SAC” analysis when revenues required to extend the system would be insufficient to cover the long-run construction and operating costs of doing so).

An alternative approach is suggested by the Board’s view – which in my opinion is absolutely correct – that the results of the SAC test, using cross-over traffic, should closely mimic the results of the “full SAC.” This approach would employ a revenue allocation procedure to approximate the results of the “willing and able” standard. I think the average total cost, or “ATC,” procedure proposed in the *Decision* has merit for this purpose – with the caveat that either party to an individual rate case *must* be permitted to present evidence that the approximation is biased (*i.e.*, evidence to the effect that a “full SAC” result would likely be significantly different than the result obtained using the approximation). Use of an approximation, such as ATC, without the opportunity to present evidence of bias would be dangerous public policy, because there is no *a priori* way to ascertain the accuracy of the approximation, and in the circumstances of a specific SAC study the approximation could be highly biased. As a result, use of the approximation could result in conclusions concerning rate

reasonableness that would be radically different than those that would be obtained under a full SAC analysis, with the result that the railroad's proper ability to reach revenue adequacy with efficient prices would be artificially blocked.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 28 2006


Robert D. Willig

December 2005

Curriculum Vitae

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M.S. Operations Research, Stanford University, 1968.

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Professional Positions:

Professor of Economics and Public Affairs, Princeton University, 1978-.

Principal External Advisor, Infrastructure Program, Inter-American Development Bank, 6/97-8/98.

Deputy Assistant Attorney General, U.S. Department of Justice, 1989-1991.

Supervisor, Economics Research Department, Bell Laboratories, 1977-1978.

Visiting Lecturer (with rank of Associate Professor), Department of Economics and Woodrow Wilson School, Princeton University, 1977-78 (part time).

Economics Research Department, Bell Laboratories, 1973-77.

Lecturer, Economics Department, Stanford University, 1971-73.

Other Professional Activities:

Director, Competition Policy Associates, Inc., 2003-2005

Advisory Board, Electronic Journal of Industrial Organization and Regulation Abstracts, 1996-.

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Visiting Faculty Member (occasional), International Program on Privatization and Regulatory Reform, Harvard Institute for International Development, 1996-2000.

Member, National Research Council Highway Cost Allocation Study Review Committee, 1995-98.

Member, Defense Science Board Task Force on the Antitrust Aspects of Defense Industry Consolidation, 1993-94.

Editorial Board, Utilities Policy, 1990-2001

Leif Johanson Lecturer, University of Oslo, November 1988.

Member, New Jersey Governor's Task Force on Market-Based Pricing of Electricity, 1987-89.

Co-editor, Handbook of Industrial Organization, 1984-89.

Associate Editor, Journal of Industrial Economics, 1984-89.

Director, Consultants in Industry Economics, Inc., 1983-89, 1991-94.

Fellow, Econometric Society, 1981-.

Organizing Committee, Carnegie-Mellon-N.S.F. Conference on Regulation, 1985.

Board of Editors, American Economic Review, 1980-83.

Nominating Committee, American Economic Association, 1980-1981.

Research Advisory Committee, American Enterprise Institute, 1980-1986.

Editorial Board, M.I.T. Press Series on Government Regulation of Economic Activity, 1979-93.

Program Committee, 1980 World Congress of the Econometric Society.

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Organizer, American Economic Association Meetings: 1980, 1982.

American Bar Association Section 7 Clayton Act Committee, 1981.

Principal Investigator, NSF grant SOC79-0327, 1979-80; NSF grant 285-6041, 1980-82; NSF grant SES-8038866, 1983-84, 1985-86.

Aspen Task Force on the Future of the Postal Service, 1978-80.

Organizing Committee of Sixth Annual Telecommunications Policy Research Conference, 1977-78.

Visiting Fellow, University of Warwick, July 1977.

Institute for Mathematical Studies in the Social Sciences, Stanford University, 1975.

Consulting: Bell Laboratories, 1978-79; AT&T, 1978-89, 1991-; Conrail 1978-87, 1991-97; Federal Trade Commission, 1979-82, 1994-96; Pennsylvania Bell, 1980; Simpson Thatcher Bartlett, 1980, 1993-98; American Association of Railroads, 1981, 1985; Math-tech, 1981; Union Pacific Railroad, 1981, 1995-99; Family Lines Rail System, 1982; Pepper, Hamilton, and Scheetz, 1981-87, 1991-98, 2001; Siemens Corp., 1982; Board of Governors of U. S. Postal Service, 1981; OECD, 1983-85, 1991-95; Sidley & Austin, 1983-89, 1991- 2005; U.S. Postal Service, 1983-84; Echlin Inc., 1982-83; United Airlines, 1983, 1991-98; Consultants in Industry Economics, 1983-89, 1991- 2005; Wiley, Malehorn & Sirota, 1983-89; City of Newark, 1984; Arnold & Porter, 1986-89, 1991-2000, 2004- ; Howrey & Simon, 1985-88, 1993-2005; Kodak, 1987-89; Crowell & Moring, 1988; Viacom 1989, 1991-98; Bell Atlantic, 1991-94; Intel, 1991-93; AOPL, 1993; IBM, 1993-96; Merck, 1993-1995; Harkins Cunningham, 1993-96; Boeing, 1993-98; Niagara Mohawk, 1994; PSE&G, 1994-1996; Microsoft, 1994; Coca-Cola Co., 1994-01; Digital Equipment Corp. 1997-98; World Bank 1994-98; Inter-American Development Bank, 1997-2000; Steptoe & Johnson, 1997-; Air Transport Association of America, 1998; American Electric Power, 1999-2001; Cravath, Swaine & Moore, 1998- ; Skadden Arps, 1999-2001; Amgen, 2000-02; Comcast, 2000; Williams & Connolly, 2000; New Power Corporation, 2001. Freddie Mac, 2002; BMG, 2003-2005; Qantas and Air New Zealand, 2003-2004; Competition Policy Associates, Inc. 2003-2005.

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"Rail Deregulation and the Financial Problems of the U.S. Railroad Industry," (with W.J. Baumol), report prepared under contract to Conrail, 1979.

"Price Indexes and Intertemporal Welfare," Bell Laboratories Economics Discussion Paper, 1974.

"Consumer's Surplus: A Rigorous Cookbook," Technical Report #98, Economics Series, I.M.S.S.S., Stanford University, 1973.

"An Economic-Demographic Model of the Housing Sector," (with B. Hickman and M. Hinz), Center for Research in Economic Growth, Stanford University, 1973.

Invited Conference Presentations:

World Bank Seminar	
"The Dangers of Over-Ambitious Regulation"	2005
ABA Section of Antitrust Law 2005 Fall Forum	
"Is There a Gap Between the Guidelines and Agency Practice?"	2005
Hearing of Antitrust Modernization Commission	
"Assessment of U.S. Merger Enforcement Policy"	2005
LEAR Conference on Advances in the Economics of Competition Law	
"Exclusionary Pricing Practices"	2005
Annual Antitrust Law Institute	
"Cutting Edge Issues in Economics"	2005

PRIOR Symposium on States and Stem Cells "Assessing the Economics of State Stem Cell Programs"	2005
ABA Section of Antitrust Law – AALS Scholars Showcase "Distinguishing Anticompetitive Conduct"	2005
Allied Social Science Associations National Convention "Antitrust in the New Economy"	2005
ABA Section of Antitrust Law 2004 Fall Forum "Advances in Economic Analysis of Antitrust"	2004
Phoenix Center State Regulator Retreat "Regulatory Policy for the Telecommunications Revolution"	2004
OECD Competition Committee "Use of Economic Evidence in Merger Control"	2004
Justice Department/Federal Trade Commission Joint Workshop "Merger Enforcement"	2004
Phoenix Center Annual U.S. Telecoms Symposium "Incumbent Market Power"	2003
Center for Economic Policy Studies Symposium on Troubled Industries "What Role for Government in Telecommunications?"	2003
Princeton Workshop on Price Risk and the Future of the Electric Markets "The Structure of the Electricity Markets"	2003
2003 Antitrust Conference "International Competition Policy and Trade Policy"	2003
International Industrial Organization Conference "Intellectual Property System Reform"	2003
ABA Section of Antitrust Law 2002 Fall Forum "Competition, Regulation and Pharmaceuticals"	2002
Fordham Conference on International Antitrust Law and Policy "Substantive Standards for Mergers and the Role of Efficiencies"	2002

Department of Justice Telecom Workshop	
"Stimulating Investment and the Telecommunications Act of 1996"	2002
Department of Commerce Conference on the State of the Telecom Sector	
"Stimulating Investment and the Telecommunications Act of 1996"	2002
Law and Public Affairs Conference on the Future of Internet Regulation	
"Open Access and Competition Policy Principles"	2002
Center for Economic Policy Studies Symposium on Energy Policy	
"The Future of Power Supply"	2002
The Conference Board: Antitrust Issues in Today's Economy	
"The 1982 Merger Guidelines at 20"	2002
Federal Energy Regulatory Commission Workshop	
"Effective Deregulation of Residential Electric Service"	2001
IPEA International Seminar on Regulation and Competition	
"Electricity Markets: Deregulation of Residential Service"	2001
"Lessons for Brazil from Abroad"	2001
ABA Antitrust Law Section Task Force Conference	
"Time, Change, and Materiality for Monopolization Analyses"	2001
Harvard University Conference on American Economic Policy in the 1990s	
"Comments on Antitrust Policy in the Clinton Administration"	2001
Tel-Aviv Workshop on Industrial Organization and Anti-Trust	
"The Risk of Contagion from Multimarket Contact"	2001
2001 Antitrust Conference	
"Collusion Cases: Cutting Edge or Over the Edge?"	2001
"Dys-regulation of California Electricity"	2001
FTC Public Workshop on Competition Policy for E-Commerce	
"Necessary Conditions for Cooperation to be Problematic"	2001
HIID International Workshop on Infrastructure Policy	
"Infrastructure Privatization and Regulation"	2000
Villa Mondragone International Economic Seminar	
"Competition Policy for Network and Internet Markets"	2000

New Developments in Railroad Economics: Infrastructure Investment and Access Policies "Railroad Access, Regulation, and Market Structure"	2000
The Multilateral Trading System at the Millennium "Efficiency Gains From Further Liberalization"	2000
Singapore – World Bank Symposium on Competition Law and Policy "Policy Towards Cartels and Collusion"	2000
CEPS: Is It a New World?: Economic Surprises of the Last Decade "The Internet and E-Commerce"	2000
Cutting Edge Antitrust: Issues and Enforcement Policies "The Direction of Antitrust Entering the New Millennium"	2000
The Conference Board: Antitrust Issues in Today's Economy "Antitrust Analysis of Industries With Network Effects"	1999
CEPS: New Directions in Antitrust "Antitrust in a High-Tech World"	1999
World Bank Meeting on Competition and Regulatory Policies for Development "Economic Principles to Guide Post-Privatization Governance"	1999
1999 Antitrust Conference "Antitrust and the Pace of Technological Development"	1999
	1999
HIID International Workshop on Privatization, Regulatory Reform and Corporate Governance "Privatization and Post-Privatization Regulation of Natural Monopolies"	1999
The Federalist Society: Telecommunications Deregulation: Promises Made, Potential Lost? "Grading the Regulators"	1999
Inter-American Development Bank: Second Generation Issues In the Reform Of Public Services "Post-Privatization Governance"	1999
	1999
Economic Development Institute of the World Bank -- Program on Competition Policy "Policy Towards Horizontal Mergers"	1998

Twenty-fifth Anniversary Seminar for the Economic Analysis Group of the Department of Justice	
“Market Definition in Antitrust Analysis”	1998
HIID International Workshop on Privatization, Regulatory Reform and Corporate Governance	
“Infrastructure Architecture and Regulation: Railroads”	1998
EU Committee Competition Conference – Market Power	
“US/EC Perspective on Market Definition”	1998
Federal Trade Commission Roundtable	
“Antitrust Policy for Joint Ventures”	1998
1998 Antitrust Conference	
“Communications Mergers”	1998
The Progress and Freedom Foundation Conference on Competition, Convergence, and the Microsoft Monopoly	
Access and Bundling in High-Technology Markets	1998
FTC Program on The Effective Integration of Economic Analysis into Antitrust Litigation	
The Role of Economic Evidence and Testimony	1997
FTC Hearings on Classical Market Power in Joint Ventures	
Microeconomic Analysis and Guideline	1997
World Bank Economists --Week IV Keynote	
Making Markets More Effective With Competition Policy	1997
Brookings Trade Policy Forum	
Competition Policy and Antidumping: The Economic Effects	1997
University of Malaya and Harvard University Conference on The Impact of Globalisation and Privatisation on Malaysia and Asia in the Year 2020	
Microeconomics, Privatization, and Vertical Integration	1997
ABA Section of Antitrust Law Conference on The Telecommunications Industry	
Current Economic Issues in Telecommunications	1997
Antitrust 1998: The Annual Briefing	
The Re-Emergence of Distribution Issues	1997

Inter-American Development Bank Conference on Private Investment, Infrastructure Reform and Governance in Latin America & the Caribbean	
Economic Principles to Guide Post-Privatization Governance	1997
Harvard Forum on Regulatory Reform and Privatization of Telecommunications in the Middle East	
Privatization: Methods and Pricing Issues	1997
American Enterprise Institute for Public Policy Research Conference	
Discussion of Local Competition and Legal Culture	1997
Harvard Program on Global Reform and Privatization of Public Enterprises	
"Infrastructure Privatization and Regulation: Freight"	1997
World Bank Competition Policy Workshop	
"Competition Policy for Entrepreneurship and Growth"	1997
Eastern Economics Association Paul Samuelson Lecture	
"Bottleneck Access in Regulation and Competition Policy"	1997
ABA Annual Meeting, Section of Antitrust Law	
"Antitrust in the 21st Century: The Efficiencies Guidelines"	1997
Peruvian Ministry of Energy and Mines Conference on Regulation of Public Utilities	
"Regulation: Theoretical Context and Advantages vs. Disadvantages"	1997
The FCC: New Priorities and Future Directions	
"Competition in the Telecommunications Industry"	1997
American Enterprise Institute Studies in Telecommunications Deregulation	
"The Scope of Competition in Telecommunications"	1996
George Mason Law Review Symposium on Antitrust in the Information Revolution	
"Introduction to the Economic Theory of Antitrust and Information"	1996
Korean Telecommunications Public Lecture	
"Market Opening and Fair Competition"	1996
Korea Telecommunications Forum	
"Desirable Interconnection Policy in a Competitive Market"	1996
European Association for Research in Industrial Economics Annual Conference	

“Bottleneck Access: Regulation and Competition Policy”	1996
Harvard Program on Global Reform and Privatization of Public Enterprises “Railroad and Other Infrastructure Privatization”	1996
FCC Forum on Antitrust and Economic Issues Involved with InterLATA Entry “The Scope of Telecommunications Competition”	1996
Citizens for a Sound Economy Policy Watch on Telecommunications Interconnection “The Economics of Interconnection”	1996
World Bank Seminar on Experiences with Corporatization “Strategic Directions of Privatization”	1996
FCC Economic Forum on the Economics of Interconnection Lessons from Other Industries	1996
ABA Annual Meeting, Section of Antitrust Law The Integration, Disintegration, and Reintegration of the Entertainment Industry	1996
Conference Board: 1996 Antitrust Conference How Economics Influences Antitrust and Vice Versa	1996
Antitrust 1996: A Special Briefing Joint Ventures and Strategic Alliances	1996
New York State Bar Association Section of Antitrust Law Winter Meeting Commentary on Horizontal Effects Issues	1996
FTC Hearings on the Changing Nature of Competition in a Global and Innovation-Driven Age Vertical Issues for Networks and Standards	1995
Wharton Seminar on Applied Microeconomics Access Policies with Imperfect Regulation	1995
Antitrust 1996, Washington D.C. Assessing Joint Ventures for Diminution of Competition	1995
ABA Annual Meeting, Section of Antitrust Law Refusals to Deal -- Economic Tests for Competitive Harm	1995

FTC Seminar on Antitrust Enforcement Analysis Diagnosing Collusion Possibilities	1995
Philadelphia Bar Education Center: Antitrust Fundamentals Antitrust--The Underlying Economics	1995
Vanderbilt University Conference on Financial Markets Why Do Christie and Schultz Infer Collusion From Their Data?	1995
ABA Section of Antitrust Law Chair=s Showcase Program Discussion of Telecommunications Competition Policy	1995
Conference Board: 1995 Antitrust Conference Analysis of Mergers and Joint Ventures	1995
ABA Conference on The New Antitrust: Policy of the '90s Antitrust on the Super Highways/Super Airways	1994
ITC Hearings on The Economic Effects of Outstanding Title VII Orders "The Economic Impacts of Antidumping Policies"	1994
OECD Working Conference on Trade and Competition Policy "Empirical Evidence on The Nature of Anti-dumping Actions"	1994
Antitrust 1995, Washington D.C. "Rigorous Antitrust Standards for Distribution Arrangements"	1994
ABA -- Georgetown Law Center: Post Chicago-Economics: New Theories - New Cases? "Economic Foundations for Vertical Merger Guidelines"	1994
Conference Board: Antitrust Issues in Today's Economy "New Democrats, Old Agencies: Competition Law and Policy"	1994
Federal Reserve Board Distinguished Economist Series "Regulated Private Enterprise Versus Public Enterprise"	1994
Institut d'Etudes Politiques de Paris "Lectures on Competition Policy and Privatization"	1993
Canadian Bureau of Competition Policy Academic Seminar Series, Toronto. "Public Versus Regulated Private Enterprise"	1993

CEPS Symposium on The Clinton Administration: A Preliminary Report Card "Policy Towards Business"	1993
Columbia Institute for Tele-Information Conference on Competition in Network Industries, New York, NY "Discussion of Deregulation of Networks: What Has Worked and What Hasn't"	1993
World Bank Annual Conference on Development Economics "Public Versus Regulated Private Enterprise"	1993
Center for Public Utilities Conference on Current Issues Challenging the Regulatory Process "The Economics of Current Issues in Telecommunications Regulation"	1992
"The Role of Markets in Presently Regulated Industries"	1992
The Conference Board's Conference on Antitrust Issues in Today's Economy, New York, NY "Antitrust in the Global Economy"	1992
"Monopoly Issues for the '90s"	1993
Columbia University Seminar on Applied Economic Theory, New York, NY "Economic Rationales for the Scope of Privatization"	1992
Howrey & Simon Conference on Antitrust Developments, Washington, DC "Competitive Effects of Concern in the Merger Guidelines"	1992
Arnold & Porter Colloquium on Merger Enforcement, Washington, DC "The Economic Foundations of the Merger Guidelines"	1992
American Bar Association, Section on Antitrust Law Leadership Council Conference, Monterey, CA "Applying the 1992 Merger Guidelines"	1992
OECD Competition Policy Meeting, Paris, France "The Economic Impacts of Antidumping Policy"	1992
Center for Public Choice Lecture Series, George Mason University Arlington, VA "The Economic Impacts of Antidumping Policy"	1992
Brookings Institution Microeconomics Panel, Washington, DC, "Discussion of the Evolution of Industry Structure"	1992
AT&T Conference on Antitrust Essentials "Antitrust Standards for Mergers and Joint Ventures"	1991
ABA Institute on The Cutting Edge of Antitrust: Market Power	

"Assessing and Proving Market Power: Barriers to Entry"	1991
Second Annual Workshop of the Competition Law and Policy Institute of New Zealand	
"Merger Analysis, Industrial Organization Theory, and Merger Guidelines"	1991
"Exclusive Dealing and the <u>Fisher & Paykel</u> Case"	1991
Special Seminar of the New Zealand Treasury	
"Strategic Behavior, Antitrust, and The Regulation of Natural Monopoly"	1991
Public Seminar of the Australian Trade Practices Commission	
"Antitrust Issues of the 1990's"	1991
National Association of Attorneys General Antitrust Seminar	
"Antitrust Economics"	1991
District of Columbia Bar's 1991 Annual Convention	
"Administrative and Judicial Trends in Federal Antitrust Enforcement"	1991
ABA Spring Meeting	
"Antitrust Lessons From the Airline Industry"	1991
Conference on The Transition to a Market Economy - Institutional Aspects	
"Anti-Monopoly Policies and Institutions"	1991
Conference Board's Thirtieth Antitrust Conference	
"Antitrust Issues in Today's Economy"	1991
American Association for the Advancement of Science Annual Meeting	
"Methodologies for Economic Analysis of Mergers"	1991
General Seminar, Johns Hopkins University	
"Economic Rationales for the Scope of Privatization"	1991
Capitol Economics Speakers Series	
"Economics of Merger Guidelines"	1991
CRA Conference on Antitrust Issues in Regulated Industries	
"Enforcement Priorities and Economic Principles"	1990
Pepper Hamilton & Scheetz Anniversary Colloquium	
"New Developments in Antitrust Economics"	1990
PLI Program on Federal Antitrust Enforcement in the 90's	

"The Antitrust Agenda of the 90's"	1990
FTC Distinguished Speakers Seminar	
"The Evolving Merger Guidelines"	1990
The World Bank Speakers Series	
"The Role of Antitrust Policy in an Open Economy"	1990
Seminar of the Secretary of Commerce and Industrial Development of Mexico	
"Transitions to a Market Economy"	1990
Southern Economics Association	
"Entry in Antitrust Analysis of Mergers"	1990
"Discussion of Strategic Investment and Timing of Entry"	1990
American Enterprise Institute Conference on Policy Approaches to the Deregulation of Network Industries	
"Discussion of Network Problems and Solutions"	1990
American Enterprise Institute Conference on Innovation, Intellectual Property, and World Competition	
"Law and Economics Framework for Analysis"	1990
Banco Nacional de Desenvolvimento Economico Social Lecture	
"Competition Policy: Harnessing Private Interests for the Public Interest"	1990
Western Economics Association Annual Meetings	
"New Directions in Antitrust from a New Administration"	1990
"New Directions in Merger Enforcement: The View from Washington"	1990
Woodrow Wilson School Alumni Colloquium	
"Microeconomic Policy Analysis and Antitrust--Washington 1990"	1990
Arnold & Porter Lecture Series	
"Advocating Competition"	1991
"Antitrust Enforcement"	1990
ABA Antitrust Section Convention	
"Recent Developments in Market Definition and Merger Analysis"	1990
Federal Bar Association	
"Joint Production Legislation: Competitive Necessity or Cartel Shield?"	1990

Pew Charitable Trusts Conference	
"Economics and National Security"	1990
ABA Antitrust Section Midwinter Council Meeting	
"Fine-tuning the Merger Guidelines"	1990
"The State of the Antitrust Division"	1991
International Telecommunications Society Conference	
"Discussion of the Impact of Telecommunications in the UK"	1989
The Economists of New Jersey Conference	
"Recent Perspectives on Regulation"	1989
Conference on Current Issues Challenging the Regulatory Process	
"Innovative Pricing and Regulatory Reform"	1989
"Competitive Wheeling"	1989
Conference Board: Antitrust Issues in Today's Economy	
"Foreign Trade Issues and Antitrust"	1989
McKinsey & Co. Mini-MBA Conference	
"Economic Analysis of Pricing, Costing, and Strategic Business Behavior"	1989
	1994
Olin Conference on Regulatory Mechanism Design	
"Revolutions in Regulatory Theory and Practice: Exploring The Gap"	1989
University of Dundee Conference on Industrial Organization and Strategic Behavior	
"Mergers in Differentiated Product Industries"	1988
Leif Johanson Lectures at the University of Oslo	
"Normative Issues in Industrial Organization"	1988
Mergers and Competitiveness: Spain Facing the EEC	
"Merger Policy"	1988
"R&D Joint Ventures"	1988
New Dimensions in Pricing Electricity	
"Competitive Pricing and Regulatory Reform"	1988
Program for Integrating Economics and National Security: Second Annual Colloquium	
"Arming Decisions Under Asymmetric Information"	1988

European Association for Research in Industrial Economics	
"U.S. Railroad Deregulation and the Public Interest"	1987
"Economic Rationales for the Scope of Privatization"	1989
"Discussion of Licensing of Innovations"	1990
Annenberg Conference on Rate of Return Regulation in the Presence of Rapid Technical Change	
"Discussion of Regulatory Mechanism Design in the Presence of Research, Innovation, and Spillover Effects"	1987
Special Brookings Papers Meeting	
"Discussion of Empirical Approaches to Strategic Behavior"	1987
"New Merger Guidelines"	1990
Deregulation or Regulation for Telecommunications in the 1990's	
"How Effective are State and Federal Regulations?"	1987
Conference Board Roundtable on Antitrust	
"Research and Production Joint Ventures"	1990
"Intellectual Property and Antitrust"	1987
Current Issues in Telephone Regulation	
"Economic Approaches to Market Dominance: Applicability of Contestable Markets"	1987
Harvard Business School Forum on Telecommunications	
"Regulation of Information Services"	1987
The Fowler Challenge: Deregulation and Competition in The Local Telecommunications Market	
"Why Reinvent the Wheel?"	1986
World Bank Seminar on Frontiers of Economics	
"What Every Economist Should Know About Contestable Markets"	1986
Bell Communications Research Conference on Regulation and Information	
"Fuzzy Regulatory Rules"	1986
Karl Eller Center Forum on Telecommunications	
"The Changing Economic Environment in Telecommunications: Technological Change and Deregulation"	1986
Railroad Accounting Principles Board Colloquium	
"Contestable Market Theory and ICC Regulation"	1986
Canadian Embassy Conference on Current Issues in Canadian -- U.S. Trade and Investment	

"Regulatory Revolution in the Infrastructure Industries"	1985
Eagleton Institute Conference on Telecommunications in Transition	
"Industry in Transition: Economic and Public Policy Overview"	1985
Brown University Citicorp Lecture	
"Logic of Regulation and Deregulation"	1985
Columbia University Communications Research Forum	
"Long Distance Competition Policy"	1985
American Enterprise Institute Public Policy Week	
"The Political Economy of Regulatory Reform"	1984
MIT Communications Forum	
"Deregulation of AT&T Communications"	1984
Bureau of Census Longitudinal Establishment Data File and Diversification Study Conference	
"Potential Uses of The File"	1984
Federal Bar Association Symposium on Joint Ventures	
"The Economics of Joint Venture Assessment"	1984
Hoover Institute Conference on Antitrust	
"Antitrust for High-Technology Industries"	1984
NSF Workshop on Predation and Industrial Targeting	
"Current Economic Analysis of Predatory Practices"	1983
The Institute for Study of Regulation Symposium: Pricing Electric, Gas, and Telecommunications Services Today and for the Future	
"Contestability As A Guide for Regulation and Deregulation"	1984
University of Pennsylvania Economics Day Symposium	
"Contestability and Competition: Guides for Regulation and Deregulation"	1984
Pinhas Sapir Conference on Economic Policy in Theory and Practice	
"Corporate Governance and Market Structure"	1984
Centre of Planning and Economic Research of Greece	
"Issues About Industrial Deregulation"	1984
"Contestability: New Research Agenda"	1984

Hebrew and Tel Aviv Universities Conference on Public Economics "Social Welfare Dominance Extended and Applied to Excise Taxation"	1983
NBER Conference on Industrial Organization and International Trade "Perspectives on Horizontal Mergers in World Markets"	1983
Workshop on Local Access: Strategies for Public Policy "Market Structure and Government Intervention in Access Markets"	1982
NBER Conference on Strategic Behavior and International Trade "Industrial Strategy with Committed Firms: Discussion"	1982
Columbia University Graduate School of Business, Conference on Regulation and New Telecommunication Networks "Local Pricing in a Competitive Environment"	1982
International Economic Association Roundtable Conference on New Developments in the Theory of Market Structure "Theory of Contestability"	1982
"Product Dev., Investment, and the Evolution of Market Structures"	1982
N.Y.U. Conference on Competition and World Markets: Law and Economics "Competition and Trade Policy--International Predation"	1982
CNRS-ISPE-NBER Conference on the Taxation of Capital "Welfare Effects of Investment Under Imperfect Competition"	1982
Internationales Institut für Management und Verwaltung Regulation Conference "Welfare, Regulatory Boundaries, and the Sustainability of Oligopolies"	1981
NBER-Kellogg Graduate School of Management Conference on the Econometrics of Market Models with Imperfect Competition "Discussion of Measurement of Monopoly Behavior: An Application to the Cigarette Industry"	1981
The Peterkin Lecture at Rice University "Deregulation: Ideology or Logic?"	1981
FTC Seminar on Antitrust Analysis "Viewpoints on Horizontal Mergers"	1982
"Predation as a Tactical Inducement for Exit"	1980
NBER Conference on Industrial Organization and Public Policy "An Economic Definition of Predation"	1980

The Center for Advanced Studies in Managerial Economics Conference on The Economics of Telecommunication	
"Pricing Local Service as an Input"	1980
Aspen Institute Conference on the Future of the Postal Service	
"Welfare Economics of Postal Pricing"	1979
Department of Justice Antitrust Seminar	
"The Industry Performance Gradient Index"	1979
Eastern Economic Association Convention	
"The Social Performance of Deregulated Markets for Telecom Services"	1979
Industry Workshop Association Convention	
"Customer Equity and Local Measured Service"	1979
Symposium on Ratemaking Problems of Regulated Industries	
"Pricing Decisions and the Regulatory Process"	1979
Woodrow Wilson School Alumni Conference	
"The Push for Deregulation"	1979
NBER Conference on Industrial Organization	
"Intertemporal Sustainability"	1979
World Congress of the Econometric Society	
"Theoretical Industrial Organization"	1980
Institute of Public Utilities Conference on Current Issues in Public Utilities Regulation	
"Network Access Pricing"	1978
ALI-ABA Conference on the Economics of Antitrust	
"Predatoriness and Discriminatory Pricing"	1978
AEI Conference on Postal Service Issues	
"What Can Markets Control?"	1978
University of Virginia Conference on the Economics of Regulation	
"Public Interest Pricing"	1978
DRI Utility Conference	
"Marginal Cost Pricing in the Utility Industry: Impact and Analysis"	1978

International Meeting of the Institute of Management Sciences	
"The Envelope Theorem"	1977
University of Warwick Workshop on Oligopoly	
"Industry Performance Gradient Indexes"	1977
North American Econometric Society Convention	
"Intertemporal Sustainability"	1979
"Social Welfare Dominance"	1978
"Economies of Scope, DAIC, and Markets with Joint Production"	1977
Telecommunications Policy Research Conference	
"Transition to Competitive Markets"	1986
"InterLATA Capacity Growth, Capped NTS Charges and Long Distance Competition"	1985
"Market Power in The Telecommunications Industry"	1984
"FCC Policy on Local Access Pricing"	1983
"Do We Need a Regulatory Safety Net in Telecommunications?"	1982
"Anticompetitive Vertical Conduct"	1981
"Electronic Mail and Postal Pricing"	1980
"Monopoly, Competition and Efficiency": Chairman	1979
"A Common Carrier Research Agenda"	1978
"Empirical Views of Ramsey Optimal Telephone Pricing"	1977
"Recent Research on Regulated Market Structure"	1976
"Some General Equilibrium Views of Optimal Pricing"	1975
National Bureau of Economic Research Conference on Theoretical Industrial Organization	
"Compensating Variation as a Measure of Welfare Change"	1976
Conference on Pricing in Regulated Industries: Theory & Application	
"Ramsey Optimal Pricing of Long Distance Telephone Services"	1977
NBER Conference on Public Regulation	
"Income Distributional Concerns in Regulatory Policy-Making"	1977
Allied Social Science Associations National Convention	
"Merger Guidelines and Economic Theory"	1990
Discussion of "Competitive Rules for Joint Ventures"	1989
"New Schools in Industrial Organization"	1988
"Industry Economic Analysis in the Legal Arena"	1987
"Transportation Deregulation"	1984
Discussion of "Pricing and Costing of Telecommunications Services"	1983
Discussion of "An Exact Welfare Measure"	1982
"Optimal Deregulation of Telephone Services"	1982

"Sector Differentiated Capital Taxes"	1981
"Economies of Scope"	1980
"Social Welfare Dominance"	1980
"The Economic Definition of Predation"	1979
Discussion of "Lifeline Rates, Succor or Snare?"	1979
"Multiproduct Technology and Market Structure"	1978
"The Economic Gradient Method"	1978
"Methods for Public Interest Pricing"	1977
Discussion of "The Welfare Implications of New Financial Instruments"	1976
"Welfare Theory of Concentration Indices"	1976
Discussion of "Developments in Monopolistic Competition Theory"	1976
"Hedonic Price Adjustments"	1975
"Public Good Attributes of Information and its Optimal Pricing"	1975
"Risk Invariance and Ordinally Additive Utility Functions"	1974
"Consumer's Surplus: A Rigorous Cookbook"	1974
University of Chicago Symposium on the Economics of Regulated Public Utilities	
"Optimal Prices for Public Purposes"	1976
American Society for Information Science	
"The Social Value of Information: An Economist's View"	1975
Institute for Mathematical Studies in the Social Sciences Summer Seminar	
"The Sustainability of Natural Monopoly"	1975
U.S.-U.S.S.R. Symposium on Estimating Costs and Benefits of Information Services	
"The Evaluation of the Economic Benefits of Productive Information"	1975
NYU-Columbia Symposium on Regulated Industries	
"Ramsey Optimal Public Utility Pricing"	1975

Research Seminars:

Bell Communications Research (2)	University of California, San Diego
Bell Laboratories (numerous)	University of Chicago
Department of Justice (3)	University of Delaware
Electric Power Research Institute	University of Florida
Federal Reserve Board	University of Illinois
Federal Trade Commission (4)	University of Iowa (2)

Mathematica
Rand
World Bank (3)
Carleton University
Carnegie-Mellon University
Columbia University (4)
Cornell University (2)
Georgetown University
Harvard University (2)
Hebrew University
Johns Hopkins University (2)
M. I. T. (4)
New York University (4)
Northwestern University (2)
Norwegian School of Economics and
Business Administration

Universite Laval
University of Maryland
University of Michigan
University of Minnesota
University of Oslo
University of Pennsylvania (3)
University of Toronto
University of Virginia
University of Wisconsin
University of Wyoming
Vanderbilt University
Yale University (2)
Princeton University (many)
Rice University
Stanford University (5)
S.U.N.Y. Albany

**Verified Statement of Economists
Supporting the Principles of
Constrained Market Pricing**

**Submitted to the
Interstate Commerce Commission
Coal Rate Guidelines – Nationwide
Ex Parte No. 347 (Sub-No. 1)**

June 1983

APPENDIX A

VERIFIED STATEMENT OF ECONOMISTS
SUPPORTING THE PRINCIPLES OF
CONSTRAINED MARKET PRICING

On February 24, 1983, the Interstate Commerce Commission announced its proposal to adopt a new policy called "Constrained Market Pricing" to govern the regulation of railroad rates on coal traffic subject to the Commission's jurisdiction. In many important respects, this proposal represents a breakthrough in bringing federal regulatory policy in line with modern economic theory. We, the undersigned economists, many of whom have participated in the development of this theory, join in this statement to express our support for the principles which the Commission has proposed to adopt to shape its new policy.

We understand the key principles of the new policy to include the following: (1) regulation must afford railroads the opportunity to earn a rate of return on their investment equal to the current cost of capital; (2) permitting railroads to set their rates in accordance with the principles of Ramsey Pricing will lead to economic efficiency in the market for railroad transportation; (3) in addition to promoting efficiency in other respects, the role of proper regulation is to prevent any abuse of monopoly power by ensuring that revenues derived from the rates for any particular rail

service or group of rail services do not exceed so-called "stand-alone costs," the minimum current costs of providing that service or group of services in isolation; and (4) attempts to impose rate ceilings based on arbitrary cost allocation schemes, such as fully allocated costs, will cause economic inefficiency in railroad transportation.

In the ensuing discussion, we shall explain the basis of our agreement with each of these points.

1. Regulation Must Permit Railroads To Earn A Competitive Return On Their Investment.

At page 7 of the decision, the Commission addresses the need for rate regulation to afford railroads the opportunity to earn "adequate revenues." The Commission states:

In Ex Parte No. 393, Standards for Determining Railroad Revenue Adequacy, 364 I.C.C. 803 (1981), aff'd sub nom. Bessemer & Lake Erie R.R. Co., F.2d (No. 81-1492, 3d Cir., Oct. 1982), we concluded that railroads should have the opportunity to achieve earnings sufficient to yield a return on investment equal to the current cost of capital. As we explained in that case, railroads can obtain funds for investment only by offering rates of return comparable to other investment opportunities. Investments earning less than the cost of capital will not be able to retain existing funding or obtain new fundings, because investors could invest available funds elsewhere at a higher rate of return. Thus, if railroads are to provide adequate service to the shipping public, then we must construct a maximum rate standard which gives them the opportunity to earn adequate revenues.

We concur fully with the statement. If regulation is to serve the public interest, it must not only protect ratepayers from abuses of monopoly power; it must also allow the regulated entities (here, railroads) the opportunity to attract the capital necessary to build and maintain the facilities on which their service depends. The capital markets being highly competitive, railroads can only attract that capital if they have the opportunity to earn a rate of return that is comparable to the rates of return expected to be available on investments of similar risks. This is what is commonly understood to be a "current cost of capital" return. If a system of regulation is imposed which, a priori, forecloses the opportunity to earn such a rate of return, investors can be expected to take their funds elsewhere, and the railroads' services will eventually disappear. Thus, the Commission has properly recognized that its system of regulation must afford railroads the opportunity to earn a rate of return on their investment equal to the current cost of capital.

2. Pricing In Accordance With Ramsey Principles
Will Lead To Economic Efficiency.

The decision poses the issue of what principles should govern the determination of maximum reasonable rates in an industry characterized by a significant proportion of

costs that are not directly attributable to any individual service, but are instead joint or common to groups of services. The Commission has chosen the principles of Ramsey pricing to fulfill this role. As the Commission explains:

Ramsey pricing is designed to apply when marginal costs are less than average total costs. In such instances, marginal cost pricing would not permit recovery of total costs. Ramsey pricing assigns a mark up above marginal cost on the basis of inverse demand elasticity. Thus, the highest mark up would be charged to the traffic most dependant on the service provided (low elasticity traffic). By contrast, a highly competitive (highly elastic) rail service market would tolerate only a small markup over the attributable cost of providing that service. * * * Ramsey pricing analysis yields economically efficient rates, because the resulting rates do not bias the demand patterns that would be achieved under marginal cost pricing. We emphasize that Ramsey pricing is not the same as monopoly pricing because the markups above marginal cost can be constrained by whatever limits on the firm's overall earnings are set by the regulator * * *.

* * *

The constrained market pricing system we are proposing allows carriers to use market demand as the basis for their rate-making. By this approach, the carriers take the ratemaking initiative, as contemplated by the statute, on all traffic. [Decision at 9-10.]

The Commission's adoption of Ramsey pricing principles is correct, and its analysis of why Ramsey pricing

leads to economically efficient rates is sound. By apportioning all unattributable costs on the basis of the values of the services to shippers, as reflected by their demand elasticities, Ramsey pricing maximizes shippers' total net benefits among the prices that are compatible with the financial viability of the railroad. Since it is the railroads themselves that are closest to the market and best apprised of demand and cost conditions, pricing and resource allocation will be most efficient when the railroads are permitted to take the ratemaking initiative. Unless otherwise constrained by regulation, they will have the incentive to price in accordance with the principles of Ramsey pricing.

3. The Stand-Alone Cost Test Is A Proper Check On The Abuse Of Any Monopoly Power.

To ensure that rates on captive traffic set in accordance with Ramsey principles do not exceed levels that could be charged under competition, the Commission proposes to adopt the "stand-alone cost test." As the Commission explains:

The "stand-alone cost" to any given shipper (or shipper group) is the cost of serving that shipper alone, as if it were isolated from the railroads' other customers. It represents that level at which the shipper could provide the service itself. No shipper would reasonably agree to pay more to a railroad for transportation than it would cost to produce

in isolation itself, or more than it would cost a competitor of the railroad to provide the service to it. Thus, the stand-alone cost serves as a surrogate for competition; it enforces a competitive standard on rail rates in the absence of any real competitive alternative.

* * *

Because the stand-alone cost represents the cost of obtaining service from another source (i.e., reproducing the service capability), the cost of facilities must be based on replacement cost, or the current cost of producing equipment or plant with equivalent capabilities. This is appropriate since, to insure continuity of service, a long-run pricing strategy must permit sufficient income to allow for replacement of existing assets. [Decision at 11-12; footnotes omitted.]

We agree with this analysis. To prevent abuse of any monopoly power, there is no need to regulate prices that are no higher than those which could prevail under effective competition. Where competition is effective, no railroad will be able to charge any shipper rates in excess of the minimum cost (including the capital costs) that would be incurred currently to provide the service in isolation. The reason for this constraint is simple: in a market subject to effective active or potential competition, any railroad charging in excess of that amount would invite entry into the market by a firm willing to charge no more than is necessary just to cover that level of costs. Since the stand-alone cost is the minimum current cost of providing a

service in isolation, the stand-alone cost test is the proper means to ensure that rates do not involve any abuse of monopoly power.

The Commission is also correct in recognizing that the stand-alone cost test applies to rates for groups of services or shippers as well as individual services. Just as rates that return revenues in excess of the minimum current cost of providing a single service will invite entry by a competitor willing to charge rates which earn no more than that level of costs, rates consistently in excess of the minimum current cost of providing any group of services will also invite competition.

We agree, further, that stand-alone costs must include or reflect the total current replacement costs of providing a service or group of services in isolation. This is so whether current costs are higher or lower than costs that were incurred in the past, for the costs that affect pricing in competitive markets, i.e., the costs of entry, are always current replacement costs.

Finally, the Commission has properly recognized that the stand-alone cost test serves as a check against cross-subsidy:

The stand-alone cost defines the point at which cross-subsidy would begin to take place. No shipper can be said to be cross-subsidizing other shippers

if it pays no more than the cost to the railroad of providing service dedicated solely to it. (If it pays less than the stand-alone cost, it simply benefits from the economies of scope and density that exist in the railroad's system.) Thus, with the stand-alone cost as a rate cap, shippers can be assured that they will not be required to contribute toward the cost of facilities that do not serve them. [Decision at 11; footnotes omitted.]

This is an entirely correct analysis of economic cross-subsidy. Cross-subsidies are properly of concern to economists and regulators because they may result in a misallocation of resources by encouraging inefficient investment. For customers of a railroad, they may be of concern because they are perceived as unfair. Yet, while shippers who pay more for their service than other shippers may feel that they are being forced to "cross-subsidize" the other shippers, mere payment of a relatively higher rate is not evidence of a cross-subsidy where fixed and common costs must be covered. Rather, as the Commission recognizes, a cross-subsidy can only occur in an economic sense where a shipper (or group of shippers) pays more than the total cost of serving it alone. Where no shipper or shipper group pays more than that amount, differences in their rates simply reflect differing contributions to the common costs of the system, and not cross-subsidies.

4. Regulation Based On Arbitrary Cost Allocations
Will Lead To Economic Inefficiency.

In adopting Ramsey pricing as the theoretical framework for assessing the reasonableness of the common cost allocations reflected in rail rates, the Commission explicitly rejects the alternative of arbitrary cost allocation schemes:

We seriously doubt that any system of rate regulation based solely upon an arbitrary cost-allocation formula will enable rail carriers to achieve revenue adequacy. We cannot assume that traffic will actually move in each market at the fully allocated cost rate level as determined by a cost allocation formula. Carriers must charge competitive rates in competitive markets or lose the traffic. * * * [T]he market ignores the "scientific" assignment of certain costs to each of the carrier's rates. Yet, if an arbitrary allocation of costs were used to formulate and impose a rate ceiling, the carrier could not make up for the revenue shortfall it would suffer on movements that fall below the rate necessary to contribute the allocated amount.

It is only through a demand-based pricing system that the nonattributable costs can be allocated in an efficient manner. * * *

* * *

By incorporating demand elasticity into ratemaking, Ramsey pricing should encourage more shippers to purchase transportation service than if an arbitrary cost-apportionment formula were used to set rates. As noted earlier, "fully allocated cost" and other similar methodologies frequently "over-" or "underassign" to a particular service (relative to

actual market demand) portions of the carrier's common or unattributable costs. As a result, a carrier actually levying such a rate would acquire less than maximum net revenue contribution. If, however, the carrier is allowed to allocate costs on the basis of demand elasticity, the contribution should be maximized and the carrier's resources more efficiently utilized. [Decision at 8-10.]

This discussion accurately points up the indefensibility of any arbitrary cost allocation approach to setting prices. By failing to reflect differences in shipper demand, rates based on such approaches can preclude carriers from covering their total costs. They also tend to promote economic inefficiency by unnecessarily diverting traffic that could make a positive contribution to the railroads' common costs at lower rates, and by failing to obtain required contributions from shippers of other, less elastic traffic which they are able and willing to pay.

Marcus Alexis
 Marcus Alexis
 Northwestern University

Stephen M. Goldfeld
 Stephen M. Goldfeld
 Princeton University

Kenneth J. Arrow
 Kenneth J. Arrow
 Stanford University

Professor Janusz Ordover
 Professor Janusz Ordover
 New York University

Elizabeth E. Bailey
 Elizabeth E. Bailey
 Carnegie-Mellon University

Professor John Panzar
 Professor John Panzar
 Northwestern University

Professor William J. Baumol
 Professor William J. Baumol
 Princeton and New York Universities

Professor Almarin Phillips
 Professor Almarin Phillips
 University of Pennsylvania

Professor Charles E. Berry
 Professor Charles E. Berry
 Princeton University

Professor James Rosse
 Professor James Rosse
 Stanford University

Ronald R. Braeutigam
 Ronald R. Braeutigam
 Northwestern University

Professor David Sappington
 Professor David Sappington
 University of Pennsylvania

Professor Ann F. Friedlaender
 Professor Ann F. Friedlaender
 I.T.

Professor Robert D. Willig
 Professor Robert D. Willig
 Princeton University

Professor Richard Gilbert
 Professor Richard Gilbert
 Stanford University

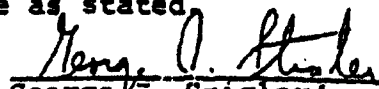
APPENDIX BVERIFIED STATEMENT OFGEORGE J. STIGLER

My name is George J. Stigler, and I am a Professor in the Graduate School of Business at the University of Chicago. I have read the "Verified Statement of Economists Supporting the Principles of Constrained Market Pricing" signed by Professor William Baumol and others for submission in proceedings before the Interstate Commerce Commission in Coal Rate Guidelines -- Nationwide, Ex Parte No. 347 (Sub-No. 1). Since I have not participated in that proceeding nor have I participated in the development of the Ramsey Pricing Theory, it seems desirable to make a separate statement.

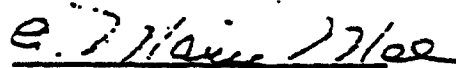
I have specialized in studies of prices and public regulation. I am confident that adoption of the Interstate Commerce Commission's proposed maximum rail rate policy set forth in its decision of February 8, 1983, with regard to coal and other traffic as well, would lead to a major improvement in and a rationalization of our railroads' rate structures, and in the efficiency of the rail industry.

Verification

George J. Stigler, being duly sworn, states that he has read the foregoing statement, knows the contents thereof, and that the same are true as stated.


George J. Stigler

Subscribed and sworn to before me this 13 day of June, 1983.


Notary Public
My Commission expires:

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

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

MAJOR ISSUES IN RAIL RATE CASES

**VERIFIED STATEMENT
OF
DARIUS W. GASKINS, JR.**

Introduction and Summary

My name is Darius W. Gaskins, Jr. I was Chairman of the Interstate Commerce Commission (ICC) at the time of the passage of the Staggers Act, serving on the ICC from 1979 to 1981. From 1982 to 1985, I was the Senior Marketing Officer of the Burlington Northern Railroad (BN), and from 1985 to 1989, I served as BN's Chief Executive Officer. I am a founding partner of Norbridge, Inc., a management consulting firm. I received a Ph.D. in economics and graduate degrees in engineering from the University of Michigan. I taught economics at the University of California, Berkeley, and public policy at the Kennedy School of Government at Harvard University. A copy of my curriculum vitae is attached hereto as Exhibit DWG-1.

The purpose of my statement is threefold. First, I show that the current BNSF Railway Company (BNSF) coal rates for certain sole-served shippers, which differ substantially in terms of revenue per revenue ton-mile, are consistent with Ramsey Pricing Principles. Second, I demonstrate that the proposed rates challenged in six Stand Alone Cost (SAC) cases were market-based rates that were driven by the economic reality of coal customers' differing circumstances. There is no basis for the Board to conclude that any "gaming" has occurred in the setting of rates for these shippers. In addition, I show that data are readily available for the Board to test whether any

“gaming” has occurred in particular cases. And, finally, I demonstrate for these six cases that fundamental fairness argues that the current coal rates are eminently reasonable. I show that the rail rates in these six cases provide for a fair allocation of the profits from coal operations.

I. Ramsey Rates Differ Widely in Terms of Revenue/Revenue Ton-Miles

We have calculated maximum coal transportation rates based on Ramsey Pricing Principles for each of six coal-burning electric generators. These six generating units (shown in Table I) have all been the subject of rate litigation before the Surface Transportation Board (STB) using the SAC methodology.

Table I: Current Rates and Ramsey Rates for Selected BNSF-Served Plants, 2005

Plant	Mills/RTM		\$/Ton		Miles
	Current Rate	Rate Using Ramsey Principles	Current Rate	Rate Using Ramsey Principles	
AEP TX North - Oklaunion	17.8	30.3	\$ 19.66	\$ 33.44	1,102
Basin Electric - Laramie River	41.5	59.5	\$ 6.70	\$ 9.61	161
Otter Tail - Big Stone	18.7	24.5	\$ 16.85	\$ 22.04	900
PPL Montana - Corette	33.7	38.7	\$ 8.47	\$ 9.73	251
TMPA - Gibbons Creek	14.7	29.2	\$ 20.77	\$ 41.29	1,411
Xcel (PSCo) - Pawnee	21.5	54.9	\$ 8.03	\$ 20.51	373

Source: Norbridge Analysis of Platts POWERdat and BNSF data

Note: Because of data availability, the 12 months covered were from December 2004 through November 2005.

Where 2005 data are unavailable, we use 2004 data. We assumed \$3.59/Mcf natural gas, the estimated cost of imported LNG which should set the price of natural gas in the foreseeable future.

In each case, we identified a rate that was consistent with Ramsey Pricing Principles by calculating the maximum coal transportation rate that would not displace the generating plant in question from being dispatched based on its costs. We established the dispatch sequence by evaluating the generating alternatives available to each of the utilities in question.¹ In all cases, the variable costs of the generating units were below the marginal cost of electricity experienced by the utility owner. This is important because the cost of the marginal generating unit is the appropriate rate that should be charged to consumers in an economically efficient world. In a

¹ The analysis is reflected in Exhibit DWG-2, which also includes a technical description of the methodology used.

regime where electricity prices are governed by cost of service regulation, the price seen by consumers is the average cost of generation which is necessarily below the cost of the marginal generating plant. That means that consumers are facing a price of electricity which is below the economically efficient price, and economic efficiency will be increased by actions which raise the average price of electricity closer to the cost of the marginal generating plant. Such an action, which keeps the generating unit in dispatch, will produce only gains to economic efficiency.

The logic behind Frank Ramsey's prices is that these are prices for a multi-product monopolist which will allow revenue adequacy (prices which recover full costs, including an appropriate return on necessary capital) while producing the least efficiency loss to the economy. In this case, we calculate rail rates that will generate efficiency gains while enhancing revenue adequacy, consistent with Ramsey Pricing Principles. The rates we have identified satisfy these principles because the costs of the generating plants in question are in every case below the marginal cost of electricity for their utility owners. Efficiency losses due to prices not equal to marginal costs are continually reduced as the variable costs of each generating unit are raised towards the marginal cost of the host utility. As long as the proposed rates do not knock the generating unit out of dispatch, the only change to economic efficiency is that electricity consumers will face rates that are closer to the marginal cost of electricity.

It is clear from Table I that rates for coal transportation that are set based on Ramsey Pricing Principles would vary significantly with the specific portfolio of alternatives available for power generation. In Texas, for example, the marginal suppliers of electricity in ERCOT are generating

units burning natural gas. In the other four cases, the marginal generator is a coal-burning plant with higher costs than the plant in question. The Corette plant owned by PPL is a somewhat special case in that the bulk of its power is sold under contract to other Montana utilities, so the appropriate Ramsey price should be tied to the wholesale price in that market rather than the variable costs of other PPL units.²

II. Potential Gaming of the SAC Process

Table II shows the relationship between the coal rates that were in effect when the shippers brought a rate case in the six recent SAC cases and rates set based on Ramsey Pricing Principles for 2005.³ These data are a valid basis to begin the evaluation of whether gaming of the SAC process has occurred. If the Board is concerned about the possibility of any railroad attempt to game the SAC analysis by setting a rate that is inconsistent with market considerations, these data are readily available to address the gaming issue.

² In current market conditions particularly in Western states, independent power producers such as PPL Montana operate in an entirely different economic market from regulated public utilities of the sort that were predominant when the then Interstate Commerce Commission (ICC) adopted constrained market pricing (CMP) principles. PPL Montana's wholesale electricity prices have no relationship to its costs, including the cost of rail transportation service. To make the point simply, a reduction in the rail transportation rate to PPL Montana would mean only a transfer of money between BNSF's shareholders and PPL Montana's shareholders because PPL Montana would have no incentive to pass any price reduction on to its customers. Any rail rate reduction would therefore not increase economic efficiency in the economy as a whole, although it would take BNSF even further from the congressionally mandated goal of revenue adequacy.

³ The relevant rate based on Ramsey Principles at the time of the rate challenge could differ from the 2005 rate in this table, but it is unlikely to be substantially different.

Table II: Contested Rates and Ramsey Rates for Selected BNSF-Served Plants, 2005

Plant	Mills/RTM		\$/Ton		Miles
	Contested Rate	Rate Using Ramsey Principles	Contested Rate	Rate Using Ramsey Principles	Avg. Length of Haul
AEP TX North - Oklaunion	14.3	30.3	\$ 15.78	\$ 33.44	1,102
Basin Electric - Laramie River	39.5	59.5	\$ 6.38	\$ 9.61	161
Otter Tail - Big Stone	15.0	24.5	\$ 13.49	\$ 22.04	900
PPL Montana - Corette	26.5	38.7	\$ 6.64	\$ 9.73	251
TMPA - Gibbons Creek	13.5	29.2	\$ 19.09	\$ 41.29	1,411
Xcel (PSCo) - Pawnee	24.8	54.9	\$ 9.24	\$ 20.51	373

Source: Norbridge Analysis of Platts POWERdat and BNSF data

Note: The Ramsey rate is based on the most recent data, December 2004 through November 2005.

Where 2005 data are unavailable, we use 2004 data. The contested rates are those rates contested at the time of the filing of a complaint.

Why are BNSF's proposed coal rates consistent with sound business, and not a case of gaming the SAC methodology? First, the importance of keeping the generating unit in the proper dispatching sequence is absolutely critical. It does the railroad no good to price its customers out of the market. If BNSF were truly gaming, the proposed rate would be above the desired market-based rate because the railroad should assume that the expected rate reduction would move the final adjudicated rate into the proper range. Unless BNSF thought that it would always win any SAC case, a proposed rate that was the product of "gaming" should exceed the desired rate and might well exceed a Ramsey-based rate.

The fact that BNSF's proposed rates are frequently well below rates that would be established based on this analysis is due to at least four separate market considerations.

First, our analysis is valid for a point in time and an existing set of input factor prices (i.e., the price of natural gas and coal mining costs). If factor prices move up or down substantially, a new calculation of rates based on Ramsey Pricing Principles would produce a different rate level. There has been a great deal of volatility in natural gas prices in recent years. In the 1990's, experts believed that combined cycle natural gas generators were cost competitive with coal and

nuclear generation. That doesn't look very reasonable right now. Concern about future price changes should produce a rate "cushion" to guard against input prices that might alter the sequence of dispatch.

Second, any long-term bargain, such as a commitment to ship coal, should benefit all parties involved to ensure appropriate capital investments and operating practices. This factor should motivate some "fair" division of the operating profits of the generating unit in question. A rail rate equal to the maximum Ramsey rate might arguably give too much of the economic profit to the railroad.⁴ The profitability of the shipper's operations would be relevant to this fairness issue, as discussed further below.

A third market consideration is that the wholesale market for electricity is becoming more competitive as various regulatory bodies restructure their regulation of electric generation and transmission. A more competitive market for wholesale electricity might well threaten the dispatch sequence as generating units sell into a broader regional market. This consideration would lead a railroad to pay careful attention to the relative efficiency of each generating unit it serves. All of the contested SAC cases involve relatively low-cost generators. Therefore, it is not surprising that BNSF moderated its proposed rates with due consideration of future new competition. Table III shows the relative variable generating costs of the six SAC plants compared to the variable cost of power generated by the median-cost plant in the region served by MISO (Midwest Independent System Operator). MISO should have a major influence on the price of wholesale power in the long run, since it covers a large area containing ample low-cost

⁴ It is ironic that the coal-burning utilities have not seemed more solicitous about the railroad's financial health until very recently when the rush to burn more coal ran into capacity constraints in the Powder River Basin.

capacity.⁵ It is clear that BNSF's proposed coal rates will keep these SAC generating units competitive in the broader market of the future.

Table III: Comparison of Selected BNSF-Served Plants to Median-Cost Midwest Independent System Operator (MISO) Plant, 2005

		\$/MWh
Company	Plant	Plant Variable Cost
MISO Median-Cost Plant		
Dynegy	Havana	\$15.68
BNSF-Served Plants		
AEP Texas North	Oklunion	\$19.52
Basin Electric	Laramie River	\$10.64
Otter Tail Power	Big Stone	\$15.90
PPL Montana	Corette	\$7.78*
TMPA	Gibbons Creek	\$16.22
Xcel (PSCo)	Pawnee	\$10.74

Source: Norbridge Analysis of Platts POWERdat; and BNSF Data

Note: Because of data availability, the 12 months covered were from December 2004 through November 2005. Where 2005 data are unavailable, we use 2004 data.

* Due to data availability, Corette cost is from 2004.

A final market consideration is the possibility of intramodal competition through the construction of a rail spur. This build-out factor is highly relevant for the Texas-based generating units. For example, TMPA announced in its 2005 Annual Report that it has begun the process of constructing a build-out that will allow it to take advantage of intramodal competition. BNSF's rates are clearly constrained by competition to a level well below the rates identified in the dispatch analysis. The same is likely to be true for AEP Texas North, which also has build-out alternatives.⁶

⁵ This factor would likely be particularly important for a plant such as Xcel's Pawnee plant that sells a substantial amount of generated electricity into the wholesale market.

⁶ See *WTU v. BN*, 1 S.T.B. 638, 650-51 (1996). While the Board did not accept BN's evidence in that case that the possibility of a build-out deprived the Board of jurisdiction over the rate reasonableness challenge, it is clear that the build-out option is a market factor that could lead BNSF to set rates below the rate identified in the dispatch analysis.

These various market considerations are responsible for the rates BNSF proposed. Rather than gaming the SAC system of rate adjudication, BNSF has proposed rates in all cases that are consistent with sound business logic.

III. A Fair Allocation of the Profits from Coal Generation

Finally, we consider the fairness of the railroad's rates in the context of a reasonable sharing of the profits from generating electricity from low-cost coal generators. Table IV shows that BNSF benefits less than the receiving utility in all cases in which the utility sells a portion of its power off-system to some third party. In four of the five cases, the off-system sales are large relative to the annual output of the generating unit in question. In fact, in these four cases, the host utility is observed to sell more power to outsiders than the generating unit in the SAC case produced on an annual basis.⁷

Table IV: Estimated Electricity and Transportation R/V/C Ratios for Selected BNSF-Served Plants

Company	Plant	Rev. to Var. Cost of Energy Sales (2004)	Rev. to Var. Cost of Transportation (2004)	Off-System	
				Energy Sales for Utility (MWh, 2004)	Plant Net Generation (MWh, 2004)
AEP Texas North	Oklaunion	210%	186%	6,761,628	4,681,563
Basin Electric	Laramie River	441%	231%*	7,637,000	5,423,385**
Otter Tail Power	Big Stone	202%	186%	539,480	3,477,704
PPL Montana	Corette	456%	304%	4,797,420	1,183,326
TMPA	Gibbons Creek	NA***	182%	NA***	3,186,786
Xcel (PSCo)	Pawnee	458%	243%	17,985,274	3,519,284

Source: FERC Form 1; Company Financial Statements; Platts POWERdat; BNSF Data; STB Railroad Cost Program; Norbridge Analysis

Notes: PPL Montana energy sales and revenue estimated from other WECC utilities' Form 1 reports.

Basin Electric energy sales include sales to non-members only.

BNSF R/V/C ratios based on URCS costs created using STB Railroad Cost Program and 9 mandatory parameters.

* The 2004 data only include one quarter of the higher contested rate. If the contested rate had been in effect for all of 2004, the revenue to variable cost of transportation would have been 437%, still below the 441% revenue to variable cost of energy sales.

** Reflects Basin Electric's 42.27% ownership of the Laramie River Station.

*** TMPA Gibbons Creek is owned by 4 Texas municipal utilities, to whom it sells 100% of its energy.

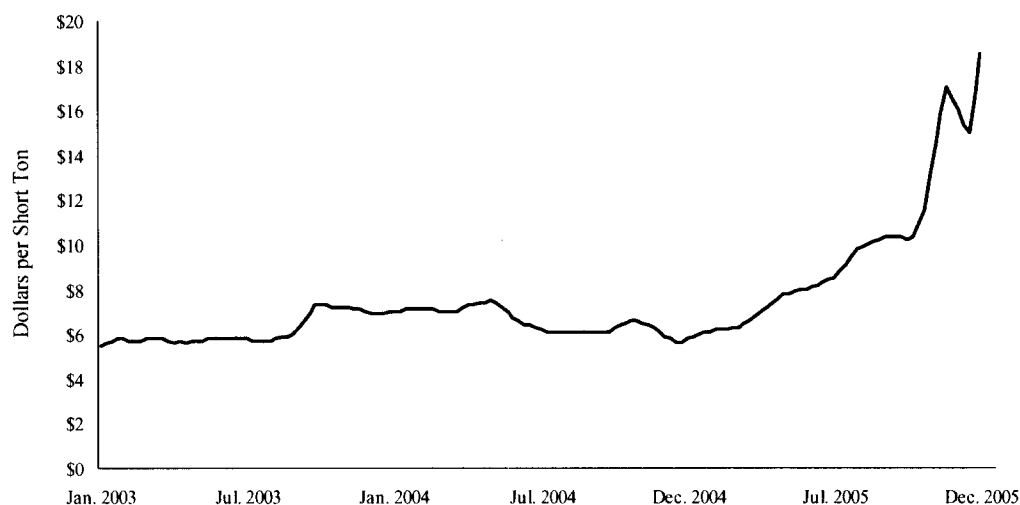
⁷ The off-system sales from the utility in Table IV include electricity generated by all units owned by the host utility.

Table IV contains a comparison of the 2004 revenue to variable costs ratios for coal transportation to each plant to the revenue to variable cost ratios for power sold in the wholesale market by the plant owner in 2004. In all five cases where we can measure the profitability of wholesale electricity sales, the revenue to variable costs (RVC) of electricity exceeds the RVC of transported coal.

One final point to note on this fairness issue is that there has been a substantial increase in the demand for Powder River Basin (PRB) coal by coal-burning utilities in the last two years.

Figure I below shows that the spot price of PRB coal has increased by over 200%. There has been only a modest increase in coal transportation rates because of higher fuel costs and general inflation over the last two years.

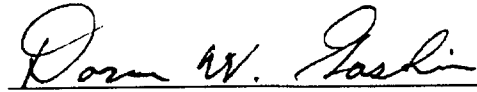
Figure I: Powder River Basin Coal Spot Price
8,800 BTU/Lb. Coal, 2003-2005



Source: Bloomberg

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 28, 2006

A handwritten signature in cursive script, reading "Darius W. Gaskins", written over a horizontal line.

Darius W. Gaskins

Exhibit DWG-1

Darius W. Gaskins, Jr.

**Partner
Norbridge, Inc.
2 North Main Street, Suite 2
Ipswich, MA 01938-2218
(978) 356-5529**

Personal:

Married with five children; wife: Stephanie R. Gaskins

Educational Background:

B.S.	United States Military Academy - 1961 Distinguished Graduate
M.S.E.	University of Michigan - 1963 Astronautical Engineering
M.S.E.	University of Michigan - 1963 Instrumentation Engineering
Ph.D.	University of Michigan - 1970 Economics

Employment History:

1993 - Present:	Founding Partner Norbridge, Inc. (formerly CFGW)
1991-2002:	Partner High Street Associates, Inc.
1989-1991:	Visiting Professor Center for Business and Government John F. Kennedy School of Government Harvard University
1985-1989:	President and Chief Executive Officer Burlington Northern Railroad
1982-1985:	Sr. Vice President, Marketing and Sales Burlington Northern Railroad
1981-1982:	Sr. Vice President Natomas North America

1980-1981: Chairman
Interstate Commerce Commission

1978-1979: Deputy Assistant Secretary, Policy Analysis
Department of Energy

1977-1978: Director, Office of Economic Analysis
Civil Aeronautics Board

1976-1977: Director, Bureau of Economics
Federal Trade Commission

1975-1976: Assistant Professor, Department of Economics
University of California, Berkeley
and
Economic Advisor to the House Ad Hoc Select
Committee on the Outer Continental Shelf

1975: Director, Office of Outer Continental Shelf
Program Coordination
Department of the Interior

1974: Acting Director,
Office of Minerals Policy Development
Department of the Interior

1973-1974: Assistant Director, Economics
Office of Policy Analysis
Department of the Interior

1970-1973: Assistant Professor, Department of Economics
University of California, Berkeley

1963-1967: Captain USAF,
Instructor, Aerospace Research Pilots School

Board Service:

Current: Director -- Sapient Corporation.

Past: Chairman -- Resources for the Future.
Director -- Anacomp, Inc.; Burlington Northern Inc.;
Eagle-Picher Industries, Inc.; Leaseway Transportation
Corporation; MidSouth Corporation; Northwestern Steel
and Wire Company; R.H. Donnelley Corporation;
ROHN Industries, Inc.; UNR Industries, Inc.

Publications:

"Evaluation of the ARA-EDR Loan Program," *Papers of the Regional Science Association*, Vol. XXIII, 1970 (with D. Liner and S. Miller).

"Dynamic Limit Pricing: Optimal Pricing Under Threat of Entry," *Journal of Economic Theory*, Vol. 3, No. 3 (September 1971).

"Alcoa Revisited: The Welfare Implications of a Secondhand Market," *Journal of Economic Theory*, Vol. 7, No. 3 (March 1974).

"An Economic Analysis of Pre-Sale Exploration in Oil and Gas Lease Sales," (with T. Teisberg) in *Essays on Industrial Organization in Honor of Joe S. Bain*, edited by R. Masson and P. Qualls (Ballinger 1976).

"Unilateral Withholding," (with John Haring) *Journal of Land Economics*, Vol. 55, No. 1 (February 1979).

"Managing the Transition to Deregulation," (with James M. Voytko) in *Law & Contemporary Problems*, (Duke University) Winter 1982: 44: pp. 9-32.

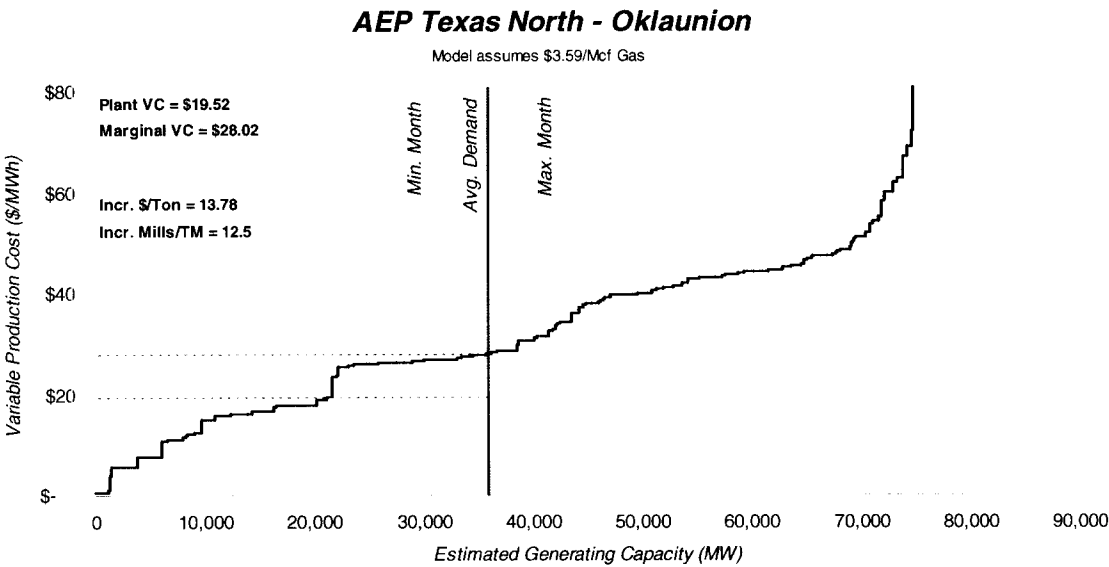
Selected Unpublished Papers:

"Dynamic Limit Pricing and Rational Entrants," presented at the Econometrics Society Meetings (December 1977).

"Joint Buyers and the Seller's Return -- The Case of OCS Lease Sales," (with B. Vann) part of testimony before the House Subcommittee on Monopolies and Commercial Law, 94th Congress.

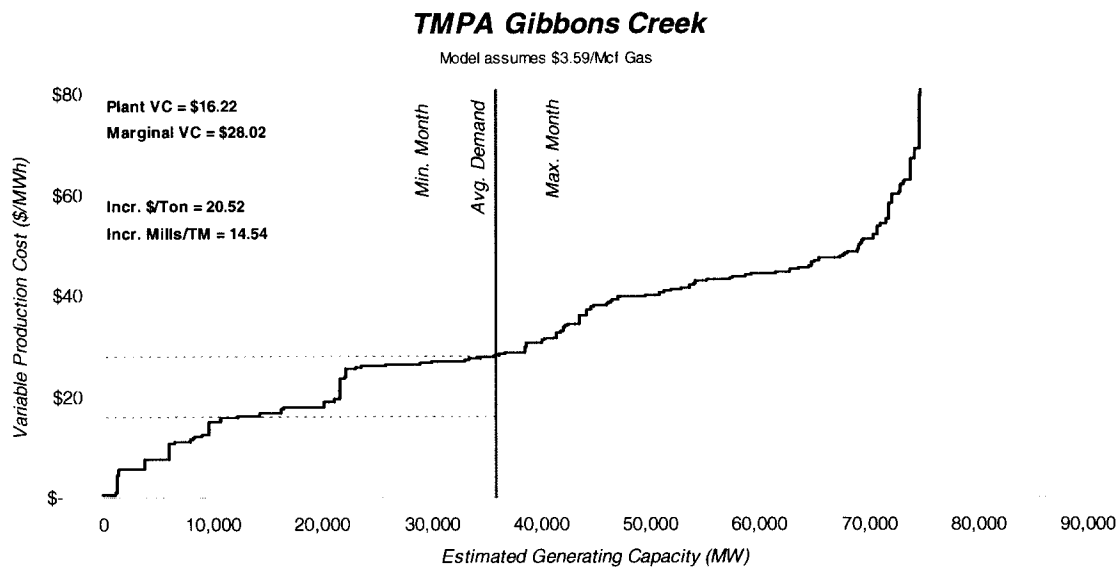
"A META PLAN: A Policy Response to Global Warming," (with Bruce Stram) for the Energy and Environmental Policy Center at Harvard University (July 1990).

AEP Texas North – Oklaunion



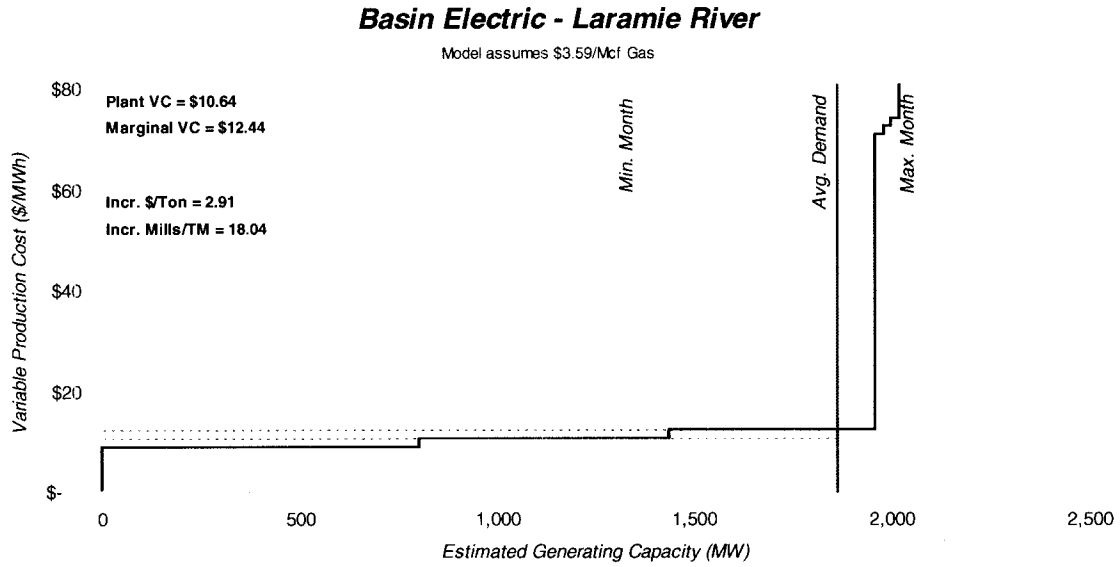
Sources: Platts POWERdat, BNSF, Norbridge Analysis

Texas Municipal Power Agency – Gibbons Creek



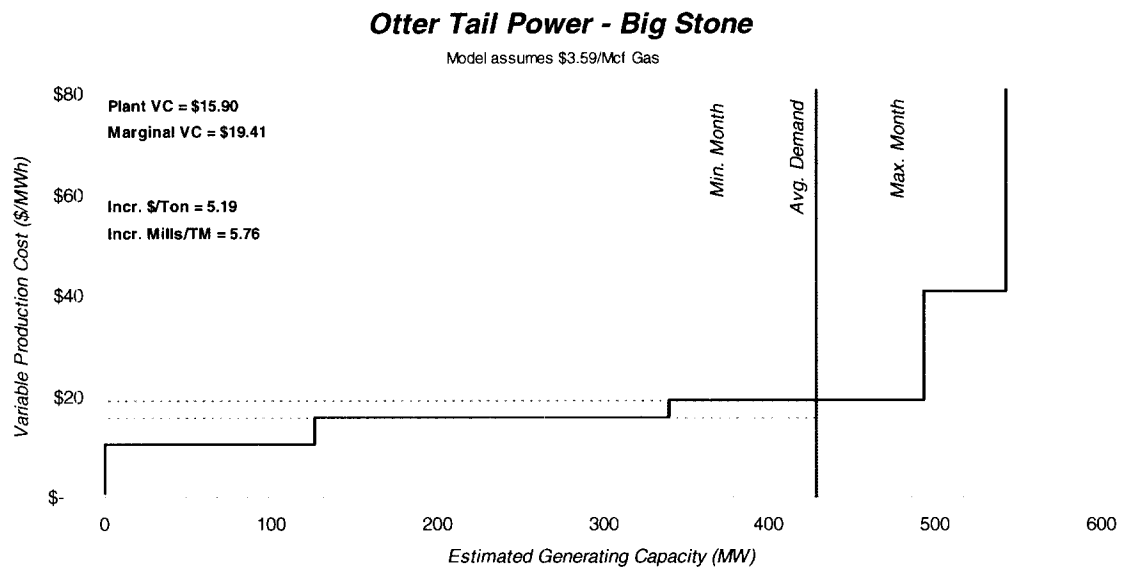
Sources: Platts POWERdat, BNSF, Norbridge Analysis

Basin Electric Power Cooperative – Laramie River



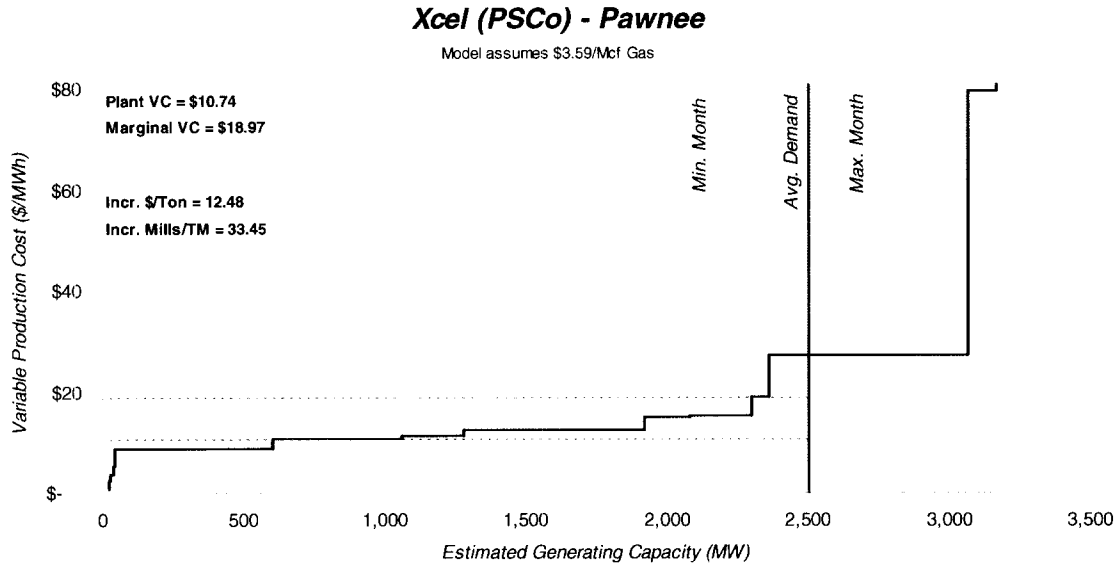
Sources: Platts POWERdat, BNSF, Norbridge Analysis

Otter Tail Power Co. – Big Stone



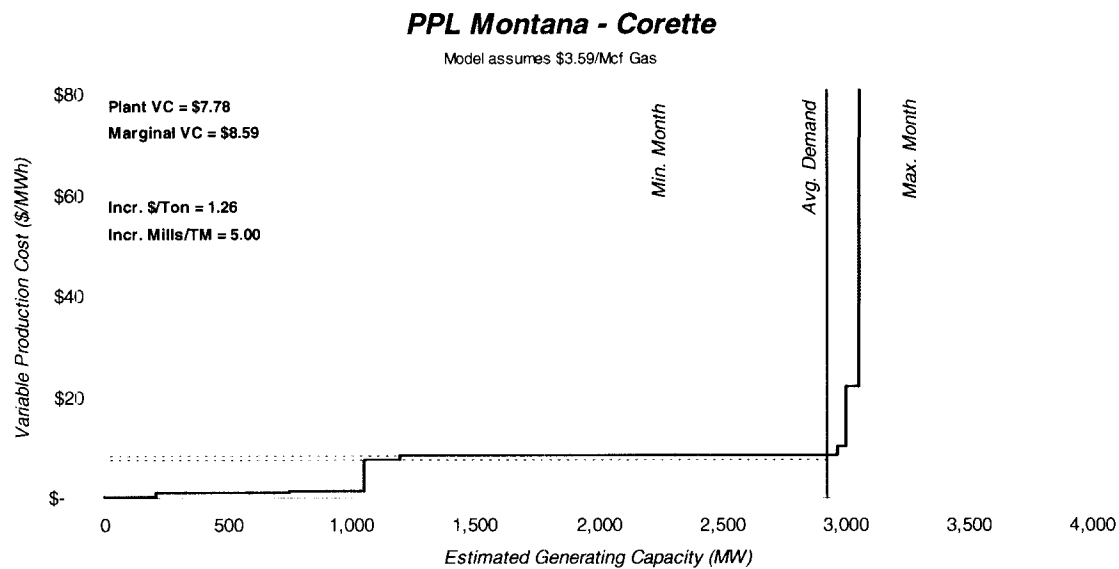
Sources: Platts POWERdat, BNSF, Norbridge Analysis

Xcel (Public Service of Colorado) – Pawnee



Sources: Platts POWERdat, BNSF, Norbridge Analysis

PPL Montana – Corette



Sources: Platts POWERdat, BNSF, Norbridge Analysis

Explanation of Dispatch Curves

Each dispatch curve in this document shows the generating cost and capacity of a power plant relative to the other plants in its power system. For each dispatch analysis, a power system is defined as the group of plants that serve a given demand for electricity. This group may be as small as a few plants owned by a vertically-integrated utility in a dedicated service territory, or as large as several hundred plants in a regional electricity market serving industrial and utility customers across many states.

Curves consist of a number of "steps" with varying heights and lengths, reflecting the fact that power systems typically contain plants with a range of variable operating costs and generating capacities. Each horizontal line in the dispatch curve represents a different plant in the power system.

All else equal, a system operator will dispatch low-cost plants before higher-cost plants to meet electricity demand.¹ Consequently, plants with low variable operating costs (such as coal, nuclear, and hydroelectric facilities) appear as steps on the left side of the dispatch curve. These plants supply the first units of electricity to consumers. The height of each step corresponds to the plant's variable operating costs, and the width of each step corresponds to its generating capacity.

At increasing levels of electricity demand, power system operators dispatch increasingly expensive plants to supply electricity (often relying on plants fueled by natural gas or oil). The steps on the right side of the dispatch curve represent these higher-cost plants.

The three vertical lines intersecting the stepped dispatch curve correspond to three distinct levels of electricity demand. The left-most vertical line represents the minimum average monthly demand on the system; the right-most line represents the maximum average monthly demand; and the middle line represents the weighted average demand for the year. We chose the weighted average annual demand to be consistent with our calculation of capacity and variable cost.

The step on the dispatch curve where average demand meets average supply is the marginal plant: the most expensive plant dispatched by the system operator to meet average electricity demand. The plants represented by steps to the left of the margin have lower operating costs than the marginal plant.

The system operator would continue to dispatch these low-cost plants as long as their costs were less than or equal to the marginal plant's cost. Therefore, increases in coal transportation rates for these plants will lead to zero economic loss as long the increases keep plant operating costs at or below the marginal cost. The increase in the transportation rate that equalizes a plant's variable cost with that of the marginal plant is shown on the graph as the incremental dollars per ton.

¹ If limited transmission capacity prevents low-cost plants from meeting demand in some areas, or if plant operating constraints impact the operator's ability to turn them on or off, then plants may be dispatched out of merit order.

STB Ex Parte No. 657 (Sub-No. 1)
MAJOR ISSUES IN RAIL RATE CASES

VERIFIED STATEMENT

OF

JOHN C. KLINK

May 1, 2006

I. INTRODUCTION

My name is John C. Klick. I am a Senior Managing Director in FTI Consulting Inc.'s economic practice. My office is located at 1201 I Street, NW, Suite 400, Washington, D.C., 20005. A statement of my qualifications is attached as Exhibit No. __ JCK-1.

On February 27, 2006 the Surface Transportation Board ("STB" or "Board") released a decision in Ex Parte No. 657 (Sub-No. 1), *Major Issues in Rail Rate Cases* ("X-657 Decision"), seeking comment on STB proposals designed to address six issues that have arisen in recent rate reasonableness proceedings. These issues relate to (1) rate prescription methodologies in the event stand-alone revenues are found to exceed stand-alone costs; (2) how the incumbent's revenues for cross-over traffic should be attributed to the on-SARR and off-SARR portions of each cross-over traffic movement; (3) the extent to which productivity improvements should be reflected in forecasts of stand-alone operating expenses; (4) the use of movement-specific adjustments to URCS in assessing the jurisdictional threshold; (5) the advisability of shortening the DCF period used in SAC studies from 20 to 10 years; and (6) standards for re-opening and vacating prior Board rate prescriptions.

BNSF Railway Company ("BNSF") has asked me to comment on four subjects. First, it has asked that I evaluate the rate prescription alternatives proposed by the Board in the context of the economic principles of Ramsey pricing and contestability, and considering whether those methodologies produce results that are consistent with the objectives of the SAC analysis. I address this in Section III. Second, I have been asked to address the Board's proposal on how end-to-end revenues earned by defendant railroads on cross-over traffic should be attributed to the on-SARR and off-SARR networks required to handle each movement. This topic is addressed in Section IV. Third, BNSF asked me to explore how any bias that may arise from use

of cross-over traffic could be addressed at the rate prescription phase of a rate reasonableness proceeding – which is set forth in Section V. Finally, BNSF has asked me to explain why the cross-subsidy tests described in the Board’s *Otter Tail* decision¹ would continue to be relevant at both the rate reasonableness and rate reduction phases of the SAC analysis under any new standard relating to the setting of a maximum reasonable rate adopted by the Board. This discussion takes place in Section VI.

II. SUMMARY

The Board’s rate prescription proposals are inconsistent with the demand-based pricing and contestable market principles that underlie the *Coal Rate Guidelines*.² They ignore relative demand elasticities for much of the stand-alone traffic group; will lead to rate compression that is inconsistent with the Board’s obligation to promote railroad adequacy; lead to irrational results; and create additional sources of bias in the application of the SAC test.

The Board is rightly concerned about the potential for use of cross-over traffic to bias the outcome of applying the SAC test, and correct in its view that to be unbiased, the results of applying the test using cross-over traffic must be substantially the same as the results that would be obtained if a “full-SAC” approach were relied upon. The Board’s proposal to use the ATC procedure as a revenue allocation mechanism for cross-over traffic is a significant improvement over MSP; but the Board must recognize that any approach that attributes end-to-end revenue based on costs may nonetheless lead to biased results in individual SAC applications. As a result, if the Board continues to apply a cost-based approach to attributing through revenues to cross-over movements, it should apply the proposed ATC methodology. It should also permit

¹ *Otter Tail Power Company v. BNSF Railway Company*, STB Docket No. 42071 (served Jan. 27, 2006) at 11-13.

² I.C.C. Ex Parte No. 347 (Sub-No. 1), *Coal Rate Guidelines, Nationwide*, decided August 8, 1985, 1 I.C.C. 2d at 520.

parties to submit evidence that the resulting revenue attribution produces a bias, and it must be prepared to accept proposals for modifying the application of the SAC test in individual proceedings to eliminate the bias. I suggest this bias can be minimized short of requiring the presentation of a “full SAC” study.

Finally, whatever the Board concludes about the proposals in its *X-657 Decision*, it must continue to apply the “cross-subsidy” tests – as it did in *PPL*³ and *Otter Tail* – in order to avoid SAC results that overstate issue traffic rate reductions by improperly relying on cross-subsidies *internal* to the SAC test.

III. EACH OF THE RATE PRESCRIPTION METHODOLOGIES PROPOSED BY THE BOARD IS FLAWED IN FUNDAMENTAL WAYS, AND ALL ARE INCONSISTENT WITH RAMSEY PRICING PRINCIPLES

A. Background

In its *X-657 Decision*, the Board begins its discussion of the rate prescription issue by recognizing that “[t]he underlying rationale for the percent reduction approach has been that allocating the SAC costs among the traffic group in proportion to the existing rate structure would implicitly reflect the varying demand elasticities within the SAC traffic group.” *X-657 Decision* at 7. The Board expresses concern, however, that the percent reduction approach is *potentially* subject to manipulation by either defendant railroads or complaining shippers. Manipulation by the railroads “could” occur, it says, if a railroad set a common carrier rate at “an artificially high level;” manipulation by shippers is said to be possible by “grouping a challenged rate with non-issue traffic that is much higher rated to generate a larger rate reduction.” *Id.* at 9.

As a threshold matter, grouping of the issue traffic with other traffic that is much higher rated is not *per se* manipulation of the SAC test, although it could lead to such manipulation if

³ *PPL Montana, LLC v. The Burlington Northern and Santa Fe Railway Company*, STB Docket No. 42054 (served Aug. 20, 2002).

cross-subsidization results. The *Coal Rate Guidelines* expect a complainant to group highly rated traffic with the issue traffic in carrying out the SAC analysis. *Coal Rate Guidelines* at 544. Manipulation by shippers occurs when much or all of the “grouped” traffic is cross-over traffic, and the SAC proponent allocates through rates between the stand-alone railroad (“SARR”) and the residual incumbent in a way that overstates the revenue contribution to the SARR from these movements. I discuss this issue below in Section IV, but suffice it to say that the Board’s proposed alternatives to the percent reduction approach do nothing to address the potential that exists, under current SAC procedures, for manipulation by shippers. In this regard, the Board’s proposals are clearly one-sided.

Significantly, and unfortunately, the Board’s *X-657 Decision* rushes to propose alternatives to the percent reduction approach – allegedly in order to address a “susceptibility” to manipulation by rail carriers – without bothering to define what combination of facts would constitute “manipulation” by a railroad (*i.e.*, what constitutes “an artificially high level” for a particular issue traffic rate), or determining whether any such manipulation has ever occurred in a rate reasonableness proceeding. This is more than an academic question – it cuts to the heart of the economic principles underpinnings of the *Coal Rate Guidelines* and whether the Board’s alternative proposals for prescribing rates that are set forth in the *X-657 Decision* are consistent with those principals.

The *Coal Rate Guidelines* are explicitly grounded in two fundamental economic principles: (1) demand-based pricing, consistent with “Ramsey principles,” and (2) contestable market theory. When it adopted the *Coal Rate Guidelines*, the ICC determined to regulate railroad rates by applying these economic principles in a two-step regulatory process.

In step 1, the ICC's Constrained Market Pricing ("CMP") approach relies on the carriers "to use the market demand which they observed as the basis for their pricing" (*Coal Rate Guidelines* at 527), thereby implementing demand based pricing. Furthermore, the ICC recognized that (1) different movements of "captive" traffic were likely to exhibit different elasticities of demand (*Coal Rate Guidelines* at 559),⁴ and (2) prices set at levels consistent with observed market demand could result in increases in rate levels for coal traffic so substantial that they might, if allowed to go into effect without some form of "phasing," be large enough to "cause significant economic dislocations" (*Coal Rate Guidelines* at 546).

Step 2 in the regulatory paradigm envisioned by the *Coal Rate Guidelines* was to determine whether the rate(s) set by reference to observed marked demand might nonetheless be inconsistent with contestable market principles. The ICC expressed step 2 this way:

An important feature of CMP is that a captive shipper need not bear the costs of any facilities or services from which it derives [no] benefit. One means of assuring that such cross-subsidization does not occur is the "stand-alone cost" (SAC) test. This test is used to compute the rate a competitor in the market place would need to charge in serving a captive shipper or a group of shippers who benefit from sharing joint and common costs. A rate level calculated by the SAC methodology represents the theoretical maximum rate that a railroad could levy on shippers without substantial diversion of traffic to a *hypothetical* competing service.

The theory behind SAC is best explained by the concept of "contestable markets." This recently developed economic theory augments the classical model of "pure competition" with a model which focuses on the entry and exit from an industry as a measure of economic efficiency. The theory of contestable markets is more general than that of "pure competition" because it does not require a large number of firms. In fact, even a monopoly can be contestable. The underlying premise is that a monopolist or

⁴ See also I.C.C. Ex Parte No. 347 (Sub-No. 1), *Coal Rate Guidelines, Nationwide*, decided February 8, 1983, slip op. at 23: "While certain of the proposals attempt to reflect demand by allocating the shortfall only to captive traffic, they fail to recognize that there are degrees of captivity."

oligopolist will behave or [risk losing] all of its markets to a new entrant. In other words, contestable markets have competitive characteristics which preclude monopoly pricing.” *Coal Rate Guidelines* at 528, emphasis supplied.

To summarize, step 1 of the regulatory paradigm set forth in the *Coal Rate Guidelines* requires carriers to set rates based on observed market demand; step 2 recognizes, however, that perceived market demand could be distorted by entry and exit barriers that would permit a rail carrier to charge rates, on all or a portion of its system, that were higher than would be observed in competitive/contestable markets in which rates would be capped by the forward-looking costs of an entrant’s constructing and operating a competing system. In this way, the SAC test imposes an upward constraint on the total revenues generated by marked-based rates for the issue and “grouped” traffic, consistent with contestable market theory.

Dr. Willig explains in his verified statement that, as an economic matter, a rate level would be considered set at an unreasonably high level at step 1 of this process *only* if it would result in significant loss of traffic – all other things being equal – to a *real* competing service or product.⁵ If it can be demonstrated that the contested issue traffic rate would not cause substantial changes to the demand of the complaining shipper’s end product, vis-à-vis *its* competitors, that rate is consistent with observed market demand and, therefore, appropriate under step 1 of CMP. Far from being an effort by the carrier at manipulation, setting rates at these levels is an expected step in the CMP process that the Board professes to promote.

Significantly, the Board does not have to rely upon “after the fact” analyses to evaluate whether a rate set by a rail carrier might constitute an attempt to “manipulate” the SAC process. The verified statement submitted by Dr. Gaskins describes one approach that can be used to assess whether rates published by a rail carrier might be so high as to alter the demand for coal at

⁵ In step 2, the SAC test determines whether substantial diversion of traffic would occur to *hypothetical* competitors established consistent with contestable market theory.

a particular power plant (to illustrate his process, Dr. Gaskins applies his analysis to rates established by BNSF in recent coal rate reasonableness proceedings). By demonstrating that none of these rail rates is high enough to affect the dispatch of the plant(s) to which the coal is shipped, he demonstrates that BNSF's rail rates are consistent with (and arguably well *below* levels consistent with) observed market demand.

Clearly it is appropriate for the Board to assess the issue of potential manipulation of its rate reasonableness standards, but it needs to define manipulation in an economically meaningful way – consistent with CMP. Any proposals it generates to address potential manipulation must be consistent with the core economic principles upon which the *Coal Rate Guidelines* and CMP are based, but as Professors Willig and Kalt explain, and as I discuss below, the various alternatives proposed by the Board are *profoundly* inconsistent with these principles, would have a chilling effect on railroad rate setting, and would impede achievement of railroad revenue adequacy. The rate prescription alternatives proposed by the Board seek to “throw the baby out with the bath water” by ignoring the core economic principles that have guided rail rate regulation for more than 20 years – despite the fact that the totality of the evidence before the Board in recent rate proceedings has demonstrated that not a single challenged rate reflected manipulation of the sort about which the Board expresses concern.

The Board's own hypothetical examples demonstrate that the alternative rate prescription methods proposed by the STB would consistently lead to rate reductions in excess of those that would be called for under the percent reduction approach – the approach the Board and its predecessor have repeatedly found is consistent with Ramsey pricing principles, and which has been repeatedly applied since the *Coal Rate Guidelines* were adopted. In *Xcel*,⁶ for example,

⁶ *Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company*, STB Docket No. 42057 (served June 7, 2004).

complainant submitted evidence that allegedly demonstrated that the issue traffic rate was “twice the average rate of other captive coal shippers” included in the stand-alone traffic group, on a mills per ton-mile basis.⁷ See June 7, 2004 decision in *Xcel*, at 39, and *Xcel* Reply Narrative at II-A-145 to 146.⁸

Despite these showings, the Board found (as previously noted) that BNSF had not manipulated the Board’s rate review process. Yet the proposals advanced in the Board’s *X-657 Decision*, if they had been in effect at the time the *Xcel* case was decided, would have driven the *Xcel* rate to the average revenue per ton-mile or average revenue-to-variable cost ratio exhibited by the other captive coal movements in the stand-alone traffic group – even though no manipulation by BNSF occurred.⁹ The unwarranted reduction of rates that would result from the Board’s proposals – and that would be totally *unrelated* to the problem that the Board has identified as the reason for the proposed change in methodology – is inconsistent with the Board’s statutory duty to promote revenue adequacy in individual rate reasonableness proceedings. There is simply no justification for a radical departure from the Board’s long-established use of the percent reduction method, just because certain shippers have raised the red herring of “manipulation” – the effect would simply be to give the shippers something that, as a matter of the economic theory upon which the Board professes to rely, they do not deserve.

⁷ In *Xcel*, complainant used the term “captive” as a euphemism for “sole served.” But the Board’s *X-657 Decision* uses the term “captive” in a way that disguises a fundamental departure from the *Guidelines*. As noted above, the ICC recognized that there was no bright line between captive and non-captive shippers – that there were in fact “different degrees of captivity” that had to be taken into account in regulating railroad rates. In this proceeding, the Board seeks to suggest that a bright line *can* be drawn between “captive” and non-captive shippers, and that there is no need to distinguish between different degrees of captivity. In a very real sense, it is this simplistic view of “captivity” that lies at the heart of the Board’s departure from the economic principles underlying the *Coal Rate Guidelines*.

⁸ Furthermore, even when the rate ultimately adopted by the Board is substituted into the *Xcel* analysis (*i.e.*, \$7.93 per ton is substituted for \$9.24), the revenue per ton-mile is nearly 60 percent higher than the average for other captive traffic.

⁹ Even *Xcel* recognized that a finding that manipulation by the railroad had occurred was a “prerequisite to correcting” the rate prescription process. *Complainant’s Post-Argument Brief*, April 5, 2004, at 22.

B. The Board's Proposals

The *X-657 Decision* proposes two alternatives to the percent reduction approach, *i.e.*, the “maximum contribution methodology” (“MCM”); and what the Board describes as a “variant to MCM,” which the decision labels the “maximum markup methodology” (“MMM”).¹⁰

1. MCM

MCM is performed in a two-step, iterative process. First, total SAC is divided by total “on-SARR” revenue ton-miles to generate an average SAC per revenue ton-mile.¹¹ Second, the Board’s proposed MCM process checks to see “if the share of the SAC costs assigned to any movement in the traffic group would exceed what the SARR could actually charge that movement.”¹² If so, MCM re-apportions the difference to the remaining traffic, thereby increasing the average SAC costs per revenue ton-mile on the remaining movements. This

¹⁰ The *X-657 Decision* also describes an “alternative formulation” of MMM, although that description is unclear. At page 15, the *X-657 Decision* observes that “[t]o this point, we have expressed MMM in terms of an R/VC ratio, but it could also be expressed in terms of a dollar markup above variable cost” that “would calculate a maximum dollar contribution above variable cost.” Presumably – although the *X-657 Decision* is not explicit – the Board would apply this “alternative formulation” in a two-step, iterative fashion that would initially establish an across-the-board dollar-per-ton markup that, when applied to all movements in the SARR traffic group, would generate revenues equal to SAC. Then, in step two, it would determine whether this would require revenue increases for certain moves and, if so, redistribute these increases iteratively to the other moves in the traffic group. As is the case with MCM and MMM, at the end of this iterative process the procedure would result either in rates experiencing no “rate level” change at all, or rates that are set at a single average dollars-per-ton markup above variable cost. However, at page 16 of the *X-657 Decision*, the Board states “[p]arties are invited to comment on whether, if a dollar markup is used, the dollar markup should be expressed on a car-mile or ton-mile basis.” This suggests that the Board is not really contemplating a constant dollar per ton allocation of SAC margin above variable cost, but rather an allocation of SAC margin above variable cost based on either ton-miles or car-miles – unfortunately, the *X-657 Decision* is not sufficiently clear. If the latter is the Board’s intention, then this “alternative formulation” would be very similar to MMM.

¹¹ I use the term “on-SARR” throughout this verified statement to denote statistics that reflect only the portion of each through cross-over traffic movement that occurs on the stand-alone railroad, to distinguish them from statistics that would also include the portion of each cross-over movement that is hypothesized to occur over the residual incumbent.

¹² The Board’s process explicitly relies on an assumption that “the rates charged by the railroad for non-issue traffic reflect the profit maximizing rates,” and the Board claims that its iterative process is thereby “an appropriate application of demand-based differential pricing.” I address the substance of these claims below, but it is critical to observe (1) that the MCM completely ignores relative rate levels, or any other potential surrogate for demand, and (2) that for the non-issue traffic that is cross-over traffic – which in recent proceedings is the vast majority of non-issue traffic – the Board is not truly relying on rates levied “in the marketplace,” as it implies. Instead, MCM relies upon the on-SARR share of revenues determined on the basis of a revenue allocation procedure such as MSP or ATC.

second step is repeated iteratively until no movement in the traffic group is allocated a SAC cost per revenue ton-mile that is higher “than the SARR could profitably levy on that movement in the marketplace.”

A comparison of Tables 2 and 3 to the *X-657 Decision* demonstrates that under MCM, movements either experience *no* “rate level” change at all (as is the case for Shippers 4 and 5 in the hypothetical example) or are reduced to a single average SAC cost per revenue ton-mile (as is the case for the Complainant and Shippers 2 and 3).

2. MMM

MMM is computationally similar to MCM. It involves a two-step iterative process, but it solves for the ratio of SAC to total on-SARR variable costs for all movements in the traffic group, rather than the ratio of SAC to total on-SARR revenue ton-miles. As is the case with MCM, MMM checks to see whether the initial average SAC-to-variable cost ratio would result in an increase in the revenue that would be earned from an individual shipper. If so, that revenue is left unaltered, and the difference is re-allocated to the remaining movements in an iterative process. A comparison of Tables 2 and 5 to the *X-657 Decision* demonstrates that under MMM, movements either experience no “rate level” change at all (as is the case for Shippers 4 and 5 in the hypothetical example) or are reduced to a single average SAC-to-variable cost ratio (as is the case for Complainant and Shippers 2 and 3).

C. Implementation Problems With the Board’s Proposals

As Professors Willig and Kalt explain, the fundamental problem with all three of the Board’s proposals is that they ignore relative demand elasticities for the various movements in the stand-alone traffic group and are, therefore, inconsistent with Ramsey pricing and contestable market principles. This failing affects not only the issue traffic – where the rate established by

the rail carrier could arguably be influenced by “manipulation;” it is also true for the rates for non-issue traffic movements, which are presumably “Ramsey optimal” given the incumbent’s cost structure. Non-challenged rates are presumably unaffected by the sort of “manipulation” about which the Board professes concern. Professors Willig and Kalt discuss at length the theoretical flaws with these approaches, and their inconsistencies with the economic underpinnings of *Coal Rate Guidelines* and CMP. My goal, in subsections 1 and 2, below is to focus on deficiencies associated with the *implementation* of each of the Board’s proposals.

1. Implementation Problems That Cut Across All of the Board’s Proposals

a. Failure to Reflect Varying Elasticities of Demand Will Lead to Rate Compression

As noted above, in *Xcel* the Board prescribed an issue traffic rate that resulted in revenues per ton-mile and an R/VC ratio that were substantially higher than the averages exhibited by the other member of the stand-alone traffic group that complainant had identified as “captive” traffic. The Board’s decision implies a finding that *Xcel* was more demand inelastic than the other “captive” traffic on average. The verified statement being submitted by Mr. Gaskins also demonstrates that sole-served coal movements on BNSF have different demand elasticities (since Dr. Gaskins has focused only on movements that have been the subject of STB rate complaints, they would all be considered “captive” shippers without effective competitive alternatives).

In *Xcel*, complainant’s Post Argument Brief suggested a rate reduction procedure that would “calculate the maximum R/VC percentage for the traffic group as a whole such that the total revenues from the traffic group would equal the total revenue requirement of the SARR for the year without changing any rate associated with a movement that has an R/VC percentage that is below that level.” June 7, 2004 *Xcel* decision at 37. This is functionally identical to the MMM procedure proposed by the Board in the *X-657 Decision*, yet in *Xcel* the Board found that:

...it would be inconsistent with a basic precept of the Guidelines. In Guidelines, the Board's predecessor, the Interstate Commerce Commission (ICC), after conducting an exhaustive rulemaking, adopted CMP as the most practical and economically sound method of applying competitive pricing principles to a regulatory framework. 1 I.C.C.2d at 523. One of the central economic underpinnings of CMP was "Ramsey pricing," a widely recognized method of differential pricing in accordance with varying elasticities of demand (i.e., differing degrees of demand sensitivity to changes in price). Although the ICC concluded that formal Ramsey pricing was too difficult for practical application, that economic theory was adopted to guide the agency's analysis, and CMP was intended to approximate Ramsey pricing. *Id.* at 534 ("in spite of the lack of mathematical precision in CMP, it should yield rates similar to those produced by Ramsey pricing."). *And the Guidelines specifically state that the SAC costs should be allocated among the stand-alone group on the basis of Ramsey pricing principles. Id. at 546.*

Xcel's third alternative proposal does not conform with Ramsey pricing principles. The core economic principle behind Ramsey pricing is that the SAC costs should be allocated amongst the traffic group according to their relative demand elasticities. This means that shippers with highly inelastic demand are expected to bear relatively more of the SAC costs than shippers with more elastic demand. Xcel's third proposal does not seek to achieve this outcome. Rather, *under Xcel's new approach, all movements in the traffic group with R/VC percentages in excess of the R/VC cap would be expected to bear equal shares of the SAC costs on an R/VC basis, even where they have differing demand elasticities. Even if such an approach would otherwise be reasonable, it would not comport with the fundamental economic theory of Ramsey pricing espoused in the Guidelines.*

June 7, 2004 *Xcel* decision at 37-38, emphasis supplied.

In the *X-657 Decision*, the Board concedes that MCM and MMM "would not reflect pure Ramsey pricing." It seeks to split hairs by arguing that "the allocation of SAC costs should be done in accordance with Ramsey pricing principles, not Ramsey pricing theory itself" (*X-657*

Decision at 12), and asserting its belief “that both MCM and [MMM]... would be consistent with CMP, Ramsey pricing principles, demand-based differential pricing principles, and our statutory responsibilities” (*Id.* at 13). Yet less than two years ago, the Board concluded the opposite, *i.e.*, that the MMM procedure “does not conform with Ramsey pricing principles.”

Having established (1) that different movements of captive traffic have different elasticities of demand, (2) that *Coal Rate Guidelines* requires that stand-alone costs be allocated on the basis of Ramsey pricing principles, and (3) that the Board itself has concluded that procedures that require captive traffic bear “equal shares of the SAC costs” when they have “differing demand elasticities” (such as MCM and MMM) are inconsistent with the *Coal Rate Guidelines*, one is forced to conclude that the intent of the MCM and MMM proposals is simply to force downward the railroad industry’s most profitable rates – in total disregard for both demand-based pricing and the Board’s statutory obligation to promote railroad revenue adequacy.

b. Issue Traffic Rate Reductions That Result from the Board’s Proposals are Irrational

A major feature of the percent reduction approach is that the issue traffic rate reduction implied by the SAC test is proportional to the amount by which revenues exceed SAC. If we imagine transitioning from a point at which revenues just equal SAC (under which assumption, issue traffic rates would be reasonable) to points at which revenues exceed SAC by increasingly larger percentages, reductions implied by the percent reduction approach – for the issue *and* non-issue traffic – increase correspondingly. An important feature of the percent reduction approach, therefore, is that the existing rate relationships are maintained; but this approach also ensures that small changes in stand-alone costs or revenues engender only correspondingly small changes in

the issue traffic rates (and the rates that non-issue traffic would be expected to pay in a contestable market environment).

This second characteristic is not shared by the Board's MCM and MMM proposals. A finding that revenues exceed SAC by even a small amount could result in reductions in issue traffic (and certain non-issue traffic) rate levels that are disproportionate; and even if revenues exceed SAC by a significant amount, the Board's proposals could result in no decrease at all in the issue traffic rate. Because of these characteristics, the Board's procedures remain susceptible to forms of manipulation that are fundamentally inconsistent with the way a potential new entrant would behave in a contestable market.

To illustrate, I have started with the MCM and MMM hypothetical examples relied upon by the Board in its *X-657 Decision*, and have examined how rates for each of the five movements would be prescribed as overall stand-alone costs decline from \$630 (the point at which SAC would just equal revenues, and rates would be found reasonable) to the \$500 total SAC figure the Board assumes in its examples. In Figures 1 and 2 attached to my statement, I display graphically how rates for each of the five hypothetical shipments would be set under MCM and MMM, respectively, at each point along the total SAC continuum between \$630 and \$500. Figures 1 and 2 show how illogical rate reductions would be under the Board's proposals (note that the Board's hypothetical examples are constructed so that the movement labeled "Complainant" exhibits the highest revenue per ton-mile, the highest revenue-to-variable cost ratio, and the highest dollar-per-ton margin).

First, reductions in the most profitable rate are disproportionate to the overall reduction in stand-alone costs. Thus, in the Board's hypothetical, as SAC initially drops below \$630, the "overage" is eliminated entirely by reducing the "Complainant" rate. The overage has to get

fairly large before reductions in the rate charged for Shipper 2 begin to occur – and once rates for Shipper 2 begin to be reduced, reduction of the “Complainant” rate occurs more slowly. Under MCM, for example, Figure 1 shows that the excess of revenues over SAC would have to reach \$50 (or 8.6% under the Board’s hypothetical) before rates for Shipments 2 and 3 would start to be reduced, and at that point the “Complainant” rate already would have been reduced by 20%. Similarly, under MMM, Shipment 2’s rate also begins to be reduced when the excess of revenues over SAC reaches approximately \$50, but the rate for Shipment 3 does not begin to be reduced until the excess of revenues over SAC is approximately \$115, or approximately 20%. At that point, the Complainant rate would have been reduced by almost 40%.

These effects are even less logical if the issue traffic movement does not exhibit the highest revenue per ton-mile, or the highest revenue-to-variable cost ratio. Suppose, for example, that Shipment 2 or Shipment 3 was the issue traffic rate in the Board’s hypothetical examples. Under those circumstances, revenues could exceed SAC by 10% or 20% (or more) before any reduction in the issue traffic rate would result. Of course, this is just a concrete example of distortions created by the failure of the Board’s proposals to take into account relative demand elasticities – as those are reflected in the current rate levels charged in the market. But it is a particularly absurd outcome that is masked by the Board’s simplistic assumption that the “Complaint” traffic will always be the highest-rated traffic (relative to revenue ton-miles or variable cost).

Finally, Figures 1 and 2 provide graphic illustrations of the compression in higher margin rates that the Board’s procedures are designed to create, which is inconsistent with the economic theory underlying the *Coal Rate Guidelines* and illogical if one is charged with promoting railroad revenue adequacy.

The undesirable features of MCM and MMM illustrated by Figures 1 and 2 also call in to serious question the Board's contention that:

use of the MCM approach [or, by implication, MMM] should facilitate rate case settlements and private negotiations. The possible manipulation of the percent reduction approach prevents prior rate cases from providing guidance during negotiations on what specific rate prescription a complainant could expect if it brought a complaint. Under MCM, the maximum contribution level in a particular case would provide information parties could use to predict the outcome of their own disputes, because the maximum contribution level would be independent of the level of the rate the railroad might set should negotiations break down. Such information should help the parties negotiate a mutually agreeable rate. *X-657 Decision* at 12.

To the contrary, the Board's proposals do nothing to improve the predictability of the outcome in an individual SAC proceeding. The results of applying MCM and MMM that would apply in a given case under the Board's proposals are a function of how the issue traffic rate level compares, on a revenue per revenue ton-mile or R/VC ratio basis, to the other movements that the complainant decides to include in the traffic group, *and* how close SAC is to stand-alone revenues. These are interdependent characteristics of a given SARR that are under the control of the complaining shipper and therefore impossible to predict in advance. This uncertainty is exacerbated when extensive amounts of cross-over traffic are relied upon, because under the Board's proposals only the on-SARR portion of the revenues, revenue ton-miles, and variable costs is utilized – making the analysis of relative profitability and the relationship between SAC and stand-alone revenues dependent on the revenue allocations, which in turn are a function of the cross-over interchange points selected by the complainant and – if ATC is employed – relative on-SARR and off-SARR traffic densities.

c. The Board's Rate Prescription Proposals are Inconsistent with Its Analysis of the Revenue Allocation Issue

At pages 18 and 19 of the *X-657 Decision*, the Board explains its proposal to use average total cost ("ATC"), as a basis for allocating revenue to the on-SARR and off-SARR portions of a cross-over traffic movement. In that discussion, the Board argues that ATC properly takes into account economies of scale, scope and density in deciding how much revenue should be allocated to which parts of a rail system. While variable costs are insensitive to relative density, average fixed costs per ton are higher on light density portions of a rail system than on heavy density portions of a system. Assigning revenues on the basis of mileage (which the *X-657 Decision* describes as a "crude estimate of the relative *variable* costs of hauling the traffic over the relevant segments") fails to take total costs per ton into account.

As I note below, I agree with this analysis in the context of the Board's cost-based revenue allocation proposal. The problem is that the Board's rate prescription proposals ignore these effects. If a cost-based approach has merit, then one would expect rates for traffic that moves over relatively light density segments of a railroad to reflect higher SAC per ton-mile, or per unit of variable costs, than moves over relatively high density segments of the railroad. But MCM allocates SAC equally to every ton-mile on the SARR, and MMM allocates SAC equally to every dollar of variable cost on the SARR.

BNSF's *TMPA*¹³ case is an excellent illustration of this deficiency. The "Gibbons Creek Railroad," or "GCRR" replicated approximately 1,600 miles of the BNSF, beginning at the Eagle Butte mine, extending through Wendover, Guernsey, Northport, Lincoln, Falls City, Kansas City, Fort Scott, Madill to TMPA's Gibbons Creek station in Iola, Texas. Without my specifically referring to the confidential record in that proceeding, the Board will recall that

¹³ *Texas Municipal Power Agency v. The Burlington Northern and Santa Fe Railway Company*, STB Docket No. 42056 (served March 24, 2003).

densities on the GCRR between Jacobs Ranch/Black Thunder and Lincoln were significantly higher than densities between Lincoln and Kansas City, and that average densities south of Kansas City – traversed by traffic destined to PSO’s plant at Oolagah, Big Brown, Donie and Gibbons Creek – were lower still.

Lighter-density lines have higher SAC per ton-mile (or per dollar of variable cost) because right-of-way investments such as grading, bridges and tunnels must be recovered from relatively fewer ton-miles or variable cost dollars. Therefore, even if cost-based mechanisms such as MCM or MMM were appropriate mechanisms for recovering SAC costs (which they are not), allocating total SAC for the GCRR on the basis of ton-miles or a SAC-to-variable cost ratio would have understated the SAC costs attributable to TMPA, because SAC includes both the “fixed” and “variable components” of total forward looking costs. Because complaining shippers *typically* design stand-alone railroads on which most of the “local” traffic is issue traffic, which by definition moves farther on the SARR than the non-issue traffic, the average density for the SARR tracks used by the issue traffic is generally lower than the average density for the SARR tracks used by the non-issue traffic. By ignoring economies of density, the MCM and MMM procedures would routinely under-allocate SAC revenue requirement to the issue traffic.¹⁴

2. Specific Problems with Each Individual Proposal

In addition to problems that cut across all three of the Board’s rate prescription proposals, there are problems that relate specifically to each individual proposal.

¹⁴ In the *AEP-Texas (AEP Texas North Company v. The Burlington Northern and Santa Fe Railway Company)*, STB Docket No. 41191 (Sub-No. 1) proceeding, this problem exists as well, and is exacerbated by complainant’s re-routing of traffic over what would be BNSF’s northern segment in order to increase the on-SARR densities.

a. MCM

The presumption underlying MCM, *i.e.*, that each movement in the stand-alone traffic group should bear the same SAC revenue requirement per ton-mile, is fundamentally inconsistent with the fact that rates observed for short-haul movements generally exhibit higher revenues per ton-mile than long-haul movements – a characteristic of transportation rates that has been recognized and analyzed for decades.

There are both cost and market-based reasons for this characteristic. Because non-distance-related costs – such as billing, and originating and terminating switching – are independent of shipment length of haul, shorter-haul movements must recover these costs from a smaller number of ton-miles. Market-based factors leading to this characteristic include (1) the fact that it is generally more difficult to generate intra-modal, geographic and product competition when the origin and destination are in close proximity, and (2) the fact that what is most important to a shipper's overall cost of producing *its* product is the absolute cost per unit of *its* output that transportation rates comprise, not the rate per ton-mile that it pays the rail carrier. BNSF demonstrated in the *Laramie River*¹⁵ proceeding, for example, that complainant's variable cost of generating electricity was relatively low, even though it paid a rail rate that results in a relatively high revenue per ton-mile.¹⁶ The verified statement submitted by Dr. Gaskins demonstrates this same characteristic – rates deemed reasonable by the STB in recent rate reasonableness proceedings result in revenues per ton-mile that are inversely proportional to the distance they move over BNSF.

¹⁵ *Western Fuels Association, Inc., and Basin Electric Power Cooperative, Inc., v. BNSF Railway Company*, STB Docket No. 42088.

¹⁶ *Laramie River*, at Opening Evidence of BNSF Railway Company, Narrative and Exhibits, April 19, 2005, at II-27 to II-28.

MCM ignores this pattern – and the cost and market-based reasons that it has been a consistent feature of railroad (and other transportation) rates from almost the inception of the railroad industry. For this reason, application of MCM in a proceeding such as *Laramie River*, where the issue traffic movement is one of the shortest coal movements on the BNSF system, would establish a SAC-based rate that is too low.

MCM would also introduce an additional source of bias from relying extensively on cross-over traffic in a SAC study. Experience in recent BNSF rate proceedings reveals that average densities on-SARR are higher than average densities on the residual BNSF's off-SARR lines that are used in the real world by BNSF to complete the end-to-end movements of cross-over traffic. In these circumstances, the SAC costs per ton-mile that would be required to build and operate the "off-SARR" portions of a "full SAC" analysis are almost certainly higher than the on-SARR SAC costs per ton-mile, because SAC costs include the forward-looking fixed costs of constructing the SARR.

This means that, all other things being equal, the "full SAC" would exhibit a higher average SAC per ton-mile starting point for application of MCM than would the "shorter" SARR that relies on cross-over traffic. This fact would generally result in a higher prescribed rate for the issue traffic (which by definition is local to the SARR), when applied in a "full SAC" context than would occur in a "shorter" SARR context relying on cross-over traffic, even if the total excess of revenues over SAC were unchanged by extending the SARR.¹⁷

A final problem with MCM is the one that the Board itself identifies, *i.e.*, that it does not differentiate between types of traffic that have different cost structures. Under MCM, two

¹⁷ It is certainly possible that extending the "shorter" SARR to a "full SAC" analysis could leave the overall excess of revenues over SAC unchanged if the cross-over traffic were highly profitable. Because MCM does not take into account revenues or relative profitability generated by the individual movements in the stand-alone traffic group, however, changing the revenue allocation procedure cannot eliminate directly this bias in MCM.

movements with an identical number of revenue ton-miles would pay the same rate despite obvious cost differences, such as shipper versus railroad owned equipment or the much higher cost per revenue ton-mile for handling intermodal traffic than for handling coal. Similarly, MCM is insensitive to differences in the use of joint facilities, trackage rights, haulage agreements, locomotive consist size, topography traversed, service commitments made to individual customers (and penalties that have been agreed to in the event performance does not meet the commitment), differences in the efficiencies of unloading configurations at destinations and a host of factors that can influence relative cost even within categories of traffic such as unit train traffic.

b. MMM

MMM suffers from some flaws that are similar to those described above for MCM. Because conceptually, at least, MMM takes account of differences in variable costs for different movements, it would assign somewhat higher revenues per ton-mile to shorter-haul on-SARR movements than to longer-haul movements, all other things being equal. But it remains completely incapable of reflecting the market-based considerations that would result in higher R/VC ratios for short-haul traffic.

In addition, use of MMM would *not* eliminate the additional source of bias described above in my discussion of MCM. Just as SAC costs per ton-mile can be expected to be higher on lighter-density lines in order to recover the fixed component of SAC over a smaller number of ton-miles, the SAC/variable cost ratio would almost certainly be higher because the fixed SAC costs would be divided by total variable costs for a significantly smaller number of movements. This means that the average SAC/VC ratio that is the starting point for MMM would be higher under a “full SAC” approach than for the corresponding SAC analysis using cross-over, and

mathematically that a higher issue traffic rate prescription would likely emerge *even if* the total excess of revenues over SAC were unchanged as a result of moving to a “full SAC” analysis. In short, while MMM would operate differently, a similar bias results that cannot be addressed directly by changes to the revenue allocation procedure.

In addition, as the Board itself recognized, use of MMM would necessitate projections of variable cost for each year in the DCF period for each of the movements in the SAC analysis. *X-657 Decision* at 16. This would add a significant additional level of complexity to the analysis, and would undoubtedly lead to disputes about the appropriate techniques, data sources and productivity assumptions to be relied upon in forecasting *variable* costs (as opposed to stand-alone costs).

c. “Alternative Formulation” of MMM

The constant dollar mark-up version of MMM alluded to at page 15 of the *X-657 Decision* introduces a different form of short-haul versus long-haul disparity, because a 10 mile or 100 mile shipment will receive the same dollar per ton markup as a shipment traveling 1,000 miles. This makes no sense, because the amount of fixed costs per ton that need to be defrayed are so much higher on long haul movements than on short haul movements (even without consideration of relative density). Furthermore, under a “full SAC” analysis, the dollar markup would be substantially higher, so applying a dollar markup “alternative formulation” would substantially bias the result when cross-over traffic is used extensively. Allocating the difference between SAC and total on-SARR variable costs on the basis of revenue ton-miles or car-miles – the “alternative formulation” of MMM alluded to at page 16 of the *X-657 Decision* – would suffer from flaws similar to those identified above for MCM and MMM.

Finally, as is the case with MMM, the modifications proposed at pages 15 and/or page 16 continue to rely on URCS variable costs as a basis for calculating margins, and therefore would also necessitate projections of variable cost for each year in the DCF period for each of the movements in the SAC analysis. This additional complexity would lead to the same sorts of disputes about the appropriate techniques, data sources and productivity assumptions to be relied upon in forecasting *variable* costs (as opposed to stand-alone costs).

D. Conclusion

Despite its assertions to the contrary, the Board's MCM and MMM proposals are inconsistent with Ramsey pricing principles – a fact explicitly confirmed by the Board's decision in *Xcel*. As a result, their use would generate illogical results in individual rate cases, lead to long-term rate compression and destruction of existing rate relationships, and impede achievement of revenue adequacy. This is an unacceptable price to pay to forestall the *possibility* that railroads might someday seek to manipulate the Board's current rate prescription procedure, particularly when there are economically valid evidentiary tests that the Board can employ to assess whether manipulation has occurred.

IV. REVENUE ALLOCATION

Section II of the *X-657 Decision* describes the Board's proposal for a change in the way it computes the portion of the end-to-end revenue earned by the defendant on each cross-over traffic movement in the "real world" to be allocated to the SARR. In the most recent SAC cases, the Board has relied upon the "Modified Straight-Mile Prorate" (or "MSP"), which allocates the on-SARR and off-SARR portions of the movement a "credit" for each mile it carries the cross-over movement, and 100 miles of "credit" if an origination or termination occurs.

BNSF has been critical of this approach for two reasons. First, it fails to take into account the fact that where the average density off-SARR is different from the average density on-SARR, the off-SARR portion of the movement would need higher revenues per ton-mile in order to cover its fixed costs per mile than would the on-SARR portion of the movement. MSP implicitly assumes (1) that densities are identical, (2) that economies of density are exhausted both on-SARR and off-SARR, or (3) that one can ignore fixed costs for the purposes of dividing revenues. Second, BNSF believes that the 100-mile credit for originating and terminating is too high for unit train coal movements, because it vastly overcompensates the SARR for the cost of originating unit coal trains relative to the line-haul costs of the movements.

The Board's ATC proposal is superior to MSP because it addresses both of these problems. It explicitly takes the effects of density into account by incorporating an average fixed cost ("AFC") component into the allocation process; and the average variable cost ("AVC") component of ATC reflects more accurately the relative efficiencies of handling trainload traffic – which the MSP does not. In short, the ATC approach to revenue allocation proposed by the Board for cross-over traffic addresses the core criticisms that BNSF has levied in the past in an economically rational way and is, as a result, a significant improvement over past practice. It will also reduce incentives for designing SARRs that rely on large volumes of very short-haul cross-over traffic designed to manipulate the test by taking advantage of the 100-mile revenue credit for originating this traffic.

The Board's discussion of its proposed ATC methodology also recognizes the concern that use of cross-over traffic may introduce bias into the SAC analysis. At page 17 of the *X-657 Decision* the Board reiterates a point first articulated in its recent *Otter Tail* decision, *i.e.*, that:

[i]n allowing the use of cross-over traffic, we see, to make the analysis more manageable without introducing bias. Thus, the goal in allocating

revenue from cross-over traffic should be to ensure that simplified SAC analysis using cross-over traffic will approximate a full SAC analysis, which provides origin-to-destination service for the entire traffic group. A full SAC analysis compares the total SAC costs against the total revenues the carrier is expected to earn from the traffic group. A SAC presentation with cross-over traffic, however, calculates only part of the total SAC costs to serve the selected traffic. Thus, the portion of the revenue allocated to those facilities replicated by the SARR should ideally equal the total revenue from that movement multiplied by the share of total SAC costs represented by the cross-over segments of the movement (i.e., multiplied by the ratio of the SAC costs using cross-over traffic to the total SAC costs without cross-over traffic).¹⁸

Under this formulation of the goal the Board seeks to achieve by permitting the use of cross-over traffic as a “simplification,” the results of a SAC test using cross-over traffic should closely approximate the results that would be obtained from a “full SAC” analysis (i.e., a stand-alone railroad constructed to serve the same traffic group *without* using cross-over traffic).

The Board goes on to note however that it faces a “dilemma” with this formulation, i.e., that it relies upon the costs of a “full SAC analysis” that if implemented “would defeat the purpose of using cross-over traffic in the first place.” Recognizing this dilemma, the Board has resolved to rely upon a revenue allocation method for cross-over traffic that “reflects, to the extent possible, the carrier’s relative average costs of providing service over the two segments.” *Id.* at 17-18. This is a sensible starting point and, as noted above, the ATC approach proffered by the Board in its *X-657 Decision* is a significant improvement in this regard because it accounts for the effect of density on the incumbent’s costs over different line segments.

It is clear, from the Board’s discussion, both here and in *Otter Tail*, that use of ATC (or any other cost-based revenue allocation mechanism) to allocate revenues for cross-over traffic is intended to function as an *approximation* of the results that would be obtained if a “full SAC” were constructed. It should be equally clear, however, that this approximation may be “un-

¹⁸ See also *Otter Tail* at 14.

biased” in certain circumstances and “biased” in others. One reason for this is that the ATC approach relies on embedded costs while SAC studies are forward-looking.¹⁹ The extent to which the approximation is “un-biased” in a given proceeding is also highly dependent on its specific facts – affected both by the geographic portion of the incumbent’s rail system traversed by the issue traffic, and the choices made by the SAC proponent (both in terms of traffic movements selected and the cross-over traffic “interchange points” employed). As a result, if the Board is going to employ some form of cost-based revenue allocation procedure for cross-over traffic, such as ATC, as an approximation for the results that would be obtained if a “full SAC” analysis were undertaken, carrier and shipper parties *must* be given an opportunity to present evidence exploring how well the approximation works in the circumstances of a given case.

In the *Laramie River* proceeding, for example – in which the shipper relies upon the MSP approach to allocate revenues on cross-over traffic – BNSF has submitted evidence that demonstrates, using a “serial build-out” process, that the MSP revenue allocation procedure substantially overstates the revenue/SAC relationship that would exist if a “full SAC” study were performed. In undertaking this analysis, BNSF starts with the SARR configuration, traffic group, and construction and operating costs proffered by the complainant, and then adds sequentially certain of the off-SARR lines used extensively by cross-over traffic, making assumptions – about the annual construction and operating costs that would be incurred to make these expansions – that were consistent with (or, in BNSF’s view, conservative estimates of) the costs that the complainant presents in its evidence. Each time a line is added, the BNSF analysis demonstrates that the ratio of revenues to SAC declines until revenues are below SAC – a

¹⁹ Because the fixed cost component of ATC reflects sunk assets such as land, grading, tunnels and bridges with long asset lives, the embedded cost nature of ATC – which would incorporate depreciated values for these assets that were purchased and installed long ago at much lower prices – understates the proportion of total costs that would be “fixed” in a forward-looking SAC study.

showing that effectively demonstrates that the MSP revenue allocation procedure used by complainant in that proceeding is biased in favor of the shipper.

Evidence of this sort is compelling. In individual rate proceedings, rail carriers and shippers *must* have the right to make similar showings about ATC (or *any* rate allocation methodology). The alternative – the possibility of making a finding of rate reasonableness or unreasonableness on the basis of a rate allocation mechanism that is demonstrably biased – is inconsistent with the Board’s responsibilities, and could have significant adverse effects on railroad revenue adequacy and carrier incentives to invest in capacity expansion.

V. BIAS IN THE RATE ALLOCATION MECHANISM COULD BE ADDRESSED BY MODIFYING THE RATE PRESCRIPTION PROCEDURE

In *Otter Tail* and at page 17 of the *X-657 Decision*, the Board defines an unbiased result as one where the revenue-to-SAC relationship for the SAC analysis employing cross-over traffic is not significantly different from the revenue-to-SAC relationship that would be generated by a corresponding “full SAC” analysis that “provides origin-to-destination services for the entire traffic group.” This definition of bias is consistent with use of the percent reduction method, because it would ensure that the percent reduction would be identical whether a “full SAC” or “short SAC” were employed.

As Professors Willig and Kalt explain, one way to minimize potential bias in the revenue allocation stage of the analysis would be to use the principles of contestability and the behavior of firms in contestable markets to establish the on-SARR revenue allocation. As Professor Willig notes, this would at least ensure that the residual incumbent would be “willing” to participate as a partner with the SARR in transporting cross-over traffic movements, even though it does not ensure (as a “full SAC” analysis would) that the residual incumbent would be *able* to

do so over the long run by earning revenues sufficient to offset its long-run construction and operating costs.

If the Board is unwilling to adopt this economically rational (and, from the defendant railroads' perspective, conservative) approach, *and* the revenue allocation procedure employed as an approximation by the Board is found to be biased in a particular application, the Board is faced with the practical problem of how to proceed. BNSF believes that in the circumstances of an individual proceeding it will be possible to minimize the most egregious effects of such bias at the rate prescription phase of the proceeding without requiring "full-SAC" evidence.

In the *Laramie River* proceeding, in which BNSF demonstrated that MSP led to a biased result, BNSF suggested that the overstatement that occurred in the absolute dollar amount by which revenues exceeded SAC – determined by using cross-over traffic – could be minimized by considering it in the context of *through* revenues generated by the cross-over traffic. In the marketplace, shippers and railroads make transportation decisions based on rates for the through movement of traffic between each movement's originating and terminating points on the defendant railroad(s). It is the through rate relationships that are observed in the marketplace – not formulaic revenue allocations at "fictional" SARR interchange points established in the middle of an end-to-end movement – that are the focus of Ramsey pricing principles, and it is these through rate relationships that the ICC intended to preserve when it adopted the percent reduction method in *Coal Trading*.²⁰ Recognition of these facts suggests there are potential practical solutions to the Board's dilemma.

For example, if the defendant railroad is able to show – through evidence such as the serial build-out evidence submitted in *Laramie River* – that reducing the amount of cross-over

²⁰ *Coal Trading Corp. v. Baltimore & Ohio Railroad Co.*, 6 I.C.C. 2d 361 (1990).

traffic by adding additional lines has the effect of reducing the absolute dollar amount by which revenues exceed SAC, the rate prescription methodology could be modified as follows:

- Whatever total overage is calculated – based on the short, cross-over-oriented SARR – would be subtracted from total end-to-end revenues for all of the shipments in the stand-alone traffic group to establish the new “SAC revenue requirement.”
- This would then be attributed to the issue traffic using the percent reduction method.

Under the percent reduction method, the new “SAC revenue requirement” would be divided by the incumbent’s end-to-end revenues for the issue traffic and all non-issue traffic to calculate the reduced issue traffic rate. Similar rate prescription mechanisms could be developed by the parties, in individual rate cases, if moving from the “short SAC” to the “full SAC” resulted in (1) a decline in the revenue-to-SAC ratio (a result biased *against* the railroads), but an increase in the absolute dollar amount by which revenues exceed SAC, or (2) an increase in the revenue-to-SAC ratio (a result biased *in favor* of the railroads).²¹

The point is that the Board cannot use the practical difficulties of addressing demonstrated bias in a revenue allocation mechanism as a justification for relying on unreliable methods for setting a maximum reasonable rate. The parties to a given rate proceeding must be given an opportunity to propose solutions to minimize the effects of bias when it is demonstrated to exist.

²¹ Note that the shipper can eliminate bias in the railroad’s favor by building the full SAC.

VI. NONE OF THE BOARD'S PROPOSALS WOULD CHANGE THE NEED FOR OR VALIDITY OF THE CROSS-SUBSIDY TEST THE BOARD HAS EMPLOYED IN *PPL* AND *OTTER TAIL*

The changes proposed in the *X-657 Decision* do not in any way alter the economic validity of the cross-subsidy tests the Board articulated in *PPL* and *Otter Tail*. In those decisions, the Board found that:

1. if the portion of a SARR used by the issue traffic had revenues below the forward-looking costs of constructing and operating that segment, the issue traffic rate is *per se* reasonable (*i.e.*, traffic on the line, including the issue traffic, cannot by definition be cross-subsidizing other rates because revenues are insufficient to cover its own forward-looking costs); and
2. even if the portion of a SARR used by the issue traffic had revenues *above* the forward-looking costs of constructing and operating that segment, rates for the issue traffic and other traffic sharing the issue traffic route cannot, in total, be reduced to levels below the forward-looking costs of constructing and operating that segment.

The economic logic underlying these conclusions is well-articulated in the *Otter Tail* decision, and the Board should continue to test for internal cross-subsidies under either the existing SAC procedures or those proposed in the *X-657 Decision*. Undertaking this analysis requires the Board to develop the revenue-to-SAC relationship for the issue traffic route in isolation from the remainder of the SARR system. This can be done regardless of whether PRM continues to be used, or whether some other rate prescription methodology is adopted; and it can be done whether ATC is used or whether some other revenue allocation procedure is relied upon.

The *PPL* cross-subsidy test is an example of the first application of the cross-subsidy test identified above. There the west leg of the *PPL* system (over which the issue traffic moved) was tested to determine the extent to which its revenues covered its costs, as those were developed by the complainant. In making that determination, the Board assigned 100 percent of the revenues – for traffic originating on the east leg of the SARR and moving over the west leg – to the west

leg, but none of the costs of the east leg were included. This had the effect of assuming that all of the costs of the east leg were covered by the shippers that moved exclusively over the east leg.

Even if revenues for the portion of the SARR used by the issue traffic exceed the forward-looking costs of constructing and operating those segments, as those revenues and costs are determined by complainant, the Board's *Otter Tail* decision found that a test for cross-subsidy was appropriate at the rate prescription phase of a SAC study, even when revenues for the stand-alone railroad as a whole exceeds its SAC. *Otter Tail* at 23-25. Furthermore, it concluded that revenue reductions for the issue traffic – and other traffic sharing the issue traffic route – cannot be reduced below the forward-looking costs of constructing and operating just the line segments used by the issue traffic. *Id.* at 10-11.

In the SAC analysis submitted by complainant in *Laramie River*, there is a large volume of non-issue traffic that originates north of Donkey Creek and moves only a short distance over the SARR before exiting at either Donkey Creek or Campbell. Because this is a characteristic of the sort that often results in a cross-subsidy *internal* to the SARR, BNSF's evidence employed an approach that makes a subsequent cross-subsidy analysis unnecessary by explicitly preventing the non-issue traffic in the stand-alone traffic group that does not move south of Donkey Creek from subsidizing the traffic that *does* move south of Donkey Creek on the route used by the issue traffic. As a result, it is a simplified way of conducting both forms of cross-subsidy testing *as part of the SAC analysis itself*.

Specifically, BNSF's SAC presentation in *Laramie River* (1) eliminated non-issue traffic from the line north of Donkey Creek that moved off the system eastbound at Donkey Creek and westbound at Campbell, and (2) eliminated entirely the stand-alone construction costs of the line north of Donkey Creek – even though that line is also used by the issue traffic. This *ensures* that

the non-issue traffic that does not move south of Donkey Creek does not pay for any of the south of Donkey Creek facilities that it does not use. It also means that the issue traffic (and other non-issue traffic that moves south off of this line) effectively “free ride” on the north-of-Donkey Creek line (just as the traffic originating on the *PPL* east leg, that moved over the west leg, was permitted by the Board’s cross-subsidy test in *PPL* to “free ride” on the east leg). By taking this step, BNSF has explicitly prevented a cross-subsidy by traffic originating north of Donkey Creek that does not use the south-of-Donkey Creek line from entering the SAC analysis. This approach is conservative, from complainant’s standpoint, because it assumes that the issue traffic, and other southbound non-issue traffic, is responsible for *none* of the cost of the north-of-Donkey Creek line. As is the case for the cross-subsidy analysis described in *Otter Tail*, the Board’s Ex Parte No. 657 (Sub-No. 1) proposals do not affect the validity of or eliminate the need for the cross-subsidy approach BNSF employed in *Laramie River*.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 28, 2006



John C. Klick

Figure 1

Maximum Rates Under MCM

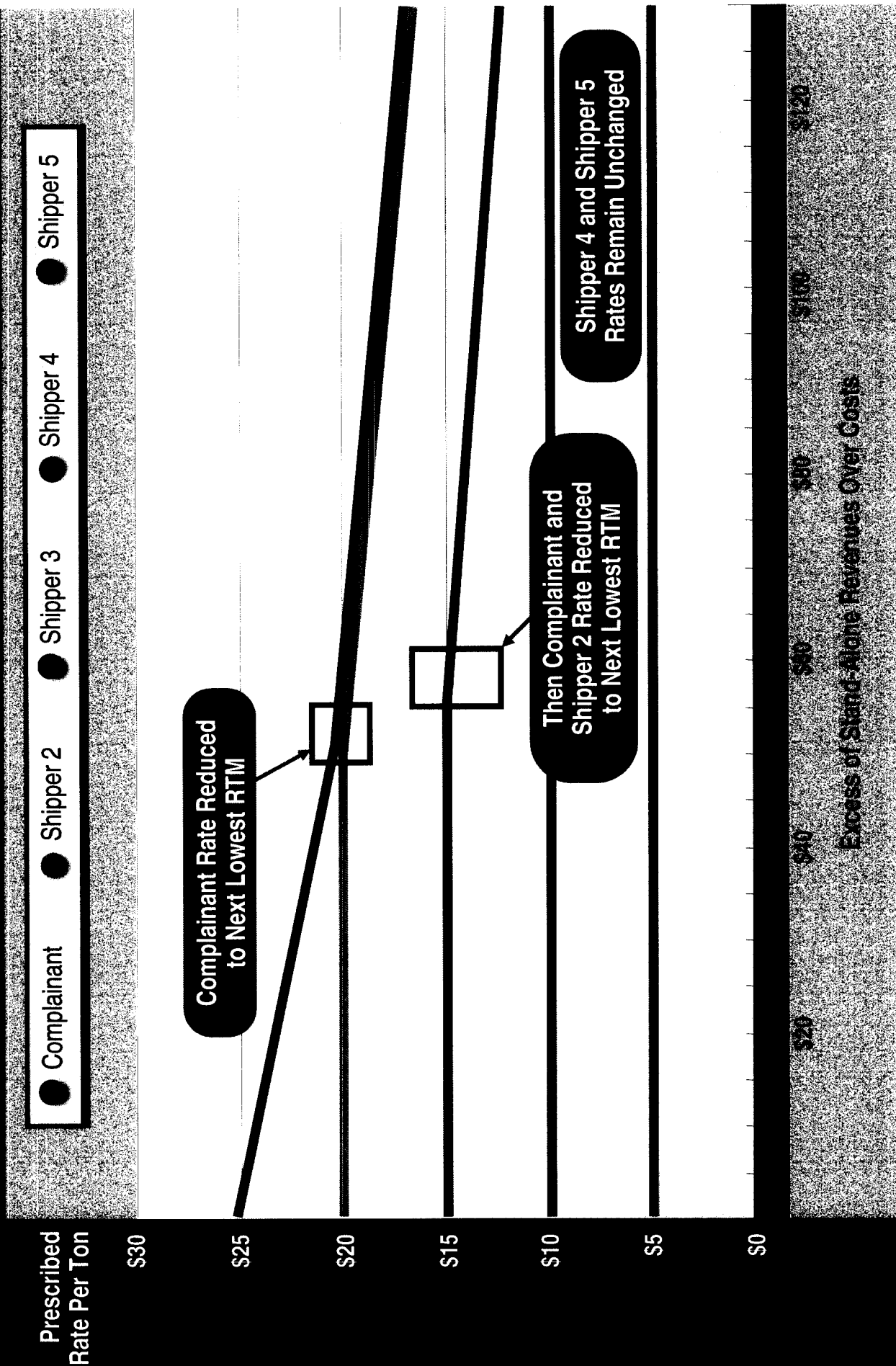
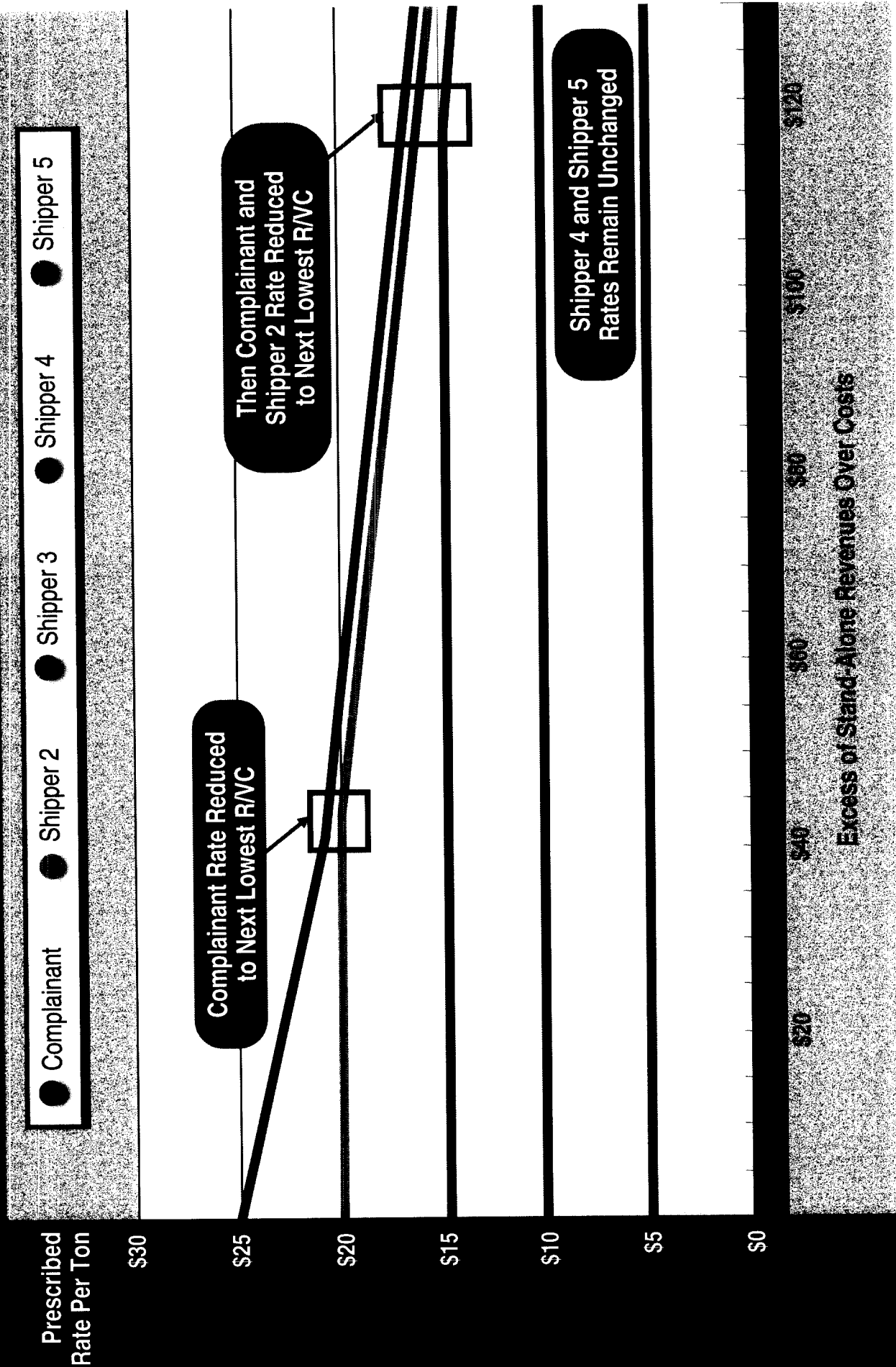


Figure 2

Maximum Rates Under MMM



John C. Klick

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Education

B.S. in Mathematics,
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John Klick is a senior managing director and the practice leader of FTI's Economic Consulting practice and is based in Washington, DC. With 30 years of experience, Mr. Klick is widely recognized as a seasoned and effective expert witness on damages, economic costs, pricing of regulated services, mergers and acquisitions, and anti-trust matters.

Mr. Klick has provided expert testimony in cases involving economic damages; the public and private benefits of proposed mergers and acquisitions; the marginal, incremental and stand-alone costs of services provided by regulated network industries; and the pricing of access to network facilities. Much of this testimony has required Mr. Klick to analyze complex economic models and to effectively communicate his conclusions to decision-makers.

Mr. Klick has provided testimony before federal and state courts, arbitration panels, the Surface Transportation Board and its predecessor, the Interstate Commerce Commission, the Federal Energy Regulatory Commission, numerous state regulatory agencies, and mediators. He has assisted financial institutions in assessing potential investments in a variety of industries, and has served as a party appointed arbitrator in two complex contract performance disputes between Fortune 50 companies.

Mr. Klick has in-depth experience in a number of industrial sectors including telecommunications, energy, and transportation and has lectured on economic issues to various technical trade groups. In addition, he has taught a well-received Consulting Practicum as part of Georgetown University's MBA program.

TELECOMMUNICATIONS TESTIMONY

Courts

December 4, 2000 United States District Court, Central District of California, Western Division. Case No. 99-11641 RSWL (RCx). Arthur Simon, et al, v. American Telephone & Telegraph Corp.; At Home Corporation; Arahova Communications, Inc.; Cox Communications, Inc.; Comcast Corporation; Cablevision Systems Corp.; Garden State Cablevision LP; Jones Intercable, Inc.; Time Warner, Inc.; Time Warner Entertainment Co., L.P.; TWE □ A/N Partnership; MediaOne Group; Servico L.L.C.; and Telecommunications, Inc. Declaration of John C. Klick and Brian F. Pitkin In Support of Defendants' Motion In Opposition To Plaintiffs' Motion for Class Certification.

Federal Communications Commission

May 26, 1999 CC Docket No. 96-98. In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996. Affidavit of John C. Klick and Brian F. Pitkin.

May 26, 1999 CC Docket No. 96-98. In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996. Affidavit of Michael J. Boyles, John C. Klick and Brian F. Pitkin.



- June 10, 1999 CC Docket No. 96-98. In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996. Reply Affidavit of Michael R. Baranowski, John C. Klick and Brian F. Pitkin.
- December 14, 1999 CS Docket No. 99-251. In the Matter of: Applications for Consent to the Transfer of Control of Licenses MediaOne Group, Inc. to AT&T Corp., Competition of Broadband Technology Serving the Residential Customer.
- March 13, 2001 File No. EB-00-MD-001. In the Matter of AT&T Corp. v. Business Telecom Inc. Affidavit of John C. Klick
- October 10, 2002 WC Docket No. 02-307. In the Matter of Application by BellSouth Corporation, for Authorization To Provide In-Region, InterLATA Services in the States of Florida and Tennessee. Declaration of John C. Klick and Brian F. Pitkin on Behalf of AT&T Corp.
- November 1, 2002 WC Docket No. 02-307. In the Matter of Application by BellSouth Corporation, for Authorization To Provide In-Region, InterLATA Services in the States of Florida and Tennessee. Reply Declaration of John C. Klick and Brian F. Pitkin on Behalf of AT&T Corp.
- November 16, 2002 WC Docket No. 02-307. In the Matter of Application by BellSouth Corporation, for Authorization To Provide In-Region, InterLATA Services in the States of Florida and Tennessee. Further Declaration of John C. Klick and Brian F. Pitkin on Behalf of AT&T Corp.
- January 7, 2003 WCB Docket No. 03-18. In the Matter of Alascom, Inc. Request for Waiver of Commission Rule And Orders Requiring Annual Tariff Revision, Alascom, Inc. Petition for Waiver, Declaration of John Klick and Julie Murphy
- March 5, 2003 WCB Docket No.03-18. In the Matter of Alascom, Inc. Request for Waiver of Commission Rule And Orders Requiring Annual Tariff Revision, Alascom, Inc. Petition for Waiver, Reply Declaration of John Klick and Julie A. Murphy.
- March 13, 2003 WCB Docket No.03-18. In the Matter of Alascom, Inc. Request for Waiver of Commission Rule And Orders Requiring Annual Tariff Revision, Alascom, Inc. Petition for Waiver, Declaration of John Klick and Julie Murphy, In Support of Alascom's Opposition to General Communication, Inc. FOIA, Control No. 2003-208.
- April 4, 2003 WCB Docket No.03-18. In the Matter of Alascom, Inc. Request for Waiver of Commission Rule And Orders Requiring Annual Tariff Revision, Alascom, Inc. Petition for Waiver, Declaration of John Klick and Julie A. Murphy, Supplement to Waiver Request and Supplement to Response to FOIA Request.
- December 16, 2003 WC Docket No. 03-173. Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers.
- January 30, 2004 WC Docket No. 03-173. Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers.

Alabama Public Service Commission

March 5, 2004 Docket No. 29054 (Phase II). In re: Implementation of requirements arising from Federal Communications Commission triennial UNE review: Local Circuit Switching for Mass Market Customers.

Public Utilities Commission of the State of California

December 4, 1998 Case No. R93-04-003. Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks. Initial Statement of John C. Klick

August 20, 2001 Application No. 01-02-024. Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Cost Pursuant to Ordering Paragraph 11 of D.99-11-050. Testimony of John C. Klick in Support of Joint Applicants' Motion for Interim Relief

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- November 9, 2001 Application No. 01-02-024. Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Cost Pursuant to Ordering Paragraph 11 of D.99-11-050. Declaration of John C. Klick in Support of Reply Comments of Joint Applicants Regarding Unbundled Switching Interim Proposal
- September 9, 2002 Rulemaking 93-04-003. Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish A Framework for Network Architecture Development of Dominant carrier Networks. Investigation 93-04-002. Investigation on the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks. Declaration of John C. Klick in Support of Proposal of AT&T Communications of California, Inc. (U 5002-C) and WorldCom, Inc. ("Joint Commentors") For Interim Unbundled Network Element Rates.
- September 20, 2002 Rulemaking 93-04-003. Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks. Investigation 93-04-002. Investigation on the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks. Declaration of John C. Klick in Support of Proposal of AT&T Communications of California, Inc. (U 5002-C) and WorldCom, Inc. ("Joint Commentors") For Interim Unbundled Network Element Rates.
- October 18, 2002 Application No. 01-02-024. Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Cost Pursuant to Ordering Paragraph 11 of D.99-11-050. Declaration of John C. Klick in Support of Joint Applicants' Opening Comments.
- August 6, 2004 Rulemaking 93-04-003. Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks. Investigation 93-04-003. Investigation on the Commission's Own Motion Into Open Access and Network Architecture Development of Dominant Carrier Networks. (Verizon UNE Phase). Declaration of John C. Klick in Support of Reply Comments of Joint Commentors.
- November 9, 2004 Rulemaking 93-04-003. Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks. Investigation 93-04-003. Investigation on the Commission's Own Motion Into Open Access and Network Architecture Development of Dominant Carrier Networks. (Verizon UNE Phase). Declaration of John C. Klick in Support of Rebuttal Comments of Joint Applicants.

Public Utilities Commission of the State of Colorado

- February 21, 1997 Docket No. 96S-331T. In the Matter of the Investigation and Suspension of Tariff Sheets Filed by U S WEST Communications, Inc., With Advice Letter No. 2617, Regarding Tariffs For Interconnection, Local Termination, Unbundling and Resale of Services, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- March 6, 1997 Docket No. 96S-331T. In the Matter of the Investigation and Suspension of Tariff Sheets Filed by U S WEST Communications, Inc., With Advice Letter No. 2617, Regarding Tariffs For Interconnection, Local Termination, Unbundling and Resale of Services, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- March 26, 1997 Docket No. 96S-331T. In the Matter of the Investigation and Suspension of Tariff Sheets Filed by U S WEST Communications, Inc., With Advice Letter No. 2617, Regarding Tariffs For Interconnection, Local Termination, Unbundling and Resale of Services, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- May 6, 1997 Docket No. 97M-063T. In the Matter of the Administration of the Colorado High Cost Fund and the Development of a Cost Model, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- May 23, 1997 Docket No. 97M-063T. In the Matter of the Administration of the Colorado High Cost Fund and the Development of a Cost Model, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- November 17, 1997 Docket No. 97M-063T. In the Matter of the Administration of the Colorado High Cost Fund and the Development of a Cost Model, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Public Service Commission of the District of Columbia

- March 24, 1997 Formal Case No. 962. In the Matter of the Implementation of the District of Columbia Telecommunications Competition Act of 1996 and implementation of 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- May 2, 1997 Formal Case No. 962. In the Matter of the Implementation of the District of Columbia Telecommunications Competition Act of 1996 and implementation of 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Florida Public Service Commission

- November 13, 1997 Docket No. 960833-TP/960846-TP/971140-TP. In the matter of certain terms and conditions of proposed agreement concerning interconnection and resale, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Idaho Public Utilities Commission

- November 22, 1996 Docket No. USW-T-96-15/ATT-T-96-2. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- January 31, 1997 Docket No. USW-T-96-15/ATT-T-96-2. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

State of Iowa Department of Commerce Utilities Board

- October 7, 1996 Docket No. ARB-96-3. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- October 21, 1996 Docket No. ARB-96-3. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- April 23, 1997 Docket No. RPU-96-9. Application for rehearing in part for purposes of Clarification and Correction, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- July 30, 1997 Docket No. RPU-96-9. . Application for rehearing in part for purposes of Clarification and Correction, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Kentucky Public Service Commission

- November 4, 1997 Administrative Case No. 360. In the Matter of Inquiry Into Universal Service and Funding Issues, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Louisiana Public Service Commission

- August 25, 1997 Docket No. U-22022. Review of cost studies submitted per Local Competition Regulations in order to determine the cost of interconnection and UNEs to establish reasonable, non-discriminatory, cost-based tariffed rates. U-22093. Review of tariff filing per Local Competition Regulations, which tariff introduces interconnection and unbundled services and establishes the rates, terms, and conditions for such service offerings, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- January 20, 1998 Docket No. U-20993, Subdocket A (above Dockets Consolidated), Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

State of Maryland Public Service Commission

December 5, 1997 Case No. 8766. In the Matter of the Collocation Tariff Filed Under Transmittal No. 1003 by Bell Atlantic-Maryland, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Minnesota Public Utilities Commission

September 30, 1996 Docket No. P-4Y2; YOT/M-96-936. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

October 18, 1996 Docket No. P-442; 407/M-96-939. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

August 18, 1997 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

October 20, 1997 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

November 14, 1997 Docket No. P-442, 407, 5321, 466/CI-96-1541. In the Matter of the Investigation of GTE-Minnesota's Cost of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

December 19, 1997 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

February 3, 1998 Docket Nos. P-999/M-97-909; OAH Docket No. 12-2500-11342-2. In the Matter of the State of Minnesota's Possible Election to Conduct its own Forward-Looking Economic Cost study to Determine the Appropriate Level of Universal Service Support, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

March 2, 1998 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

- March 23, 1998 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- April 6, 1998 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- July 14, 1998 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- May 26, 2000 Docket No. P-421/CI-99-1665 ;OAH Docket No. 12-2500-12631-2. In the Matter of a Commission Initiated Investigation into U S WEST Communications, Inc.'s Costs Related to Provision of Line Sharing Service
- June 30, 2000 Docket No. P-421/CI-99-1665 ;OAH Docket No. 12-2500-12631-2. In the Matter of a Commission Initiated Investigation into U S WEST Communications, Inc.'s Costs Related to Provision of Line Sharing Service

Public Service Commission of Missouri

- September 25, 1998 Docket TO-98-329. In the Matter of an Investigation into Various Issues Related to the Missouri Universal Service Fund.

Public Service Commission of the State of Montana

- November 22, 1996 Docket No. D96.11.200. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- January 22, 1997 Docket No. D96.11.200. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- January 29, 1997 Docket No. D96.11.200. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Nebraska Public Service Commission

October 18, 1996 Docket No. C-1400. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

New Jersey Board of Public Utilities

September 18, 1996 Docket No. TO 96070519. In the Matter of Petition of AT&T Communications of New Jersey, Inc. for Arbitration with Bell Atlantic - New Jersey, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

December 20, 1996 Docket No. TX 95120631. Notice of Investigation Local Exchange Competition for Telecommunications Services, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

October 20, 1997 Docket No. TX 95120631. Notice of Investigation Local Exchange Competition for Telecommunications Services, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

New Mexico Corporation Commission

November 22, 1996 Docket No. 96-411-TC. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

January 20, 1997 Docket No. 96-411-TC. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

June 13, 1997 Docket No. 97-35-TC. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc. and GTE Southwest, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

October 21, 1997 Docket No. 96-310-TC; Docket No. 97-334-TC. In the Matter of the Implementation of the New Rules Related to the Rural High Cost Fund, and Low Income Components of the New Mexico Universal Service Fund, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

November 21, 1997 Docket No. 96-310-TC; Docket No. 97-334-TC. In the Matter of the Implementation of the New Rules Related to the Rural High Cost Fund, and Low Income Components of the New Mexico Universal Service Fund, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

January 14, 1998 Docket No. 96-310-TC; Docket No. 97-334-TC. In the Matter of the Implementation of the New Rules Related to the Rural High Cost Fund, and Low Income Components of the New Mexico Universal Service Fund, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

State of New York Public Service Commission

- March 27, 1998 Case No. 95-C-0657. In the matter of Wholesale Provisioning of Local Exchange Service. 94-C-0095. In the matter of the Continuing Provision of Universal Service and Developing a Regulatory Framework for the Transition to Competition in the Local Exchange Market. 91-C-1174. In the matter of Comparably Efficient Interconnection Arrangements for Residential and Business Links, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- October 31, 2003 Case 03-C-0980. Proceeding On Motion Of The Commission As To The Rates, Charges, Rules And Regulations Relating To The Provisioning Of Direct Current Power By Verizon-New York Inc. For Use In Connection With Collocation Spaces
- November 24, 2003 Case 03-C-0980. Proceeding On Motion Of The Commission As To The Rates, Charges, Rules And Regulations Relating To The Provisioning Of Direct Current Power By Verizon-New York Inc. For Use In Connection With Collocation Spaces

North Carolina Public Staff Utilities Commission

- December 15, 1997 Docket No. P-100, Sub 133d. In the Matter of the Determination of Permanent Pricing for Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- January 30, 1998 Docket No. P-100, Sub 133b. In the Matter of Establishment of Universal Support Mechanisms, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- February 16, 1998 Docket No. P-100, Sub 133d. In the Matter of the Determination of Permanent Pricing for Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- March 9, 1998 Docket No.: P-55, Sub 133d. In the Matter of the Determination of Permanent Pricing for Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- February 16, 2004 Docket No. P-100, Sub 133q. In the Matter of the Triennial Review Order – UNE-P

State of North Dakota Public Service Commission

- November 22, 1996 Docket No. PU-453-96-497. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- February 14, 1997 Docket No. PU-453-96-497. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

November 10, 1997 Docket No. PU-314-97-465. In the Matter of U S WEST Communications, Inc. Universal Service Costs Investigation, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

December 22, 1997 Case No. PU-314-97-12. In the Matter of U S West Communications, Inc. Interconnection/ Wholesale Price Investigation, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Oregon Public Utility Commission

October 8, 1996 Docket No. ARB-5. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Pacific Northwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

February 24, 1998 UM 731, Phase 111. In the Matter of the Investigation into Universal Service in the State of Oregon, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Pennsylvania Public Utility Commission

May 21, 1999 Docket Nos. P-00991648 and P-00991649. Petition of Senators and CLECs for Adoption of Partial Settlement and Joint Petition for Global Resolution of Telecommunications Proceeding.

South Carolina Public Service Commission

November 10, 1997 Docket No. 97-239-C. In the Matter of Intrastate Universal Service Fund, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Public Utilities Commission of the State of South Dakota

November 20, 1996 Docket No. TC-96-184. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

January 27, 1997 Docket No. TC-96-184. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Tennessee Regulatory Authority

February 27, 2004 Docket No. 03-00491. In re: Implementation of requirements arising from Federal Communications Commission triennial UNE review: Local Circuit Switching for Mass Market Customers.

Public Utility Commission of Texas

February 27, 1998 Docket No. 18515. Compliance Proceeding for Implementation of the Texas High Cost Universal Service Plan, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Public Service Commission of Utah

April 23, 1997 Docket No. 94-999-01. In the Matter of an Investigation Into Collocation and Expanded Interconnection, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Washington Utilities and Transportation Commission

October 28, 1996 Docket No. UT-960307. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Pacific Northwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

February 21, 1997 Docket No. UT-960369. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale. Docket No. UT-960370. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for U S WEST Communications, Inc. Docket No. UT-960371. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for GTE Northwest Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

March 28, 1997 Docket No. UT-960369. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale. Docket No. UT-960370. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for U S WEST Communications, Inc. Docket No. UT-960371. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for GTE Northwest Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

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STB Ex Parte No. 657 (Sub-No. 1)
MAJOR ISSUES IN RAIL RATE CASES

VERIFIED STATEMENT
OF
MICHAEL R. BARANOWSKI

May 1, 2006

I. INTRODUCTION

My name is Michael R. Baranowski. I am a Senior Managing Director in FTI Consulting Inc.'s economic practice, with offices located at 1201 I Street, NW, Suite 400, Washington, D.C., 20005. A statement of my qualifications is attached as Exhibit No. __ MRB-1.

On February 27, 2006 the Surface Transportation Board ("STB" or "Board") rendered a decision in Ex Parte No. 657 (Sub-No. 1), *Major Issues in Rail Rate Cases* ("X-657 Decision"), seeking comment on STB proposals designed to respond to six issues that have arisen in recent rate reasonableness proceedings. These issues relate to (1) rate prescription methodologies in the event stand-alone revenues are found to exceed stand-alone costs; (2) how the incumbent's revenues for cross-over traffic should be attributed to the on-SARR and off-SARR segments; (3) the extent to which productivity improvements should be reflected in forecasts of stand-alone operating expenses; (4) the continued use of movement-specific adjustments to URCS in assessing the jurisdictional threshold; (5) the advisability of shortening the DCF period used in SAC studies from 20 to 10 years; and (6) the standards for re-opening and vacating prior Board rate prescriptions.

BNSF has asked me to comment on the Board's proposal number (3) – the extent to which productivity should be reflected in forecasts of stand-alone operating expenses and proposal number (5) – the advisability of shortening the DCF period used in SAC studies to 10 years.

As I explain in Section II of my verified statement, BNSF is opposed to the Board's proposal to ascribe arbitrarily the benefits of additional productivity gains on a hypothetical SARR for the following reasons:

- There is no rational basis to *assume*, as the Board apparently has done, that productivity reflected in the RCAF-A, or even a percentage of the RCAF-A, would be applicable to the SARR. Virtually all of the sources of industry-wide productivity that are captured in the RCAF-A are not available to the SARR.
- Specific potential additional productivity benefits for the SARR articulated by complainants in recent SAC cases are greatly overstated and often unsupported by the evidence. Moreover, even in areas where new technologies and practices promise future productivity for the industry as a whole, it is unlikely the benefits would be seen within the first ten years of the SARR;
- Rather than *assume* that the SARR will achieve an arbitrary percentage of industry-wide productivity in each year of its existence, the burden should be on the proponents of a SARR to identify and quantify specific productivity improvements that are likely to produce additional benefits during the life of the SARR.
- If the Board adopts a 10-Year DCF, the Board should continue to use the more reliable RCAF-U.
- If the Board does not adopt a 10-Year DCF, it should reflect the impact of possible productivity benefits that might be available to a SARR based on an examination of specific operating cost categories and the types of benefits that might become available in the future to the SARR. I review this alternative methodology in detail below.
- Finally, if a productivity adjustment were to be made to operating costs, a comparable adjustment should be applied to the inflation assumed for SARR capital assets within the Board's DCF model.

In Section III I address the Board's proposal to shorten the DCF period to 10 years and identify the changes that should be made to the current DCF model in the event such a change were to be implemented.

II. EVALUATION OF THE BOARD'S PRODUCTIVITY PROPOSAL

In recent stand alone cases, complainants and shippers have vigorously disagreed about the need to reflect the benefits of additional future productivity when indexing stand-alone operating expenses. In its recent decision in *CP&L*, the Board for the first

time acknowledged that the SARR might indeed capture the benefits of some unquantified level of future productivity gains when it explained:

While it is difficult to imagine that there would not be some areas in which the P&SH might realize productivity improvements over the course of the SAC analysis period, the potential impact of such improvements is far less than it would be for existing railroads, which make changes incrementally as older technology assets wear out or become obsolete. Thus, it would not be appropriate to use the RCAF-A here. While the use of RCAF-U may somewhat overstate the P&SH's costs over the 20-year period, such overstatement would appear to be far less than the understatement that would result from using the RCAF-A.¹

As the Board makes clear, its concern relates to the long 20-year SARR analysis period and the prospect that some productivity would be experienced by the SARR over this time. The Board, in its rulemaking decision, attempts to resolve this dispute by creating a hybrid index for use in forecasting operating expenses. The hybrid index would, "start[] with RCAF-U and phas[e] in the productivity gains projected in RCAF-A incrementally over 20 years."² Under the Board's proposal, the SARR would begin to enjoy the benefits of additional productivity as it is captured in the RCAF-A beginning with the second year of SARR operations. In its discussion, however, the Board offers little insight as to why a SARR should benefit almost immediately from any additional productivity. In fact, the Board's language suggests just the opposite.

In discussing the need for some type of productivity adjustment to the inflation index applied to SARR operating expenses, the Board effectively endorses the propositions made by BNSF in its recent rate reasonableness submissions that a SARR

¹ *Carolina Power & Light Company v. Norfolk Southern Railway Company*, STB Docket No. 42072, December 23, 2003 Decision at 27-28.

² *X-657 Decision* at 21.

would not experience productivity in the early years. As the Board's X-657 Decision explains:

Because the SARR is designed to be an efficient replacement for the railroad, it would not be able to realize the same productivity gains as the rest of the industry, particularly in the early years of the DCF. For example, railroads realize productivity gains in locomotives as they replace old locomotives with newer technologies. The SARR would not experience those same productivity gains in the short term because it would begin its operations with all new locomotives.³

The Board goes on to say that:

Even a SARR designed to take advantage of all of the most recent technologies should experience some productivity improvements over an extended time frame. All companies "learn by doing," achieving incremental productivity improvements. And the SARR would be able to take advantage of future technological improvements as they occur, just as existing railroads will.⁴

Its comments notwithstanding, the Board's hybrid index proposal assumes the SARR would enjoy the benefits of additional productivity beginning in the second year of operations.

BNSF is already on record acknowledging that it is possible that some productivity might be experienced by a SARR over the 20-year DCF period. But, because the development of the stand-alone operating plan incorporates the benefits of all tangible productivity, there is no reason to believe that the SARR could be any more productive – particularly in the first 10 years of its operation – without a substantive redesign accompanied by the infusion of a large amount of new capital. In the remainder of this Section, I discuss the specific reasons why the Board's hybrid productivity

³ *X-657 Decision* at 20.

⁴ *X-657 Decision* at 20-21.

proposal, which assumes an almost immediate productivity benefit for the SARR, is untenable.

A. Productivity Reflected in the RCAF-A Is Not Available to SARR

Since the Staggers Act, productivity in the railroad industry has been achieved through structural, operational and technology improvements.⁵ Because the typical SARR is designed to be the least cost and most efficient railroad for movements of the traffic handled by it, the traditional sources of railroad productivity – which form the basis for the Board's RCAF productivity adjustment – are not available to it.

Structural productivity includes the abandonment or sale of lines, improvement of capacity and track material, and mergers. In the real-world, railroads have achieved productivity in this area by updating their structure to match a changing traffic base. But, the SARR has a known traffic base and its assets are designed to serve most efficiently this base from inception. No abandonment of lines or capacity changes would increase the structural return for the SARR. As such, this form of productivity would not be available to the SARR.

Operational productivity incorporates the benefits from items such as efficient unit train operations, elimination of empty backhauls, optimization of the number of crews, and increases in traffic volumes. Since the traffic base for the SARR is known and the operating plan is based on peak year volumes, all available operational productivity is captured by the SARR.⁶ Indeed, because unit coal train operations are

⁵ Winston, Clifford, "The Success of the Staggers Rail Act of 1980: Sources of Productivity Gains" The Brookings Institute, September 2005.

⁶ Arguably, because of the pro-rata manner in which operating statistics are scaled back from the peak year to the base year, all of the economies of scale associated with the peak year traffic volumes are transferred to the base year operating statistics.

already some of the most efficient movements on any railroad, the typical SARR is already vastly more efficient than the average Class I carrier. Other operational productivity available to the industry as a whole will not be available to the SARR at all. For example, the SARR would not be able to increase productivity by a reduction of empty backhaul on general freight since its typical traffic base involves only cycling unit coal trains.

Since most of the sources of productivity in the industry as a whole are not available to the SARR, it is arbitrary to assume that the productivity reflected in the RCAF-A (which measures industry-wide productivity) is applicable to the SARR. Even if the SARR were to realize some productivity, the assignment of an arbitrary percentage of the largely inapplicable RCAF-A to the SARR is not a reasonable reflection of that productivity. Absent some evidence of a correlation between reasonable expectations of SARR operational productivity and the productivity reflected in the RCAF-A, the Board's proposed hybrid index has no rational basis.

B. An Evaluation of Potential Areas of Productivity Demonstrates How Unlikely the SARR Is to Benefit from These Changes in the Short Term

Complainants in recent SAC cases have posited several areas in which supposed productivity gains might occur for the SARR, ranging from improved locomotives and railcars to improved IT systems to track-related efficiencies. Most of the potential productivity sources identified by complainants are either not applicable to the SARR or would require the early retirement of functioning assets and large infusions of capital to achieve. In addition, the majority of the improvements suggested by complainants could happen only many years in the future, if they were to happen at all. From a practical perspective, if any of these improvements were on the horizon at the start of SARR

operations, complainants would have already included them in their least cost, most efficient railroad. And indeed they have.⁷

Another problem with complainants' speculations about future productivity is that, with the possible exception of traffic-volume related efficiencies (which are already captured by a SARR), all of the modifications to improve productivity would involve substantial costs. Although they could be easily accommodated in the Board's DCF model, no attempts have been made to reflect the added costs of achieving enhanced productivity in any SAC proceeding and it is simply unrealistic to assume that all of the new technologies could be implemented for free on the SARR. Instead, the use of the RCAF-A would distort the stand-alone analysis by permitting the SARR to achieve productivity gains without properly reflecting the cash flows required to achieve those gains. A few examples of possible productivity improvements suggested by complainants in recent cases serve to illustrate these points.

One claimed source of future productivity gains is the replacement of locomotives with yet to be developed units boasting higher horsepower and greater fuel efficiency *and* lower maintenance costs. Even if such locomotives were to become available, the typical SARR has locked in its locomotives under a long term lease, thus any productivity gains related to the deployment of more advanced units could not be realized until many years into the future. Indeed, it is common practice for complainants to minimize the SARR's locomotive costs by using rates from long term leases, which are generally lower than the

⁷ For example, in the recent Otter Tail decision, the Board accepted complainant's "all digital, all wireless" communication system (*Otter Tail Power Company v. BNSF Railway Company*, STB Docket No. 42071, January 27, 2006 Decision at D-32). Otter Tail admitted in its rebuttal testimony (III-F-152) that this system was still "cutting edge" and cited an FRA article describing its potential benefits to the industry.

rates from short term leases. They cannot legitimately assume both the low cost of long term leases and the ability to switch to new locomotives at will to achieve productivity benefits. Even if a SARR could manage to get out from under its long-term obligation, the cost to the SARR of prematurely shifting to newer and likely more expensive locomotives would have to be added to the stand-alone costs.

Curiously, one of the locomotive improvements that complainants have suggested — the future deployment of 6,000 horsepower locomotives — is a technology that has already come and gone. While there were some 6,000 horsepower units built in the late 1990s, issues with reliability and usefulness halted any future production very quickly. As the table below shows, only a small number of 6,000 horsepower units have been manufactured over the 1996 through 2003 time period, with most of those produced between 1998 and 2000. No 6,000 horsepower units have been manufactured since the year 2000.

Table III.G-2
Locomotives with a Horse Power of 4,000 or greater
Quantities Built
1996 through 2003

	HP	1996	1997	1998	1999	2000	2001	2002	2003	8 Year Total
C40-9W	4000	120	120	118	148	190	160	0	67	923
C44-9W	4400	140	192	325	368	272	107	182	165	1751
AC4400CW	4400	238	292	268	299	235	187	277	256	2052
AC4400CW (Tier II)	4400	0	0	0	0	0	0	3	26	29
AC4400CW(U)	4380	35	0	36	0	0	0	0	0	71
AC6000CW	6000	0	0	48	100	45	0	0	0	193
SD70M	4000	0	0	24	22	305	423	418	130	1322
SD70MAC	4000	61	115	154	234	92	0	0	30	686
SD70ACe	4300	0	0	0	0	0	0	0	4	4
SD75I	4300	105	61	0	41	0	0	0	0	207
SD75M	4300	21	0	0	0	0	0	0	0	21
SD80MAC	5000	22	0	0	0	1	0	0	0	23
SD90MAC(U)	4300	72	104	143	79	9	0	0	0	407
SD90MAC	6000	2	6	9	51	0	0	0	0	68

Source: Extra 2200 South, Issues 116, 118, 121, 123, 124, 125 and 126

Complainants have also cited as a potential source of productivity the fact that the rail industry “is actively beginning to use 315,000 gross weight on rail coal cars.”⁸ If using higher gross-weight cars were indeed feasible and more efficient, the SARR would be designed from inception to handle the heavier cars. There would be no need to speculate about potential future productivity. The technology to shift to 315,000 pound loadings exists, but could not be achieved without substantial additional capital to bolster the roadbed, bridges and track structure to accommodate the heavier loadings.

Complainants have not explained why they have not attempted to incorporate the efficiencies associated with these heavier loadings in prior cases; presumably it is because of the high cost of implementation. If a SARR were to convert to this technology at some point in the future, no productivity gains could be realized until after the capital expenditures necessary to effect the required upgrades had been made.

Other sources of future productivity gains typically identified by complainants would also require substantial expenditures and long lead times to implement. As such, any productivity benefits could not be realized in the near term. For example, the deployment of longer trains has been cited as a possible source of future productivity. But, the SARR would either need to be designed at inception to accommodate these longer trains on its passing tracks, yard tracks and staging tracks or need to upgrade its infrastructure before these longer trains could move. Any infrastructure improvements to the SARR configuration would not be free. In addition, the infrastructure beyond the boundaries of the SARR, including the mine lead tracks, staging tracks, the track

⁸ *Western Fuels Association, Inc., and Basin Electric Power Cooperative, Inc., v. BNSF Railway Company*, STB Docket No. 42088, Opening Evidence of WFA/Basin at III-G-8.

configurations at each destination utility and the passing siding lengths on the residual incumbent, is not normally designed to accommodate longer train sizes and would also need to be upgraded. As a result, train sizes could not be increased without incurring additional capital expenditures – possibly both on and off the SARR – to lengthen tracks, and that process could not be completed for many years.

Comparable issues arise with other potential measures that complainants typically assert could be implemented prospectively that might extend the operating life of track and roadbed infrastructure. However, in order to benefit from these measures, a SARR would again have to incur additional costs that are otherwise not reflected in the stand-alone cost analysis and involve years to implement.

C. A Review of the Specific SARR Operating Expense Categories Is Required to Determine Meaningfully Whether the Benefits of Additional Productivity Are Likely To Occur

Given the significant differences between real-world railroads and the SARR, it is not enough merely to speculate that some productivity benefits may be experienced in the future. Following up on the Board's conclusion in its *CP&L* decision that there is a likelihood that some productivity would be achieved by a SARR at some point over the 20-year DCF period, the only meaningful way to identify whether such productivity might occur, where it might occur and its possible impact on operating costs is to review the specific characteristics of each of the stand-alone operating expense categories. This review should focus on the inputs and assumptions used to develop the SARR base year operating expense, evaluate the level of productivity already reflected in the base year assumptions and identify the opportunities for future productivity improvement (as well as identifying the capital or other investment required to achieve such productivity). In recent submissions in both *AEP-Texas* and *Western Fuels*, I undertook such a review of

each SARR operating expense category. The findings from those reviews are discussed below.

Train & Engine Personnel – This expense category includes the wages and fringe benefits of SARR train and engine personnel, along with expenses for overnight layovers, meals and taxis. The development of train and engine personnel requirements for a SARR involves a detailed study of the number of trains required to transport the traffic volumes forecasted for the SARR. Then the number of individual crew districts each train will have to traverse is determined. The SARR crew districts, unlike those of the residual incumbent, are optimized for the SARR network configuration and are not influenced by historic operating practices or legacy union work rules. As such, there is little chance that the SARR crew districts could be extended over the DCF period to achieve productivity benefits that might otherwise be available to real-world railroads. Once the crew districts are determined, the number of train crew personnel are estimated based on the extremely optimistic assumption that each SARR crew member would average 270 crew starts per year, or an average of 5.2 starts for each of the 52 weeks in a year. No real-world railroad has achieved such high levels of crew productivity for all of its train and engine personnel. By beginning with optimized crew districts and extremely high levels of train and engine personnel utilization, there is little room for future productivity improvement in this operating expense group. While there is some speculation within the industry that one-person crews might someday be possible in some circumstances, safety issues remain a primary

impediment, and any effort to move in this direction would likely be opposed by labor groups and local governments. As such, a transition from two-person to one-person crews is too speculative at this time to be considered a realistic source of productivity improvement for operating expenses, particularly within the next ten years.

Locomotive Lease Expense – This category includes the lease expenses for road and switching locomotives. The SARR leased locomotive counts reflect the number of units required to accommodate efficiently all of the forecasted SARR train operations and switching needs. In recent cases, complainants have based their estimates of locomotive lease costs on the terms of existing long term lease contracts. These contracts generally span a period close to, if not more than, the 20 years typically assumed for the DCF period. Because of the security offered by the commitment of the lessee, long term leases generally have lower lease rates, which allows complainants to minimize SARR locomotive ownership costs. In order to achieve productivity associated with potential new locomotive technologies, a SARR would either have to enter into an initial lease with a shorter term (and, therefore, forego the lower lease rates typically achievable with long term leases) or break the existing long term lease and incur all the associated penalties. As such, any productivity that might be gained in this category would be more than offset by the cost to achieve it.

Locomotive Maintenance Expense – This category includes the annual maintenance costs for the SARR's locomotive fleet. Although the maintenance of locomotives is presently an efficient operation, I acknowledge that it is possible

that future improvements in productivity could occur in this area on a SARR. However, such productivity will likely emanate from advances in locomotive maintenance shop machinery and tools. Because this equipment is relatively long lived, it is unlikely that the added productivity will occur within the first ten years of the SARR operations. Moreover, the existence of improved maintenance operations does not eradicate the fact that there are higher costs to maintain an aging fleet of SARR locomotives. Thus, any future productivity improvements would likely be offset by additional maintenance costs as the SARR's locomotive fleet ages.

Locomotive Operating Expense – This cost – which covers fuel and servicing of the locomotive fleet – is driven primarily by the number of locomotive unit-miles and the gallons of diesel fuel consumed. Because the SARR's traffic patterns remain relatively consistent over the 20-year DCF period and the locomotive fleet remains unchanged, there is only minimal opportunity to increase the number of locomotive miles per unit, or to improve average locomotive fuel consumption. In fact, future environmental considerations could adversely affect such expenses, because compliance with newly proposed fuel emission standards for locomotives could result in higher fuel consumption rates.⁹

Railcar Lease – These costs typically include coal and other freight car lease rates. Like locomotives, cars are generally acquired on the basis of a long term lease. A SARR would have to enter into a short term lease or break its long term lease in order to achieve any productivity gains in this category.

⁹ See "EPA Issuing Tough New Diesel Rules," The Washington Post, May 11, 2004 at 3.

Material and Supplies Operating – This category includes vehicles, office furniture, radios, safety equipment, car inspection supplies and car parts inventory. It is possible that some productivity improvement will be enjoyed in this category as automobiles, radios, cell phones, computers and PDAs are replaced over the course of the DCF period. This asset replacement cycle will not commence for a number of years and it is therefore unlikely that any measurable productivity will occur within this category in the early years of a SARR's operations.

Ad Valorem Taxes – There is no reason to expect productivity improvements related to ad valorem tax payments.

Training and Startup – This category includes startup costs, which are a one-time expenditure and the much smaller ongoing costs for training new employees. It is possible that technological improvements to computer simulators used for training train and engine personnel and other training tools could lead to improved training productivity. However, the procurement of this new equipment would not occur immediately. It is therefore unlikely that the SARR would benefit from improvements in training productivity in the first ten years of operation.

Operating Managers – Included in this category are salaries and wages for non-train operating personnel. Staffing for these positions on the SARR is based on a careful evaluation of each position's requirements, considering the safety standards of the SARR and taking into account all available efficiencies.

Accordingly, there is little opportunity for additional productivity.

General and Administrative – This category includes all of the general and administrative staff, office buildings, materials and supplies, outside services, information technology and travel expenses. The SARR's expenses in this category are modeled after the least cost, most efficient railroad -- which tends to reflect significant efficiency gains over the current general and administrative cost structure of the railroad industry. This includes an absolutely bare-bones administrative staff that will likely be unable to accommodate the existing workload. As new issues and complexities arise in the workplace, it is more likely that the SARR general and administrative staff would need to be expanded than it is that positions could be saved. Given the substantial head start that a SARR has in this area, there is no reason to account for future productivity in the first 10 years of a SARR's operations.

In addition, there are only limited opportunities for technological improvements in the area of Information Technology ("IT"). Historically, the major boost in IT productivity was derived from initial *investment* in IT systems which displaced existing employees and produced significant labor productivity. In a recent article, economists indicate that for service industries, including railroad transportation, the improvements in labor productivity experienced as a result of investing in new IT systems has ended.¹⁰ As a new entrant today, a SARR starts out with IT systems for tracking car movements, facilitating crew calling, tracking

¹⁰ Triplett, Jack E. and Bosworth, Barry P. "Productivity Measurement Issues in Service Industries: 'Baumol's Disease' Has Been Cured," FRBNY Economic Review, September 2003 at 23. ("Information technology (IT) investment played a substantial role in LP [labor productivity] growth, but its role in the [recent] acceleration [in LP] was smaller, mainly because the effect of IT in these service industries is already apparent in the LP numbers before 1995.").

accounting expenditures and a host of other activities, taking full advantage of automation and minimizing the SARR workforce. It is unlikely that a SARR will replace any of these IT systems in the first ten years of operation, and possibly not during the 20-year DCF period. Thus the drastic improvements in productivity initiated by IT would be unavailable to the SARR.

This leaves only the assumed recurring periodic investments in IT *software*, which are not likely to bring any productivity gains but could yield some type of productivity in the far out years of SARR operations.

Loss and Damage -- There is no reason to expect productivity improvements related to loss and damage payments.

Insurance -- There is no reason to expect productivity improvements related to insurance premium payments. In fact, insurance premiums are generally on the rise. However, because these costs are determined as a percentage of all other operating expenses, they will automatically reflect any achieved productivity gains.

Maintenance of Way -- This category includes all maintenance-of-way operating expenses including personnel, equipment, contract cost and miscellaneous materials. The maintenance-of-way plan is tailored to the SARR's specific track and traffic characteristics, and it already reflects state-of-the-art equipment and maintenance of way practices. As the labor force is designed most efficiently to serve the traffic base, it is unlikely that any productivity would be derived from this area in the first ten years. There is, however, the potential that additional technological improvements in maintenance-of-way work equipment and

roadway machines could, over time, result in increased maintenance-of-way productivity. Such productivity would not be available to a SARR until the initial vintage of equipment reaches the end of its useful life, which, in some cases, could be more than 20 years. .

As is clear from the above discussion, because of the manner in which SARR operating expenses are derived and because of the huge benefit that the SARR starts out with as compared to real-world railroads, there is very little room for future productivity benefits. Even in those areas where such benefits may occur, there is no realistic opportunity for any productivity gains in the early years of SARR operations.

D. If the Board Adopts a 10-year DCF Period, There Would be No Need for a Productivity Adjustment to Future Operating Expenses

In addition to proposing the use of a productivity adjustment to the forecast of SARR operating expenses, the Board is also soliciting comments on a proposal to reduce the length of the DCF from twenty to ten years. In its decision, the Board suggests that shortening the length of the DCF would “remove[s] unreliable distant forecasts from [our] core analysis.”¹¹ The Board however goes on to say that its proposal to incorporate a productivity adjustment to SARR operating expenses is unrelated to the length of the SAC analysis period and that if a shorter SAC period were to be adopted, it would still apply its proposed hybrid RCAF. I disagree. If the Board shortens the SAC period to 10 years, there is no reason to expect that a SARR entrant would be able to enjoy any additional productivity beyond that already reflected in the base year operating plan for a number of reasons.

¹¹ *X-657 Decision* at 31.

First, as discussed above, all of the productivity improvements available to the railroad industry as a whole are already reflected in the SARR operating plan. While the SARR starts with the most efficient operations and technology available, real-world railroads, because of their size and large fixed asset base, can only gradually implement productivity improvements. As such, much of the productivity captured by the Board in its RCAF-A is the product of real-world carriers catching up to the productivity levels already captured by the SARR. To include these would double count SARR productivity.

Second, technology or operational efficiencies not included in the SARR but under development will likely take several years before they are ready for wide-scale deployment. Indeed, many will prove to not be effective and will never be implemented. For example, the 6,000 horsepower engines previously mentioned that appeared to be so promising have not been adopted by the railroads. Even so, once the SARR physical plant has been put in place, it, like the incumbent railroads, will have a large fixed asset base and any productivity initiatives will be slow in implementation. The Board's proposal to begin reflecting productivity in year 2 of the DCF period is unwarranted and is supported by no credible evidence that any productivity improvements could be felt so soon after the SARR comes into existence.

Finally, the adoption of any productivity in the short term would be purely speculative. While this issue has been addressed extensively in several recent cases, no one has been able to effectively identify or, more importantly, quantify the effect of potential productivity improvements that have not already been captured by the SARR. Instead, the practice has been to wax eloquent about productivity prospects and conclude

that RCAF-A is the solution. Without some quantification of productivity within the context of a specific SARR, any productivity adjustment is arbitrary and unwarranted, particularly within the first ten years of SARR operations.

E. If the Board Were to Ultimately Conclude That a Productivity Adjustment to Stand-Alone Operating Expenses is Warranted, A Comparable Adjustment Should be Applied to the Asset Inflation Implicit in the Board's DCF Model

To date, the parties in SAC proceedings and the Board's decisions have limited the discussion of the application of a productivity adjustment to forecasts of SARR operating expenses. In fact, the Board's standard DCF model also applies an index of future inflation to the SARR asset base as a means of adjusting the SAC quarterly capital recovery for inflation and when calculating the cost of replacing assets in the future as they are projected to wear out. The source of the SARR inflation applied to its depreciable assets are the labor and materials and supplies index components of the RCAF as forecasted by Global Insights.

If the Board adopts a productivity adjustment for the forecasting of SARR operating expenses, a corresponding productivity adjustment should be applied to the indexes used to inflate SARR assets for two reasons. First, it is reasonable to expect that productivity will occur in the construction of railroad assets as improvements in materials and machinery help to further streamline construction activities. Second, the indexes used within the DCF to inflate the SARR asset base are components of the RCAF, which itself is subject to a productivity adjustment by the Board.

The introduction of a productivity adjustment to depreciable asset investment that mirrors the adjustment applied to operating expenses will increase slightly the complexity

of the Board's DCF model and will generally offset the reduction in SARR costs produced by the application of a productivity adjustment to operating expenses.

F. Alternate Productivity Proposal

As noted above, no productivity adjustment would be appropriate if the Board adopts a 10-year DCF. If the Board does not adopt the 10-year DCF, it would be appropriate to reflect some level of productivity at some point during the 20-year DCF period. However, for reasons set out above, there is no foundation for arbitrarily applying an adjustment that rewards the SARR with the benefits of additional productivity beginning in the second year of operations. Rather, the Board should base any productivity adjustment on a review of the specific SARR operating expense categories described above in Section II.C. Based on such a category-specific evaluation, it is appropriate to conclude that there is a possibility that productivity improvements could occur in the future in some of the SARR operating expense categories, that some small adjustment to the operating expense inflation index to reflect future productivity could be justified, but that no productivity should be reflected in the early years of the SARR's operations. I therefore propose as an alternative to the Board's proposal, in the event that the Board does not shorten the DCF to 10 years, that the DCF model be modified to apply the RCAF adjusted for productivity, beginning half-way through the DCF period, *i.e.* beginning in the eleventh full year, to the following SARR operating expense categories:

- Locomotive Maintenance;
- Materials and Supplies Operating;
- Training Costs;
- General and Administrative (IT portion only); and

- Maintenance of Way.

In addition, the inflation applied to depreciable assets within the DCF should be adjusted to incorporate the average annual productivity applied to operating expenses. Adjusting the depreciable asset inflation by the composite operating expense productivity for years 11 through 20 of the DCF is conservative and would likely understate productivity for this group. This is because future productivity in railroad construction will be closest to the productivity achieved in the maintenance of way operating expense category, which, in the category specific analysis will receive the full productivity benefit of the RCAF-A beginning in the eleventh year of the DCF.

III. 10-YEAR DCF

In its X-657 Decision, the Board seeks comment on the advisability of shortening the DCF period used in SAC studies to 10 years. Before doing so, it is important to point out that the 20-year DCF period referred to by the Board is a misnomer. Specifically, the stand-alone cost test, as currently implemented by the Board, assumes that the SARR entrant will not terminate operations at the end of 20 years, but instead will continue to exist into perpetuity. In solving for the capital component of stand-alone costs, the Board's discounted cash flow model (1) provides for the periodic replacement of railroad assets into perpetuity as those assets are projected to wear out and (2) computes the future value of a perpetual income stream at the end of twenty years that will be available to defray the SARR investment.

The 20-year DCF period referred to by the Board is the time period over which stand-alone costs (with include both the stand-alone capital component and

operating expenses) are compared to stand-alone revenues. Under the Board's SAC test, if the present value of SARR costs exceed the present value of SARR revenues over this period, the challenged rates are deemed reasonable. If the opposite occurs, the challenged rates are found to be unreasonable. As I understand it, the Board is proposing to shorten this comparison period to 10 years. As such, the SARR would still be assumed to exist perpetually and many of the DCF inputs would still be required to implement the Board's test.

BNSF believes that shortening the period over which stand-alone revenues are compared to stand-alone costs from twenty to ten years will unfairly reduce the benefits of netting adopted by the Board's predecessor, the Interstate Commerce Commission, in the Coal Trading. Notwithstanding this disadvantage to defendants, BNSF does not oppose the proposal so long as the Board also decides not to include a productivity adjustment in the 10-year DCF. This represents a proper balance.

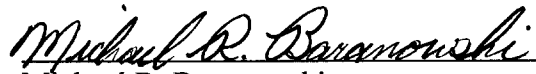
A. DCF Modifications to Accommodate 10-Year Analysis Period

If the Board chooses to implement a 10-year DCF period, only two minor changes to the Board's current standard DCF model would be required. First, the forecasting of operating expenses should be modified to eliminate operating expenses for years 11 through 20. Second, the netting calculations should be modified to compute the cumulative underage or overage at the end of year 10, instead of year 20.

Because the Board's continued assumption that the SARR entity will continue to exist into perpetuity there is no real need to change the calculations related to the calculation of the SARR capital recovery requirement.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 28, 2006


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Mike Baranowski provides financial and economic consulting services to the telecommunications and transportation industries. He has special expertise in analyzing and developing complex computer costing models, operations analysis, and transportation engineering. Much of his work involves providing oral and written expert testimony before courts and regulatory bodies.

Some of Mr. Baranowski's representative accomplishments include:

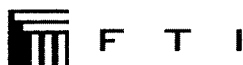
- Overseeing the development of computer cost modeling tools designed to simulate the cost of competitive entry into local telecommunications markets and directing the efforts of a nationwide team of testifying experts presenting the cost model results in multiple proceedings across the country.
- Directing the analysis, critique and restatement of a variety of complex cost models developed by major telecommunications companies designed to simulate the forward-looking cost of competitive entry into local telecommunications markets.
- Designing multiple PC-based spreadsheet models for use in calculating the stand-alone cost of competitive entry into the railroad and pipeline markets. These models have been used to assist clients in all three network industries in making internal pricing decisions that are in compliance with governing regulatory standards.
- Conducting detailed analyses of railroad operations and developing the associated capital requirements and operating expenses attributable to specific movements and the incremental capital and operating expense requirements attributable to major changes in anticipated traffic levels.
- Calculating marginal and incremental costs for a major petroleum products pipeline company, an approach that is now used regularly by the company in making internal day-to-day pricing decisions.

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

TELECOMMUNICATIONS TESTIMONY

Federal Communications Commission

February 1998	File No. E-98-05. AT&T Corp. v. Bell Atlantic Corp. Affidavit of Michael R. Baranowski.
March 13, 1998	File No. E-98-05. AT&T Corp. v. Bell Atlantic Corp. Supplemental Affidavit of Michael R. Baranowski.
June 10, 1999	CC Docket No. 96-98. Implementation of the Local Competition Provisions of the Telecommunications Act of 1996. Reply Affidavit of Michael R. Baranowski, John C. Klick and Brian F. Pitkin.



July 25, 2001 CC Docket No. 00-251, 00-218. In the Matter of Petition of AT&T Communications of Virginia, Inc. and WorldCom, Inc., Pursuant to Section 252(e)(5) of the Communications Act, for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon-Virginia, Inc. Panel

Public Service Commission of Delaware

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

Public Service Commission of the District of Columbia

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

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

Public Service Commission of the State of Maryland

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

April 4, 1997 Docket No. 8731, Phase II. In the Matter of the Petitions for Approval of Agreements and Arbitration of Unresolved Issues Arising Under Section 252 of the Telecommunications Act of 1996. Rebuttal Testimony of Michael R. Baranowski.

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

Public Service Commission of the State of Michigan

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

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

New Jersey Board of Public Utilities

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

North Carolina Utilities Commission

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

Pennsylvania Public Utility Commission

January 13, 1997 Docket Nos. A-310203F0002 et al. MFS-III. Application of MFS Intelenet of Pennsylvania, Inc. et. Al. (Phase III). Rebuttal Testimony of Michael R. Baranowski.

February 21, 1997 Docket Nos. A-310203F0002 et al. MFS-III. Application of MFS Intelenet of Pennsylvania, Inc. et. Al. (Phase III). Surrebuttal Testimony of Michael R. Baranowski.

April 22, 1999 Docket Nos. P-00991648, P-00991649. Petition of Senators and CLECs for Adoption of Partial Settlement and Joint Petition for Global Resolution of Telecommunications Proceedings. Direct Testimony of Michael R. Baranowski.

January 11, 2002 Docket No. R-00016683. Generic Investigation of Verizon Pennsylvania, Inc.'s Unbundled Network Element Rates. Panel Testimony on Recurring Cost Issues

State Corporation Commission Commonwealth of Virginia

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March 7, 2005	Arbitration Case #181 Y 00490 04 BNSF Railway Company and J.B. Hunt Transport, Inc., Expert Report on behalf of BNSR Railway Company
March 28, 2005	Arbitration Case #181 Y 00490 04 BNSF Railway Company and J.B. Hunt Transport, Inc., Rebuttal Expert Report on behalf of BNSR Railway Company
April 12, 2005	Arbitration Case #181 Y 00490 04 BNSF Railway Company and J.B. Hunt Transport, Inc., Supplemental Expert Report on behalf of BNSR Railway Company