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June 19, 2009

By Electronic Filing

Anne K. Quinlan
Acting Secretary
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20005

Re: STB Ex Parte No. 558 (Sub-No. 12),
Railroad Cost of Capital – 2008

Dear Secretary Williams:

Pursuant to the Decision and Order released on March 6, 2009, in the above-referenced proceeding, please find enclosed for filing:

- (1) the Rebuttal Comments of the Association of American Railroads and Its Member Railroads, including the Reply Verified Statements of John T. Gray and Bruce E. Stangle; and
- (2) the rebuttal workpapers of Mr. Gray.

If you have any questions, please contact the undersigned counsel.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard E. Young".

Richard E. Young

*Counsel for the Association of
American Railroads and Member Railroads*

Enclosures

cc: All parties on service list

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

RAILROAD COST OF
CAPITAL — 2008

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) Ex Parte No. 558 (Sub-No. 12)
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**REBUTTAL COMMENTS OF THE ASSOCIATION OF AMERICAN
RAILROADS
AND ITS MEMBER RAILROADS**

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June 19, 2009

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

RAILROAD COST OF
CAPITAL — 2008

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**REBUTTAL COMMENTS OF THE ASSOCIATION OF AMERICAN
RAILROADS
AND ITS MEMBER RAILROADS**

Pursuant to the Board's order in this proceeding served on March 6, 2009,¹ the Association of American Railroads ("AAR") hereby submits its Rebuttal Comments. In support of these Rebuttal Comments, the AAR also submits the Reply Verified Statements of John T. Gray, Senior Vice President - Policy and Economics of the AAR ("Gray Reply V.S.") and Bruce E. Stangle, Chairman, Analysis Group, Inc. ("Stangle Reply V.S.").

In its March 6 Order, the Board instituted this proceeding for the purpose of determining the railroad industry's cost of capital for the year 2008. The Board directed that "[c]omments should focus on the various cost of capital components ... using the same methodology followed in the *Cost 07* decision, with the exception of applying the Ex Parte No. 664 (Sub-No. 1) decision in calculating the cost of equity."²

¹ Ex Parte No. 558 (Sub-No. 12), *Railroad Cost of Capital – 2007*, Decision released March 6, 2009 ("March 6 Order").

² March 6 Order at 2, citing Ex Parte No. 558 (Sub-No. 11), *Railroad Cost of Capital—2007* (served September 26, 2008) ("*Cost 07*"), and Ex Parte No. 664 (Sub-No. 1), *Use of a Multi-Stage Discounted*

In response to the March 6 Order, the Nation's railroads, through the AAR, submitted their calculation of the 2008 cost of capital on April 20, 2009, using the methodology required by the March 6 Order. The AAR calculated the railroads' overall cost of capital for 2008 at 11.90 percent, including a cost of common equity of 13.35 percent and a cost of debt of 6.57 percent.

Only two parties filed reply comments in this proceeding: (1) the Western Coal Traffic League ("WCTL"); and (2) the Arkansas Electric Cooperative Association ("AECC"). For the reasons stated herein, with the exception of two "technical errors" raised by WCTL, the criticisms of the AAR's calculations by the WCTL and the AECC are without merit and should be rejected.

PRELIMINARY STATEMENT

The only issue in this proceeding is whether the AAR has properly implemented the Board's existing rules and methodology for determining the cost of capital. Plainly, the AAR has done so, and the WCTL and AECC generally do not contend otherwise.

Rather than focus on that issue, WCTL and AECC advocate various changes to the methodology used in the two models approved by the Board for the calculation of the cost of equity. Although WCTL and AECC purport to be making "corrections,"³ the WCTL candidly describes the "non-technical" errors that it cites as "substantive issues with the STB[s] COE methodology." WCTL Comments at 9. Most of the "issues" that the WCTL and AECC raise are nothing less than a direct challenge to the Board's

Cash Flow Model In Determining the Railroad Industry's Cost of Capital, Decision served January 28, 2009 ("MSDCF Decision").

³ See Reply Comments of the Western Coal Traffic League at 10 ("WCTL Comments") and Verified Statement of Thomas D. Crowley and Daniel L. Fapp at 17-18 ("Crowley/Fapp V.S."); Comments of Arkansas Electric Cooperative Corporation, at 1-3, 18-19 ("AECC Comments").

decision to adopt the Morningstar/Ibbotson multi-stage discounted cash flow (“MSDCF”) model in its Ex Parte No. 664 (Sub-No. 1) proceeding – a decision that they opposed, without success, but did not appeal. *See MSDCF Decision* at 4-6.

WCTL and AECC now attempt to use this annual-cost-of-capital-calculation proceeding as a means of re-litigating the battle that they lost in Ex Parte No. 664 (Sub-No. 1), raising many of the same arguments that they (unsuccessfully) raised in the latter proceeding. Not only do they assert that the Board should make substantial changes in the methodology used in the MSDCF model; WCTL contends that the Board should abandon the use of the Morningstar/Ibbotson MSDCF *altogether*. Thus, for example, WCTL flatly states that the Board “should calculate the COE utilizing only its CAPM methodology,” and that “the Board cannot utilize its present MSDCF methodology to calculate the railroad industry COE at this time.” WCTL Comments at 5, 27.⁴

The Board’s *MSDCF Decision*, however, was correct. As the Board found in its decision, the Morningstar/Ibbotson model “meets [the] criteria for a suitable multi-staged DCF model,” and averaging the results of the CAPM and MSDCF models will produce “a stable yet precise estimate of the cost of equity that we can use in future regulatory proceedings and to gauge the financial health of the rail industry.” *MSDCF Decision* at 7, 15; *see also id.* at 8.

⁴ *See also, e.g.*, WCTL Comments at 13-14 (“the problem is with the Ibbotson/AAR/STB MSDCF model itself”); *id.* at 18 (MSDCF model is “subject to a fatal circularity”). WCTL even uses this proceeding to express its disagreement with the Board’s previous findings on railroad revenue adequacy, asserting that the railroad industry and its Class I members “are already meeting the objectives specified in 49 U.S.C. § 10704(a)(2).” WCTL Comments at 17. As will be discussed below, AECC also challenges the beta as used in the Capital Asset Pricing Model (“CAPM”) approved by the Board, raising the same objection that it made in the Board’s Ex Parte No. 664 proceedings. *See* AECC Comments at 3, 13-16. By contrast, although WCTL asserts that the Board-approved CAPM methodology results in an “overstated” COE, WCTL does not directly challenge here the methodology used in the CAPM. WCTL Comments at 5-6, 12 n.5.

The *MSDCF Decision* also correctly found that the various arguments made by the WCTL and AECC – several of which those parties reassert here – were without merit. *Id.* at 15. As described below, the Board’s conclusion remains accurate today.

Even leaving aside their lack of substantive merit, the arguments raised by WCTL and AECC are procedurally improper in this proceeding, because they would require the Board to make wholesale revisions in the methodology that it has adopted for calculating the cost of capital. In its January 2008 decision in Ex Parte No. 664 (where it adopted the CAPM for calculating the cost of equity) the Board made clear that such proposals are not proper in the annual cost of capital calculation proceedings. Specifically, the Board stated that although it was willing to entertain petitions in the future for modifications of the model that it was adopting, it would *only* do so in an Ex Parte No. 664 sub-numbered proceeding (“664 proceeding”):

Recent experience has shown that the most useful way for the agency to review such petitions – while also completing our annual cost-of-capital determinations in a timely fashion – is to maintain separate proceedings: one (STB Ex Parte No. 558 sub-numbered proceedings “558 proceedings”) for the annual estimate and another (STB Ex Parte No. 664 sub-numbered proceedings “664 proceedings”) for petitions to advocate changes to the cost-of-capital model. Use of 664 proceedings will enable all stakeholders to have a meaningful opportunity to comment on any proposed changes to the CAPM methodology we are adopting here. In contrast, *the annual 558 proceedings are best suited to a mechanical application of the standards adopted here, rather than to debate about changes in the standards, which can lead to protracted litigation that will delay the release of a cost-of-capital figure for a wide variety of regulatory functions. While in the past we have entertained challenges to the agency’s model in the 558 proceedings, we will no longer do so. As such, future requests to change the assumptions that form the elements of our CAPM model must be brought (in the form of a petition for rulemaking) in a 664 proceeding, not in the annual 558 proceedings, in which we calculate the cost of capital for a particular year.*⁵

⁵ See Ex Parte No. 664, *Methodology To Be Employed in Determining the Railroad Industry’s Cost of Capital*, Decision released January 17, 2008, at 18 (emphasis added) (“*Cost of Capital Methodology*”).

That policy is equally applicable to the MSDCF, which the Board approved for use only five months ago. The Board made this clear in its March 6 Order, which required the parties to use the same methodology followed in *Cost 07*, “with the exception of applying the Ex Parte No. 664 (Sub-No. 1) decision in calculating the cost of equity.” March 6 Order at 2 (citing *MSDCF Decision*).

The WCTL and AECC are advocating precisely the types of changes that, under the *Cost of Capital Methodology Decision*, the Board will not consider in a 558 proceeding. The Board correctly rejected WCTL’s attempt to sidestep its policy last year in the Ex Parte No. 558 (Sub-No. 11) proceeding, and it should do so again here.⁶

WCTL itself acknowledges that its proposed methodological changes are improper under the Board’s policy, but calls the policy “misguided” because it requires the Board to “blind itself” to a showing of infirmities in the underlying data, unrealistic assumptions in the models adopted by the Board, and/or unrealistic results produced by those models. WCTL Comments at 28-29. WCTL’s argument should be rejected out of hand. Even leaving aside the fact that WCTL has not made the showing it describes, WCTL does not challenge the validity of any of the reasons that the Board gave for its policy in *Cost of Capital Methodology*. Both the WCTL and AECC (who were active participants in both Ex Parte No. 664 and Ex Parte No. 664 (Sub-No. 1)) have had ample opportunity to request the institution of a new 664 proceeding since the Board issued the

Decision”).

⁶ In its *Cost 07* decision, the Board stated that “There is a difference between a methodology which the Board has expressly adopted in *Cost of Capital Methodology* (e.g., CAPM, the beta calculation, the risk premium) and evidence that is appropriately reviewed in the Ex Parte No. 558 annual cost of capital calculation proceeding.” *Cost 07* at 5. Thus, the Board rejected WCTL’s proposed approach of estimating beta because it departed from the methodology adopted in the *Cost of Capital Methodology Decision*. *Id.* at 7.

Cost of Capital Methodology Decision in January 2008, and the *MSDCF Decision* in January 2009. Under the Board's policy, they may make such a request at any time, and in such circumstances their proposed changes can be addressed by all interested parties. The instant 558 proceeding, however, is clearly not the appropriate forum for considering such changes.

ARGUMENT

I. WCTL's AND AECC's CRITICISMS OF THE RESULTS REACHED USING THE MSDCF MODEL ARE SUBSTANTIVELY WITHOUT MERIT AND PROCEDURALLY IMPROPER.

WCTL and AECC challenge the cost of equity calculated by the AAR under the MSDCF on the grounds that: (1) the results reached under the model are unrealistic and unreliable; (2) the AAR used market values as of March 31, 2009, rather than as of December 31, 2008; and (3) the MSDCF fails to take account of deferred taxes. WCTL at 6-28; AECC at 13-18.

These criticisms are without merit. In any event, the criticisms are based on proposed methodological changes that are procedurally improper in this proceeding.

A. The Results Reached Using the MSDCF Are Both Realistic and Reasonable.

Both the WCTL and AECC argue that the cost of equity of 16.29% that the AAR calculated using the MSDCF is unrealistic and unreasonable. The WCTL describes this figure (even as "corrected" to 15.95% by the WCTL) as "extraordinarily high," and concludes that the "MSDCF methodology does not produce sensible results, at least not under current circumstances." WCTL Comments at 3, 10, 17. Similarly, AECC contends that the disparity between the estimates reached under the MSDCF and CAPM

“is so large as to call into question the entire proposition that the two methods are measuring the same underlying value.” AECC Comments at 13.

These allegations are baseless and plainly result-oriented. With one exception (described below), neither the WCTL nor AECC disputes that the AAR calculated the cost of equity under the MSDCF as that model was approved by the Board. Their criticisms are an obvious manifestation of their unhappiness with the results produced by the model and their desire to achieve a result more to their liking, as reflected by the methodological changes that they advocate in the course of their criticisms – changes that are procedurally improper here.

Contrary to the assertions of the WCTL and AECC, there is nothing unusual in the “high” cost of equity produced by the MSDCF. “The cost of equity measures the returns that shareholders require to compensate them for the use of their capital.” *Cost of Capital Methodology Decision* at 1. In the current turbulent and uncertain economic crisis, which began in 2008, it is hardly “unrealistic” to find that investor expectations and concerns for the future drove the cost of equity in 2008 to levels higher than those for 2007. That is particularly true of the cost of equity produced using the MSDCF, which is a forward-looking model that reflects capital market expectations of investors for the future of a firm or group of firms. *Gray Reply V.S.* at 2. By contrast, the CAPM relies on historical data and does not explicitly incorporate forecasts that look beyond economic conditions in 2008 and therefore, during a period of lower interest rates and a lower beta, would produce a lower cost of equity than in 2007. *Id.*⁷ Thus, although WCTL suggests that the cost of equity and cost of capital may have decreased “as a result of the recent

⁷ See WCTL Comments at 6 (“the Board’s CAPM uses a historical rather than prospective market risk premium”).

and ongoing economic flux,” the turbulence in the economy may actually have driven those figures upward. *See id.* at 2-3; WCTL Comments at 13.

The primary basis for the criticisms made by WCTL and AECC is the disparity in the cost of equity that the AAR calculated under each model – 16.29% under the MSDCF and 10.40% under the CAPM. *See* WCTL Comments at 11-13; AECC Comments at 13.⁸

Focusing on this disparity, however, simply confirms the inability of the WCTL and AECC to “see the forest for the trees.” First, WCTL and AECC disregard the fact that the two methodologies measure the cost of equity by different means. Gray Reply V.S. at 2. Second, the WCTL and AECC totally fail to consider, much less discuss, the *average* of the results produced by the CAPM and the MSDCF. In its *MSDCF Decision*, the Board stated that averaging the results of the two models (an approach which, not surprisingly, the WCTL and AECC opposed) “will produce the best estimate of the rail industry’s cost of equity that will aid us in performing a variety of regulatory responsibilities.” *MSDCF Decision* at 14-15. The Board chose to use two models to reflect their different characteristics and, by combining the impact of those differences, to make the cost of capital results more stable and predictable. Gray Reply V.S. at 1-3; Stangle Reply V.S. ¶¶ 4-7. By contrast, the use of only one model would provide a less stable measure of railroad equity costs, particularly in today’s tumultuous economic

⁸ The WCTL’s attempt to use the CAPM as a favorable basis of comparison for its argument that the MSDCF produces unreasonable results is ironic, since it is flatly inconsistent with WCTL’s prior position. *See* WCTL Comments at 12 (“the CAPM result is very logical under the circumstances”). In last year’s Ex Parte 558 (Sub-No. 11) proceeding, WCTL criticized the CAPM approved by the Board in the *Cost of Capital Methodology Decision* as “overstating” the cost of equity. *See* Reply Comments of the Western Coal Traffic League filed June 23, 2008, in Ex Parte No. 558 (Sub-No. 11). The WCTL has engaged in similar flip-flops with respect to the Morningstar/Ibbotson MSDCF. *See MSDCF Decision* at 10 (finding that WCTL’s criticism of Morningstar/Ibbotson model was inconsistent with its earlier testimony in Ex Parte No. 664); WCTL Comments in Ex Parte No. 558 (Sub-No. 9), *Railroad Cost of Capital – 2005*, filed April 28, 2006, at 9-10 (describing Ibbotson as “a leading provider of financial data [that] was acquired on March 1, 2006 by Morningstar, Inc., a leading provider of independent investment research”).

conditions and the resulting uncertainty in capital markets. Gray Reply V.S. at 2-3; Stangle Reply V.S. ¶ 7.⁹

The average of the CAPM and MSDCF models for 2008 is virtually *identical* to that for 2007. Gray Reply V.S. at 6-7; Stangle Reply V.S. ¶ 5. As calculated by the AAR, the 2008 average of the two models was 13.35% (10.40% using CAPM, and 16.29% using MSDCF). The 2007 average of the models was 13.39% (12.68% using CAPM, 14.10% using MSDCF) – only .04% different from the 2008 level. Gray Reply V.S. at 7 & n.4; Stangle Reply V.S. ¶ 5.¹⁰ The *de minimis* difference in the averages of the two years thus demonstrates the very stability, precision, consistency, and reliability that WCTL and AECC profess to be seeking in the cost of equity calculation. *See* WCTL Comments at 29, 32; AECC Comments at 5-8, 16, 19. Stated otherwise, the averaging of CAPM and MSDCF is producing exactly the “stable yet precise estimate of the cost of equity” that the Board sought to achieve. *MSDCF Decision* at 15; Gray Reply V.S. at 2-3, 6-8; Stangle Reply V.S. ¶¶ 4-7.

The stability produced by averaging the results of the CAPM and MSDCF is further confirmed by the overall cost of capital calculated using this methodology. If this approach had been used for 2007, the cost of capital for that year would have been 11.90% -- which is virtually identical to the 11.89% cost of capital for 2008 that the AAR

⁹ For example, if (as WCTL urges) the Board calculated the cost of equity using only the CAPM (disregarding the MSDCF), the cost of equity calculated under the CAPM for 2008 would be 18 percent below the 2007 figure. Even in today’s volatile financial markets, there is no single “correct” measure used by the financial community that would allow the Board to conclude confidently – much less definitively – that the cost of equity had in fact decreased, much less had decreased by that amount in a single year. *See* Stangle Reply V.S. ¶ 7.

¹⁰ *See also* Initial Verified Statement of John T. Gray, attached to AAR Comments filed April 20, 2009, at 33 (“Gray Initial V.S.”); Reply Verified Statement of Bruce E. Stangle, filed October 14, 2008, in Ex Parte No. 664 (Sub-No. 1), at 16.

has calculated after correcting two of the “technical errors” noted by WCTL. *See* Gray Reply V.S. at 7-8; Stangle Reply V.S. ¶ 5 & Exhibit 1; Part III, *infra*.

None of the bases that WCTL and AECC offer lend any support to their position that the cost of equity under the MSDCF model is “unrealistic” or “unreasonable.” First, WCTL asserts that the cost of equity produced by the MSDCF is “substantially higher than those regularly depicted by more neutral and independent members of the financial community,” including Standard & Poor’s (“S&P”). WCTL at 10-11. WCTL’s reliance on these sources, however, is wholly misplaced. For example, WCTL asserts that the *cost of equity* figures calculated under MSDCF are “substantially above” the *cost of capital* estimates by S&P. *See* WCTL Comments at 11. Cost of equity estimates, however, cannot be compared directly with cost of capital estimates, because the cost of equity is only one component of the cost of capital. Stangle Reply V.S. ¶ 4 n.1.¹¹

In any event, WCTL’s reliance on S&P and UBS data here is but the latest of the numerous changes in position that WCTL has taken in order to further its own interests. Although its current submission compares the S&P and UBS data favorably to the cost of capital calculated exclusively under the CAPM (WCTL Comments at 11), only nine months ago, in the Ex Parte No. 664 (Sub-No. 1) proceeding, WCTL cited the same data to *criticize* the CAPM. *See* Opening Comments of WCTL filed September 15, 2008, at 26 (“Review of these figures (UBS, S&P, and KCS) indicates that the STB’s CAPM

¹¹ WCTL once again also cites, as evidence of the “high” cost of equity, a “consensus” cost of capital figure of 9.5% in a UBS report issued in April 2006. WCTL Comments at 10. The UBS report, however, lends no support to WCTL’s position. In addition to making an improper comparison of the cost of capital to the cost of equity, WCTL ignores the fact that the UBS cost of capital figure is a fixed benchmark (*i.e.*, does not vary by year) which UBS has used in evaluating railroad earnings since at least 2002. Consequently, the UBS figure is irrelevant to this proceeding. Stangle V.S. ¶ 4 n.1. Moreover, the UBS report cited by WCTL acknowledges that “[t]he exact WACC of these companies is debatable,” and that the 9.5% figure that it used was simply “the closest thing we can find to a consensus.” *See* Reply Verified Statement of Bruce E. Stangle filed October 14, 2008, in Ex Parte No. 664 (Sub-No. 1), ¶¶ 8-9.

figures overstate the railroad industry for [sic] COC”). Such arguments, untethered to any principle and directed solely to reducing the cost of equity, should be given no weight.

Second, WCTL and AECC criticize the growth rates used in the MSDCF model as unrealistically high. WCTL, for example, finds it “difficult to believe” that the railroad industry could sustain a rate of growth of 13.61% during the first two stages (10-year period) of the MSDCF model, and AECC contends that the MSDCF “permits earnings growth into the supracompetitive stage.” WCTL Comments at 14-15; AECC Comments at 17. WCTL and AECC attribute these levels of growth rates to the Board’s reliance on “analysts’ projections” of such rates for the first two stages of the MSDCF model, and contend that such reliance constitutes an abdication of the Board’s statutory responsibility to guard against unreasonably high rail rates. *See* WCTL Comments at 18-19; AECC Comments at 16-19.

These same arguments were made by WCTL and AECC in Ex Parte No. 664 (Sub-No. 1), and were correctly rejected by the Board in the *MSDCF Decision*. In that proceeding,, WCTL argued that assuming a high earnings growth for 10 years was unrealistic, and that such growth appeared to be driven by pricing power. The Board disagreed, stating:

As WCTL is well aware, the vast majority of rail traffic is not subject to rate review before the agency. Most rates fall below the statutory threshold for rates established by the statute, and most of the remainder is either under contract (and thus, has been agreed to by the shipper) or involves the transportation of commodities that the Board has categorically found to be subject to effective competition and thus exempt from rate regulation. Only a fraction (roughly 10 to 20 percent) of railroad traffic is subject to potential STB rate review. Therefore, the growth estimates used by Morningstar/Ibbotson, which are provided by railroad industry analysts, are driven more by market forces than regulatory

concerns. We assume that analysts making those growth estimates understand that most rail rates are unregulated and would take into consideration all rates, be they exempted, contractual, or otherwise, when making those projections. Furthermore, growth is not driven solely by rates, but can be driven by volume and productivity as well. Because analysts establish growth rates that represent what is actually occurring in the marketplace with regard to each railroad, the fact that growth rates may be high today does not preclude them from decreasing in the future. Actual railroad growth, or lack of growth, is what will determine the cost of capital, not simply pricing power. While we acknowledge that there is some relationship between the Board's cost-of-equity determination and the returns that railroads may be permitted to earn on regulated traffic, that effect is a small component of overall growth in the rail industry and would not create the kind of fatal circularity that should preclude the use of a multi-stage DCF model.

MSDCF Decision at 9-10. Furthermore, even assuming *arguendo* that the growth rates projected by the model are due to rate increases by the railroads (as WCTL and AECC suggest), that does not render the growth rates implausible. Because rail rates have fallen since the enactment of the Staggers Rail Act in 1980, it is hardly implausible to assume that rates will increase in the future.

The *MSDCF Decision* also rejected, as unfounded, the concern (expressed then by AECC) that “analysts’ projections form the basis for the first two stages’ growth rates” in the *MSDCF* model. The Board stated it did “not find this challenge credible,” explaining:

One of the benefits of the Morningstar/Ibbotson model is its use in the third stage of the growth rate of the entire economy from year 11 on. Using the growth rate of the entire economy for all years in the Morningstar/Ibbotson model would defeat the purpose of our criteria requiring a multi-stage model. Further, analysts’ projections are not based on just regulated rates, but include all rates and factors that contribute to industry growth. Also, we note that averaging two models is supported by significant economic literature. AECC provided no evidence in support of its argument to convince us otherwise.

Id. at 11.

Neither WCTL nor AECC offers any basis for questioning the Board's rejection of their arguments, which are as meritless today as they were in Ex Parte No. 664 (Sub-No. 1). Moreover, in arguing that the Board should not rely on "unrealistically high growth rates" and on "analysts' projections" for the growth rates in the first two stages of the MSDCF model, WCTL and AECC are urging a change in methodology for the model that may only properly be considered in a 664 proceeding – not here.¹²

B. The Treatment of Deferred Taxes In the Morningstar/Ibbotson MSDCF Is Reasonable.

WCTL argues that the MSDCF "contains a serious flaw" because it "ignores" the large deferred tax liabilities of the railroads and "posits that deferred taxes will disappear after ten years and will cease to be an adjustment to cash flow." WCTL Comments at 3-4, 20. WCTL further contends that the model's approach is inconsistent with the Board's recent decision in Ex Parte No. 646 (Sub-No. 2),¹³ where the Board ruled that the Revenue Shortfall Allocation Method ("RSAM") formula must account for deferred taxes in URCS – and therefore recognized that "the deferred taxes will not be deferred indefinitely, but will instead be paid." WCTL Comments at 3-4, 25-28. WCTL concludes that it is "fundamentally inconsistent, and thus impermissible, for the Board to rely on the eventual payment of deferred tax liabilities for its justification for using the full statutory income tax rate in applying URCS and for the Board to ignore those same deferred tax liabilities in calculating the MSDCF portion of the COC when the COC is a key input in the calculation of URCS costs." *Id.* at 4; *see also id.* at 27.

¹² AECC's proposed remedy for the use of "analysts' projections" – to impose an artificial and arbitrary "cap" on the analysts' projections of earnings growth – only confirms the result-oriented nature of its position. *See* AECC Comments at 17; Gray Reply V.S. at 11.

¹³ *See* Ex Parte No. 646 (Sub-No. 2), *Simplified Standards For Rail Rate Cases – Taxes In Revenue Shortfall Allocation Method*, Decision served November 21, 2008 ("RSAM Taxes Decision").

Like its other challenges to the MSDCF model, WCTL's challenge to the model's treatment of deferred taxes is both procedurally and substantively flawed. WCTL does not dispute that the AAR followed the Morningstar/Ibbotson MSDCF with respect to the treatment of deferred taxes; instead, it challenges the MSDCF's approach, arguing that the model is flawed in failing to adjust Stage 3 to reflect the payment of deferred taxes. WCTL is therefore clearly advocating a change in methodology that is outside the scope of this proceeding. Even WCTL effectively admits that it is proposing a change in methodology, since it characterizes the model's current treatment of deferred taxes as "a fatal flaw given the massiveness of the railroads' deferred tax liabilities." WCTL Comments at 20-21.

Requiring WCTL to present the deferred tax issue in a 664 proceeding is especially warranted because its comments here constitute the first occasion on which WCTL has presented it to the Board – either in a 558 proceeding or in a 664 proceeding – even though WCTL had ample opportunity to do so previously. WCTL, for example, offers no explanation for its failure to raise the issue in the Ex Parte No. 664 (Sub-No. 1) proceeding, which was pending at almost the same time as the Board was considering the treatment of taxes for purposes of RSAM in Ex Parte No. 646 (Sub-No. 2).¹⁴ As the

¹⁴ The Board issued its notice inviting comments in Ex Parte No. 646 (Sub-No. 2) on the tax issue (including the issue of the adjustment of URCS to reflect the statutory tax rate) more than six weeks before it issued a notice in Ex Parte No. 664 (Sub-No. 1) inviting comments on its proposal to adopt the Morningstar/Ibbotson MSDCF for use in the calculation of the cost of capital. See Ex Parte No. 646 (Sub-No. 2), *Simplified Standards For Rail Rate Cases – Taxes In Revenue Shortfall Allocation Method*, Notice issued June 27, 2008, at 3; Ex Parte No. 664 (Sub-No. 1), *Use of a Multi-Stage Discounted Cash Flow Model In Determining the Railroad Industry's Cost of Capital*, Notice served August 11, 2008. As an active participant in Board proceedings, WCTL undoubtedly was aware of the Ex Parte No. 646 (Sub-No. 2) proceeding. If, as WCTL suggests, the issue of the use of the statutory tax rate in URCS is directly applicable to the cost of capital calculation because the "COC is a fundamental input for URCS" (WCTL Comments at 27), it is inexplicable that WCTL did not discuss the issue of deferred taxes in either its opening or reply comments in Ex Parte No. 664 (Sub-No. 1), even though those comments were filed three to four months after the Board's Notice in Ex Parte No. 646 (Sub-No. 2). WCTL also fails to explain why it did not file a petition for modification of the MSDCF in a 664 proceeding during the more than six

Board recognized in the *Cost of Capital Methodology Decision*, only by requiring a party like WCTL to present such an issue in a 664 proceeding will interested parties have assurance that they will be given adequate notice and opportunity to comment on the issue.

In addition to its procedural flaws, WCTL's argument regarding deferred taxes has no substantive merit. First, WCTL ignores the fact that the Morningstar/Ibbotson MSDCF is a cash flow model, and thus should not be manipulated to achieve targets for balance sheets (which are "stock" measures). *See Stangle Reply V.S.* ¶ 15; *Crowley/Fapp V.S.* at 16 (stating that their proposed adjustment to MSDCF for deferred taxes is conservative because it does not reflect "the payment of the accumulated tax liabilities reflected on the railroads' balance sheets").

Second, the MSDCF assumes that the third stage of the model embodies a "steady state," in which capital expenditures equal depreciation and railroad industry earnings grow at the same rate as the overall economy. In such an environment, the total deferred tax liability that exists on the balance sheet at the beginning of the "steady state" would remain constant in perpetuity, because the railroads' total accelerated depreciation for tax purposes would equal total straight-line depreciation. *Stangle Reply V.S.* ¶ 15. Although the addition of new assets to the railroads' balance sheets would increase their deferred tax liability, that increase would be offset by the reduction in the deferred tax liability which occurs as older assets reach the end of their useful lives; thus, the total size of the deferred tax liability balance would remain unchanged. *Id.* Thus, the

months since the *RSAM Taxes Decision* was issued.

Morningstar/Ibbotson MSDCF's assumption that the deferred tax balance remains "unpaid" (*i.e.*, constant) in perpetuity is proper and reasonable.¹⁵

By contrast, WCTL's proposal to "adjust" the MSDCF for deferred taxes not only would be contrary to the steady state condition called for by the MSDCF, but also would have the effect of (1) substantially reducing the value of the railroads' income before extraordinary items that is used as an input to the third stage cash flows, and (2) significantly increasing the railroads' effective tax rate in the third stage of the model, in perpetuity. *See id.* ¶ 17 & Exhibit 2 (showing that WCTL's proposed adjustment would decrease BNSF's IBEI value by \$363 million and increase BNSF's effective tax rate from 37 percent to 49 percent, in perpetuity). Such an *ad hoc* adjustment is without any basis in theory or industry practice. *Id.* ¶ 17.

More fundamentally, WCTL's proposal to reduce the total deferred tax balance of the railroads to zero during the third stage of the MSDCF model illustrates the folly of proposing "piecemeal" changes to the MSDCF without considering the interrelationship of all aspects of the model. *Id.* ¶ 18. WCTL's proposal would effectively require depreciation to exceed capital expenditures in the third stage of the model (contrary to the assumption of the MSDCF that cash flows in the third stage should grow at the rate of the overall economy). This approach would render the model nonsensical from an economic perspective. If one assumes that a company's depreciation exceeds its capital

¹⁵ The fact that the total deferred tax liability on the railroads' balance sheets remains unchanged in the "steady state" does not mean that taxes are going unpaid. Because the income before extraordinary items ("IBEI") measure on which cash flows in the third state of the MSDCF are based is net of both current and deferred taxes, the MSDCF assumes in the third stage that the full tax bill is paid in cash every period. Stangle Reply V.S. ¶ 16.

expenditures in perpetuity, as the WCTL implicitly proposes, the firm's assets would eventually go to zero and the railroad industry would cease to exist. *Id.*

C. The AAR's Use of Market Data From March 31, 2009 Was Fully Consistent With the Board-Approved Morningstar/Ibbotson MSDCF Model.

WCTL and AECC are equally off-base in contending that the AAR erred by using equity and analyst earnings forecasts as of March 31, 2009, rather than as of December 31, 2008, to determine stock market values for the equity of each railroad. *See* WCTL Comments at 6-8; AECC Comments at 13-16; Stangle Opening V.S. ¶ 16. The AAR used March 31, 2009 data because that is precisely the approach called for by the Morningstar/Ibbotson MSDCF model to reflect the release of year-end financial statements. Stangle Reply V.S. ¶¶ 3, 9-13; *see also* Gray Reply V.S. at 11.

Although WCTL asserts that "Ibbotson/Morningstar do not base their 2008 COC calculations on data that does not become available until the end of March 2009," precisely the opposite is true, as evidenced by the Morningstar/Ibbotson *Cost of Capital Yearbook* for 2008 on which Dr. Stangle relied. *See* WCTL Comments at 7 & Crowley/Fapp V.S. at 9; Stangle Reply V.S. ¶ 12. Using data from March 2009 is the *only* way of ensuring that the railroads' 2008 year-end financial results are incorporated into the 2008 MSDCF cost of equity estimate, because the railroads' year-end financial results for 2008 were not released until the first quarter of 2009. Stangle Reply V.S. ¶¶ 9-10, 13. If the Board followed WCTL's proposed approach of using equity values and analyst forecasts only from the end of December 2008, the resulting cost of equity would

reflect railroad performance only for the first three quarters of 2008, not for the entire year. *Id.* ¶ 10.¹⁶

In short, the AAR's use of March 31, 2009, data is precisely the approach called for by the Morningstar/Ibbotson MSDCF, and WCTL's assertion to the contrary is baseless. *Stangle Reply V.S.* ¶¶ 9-13. The baselessness of WCTL's allegation is confirmed by the comments of AECC, which does not dispute that the AAR followed the Morningstar/Ibbotson approach, but instead recommends only that the Board "revisit this practice." AECC Comments at 15-16.

As AECC's comments demonstrate, the argument of WCTL and AECC that December 31, 2008 data should be used would constitute a change of methodology. Thus, even leaving aside its lack of merit, the issue of which date should be used to determine market values is procedurally improper in this proceeding.

II. AECC's PROPOSED REVISION TO BETA IS BOTH WITHOUT MERIT AND OUTSIDE THE SCOPE OF THIS PROCEEDING.

Once again, as it did in the Ex Parte No. 664 proceedings, AECC contends that "the Board should suspend its reliance on mechanistic computations of beta that do not effectively control for market power," given "the obvious possibility that rail industry returns have been increasing relative to the economy as a whole due to the systemic increase in the exercise of rail market power." AECC Comments at 3, 10-12. As its remedy for this "problem," AECC proposes that the Board "should set beta at the level

¹⁶ WCTL's criticisms reflect its confusion of the "study year" used by Morningstar/Ibbotson with the publication year of the *Cost of Capital Yearbook*, which is entitled as of the year it was published. The 2009 Morningstar/Ibbotson yearbook is a "study" of the financial results for 2008, because it incorporates financial data released through March 2009 -- and that data represents financial data for the entire previous calendar year. *Id.* ¶ 12.

prevailing immediately prior to the beginning of observed increases in the exercise of rail market power.” *Id.* at 12.

AECC’s criticism is unfounded, and its proposal should be rejected. The only relevant issue with respect to beta is whether the AAR used and applied beta in accordance with the CAPM approved by the Board. AECC does not question that the AAR did so.

In any event, AECC’s challenge to beta is improper here. Revising beta to a different level than that called for by the Board-approved CAPM is a change in methodology for CAPM that may only be brought in a 664 proceeding.

Furthermore, AECC’s substantive criticism of beta is baseless. AECC made this same criticism in comments that it filed in Ex Parte No. 664 and Ex Parte No. 664 (Sub-No. 1).¹⁷ The Board rejected its criticism then, and AECC has offered no viable reason why its criticism should not also be rejected now.

AECC bases its criticism of beta on the “troublesome” and “substantial” fluctuations in the value of beta in recent years (0.8604 for 2006, 1.1027 in 2007, and 0.9338 in 2008), and the testimony of the AAR’s witness Gray that the beta value for 2009 may be higher than the 2008 level. *See* AECC Comments at 9-11; Gray Initial V.S. at 30-31. From this, AECC leaps to the speculative conclusion that rail industry returns may have been increasing due to the “systematic increase in the exercise of rail market power [by the railroads,] rather than any consideration related to increased risk.” AECC Comments at 11.

¹⁷ *See* Comments of AECC filed April 14, 2008, in Ex Parte No. 664 (Sub-No. 1), at 1-2; Comments of AECC filed September 26, 2007, in Ex Parte No. 664, at 3.

AECC's argument is nonsense. AECC either misunderstands the information measured by beta or is simply attempting to artificially produce pre-determined results. Gray Reply V.S. at 9-10. Because beta measures the relationship between the performance of rail stocks and the stock market as a whole, there is nothing unusual about wide variations in beta, as rail stocks underperform the broader markets during some periods and outperform those markets during others. *Id.*; Stangle Reply V.S. ¶ 20.

The main basis that AECC offers for its argument -- the reply testimony of the AAR's witness Stewart Myers in Ex Parte No. 664 -- actually refutes AECC's position. *See* AECC Comments at 11-12 (citing Reply Verified Statement of Stewart C. Myers filed October 29, 2007, in Ex Parte No. 664 ("Myers Reply V.S.")). AECC misleadingly asserts that Professor Myers' testimony shows that the rail industry beta was stable through 2004, and that "it was only after 2004" (when "systematic changes in rail pricing began to occur") "that beta began to increase." AECC Comments at 11-12. Professor Myers' testimony, however, does nothing of the sort. Referring to three successive periods -- 1993-1997, 1998-2002, and 2003 through September 2007 -- Professor Myers testified that "railroad betas were high in the mid-1990s, lower in the late 1990s, and higher again recently." Myers Reply V.S. at 7. He further testified that the lower betas of the late 1990's were "unusually low" because the stock market during that period was largely driven by fluctuations in the price of dot.coms and other "hot stocks." *Id.* at 6. *See also* Gray Reply V.S. at 10 (confirming that prior to the "tech stock bubble," railroad betas calculated by Board were well above 1.0).

Even more significantly, Professor Myers rejected the suggestion made by AECC here that betas of 1.0 or greater, or increase in railroad betas, reflect the exercise of “market power.” He stated:

If recent estimates hold, railroad equity betas will be close to 1.0 and may move higher. There is nothing illogical about betas greater than 1.0. A beta of 1.0 is the market average, and many companies have above-average betas for years or decades. Estimated railroad betas were greater than 1.0 for several years in the 1990s. The WCTL’s suggestion that betas greater than 1.0 deserve “further investigation” because they might reflect “exercise of market power” is illogical. All beta estimates deserve careful investigation, and market power, if or when it exists in the railroad industry, is as likely to reduce beta as increase it.

Myers Reply V.S. at 7 (emphasis added). In short, Professor Myers’ testimony totally discredits, rather than supports, AECC’s position here.

The “remedy” urged by AECC is as flawed as its criticisms of beta. As an “interim” solution, AECC suggests that the Board should “adopt[] as a proxy [for beta] the stable value of approximately 0.70 for the period prior to 2005 in Professor Myers’ analysis.” AECC Comments at 12. There is no sound basis in economics for such an artificially low number. Stangle Reply V.S. ¶ 20. In fact, Professor Myers – in the testimony on which AECC relies - characterized this value as “unusually low.” Myers Reply V.S. at 6 & 15 (Table 1). AECC’s longer-term solution is even more problematic, because it simply calls for the Board to “effectively control [beta] to control for market power effects,” without even attempting to specify how the Board would perform such a task. AECC Comments at 12. Regardless of how AECC’s “remedy” is defined, however, the artificial lowering of the beta urged by AECC would permanently condemn the railroad industry to realization of artificial, below-market returns. Gray Reply V.S. at 10.

III. THE “TECHNICAL ERRORS” DESCRIBED BY WCTL HAVE NO EFFECT ON THE FINAL CALCULATION OF THE COST OF CAPITAL.

WCTL describes two “technical errors” in the AAR’s calculations of the cost of capital. First, WCTL contends that in calculating the cost of equity under CAPM, the AAR overstated the number of outstanding shares of Union Pacific Corporation (“UP”) to determine UP’s market value, because the AAR overlooked a filing by UP with the SEC that corrected that number. Second, WCTL asserts that AAR developed equity market value by ending with the week beginning December 22, 2008, rather than the week beginning December 29, 2008. WCTL Comments at 6, 9.

The AAR concurs with WCTL that it overstated the number of outstanding UP shares, and that the week beginning December 29, 2008, should have been included in the calculation of market value for all four of the major railroads combined.¹⁸ AAR has therefore revised its calculations to correct these errors. Gray Reply V.S. at 3-5.

Even when these errors are corrected, however, the cost of equity and the cost of capital are virtually unchanged from the AAR’s original calculations. When the number of UP shares is corrected, for example, the CAPM cost of equity increases from 10.40% to 10.41% -- a difference of .01%. *Id.* at 5-6; WCTL Comments at 6. Similarly, including the week of December 29, 2008, in the calculation of the railroads’ equity market value results in an average value of \$108.575 billion, as opposed to the AAR’s original calculation of \$109.851 billion. *Id.* at 4-5; Gray Initial V.S. at 23.¹⁹ When both

¹⁸ The AAR did include the week beginning December 29, 2008 in its list of the weekly equity market values for each of the four major railroads (BN, CSX, Norfolk Southern, and UP). Gray Initial V.S., Appendix H, at 1-4; Gray Reply V.S. at 4.

¹⁹ WCTL’s calculation of equity market values for the four railroads is itself incomplete, because it omits the week beginning December 31, 2007. For purposes of the cost of equity calculation, the year 2008 should include 53 weeks, because three of the four trading days during the week of December 31, 2007 occurred in 2008, and that week was not included in the market value calculation for 2007. *See* Gray Reply

of these corrections are made, the average cost of equity remains the same as AAR's original calculation (13.35%), and the cost of capital is 11.89% -- virtually the same as the AAR's original calculation of 11.90%. Gray Reply V.S. at 6-8.

IV. WCTL's PROPOSED "CHOICES" SHOULD BE REJECTED.

WCTL asserts that because of the purported "deficiencies" in the Morningstar/Ibbotson MSDCF model, "the Board may not rely on the results of the MSDCF portion of the COE calculation at this time." WCTL Comments at 28. Instead, WCTL offers four "choices at to how [the Board]" might proceed." Under two of those "choices," the Board would calculate the cost of equity solely on the basis of the CAPM, without using the MSDCF model. WCTL's third "choice" is adoption of the adjustment to MSDCF made by WCTL for the payment of deferred taxes. As its fourth "choice," WCTL proposes that the Board delay its cost of capital determination "while it conducts a rulemaking proceeding as to whether MSDCF is internally flawed and inconsistent with its URCS approach." *Id.*

WCTL's "choices" should be rejected. In suggesting that the Board forego the use of the MSDCF, WCTL is simply reasserting its previous opposition to the adoption of the Morningstar/Ibbotson MSDCF model. The Board gave full consideration to WCTL's position in Ex Parte No. 664 (Sub-No. 1), but found that the model should be used in annual cost-of-capital determinations. For the reasons described above, none of the criticisms of the model that WCTL makes here are valid, and WCTL has certainly offered no basis for the Board to reverse a decision that it made only five months ago.

V.S. at 4-5; Crowley/Fapp V.S., Exhibit 3, at 1; Gray Opening V.S., Exhibit H, at 1-5.

The Board should also reject WCTL's "third choice" – the adjustment of the cost of equity to include the payment of deferred taxes. Even leaving aside the fact that WCTL's newly-discovered issue should only be considered in a 664 proceeding, the treatment of deferred taxes in the Morningstar/Ibbotson model is proper.

Finally, delaying this proceeding until the Board conducts a rulemaking regarding the MSDCF methodology would be totally inappropriate. WCTL is being disingenuous in suggesting that the Board pursue this course, since WCTL has not even requested such a proceeding despite having had ample opportunity to do so. Furthermore, delaying this proceeding would cause substantial prejudice to parties in numerous proceedings before the Board. As the Board has stated, the cost of capital is "an essential element of [its] core regulatory responsibilities" that is "used for a variety of regulatory purposes," including maximum rate cases, annual revenue adequacy proceedings, feeder-line applications, rail line abandonments, rail merger reviews, and the Board's Uniform Rail Costing Systems. *See, e.g.,* March 6 Order at 1; *MSDCF Decision* at 2; *Cost of Capital Methodology Decision* at 1. A number of these proceedings are, or will shortly be, pending before the Board. For example, several maximum rate proceedings are currently being litigated. They can only be resolved after the Board determines the cost of capital for 2008.

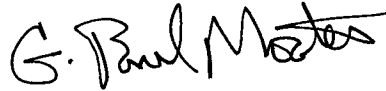
Delaying these proceedings until completion of a rulemaking proceeding regarding the MSDCF would therefore result in significant delay in, and resulting harm to, the parties involved in those proceedings. Such delays would also result in a substantial increase in the Board's future workload. There can be no justification for such results.

For these reasons, none of WCTL's proposed "choices" should be adopted. The *only* proper "choice" for the Board is to calculate the cost of capital now by using both the CAPM and MSDCF methodologies, and averaging the cost of equity which is calculated under each model.

CONCLUSION

For the reasons stated herein and in the AAR's initial comments, the Board should determine that the railroads' cost of capital for 2008 is 11.89 percent.

Respectfully submitted,



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June 19, 2009

CERTIFICATE OF SERVICE

I hereby certify that on this 19th day of June, 2009, I caused a copy of Rebuttal Comments of the Association of American Railroads and Its Member Railroads to be served to all parties listed on the official service list in this proceeding by first-class mail, postage prepaid.



Richard M. Bryan

BEFORE THE
SURFACE TRANSPORTATION BOARD

EX PARTE NO. 558 (Sub-No. 12)
RAILROAD COST OF CAPITAL — 2008

REPLY VERIFIED STATEMENT
OF
JOHN T. GRAY
SENIOR VICE PRESIDENT — POLICY AND ECONOMICS
ASSOCIATION OF AMERICAN RAILROADS

June 19, 2009

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Appendix I (Revised) — Summary of Regression for Beta

**Verified Statement
of
John T. Gray**

I. Introduction

My name is John T. Gray. I am Senior Vice President – Policy and Economics of the Association of American Railroads (AAR), with offices at 50 F Street, N.W., Washington, DC 20001. The AAR is the trade association of the Nation’s major railroads, as well as the railroads of Canada and Mexico. The AAR’s United States railroad members, which include all of the Class I railroads, account for about 95 percent of our Nation’s total railroad freight operating revenue.

When appropriate, the AAR represents the railroad industry before government bodies, including economic regulatory proceedings before the Surface Transportation Board (“STB” or “Board”). In particular, the AAR has participated in all of the STB proceedings addressing revenue adequacy standards and the annual cost of capital determinations.

I submitted a verified statement on behalf of the Association of American Railroads in this proceeding on April 20, 2009, and a summary of my qualifications and experience appears at the end of that statement. In this submission, I am responding to comments filed by the Arkansas Electric Cooperative Corporation (AECC) and the Western Coal Traffic League (WCTL) on May 20, 2009.

II. General Comments

The two models utilized by the STB in the computation of the cost of equity capital were chosen specifically to reflect their differing characteristics and, by combining the impact of these differences, to bring a degree of stability to the annual cost of capital results. In this, the STB

appears to have been remarkably successful, particularly in an economic period when the underlying capital markets have been anything but stable. As noted in my earlier statement in this proceeding, the cost of capital, as computed for 2007 using the Capital Asset Pricing Model (CAPM) and adopted by the STB in Ex Parte 558 (Sub-No.11), and the Multi-Stage Discounted Cash Flow model (MSDCF) results submitted by Dr Bruce Stangle in Ex Parte No. 664 (Sub-No.1) when combined in a simple arithmetic average, result in a weighted cost of capital that is almost exactly the same for 2008. This is clearly the outcome sought by the STB in its adoption of the process using the two modeling techniques in tandem.

Much has been made in the May 20 comments in this proceeding about the fact that the results of the two cost of equity estimation models diverge for their 2008 results.¹ In reality, this is part of the strength of the current process. Since the two techniques measure the value of equity by different means, the result is exactly what would be expected. The MSDCF is a forward looking tool which reflects capital market expectations as they look to a firm's (or group of firms) future. As such, in uncertain economic times, such as those being currently experienced, the tremendous uncertainties of the market will be reflected in the expected cost of equity. And, as would be expected in such times, the cost of equity rises.

In contrast, the CAPM technique relies on historical data and does not explicitly incorporate forecasts that look beyond economic conditions in 2008. As would be expected during a time of reduced interest rates and a lower beta, this model produces results which are lower than those of 2007. However, the average of the two methods is clearly more stable than

¹ See page 8 of Comments of Arkansas Electric Cooperative Corporation in Ex Parte 558 (Sub-No. 12) submitted May 20, 2009. See also page 3 of Comments of Western Coal Traffic League in Ex Parte 558 (Sub-No. 12) submitted May 20, 2009.

either method utilized alone. This provides the consistency that the STB sought in its decision implementing the MSDCF for 2008.

Unfortunately, comments of both WCTL and AECC appear to be self-serving attempts to blatantly minimize the rail industry cost of capital by seeking to either:

1. Remove the MSDCF entirely from the analysis, or,
2. Simply ignore proper analytic process and reconstruct both models in ways which are artificial and totally lacking in analytic rigor or theoretical basis.

Dr. Stangle will comment on their attempts to undermine proper application of the MSDCF computation while, in section III, I will comment on their inappropriate proposals to modify both the CAPM and MSDCF. However, I would first like to deal with several technical corrections that AAR has determined are required in the cost of capital values.

III. Technical Corrections

A. Shares Outstanding for Union Pacific Corp.

As part of the determination of the overall cost of capital, shares of common equity stock outstanding for each railroad firm are used as part of the underlying data set for two items. First, shares outstanding are needed for determining the market value of common equity capital. Second, shares outstanding are needed to construct the regression data set necessary for the calculation of the beta component of the Capital Asset Pricing Model, which is one of two models used to estimate the cost of common equity capital.

The number of shares of common stock outstanding for each of the railroads that meets the STB's selection criteria is retrieved from 10-Q and 10-K reports filed with the U.S. Securities

and Exchange Commission (SEC).² During 2008, Union Pacific Corporation filed an amended 10-Q report that revised the number of shares outstanding as of July 18, 2008, while my calculations in my April 20, 2009 filing utilized the original Union Pacific numbers. I have included the first two pages of the Union Pacific amended SEC filing as Appendix A to this statement. I have revised all calculations that utilized shares outstanding.

B. Market Value for Common Equity

The market value of common equity is based on stock prices and shares outstanding for 2008. Weekly market values were calculated for each railroad using shares outstanding data from railroad 10-Q and 10-K reports multiplied by stock prices at the close of each week in 2008, and I have substituted the revised Union Pacific shares outstanding where appropriate. During most years, a 52-week average market capitalization of the composite railroad (the four railroads that comprise the composite sample) would be used. However, 2008 is a year that should include 53 weeks when calculating the average market capitalization for the year. Week 1, which began on December 31, 2007, has three of its four trading days in 2008. This week was not included in the market value calculation for 2007. Week 53, which began on December 29, 2008, had three of its four trading days occur in 2008. In my original (April 20, 2009) Appendix H, all 53 weeks are listed on page 1 through 4, and it was an accident on my part that the summary page 5 totaled only (the normal) 52 weeks instead of 53. My Appendix H (Revised), which should replace my original Appendix H, contains details of the calculation. It includes revised shares outstanding for Union Pacific, and also totals all 53 weeks (as originally intended). The average common equity capitalization, on page 5 of Appendix H (Revised), is \$108.575 billion. Table 11a below

² The 10-Q and 10-K reports are filed with the U.S. Securities and Exchange Commission (SEC), and are available from railroad web sites or the SEC web site.

summarizes the market value calculation, and it should replace my original Table 11. The Weight column, which is not used directly in our calculation, is provided as additional information.

Table No. 11a
Average Market Value
For Common Equity in 2008

Railroad Co.	Value (\$000)	Weight %
BNI	\$31,628,852.7	29.13 %
CSX	21,278,596.2	19.60
NSC	21,719,760.4	20.00
UNP	33,947,826.8	31.27
Total	\$108,575,036.1	100.00 %
Prior Year	\$99,126,191.0	
Change	9.5%	

Our revised market value is slightly lower than the 52-week version calculated in error by the Western Coal Traffic League.³

C. Beta Calculation

One of the models used to estimate the cost of equity is the Capital Asset Pricing Model (CAPM). The STB Ex Parte No. 664 decision requires parties to calculate the CAPM's beta using a portfolio of weekly, merger-adjusted stock returns for the prior five years. I have substituted the revised Union Pacific shares outstanding where appropriate, and recalculated beta. Details of the revised calculation and data set are in Appendix I (Revised), and this Appendix should replace my original (April 20, 2009) Appendix I. My revised beta calculation results in a value of 0.9344. The slight change in beta affects the Capital Asset Pricing Model. Table 13a is

³ See page 21 of Verified Statement of Thomas D. Crowley and Daniel L. Fapp in Reply Comments of the Western Coal Traffic League, May 20, 2009.

a summary of the CAPM using the revised beta, and it should replace the Table 13 in my original (April 20, 2009) calculation.

Table No. 13a
Cost of of Common Equity
Using STB's Capital Asset Pricing Model

<i>Inputs to Model</i>		
Risk-Free Rate	4.36 %	From Table No. 12
Market Risk Premium	6.47 %	From SBBI (see text)
Beta	0.9344	From Appendix I
<i>Calculation</i>		
Risk-Free Rate	4.36 %	Given
Plus: Beta Adjusted Risk Premium	6.05 %	Beta x Mkt. Risk Prem.
CAPM Cost of Equity	10.41 %	Risk-Free Rate + Prem.

Thus, the correction to the shares outstanding for Union Pacific caused the beta to increase very slightly, and resulted in an increase in the CAPM estimate from 10.40 to 10.41 percent.

D. Impact of Corrections

The two changes to my original calculations (revision to shares outstanding and including all 53 weeks in the average for 2008) caused a slight increase in the CAPM's cost of equity and a slight decrease in the market value for common equity. These changes, in turn, affect the cost of common equity capital (because it is the average of the CAPM and MSDCF) and the capital structure weights.

In the STB's Ex Parte No. 558 (Sub-No. 12) decision served March 6, 2009, the Board specified that it will use a simple average of the estimates produced by the CAPM adopted in STB Ex Parte No. 664 and the Morningstar/Ibbotson Multi-Stage DCF Model specified in STB Ex Parte 664 (Sub No. 1). Table 14a (below) contains a simple average of the cost of equity

estimates for each of the two models, and replaces my original Table 14. Note that the Multi-Stage Discounted Cash Flow (MSDCF) model is unchanged. The result from Dr. Stangle's MSDCF model was calculated the exact same way as it was in Ex Parte No. 664 (Sub- No. 1). Dr. Stangle discusses the model in his separate, accompanying Reply Verified Statement.

Table No. 14a
Cost of of Common Equity Capital

Model		
Capital Asset Pricing Model	10.41 %	From Table No. 13a
Multi-Stage Discounted Cash Flow	16.29	From Stangle V.S.
Cost of Common Equity	13.35 %	Average

Note that the average cost of common equity capital remains the same at 13.35 percent. As mentioned on page 33 in my April 20 statement, the 13.35 percent cost of common equity for 2008 is very close to the 13.4 percent cost of equity testified by Dr. Stangle to be the average for 2007 if the CAPM and MSDCF were averaged.⁴

Since the change in the market value of common equity causes the capital structure weights to change. I have also recalculated my original Table 15, which should be replaced by my Table 15a. The result is an overall cost of capital of 11.89 percent.

⁴ In the separate, accompanying Reply Verified Statement of Dr. Bruce E. Stangle, Exhibit 1 reveals that the 13.4 percent is actually 13.39 percent – even closer to the 2008 average of 13.35 percent.

Table No. 15a
Weighted Current Cost of Capital for 2008

	Reference	Market Value (mil)	Capital Structure Weight	Current Cost
Debt	Appendix E, F	\$29,805.8	21.54 %	6.57 %
Common Equity	App. G-1, Table 14a	108,575.0	78.46	13.35
Preferred Equity	Text	0.0	0.00	n/a
Total		\$138,380.8	100.00 %	
Weighted Current Cost of Capital				11.89 %

As mentioned on page 34 in my earlier statement, if the cost of capital for 2007 had used both equity models, the overall cost of capital would have been 11.90 percent – a number very close to Table 15a’s 11.89 percent for 2008. (In Dr. Bruce Stangle’s accompanying Reply Verified Statement, his Exhibit 1 utilizes an extra digit of precision – resulting in a 2007 cost of capital of 11.89 percent that matches 2008 exactly.) This result provides ample support for the STB’s adoption of the conjunctive use of the two methodologies in order to achieve stability in the result. The power of the two cost of equity methods utilized together is made even more evident by the tumultuous economic conditions and the resultant uncertainty for capital markets caused by those conditions. Utilization of either method, alone, would have failed to provide an adequate measure of railroad equity costs.

Table 15b clarifies the 2007 calculation where the cost of equity is a simple average of the estimates for the CAPM and the MSDCF. The capital structure weights and the cost of debt are from the STB’s Table 13 in their Ex Parte No. 558 (Sub-No. 11) decision served September 26, 2008. The cost of common equity is from the verified statement of Dr. Bruce Stangle in the Ex Parte No. 664 (Sub-No. 1), Comments of the Association of American Railroads submitted April 14, 2008. (As mentioned earlier, Dr. Bruce Stangle’s accompanying Reply Verified Statement,

utilizes an extra digit of precision – resulting in a 2007 cost of capital of 11.89 percent that matches 2008 exactly.)

Table No. 15b
Weighted Current Cost of Capital for 2007

	Reference	Capital Structure Weight	Current Cost
Debt	EP 558-11 STB Table 13	20.68 %	6.15 %
Common Equity	EP 664-1 AAR Exhibit 3	79.32	13.40
Preferred Equity	Text	0.00	n/a
Total		100.00 %	
Weighted Current Cost of Capital			11.90 %

IV. Additional Comments

I also have some comments regarding the recommendations made by Arkansas Electric Cooperative Corporation (AECC) in their comments dated May 20, 2009.

A. AECC's Inappropriate Proposal for the Capital Asset Pricing Model

The AECC has expressed dissatisfaction with the results produced by proper application of the Capital Asset Pricing Model, and proposes to change the CAPM so that it will always produce an artificially low cost of equity. They argue that the beta component of the model should be fixed at 0.70, based on the beta for rail stocks for the period prior to 2005. The AECC also cites a lack of an AAR explanation for a beta that is now higher than 1.0. Clearly, AECC either lacks an understanding of the information measured by the beta or is simply attempting to artificially produce pre-determined results. Since the beta measures the relationship between the performance of rail stocks and the stock market as a whole, it is entirely appropriate that it may vary widely as rail stocks sometimes perform better than the market and at others, do not perform

as well as the broader markets. I recommend that the AECC read page 27 of my verified statement for the 2007 cost of capital.⁵ As explained therein, it is well known that the Tech Stock Bubble (1997 through 2002) pulled railroad betas artificially downward as rail stocks were unable to keep pace with broader market performance (upward and downward) that was led by technology-related stocks. These impacts of the Tech Stock Bubble have also been discussed in Ex Parte No. 664 by Professor Stewart C. Meyers, and separately in a statement by Dr. Bruce E. Stangle and Dr. R. Glenn Hubbard, also in Ex Parte No. 664. I also mentioned on the same page 27 of my own verified statement that the Board's own beta calculations for periods prior to the Tech Stock Bubble resulted in betas well above 1.0 (one railroad's beta was over 1.40). As we move forward in time and increasing amounts of the Tech Stock Bubble data gets excluded from the beta calculation, the railroad betas have returned to values higher than 1.0. It appears that by attempting to fix the CAPM's beta at a value based on a period of known market distortions, the AECC is simply attempting to subvert the results produced by the CAPM method in order to meet a desired, pre-determined result. Taken to the extreme, AECC's strategy would appear to seek to permanently condemn the rail industry to artificial, below market returns. Their proposal represents a blatant attempt to, over the long term, create a subsidy of AECC's operations by their railroad suppliers. However, if this artificial lowering of the beta, and thus, the cost of equity was not their intent, then perhaps AECC would recommend fixing beta to a value of 1.2 or 1.3 – since this is historically a more typical value from the period before the Tech Stock Bubble. The 2007 beta, which mostly excluded data from the Tech Stock Bubble, also fell in this 1.2 to 1.3 range.

⁵ Ex Parte No. 558 (Sub- No. 11), Comments of the Association of American Railroads and its Member Railroads, submitted May 22, 2008.

B. AECC's Inappropriate Proposal for the Multi-Stage Discounted Cash Flow model

Similar to its proposal for the CAPM, the AECC also appears to desire a change in Ex Parte No. 664 (Sub- No. 1) that will alter the MSDCF model to produce results that they feel to be more palatable. Their proposal is without merit. Once again, they make this proposal without any analytic support.

The Ibbotson/Morningstar MSDCF uses a median growth rate based on analyst's growth projections, while eliminating the highest and lowest projections. To artificially alter or "cap" any growth rates is another way to change a model so that it always produces, without any analytic justification, pre-determined lower results.

A second way AECC inappropriately attempts to distort the results of the MSDCF is by mixing growth rates from March 2009 with average market values from 2008. The model will be distorted unless the expected growth rates correlate with the stock prices. The AECC has mistakenly attempted to mix selected lower growth rates from March 2009 and higher market capitalization from 2008. This clearly is an unacceptable attempt to misuse the data upon which the MSDCF model is based and appears, once again, to be done with a pre-determined result in mind.

C. AECC's Misunderstanding About the Purpose of Using Two Models to Estimate the Cost of Equity

The AECC emphasizes its belief that both models used for estimating the cost of equity should produce the same result, and appears to have attempted to inappropriately modify the two models used in this proceeding to make their estimates similar as well as lower than appropriate use of the methodologies and their supporting data would generate. Interestingly, all of AECC's "modifications" appear to be designed to produce lower costs of equity without regard to proper

application of the modeling methodologies. They also do not recognize that the models measure the value of equity by approaching the question from different directions and that it is this difference in approach that produces the strength of the combined analysis.

The cost of equity for a firm is not precisely measurable. Various models attempt to *estimate* a firm's cost of equity. However, the different approaches to estimating the cost of equity can and will produce different results particularly during a period when the underlying economic data that supports the computations of these models is subject to very large variances over the time period being measured. Every cost of capital methodology has its strengths and weaknesses. For example: one model may perform best in stable market conditions, while another may perform best when market conditions are more unstable. Alternately, one model may be forward looking (as is the MSDCF in this case) and one may best deal with embedded capital values (CAPM). The cost of equity estimates produced by the CAPM and MSDCF and displayed in Dr. Stangle's Exhibit 3 in Ex Parte 664 (Sub-No. 1) do not always change in the same direction – about half of the time they move in opposite directions.⁶ By having diversity in one's estimates for the cost of equity (using two models), the weaknesses of each model may be offset – and the result of combining these approaches is a better estimate for the cost of equity. If both models produced the same result every time, there would be no need for two models.

D. Summary

In summary, neither WCTL nor AECC has provided a convincing reason to abandon the methodology prescribed by the STB in Ex Parte 664 (CAPM) and Ex Parte 664 (Sub-No. 1) (MSDCF), nor have they offered any substantive basis for modifying the methodology that the

⁶ Exhibit 3 on page 7 of Dr. Bruce E. Stangle's statement in Comments of the Association of American Railroads in STB Ex Parte No. 664 (Sub-No. 1), submitted April 14, 2008.

STB has, in these proceedings, approved for application of these methodologies. Indeed, their arguments are clearly designed to undermine appropriate analytic methods and seek to substitute for these methods artificial constructs apparently designed to produce lower equity values than rigorous analytic methods indicate to be the best values available. Further, they attempt to discount the methods because they diverge during a time of unprecedented disruption of capital markets. As I have indicated, these diversions should not only be expected when applying these tools but are, indeed, the strength of combining a diverse set of measurements when seeking to estimate the railroad cost of equity capital.

Form 10-Q/A

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

**FORM 10-Q/A
Amendment No. 1**

(Mark One)

- ☒ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2008

- OR -

- ☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 1-6075

UNION PACIFIC CORPORATION

(Exact name of registrant as specified in its charter)

UTAH
(State or other jurisdiction of
incorporation or organization)

13-2626465
(I.R.S. Employer
Identification No.)

1400 DOUGLAS STREET, OMAHA, NEBRASKA
(Address of principal executive offices)

68179
(Zip Code)

(402) 544-5000

(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See the definitions of "large accelerated filer" and "accelerated filer" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).

☐ Yes ☒ No

As of July 18, 2008, there were 509,170,209 shares of the Registrant's Common Stock outstanding.

Form 10-Q/A

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EXPLANATORY NOTE

Union Pacific Corporation (the Registrant) is filing this amendment (the Form 10-Q/A) to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2008 (the Form 10-Q), filed with the U.S. Securities and Exchange Commission on July 24, 2008, solely to correct an error on the cover page. The cover page of the Form 10-Q incorrectly stated that the amount of the Registrant's Common Stock outstanding as of July 18, 2008 was 552,778,012. This incorrect number included both the number of shares of Common Stock outstanding and an additional 43,607,803 shares of Common Stock held in treasury that were issued but not outstanding as of that date. The cover page of this Form 10-Q/A correctly states that the number of shares of outstanding Common Stock of the Registrant on July 18, 2008 was 509,170,209.

This Form 10-Q/A should be read in conjunction with the original Form 10-Q, which continues to speak as of the date of the Form 10-Q. Except as specifically noted above, this Form 10-Q/A does not modify or update disclosures in the original Form 10-Q. Accordingly, this Form 10-Q/A does not reflect events occurring after the filing of the Form 10-Q or modify or update any related or other disclosures.

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Market Value for Common Equity

Stock Data for BNI from Yahoo! Finance 1-7-09

<http://ichart.finance.yahoo.com/table.csv?s=BNI&a=00&b=1&c=2004&d=00&e=3&f=2009&g=w&ignore=.csv>

Beg. of Wk. Date	Open	High	Low	End of Wk Close	Volume	Shares Outstanding	Capitalization (\$000)
12/31/2007	83.19	84.83	78.51	78.64	2430100	350,631,059	27,573,626
1/7/2008	79.27	81.08	76.40	78.11	3970700	350,631,059	27,387,792
1/14/2008	78.89	79.49	76.16	76.93	4047600	350,631,059	26,974,047
1/22/2008	74.20	84.00	74.20	81.80	5443500	350,631,059	28,681,621
1/28/2008	82.48	88.55	81.15	88.30	3998400	350,631,059	30,960,723
2/4/2008	88.99	89.00	85.05	88.03	2890400	350,631,059	30,866,052
2/11/2008	88.66	91.30	86.60	89.11	3763400	348,201,513	31,028,237
2/19/2008	90.00	90.12	86.58	88.18	3340700	348,201,513	30,704,409
2/25/2008	88.40	91.20	87.09	87.78	2659800	348,201,513	30,565,129
3/3/2008	87.53	90.23	86.80	88.02	3125100	348,201,513	30,648,697
3/10/2008	88.27	92.88	86.37	90.80	4260400	348,201,513	31,616,697
3/17/2008	88.65	95.35	88.50	91.61	5053800	348,201,513	31,898,741
3/24/2008	92.53	96.31	91.70	91.99	2806800	348,201,513	32,031,057
3/31/2008	91.01	97.00	90.76	95.94	2804400	348,201,513	33,406,453
4/7/2008	96.84	96.84	91.71	93.19	2462600	348,201,513	32,448,899
4/14/2008	93.00	99.89	92.81	99.77	3150500	348,201,513	34,740,065
4/21/2008	99.42	100.25	96.84	99.75	2494100	348,201,513	34,733,101
4/28/2008	100.20	106.20	99.45	104.24	3535000	344,930,287	35,955,533
5/5/2008	104.75	105.62	102.10	103.47	1954700	344,930,287	35,689,937
5/12/2008	103.85	109.43	102.54	108.56	2193200	344,930,287	37,445,632
5/19/2008	108.92	112.40	104.85	106.14	2893900	344,930,287	36,610,901
5/27/2008	106.50	113.56	106.34	113.05	2998100	344,930,287	38,994,369
6/2/2008	113.27	114.58	110.20	110.40	3390500	344,930,287	38,080,304
6/9/2008	111.73	114.34	103.22	104.68	4600200	344,930,287	36,107,302
6/16/2008	104.19	106.12	100.51	103.02	4447700	344,930,287	35,534,718
6/23/2008	103.45	103.50	97.05	97.40	4255600	344,930,287	33,596,210
6/30/2008	97.41	100.78	92.18	93.83	4443800	344,930,287	32,364,809
7/7/2008	93.62	99.33	93.61	95.45	4552600	344,930,287	32,923,596
7/14/2008	96.41	97.77	90.86	94.57	4967500	344,930,287	32,620,057
7/21/2008	95.14	100.85	94.08	98.05	3725300	344,404,716	33,768,882
7/28/2008	97.94	106.29	96.55	101.76	4133600	344,404,716	35,046,624
8/4/2008	101.85	102.93	99.40	101.43	3587800	344,404,716	34,932,970
8/11/2008	101.42	102.80	94.22	98.87	3993300	344,404,716	34,051,294
8/18/2008	98.43	103.75	97.28	103.47	2679100	344,404,716	35,635,556
8/25/2008	103.23	108.04	101.59	107.40	3191200	344,404,716	36,989,066
9/2/2008	109.07	109.72	96.25	99.87	4950500	344,404,716	34,395,699
9/8/2008	102.61	104.68	96.23	101.84	5597600	344,404,716	35,074,176
9/15/2008	98.52	110.04	93.68	100.71	5502000	344,404,716	34,684,999
9/22/2008	99.65	100.64	95.15	98.34	3861800	344,404,716	33,868,760
9/29/2008	96.97	96.98	82.12	83.29	5927900	344,404,716	28,685,469
10/6/2008	79.91	87.10	74.27	80.16	7498000	344,404,716	27,607,482
10/13/2008	82.98	87.70	74.55	80.10	6625200	344,404,716	27,586,818
10/20/2008	81.02	85.89	76.00	80.00	4875400	342,326,358	27,386,109
10/27/2008	78.92	89.78	77.58	89.06	5674000	342,326,358	30,487,585
11/3/2008	88.97	91.98	79.27	81.25	6134000	342,326,358	27,814,017
11/10/2008	82.69	84.90	77.06	79.63	6953900	342,326,358	27,259,448
11/17/2008	78.06	79.61	68.31	73.29	7827700	342,326,358	25,089,099
11/24/2008	73.35	77.35	71.53	76.61	4553600	342,326,358	26,225,622
12/1/2008	74.87	76.48	71.38	74.68	5059100	342,326,358	25,564,932
12/8/2008	75.88	77.50	69.86	71.38	5324700	342,326,358	24,435,255
12/15/2008	72.59	77.86	70.08	73.66	3057200	342,326,358	25,215,760
12/22/2008	73.56	75.00	72.75	74.43	1202100	342,326,358	25,479,351
12/29/2008	74.17	78.77	71.67	78.45	2284100	342,326,358	26,855,503

Note: Capitalization calculated using close of week price multiplied by the number of shares outstanding.

Market Value for Common Equity

Stock Data for CSX from Yahoo! Finance 1-7-09

<http://ichart.finance.yahoo.com/table.csv?s=CSX&a=00&b=1&c=2004&d=00&e=3&f=2009&g=w&ignore=.csv>

Beg. of Wk.	End of Wk					Shares	Capitalization
Date	Open	High	Low	Close*	Volume	Outstanding	(\$000)
12/31/2007	44.21	45.02	40.45	40.73	5324700	420,425,477	17,123,930
1/7/2008	41.05	44.00	39.87	42.48	7391800	420,425,477	17,859,674
1/14/2008	42.91	44.25	40.40	41.18	6732900	420,425,477	17,313,121
1/22/2008	40.70	47.75	40.49	45.45	10014800	420,425,477	19,108,338
1/28/2008	45.60	50.08	45.19	49.93	6662000	420,425,477	20,991,844
2/4/2008	49.93	50.66	46.85	48.02	5706000	420,425,477	20,188,831
2/11/2008	48.10	50.44	46.79	48.78	5004800	420,425,477	20,508,355
2/19/2008	49.44	51.37	48.19	50.16	5863500	403,363,273	20,232,702
2/25/2008	50.15	53.29	47.72	48.52	6478700	403,363,273	19,571,186
3/3/2008	48.37	50.55	46.59	47.09	4951900	403,363,273	18,994,377
3/10/2008	47.22	50.42	46.57	48.97	5160200	403,363,273	19,752,699
3/17/2008	48.61	55.00	48.48	54.59	11063500	403,363,273	22,019,601
3/24/2008	54.81	58.10	54.81	56.55	7065900	403,363,273	22,810,193
3/31/2008	56.42	58.91	55.05	57.29	6186600	404,888,568	23,196,066
4/7/2008	57.58	58.41	55.04	56.31	3949700	404,888,568	22,799,275
4/14/2008	56.35	61.38	56.20	61.24	6612300	404,888,568	24,795,376
4/21/2008	61.53	62.21	58.30	61.94	4230400	404,888,568	25,078,798
4/28/2008	62.27	65.56	61.38	64.14	4953800	404,888,568	25,969,553
5/5/2008	64.00	65.20	62.64	63.24	3259900	404,888,568	25,605,153
5/12/2008	63.53	66.50	62.52	65.54	3818900	404,888,568	26,536,397
5/19/2008	65.70	70.70	65.37	66.73	6828900	404,888,568	27,018,214
5/27/2008	66.75	69.84	66.01	69.06	3944800	404,888,568	27,961,605
6/2/2008	69.36	69.36	64.10	65.41	4781400	404,888,568	26,483,761
6/9/2008	65.56	67.38	62.60	65.42	5196100	404,888,568	26,487,810
6/16/2008	64.59	67.10	63.02	64.83	5377600	404,888,568	26,248,926
6/23/2008	65.24	65.50	60.74	62.14	4559700	404,888,568	25,159,776
6/30/2008	62.36	63.94	56.52	57.36	6726000	407,642,147	23,382,354
7/7/2008	57.72	61.88	56.20	60.62	4933800	407,642,147	24,711,267
7/14/2008	61.24	62.48	55.76	60.88	6338600	407,642,147	24,817,254
7/21/2008	61.25	66.56	60.73	63.34	4111300	407,642,147	25,820,054
7/28/2008	63.19	69.50	61.58	66.17	5557400	407,642,147	26,973,681
8/4/2008	66.21	66.48	62.42	65.61	4317900	407,642,147	26,745,401
8/11/2008	65.57	66.71	57.09	60.91	6860300	407,642,147	24,829,483
8/18/2008	61.27	64.28	59.16	63.73	3659700	407,642,147	25,979,034
8/25/2008	63.85	65.41	62.17	64.68	2719900	407,642,147	26,366,294
9/2/2008	65.49	66.00	54.74	57.71	8004500	407,642,147	23,525,028
9/8/2008	59.69	62.15	52.03	61.61	9308200	407,642,147	25,114,833
9/15/2008	59.53	63.49	50.50	59.37	11355000	407,642,147	24,201,714
9/22/2008	59.38	59.69	54.77	56.39	5553500	407,642,147	22,986,941
9/29/2008	55.38	56.35	46.15	47.70	9145200	394,469,360	18,816,188
10/6/2008	45.51	49.25	40.36	43.31	8127300	394,469,360	17,084,468
10/13/2008	44.94	53.84	40.68	43.33	7121900	394,469,360	17,092,357
10/20/2008	45.05	46.72	39.95	42.38	5664400	394,469,360	16,717,611
10/27/2008	41.70	47.35	39.59	45.72	6574600	394,469,360	18,035,139
11/3/2008	46.38	47.41	41.29	42.77	7118500	394,469,360	16,871,455
11/10/2008	43.75	44.88	38.51	38.82	7312400	394,469,360	15,313,301
11/17/2008	38.36	38.90	30.69	33.70	10703800	394,469,360	13,293,617
11/24/2008	34.40	39.06	33.09	37.24	7713300	394,469,360	14,690,039
12/1/2008	36.28	36.31	31.68	34.15	5965100	394,469,360	13,471,129
12/8/2008	35.08	37.67	31.18	31.85	7086500	394,469,360	12,563,849
12/15/2008	32.12	36.00	30.73	31.60	5892300	394,469,360	12,465,232
12/22/2008	31.40	32.16	30.61	31.50	3399500	394,469,360	12,425,785
12/29/2008	31.37	35.00	30.01	34.62	4647300	394,469,360	13,656,529

Note: Capitalization calculated using close of week price multiplied by the number of shares outstanding.

Market Value for Common Equity

Stock Data for NSC from Yahoo! Finance 1-7-09

<http://ichart.finance.yahoo.com/table.csv?s=NSC&a=00&b=1&c=2004&d=00&e=3&f=2009&g=w&ignore=.csv>

Beg. of Wk.	End of Wk					Shares	Capitalization
Date	Open	High	Low	Close	Volume	Outstanding	(\$000)
12/31/2007	50.74	50.85	47.75	47.88	3528900	387,240,494	18,541,075
1/7/2008	48.08	48.64	46.20	46.46	4029900	387,240,494	17,991,193
1/14/2008	46.92	47.45	43.82	44.15	4531900	387,240,494	17,096,668
1/22/2008	41.36	51.55	41.36	50.74	8068300	387,240,494	19,648,583
1/28/2008	50.88	56.45	49.85	56.29	7658200	387,240,494	21,797,767
2/4/2008	56.21	56.21	52.26	54.41	4317900	376,332,668	20,476,260
2/11/2008	54.50	55.84	53.20	53.94	3122000	376,332,668	20,299,384
2/19/2008	54.46	54.85	52.13	53.18	3524200	376,332,668	20,013,371
2/25/2008	52.78	55.84	52.44	52.89	3687100	376,332,668	19,904,235
3/3/2008	52.72	55.00	51.69	51.94	3449500	376,332,668	19,546,719
3/10/2008	51.88	54.48	50.86	52.93	3656800	376,332,668	19,919,288
3/17/2008	51.51	56.96	51.14	53.07	5961700	376,332,668	19,971,975
3/24/2008	53.39	56.73	53.36	54.25	2765300	376,332,668	20,416,047
3/31/2008	54.13	57.74	53.35	56.80	3277600	376,332,668	21,375,696
4/7/2008	57.33	58.05	54.36	54.99	2986700	375,755,263	20,662,782
4/14/2008	55.07	61.75	54.78	61.64	4604500	375,755,263	23,161,554
4/21/2008	61.31	61.89	57.85	60.13	3716700	375,755,263	22,594,164
4/28/2008	60.45	61.00	59.08	60.19	2926600	375,755,263	22,616,709
5/5/2008	59.90	62.67	59.25	61.90	3094900	375,755,263	23,259,251
5/12/2008	62.19	65.23	61.30	64.31	3273300	375,755,263	24,164,821
5/19/2008	64.46	66.74	62.34	62.74	4159700	375,755,263	23,574,885
5/27/2008	62.75	67.74	62.75	67.38	4416100	375,755,263	25,318,390
6/2/2008	67.17	67.72	64.18	64.18	3717700	375,755,263	24,115,973
6/9/2008	64.81	65.60	60.74	63.42	4277300	375,755,263	23,830,399
6/16/2008	63.12	64.88	60.82	63.74	3767200	375,755,263	23,950,640
6/23/2008	64.14	64.20	60.50	61.04	3286500	375,755,263	22,936,101
6/30/2008	61.01	63.36	57.71	58.91	3982300	375,755,263	22,135,743
7/7/2008	59.73	63.12	57.92	61.78	3727800	375,199,214	23,179,807
7/14/2008	62.66	64.48	59.05	63.42	3695900	375,199,214	23,795,134
7/21/2008	63.30	72.85	62.82	70.11	4690700	375,199,214	26,305,217
7/28/2008	70.74	75.53	68.75	70.62	4568800	375,199,214	26,496,568
8/4/2008	70.67	73.66	68.95	73.55	3995400	375,199,214	27,595,902
8/11/2008	73.35	74.50	66.40	70.58	4553600	375,199,214	26,481,561
8/18/2008	70.71	71.24	67.00	70.99	2927000	375,199,214	26,635,392
8/25/2008	70.64	74.90	69.27	73.53	2784000	375,199,214	27,588,398
9/2/2008	72.44	74.50	63.47	66.39	5335900	375,199,214	24,909,476
9/8/2008	67.76	69.00	62.04	67.97	6091300	375,199,214	25,502,291
9/15/2008	65.37	72.56	64.34	70.36	6292700	375,199,214	26,399,017
9/22/2008	69.70	71.20	65.54	69.93	3979100	375,199,214	26,237,681
9/29/2008	68.99	69.53	55.02	56.17	5986700	375,199,214	21,074,940
10/6/2008	54.69	58.84	45.06	52.05	6708500	370,279,291	19,273,037
10/13/2008	54.52	60.66	48.13	52.54	5932300	370,279,291	19,454,474
10/20/2008	53.20	57.53	50.50	53.12	5418300	370,279,291	19,669,236
10/27/2008	53.04	62.57	51.29	59.94	4863500	370,279,291	22,194,541
11/3/2008	60.69	62.20	52.29	53.72	4761900	370,279,291	19,891,404
11/10/2008	54.90	56.18	47.49	51.98	5553200	370,279,291	19,247,118
11/17/2008	51.18	52.11	41.42	45.68	5695700	370,279,291	16,914,358
11/24/2008	46.60	50.25	44.82	49.47	3899700	370,279,291	18,317,717
12/1/2008	48.22	48.24	43.50	46.14	4997700	370,279,291	17,084,686
12/8/2008	47.48	49.67	43.20	44.52	4181200	370,279,291	16,484,834
12/15/2008	45.25	49.25	43.12	44.56	4181400	370,279,291	16,499,645
12/22/2008	44.16	44.90	43.50	44.36	2064700	370,279,291	16,425,589
12/29/2008	44.19	49.44	42.97	49.07	3189800	370,279,291	18,169,605

Note: Capitalization calculated using close of week price multiplied by the number of shares outstanding.

Market Value for Common Equity

Stock Data for UNP from Yahoo! Finance 1-7-09

<http://ichart.finance.yahoo.com/table.csv?s=UNP&a=00&b=1&c=2004&d=00&e=3&f=2009&g=w&ignore=.csv>

Beg. of Wk.	End of Wk				Close Adj		Shares	Capitalization
Date	Open	High	Low	Close	Volume	For Splits	Outstanding	(\$000)
12/31/2007	127.00	127.39	119.66	120.04	4066900	60.02	525,247,810	31,525,374
1/7/2008	120.90	121.89	111.10	114.11	6241000	57.06	525,247,810	29,968,014
1/14/2008	115.25	116.34	107.62	110.45	5733100	55.23	525,247,810	29,006,810
1/22/2008	105.32	124.93	105.32	119.81	9245100	59.91	525,247,810	31,464,970
1/28/2008	120.22	128.33	115.00	127.97	10476800	63.99	525,247,810	33,607,981
2/4/2008	127.45	128.62	121.55	125.35	4793400	62.68	521,401,054	32,678,811
2/11/2008	125.56	128.22	122.64	124.80	4687600	62.40	521,401,054	32,535,426
2/19/2008	126.49	126.49	121.01	124.13	7152100	62.07	521,401,054	32,360,756
2/25/2008	124.45	129.50	122.40	124.76	5375700	62.38	521,401,054	32,524,998
3/3/2008	125.00	126.81	118.55	119.66	6813800	59.83	521,401,054	31,195,425
3/10/2008	119.00	125.93	118.28	122.75	5658000	61.38	521,401,054	32,000,990
3/17/2008	119.75	130.57	118.25	122.06	9511800	61.03	521,401,054	31,821,106
3/24/2008	122.80	130.00	122.42	125.02	4432700	62.51	521,401,054	32,592,780
3/31/2008	124.34	134.40	123.59	133.66	4924200	66.83	521,401,054	34,845,232
4/7/2008	134.91	135.00	128.04	130.21	4259900	65.11	521,401,054	33,945,816
4/14/2008	130.21	138.82	129.81	138.08	6419600	69.04	521,401,054	35,997,529
4/21/2008	137.60	141.25	132.89	140.59	6433700	70.30	516,747,040	36,324,733
4/28/2008	140.63	148.66	139.48	146.88	7565500	73.44	516,747,040	37,949,903
5/5/2008	148.58	149.37	144.41	146.28	3610000	73.14	516,747,040	37,794,879
5/12/2008	146.62	156.15	145.00	153.00	4687400	76.50	516,747,040	39,531,149
5/19/2008	155.00	159.65	150.24	152.16	6887000	76.08	516,747,040	39,314,115
5/27/2008	153.11	159.00	78.14	82.31	7910400	82.31	516,747,040	42,533,449
6/2/2008	82.12	82.76	77.90	77.95	5003300	77.95	516,747,040	40,280,432
6/9/2008	78.55	80.00	74.04	75.57	6256600	75.57	516,747,040	39,050,574
6/16/2008	75.22	78.58	71.90	76.88	8688800	76.88	516,747,040	39,727,512
6/23/2008	77.36	77.36	72.28	73.83	4771900	73.83	516,747,040	38,151,434
6/30/2008	73.87	76.06	69.61	70.85	5580300	70.85	516,747,040	36,611,528
7/7/2008	71.29	74.74	69.29	71.92	5078400	71.92	516,747,040	37,164,447
7/14/2008	72.65	74.43	67.90	72.54	5776800	72.54	516,747,040	37,484,830
7/21/2008	72.98	79.79	71.85	77.49	4589100	77.49	509,170,209	39,455,599
7/28/2008	78.09	84.25	76.02	79.44	6235400	79.44	509,170,209	40,448,481
8/4/2008	79.50	83.60	79.46	83.18	4830800	83.18	509,170,209	42,352,778
8/11/2008	83.15	83.31	73.53	76.87	7385100	76.87	509,170,209	39,139,914
8/18/2008	77.39	81.15	76.17	79.55	4344700	79.55	509,170,209	40,504,490
8/25/2008	79.96	84.95	78.39	83.90	4166400	83.90	509,170,209	42,719,381
9/2/2008	84.45	85.80	72.28	75.46	7978200	75.46	509,170,209	38,421,984
9/8/2008	77.77	78.80	70.25	77.80	8519500	77.80	509,170,209	39,613,442
9/15/2008	76.03	80.05	69.52	76.73	11419700	76.73	509,170,209	39,068,630
9/22/2008	76.71	76.99	71.00	73.27	6049600	73.27	509,170,209	37,306,901
9/29/2008	72.19	72.57	60.40	61.81	8747700	61.81	509,170,209	31,471,811
10/6/2008	59.37	65.41	51.75	58.00	9981100	58.00	509,170,209	29,531,872
10/13/2008	60.58	66.25	51.24	55.49	10342500	55.49	509,170,209	28,253,855
10/20/2008	57.06	61.12	53.11	58.28	7275200	58.28	506,430,904	29,514,793
10/27/2008	57.44	67.99	54.52	66.77	6539300	66.77	506,430,904	33,814,391
11/3/2008	66.69	69.75	59.24	60.99	6901900	60.99	506,430,904	30,887,221
11/10/2008	63.00	63.84	54.16	57.27	7759600	57.27	506,430,904	29,003,298
11/17/2008	56.64	58.92	43.78	47.50	9747300	47.50	506,430,904	24,055,468
11/24/2008	48.36	51.99	45.60	50.04	8211800	50.04	506,430,904	25,341,802
12/1/2008	49.62	49.62	44.86	47.49	6641500	47.49	506,430,904	24,050,404
12/8/2008	48.64	51.41	41.84	42.81	9464600	42.81	506,430,904	21,680,307
12/15/2008	43.33	49.92	42.05	46.27	7390100	46.27	506,430,904	23,432,558
12/22/2008	46.57	47.95	45.76	46.97	2656900	46.97	506,430,904	23,787,060
12/29/2008	46.80	50.40	44.90	50.13	3408500	50.13	506,430,904	25,387,381

Note: Capitalization calculated using close of week price multiplied by the number of shares outstanding.

Market Value for Common Equity

Total Market Value for BNI, CSX, NSC, and UNP combined

Based on close price on last trading day of week and shares outstanding from 10-K and 10-Q.

Trading Days For Week		Capitalization
Beginning	End	(\$000)
1. Monday, December 31, 2007	Friday, January 04, 2008	\$94,764,005
2. Monday, January 07, 2008	Friday, January 11, 2008	93,206,673
3. Monday, January 14, 2008	Friday, January 18, 2008	90,390,647
4. Tuesday, January 22, 2008	Friday, January 25, 2008	98,903,511
5. Monday, January 28, 2008	Friday, February 01, 2008	107,358,315
6. Monday, February 04, 2008	Friday, February 08, 2008	104,209,955
7. Monday, February 11, 2008	Friday, February 15, 2008	104,371,401
8. Tuesday, February 19, 2008	Friday, February 22, 2008	103,311,239
9. Monday, February 25, 2008	Friday, February 29, 2008	102,565,547
10. Monday, March 03, 2008	Friday, March 07, 2008	100,385,218
11. Monday, March 10, 2008	Friday, March 14, 2008	103,289,675
12. Monday, March 17, 2008	Thursday, March 20, 2008	105,711,423
13. Monday, March 24, 2008	Friday, March 28, 2008	107,850,077
14. Monday, March 31, 2008	Friday, April 04, 2008	112,823,447
15. Monday, April 07, 2008	Friday, April 11, 2008	109,856,772
16. Monday, April 14, 2008	Friday, April 18, 2008	118,694,524
17. Monday, April 21, 2008	Friday, April 25, 2008	118,730,796
18. Monday, April 28, 2008	Friday, May 02, 2008	122,491,698
19. Monday, May 05, 2008	Friday, May 09, 2008	122,349,219
20. Monday, May 12, 2008	Friday, May 16, 2008	127,677,998
21. Monday, May 19, 2008	Friday, May 23, 2008	126,518,115
22. Tuesday, May 27, 2008	Friday, May 30, 2008	134,807,812
23. Monday, June 02, 2008	Friday, June 06, 2008	128,960,469
24. Monday, June 09, 2008	Friday, June 13, 2008	125,476,085
25. Monday, June 16, 2008	Friday, June 20, 2008	125,461,797
26. Monday, June 23, 2008	Friday, June 27, 2008	119,843,521
27. Monday, June 30, 2008	Thursday, July 03, 2008	114,494,433
28. Monday, July 07, 2008	Friday, July 11, 2008	117,979,117
29. Monday, July 14, 2008	Friday, July 18, 2008	118,717,276
30. Monday, July 21, 2008	Friday, July 25, 2008	125,349,752
31. Monday, July 28, 2008	Friday, August 01, 2008	128,965,355
32. Monday, August 04, 2008	Friday, August 08, 2008	131,627,052
33. Monday, August 11, 2008	Friday, August 15, 2008	124,502,252
34. Monday, August 18, 2008	Friday, August 22, 2008	128,754,472
35. Monday, August 25, 2008	Friday, August 29, 2008	133,663,139
36. Tuesday, September 02, 2008	Friday, September 05, 2008	121,252,187
37. Monday, September 08, 2008	Friday, September 12, 2008	125,304,742
38. Monday, September 15, 2008	Friday, September 19, 2008	124,354,360
39. Monday, September 22, 2008	Friday, September 26, 2008	120,400,283
40. Monday, September 29, 2008	Friday, October 03, 2008	100,048,408
41. Monday, October 06, 2008	Friday, October 10, 2008	93,496,859
42. Monday, October 13, 2008	Friday, October 17, 2008	92,387,504
43. Monday, October 20, 2008	Friday, October 24, 2008	93,287,749
44. Monday, October 27, 2008	Friday, October 31, 2008	104,531,657
45. Monday, November 03, 2008	Friday, November 07, 2008	95,464,095
46. Monday, November 10, 2008	Friday, November 14, 2008	90,823,164
47. Monday, November 17, 2008	Friday, November 21, 2008	79,352,542
48. Monday, November 24, 2008	Friday, November 28, 2008	84,575,180
49. Monday, December 01, 2008	Friday, December 05, 2008	80,171,151
50. Monday, December 08, 2008	Friday, December 12, 2008	75,164,246
51. Monday, December 15, 2008	Friday, December 19, 2008	77,613,194
52. Monday, December 22, 2008	Friday, December 26, 2008	78,117,785
53. Monday, December 29, 2008	Friday, January 02, 2009	84,069,018
Average		\$108,575,036

AAR Regression for 2008 Beta with Corrected UP Shares 12:07 Friday, June 12, 2009 60
 STB-Style 5-Year Beta using SP 500 Price Index, Weighted RR Returns, 90-Day T-Bill as RF

The GLM Procedure

Dependent Variable: ZRR

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.14473912	0.14473912	189.00	<.0001
Error	258	0.19757910	0.00076581		
Corrected Total	259	0.34231822			

R-Square	Coeff Var	Root MSE	ZRR Mean
0.422820	933.3106	0.027673	0.002965

Source	DF	Type I SS	Mean Square	F Value	Pr > F
ZSP5	1	0.14473912	0.14473912	189.00	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
ZSP5	1	0.14473912	0.14473912	189.00	<.0001

AAR Regression for 2008 Beta with Corrected UP Shares 12:07 Friday, June 12, 2009 61
STB-Style 5-Year Beta using SP 500 Price Index, Weighted RR Returns, 90-Day T-Bill as RF

The GLM Procedure

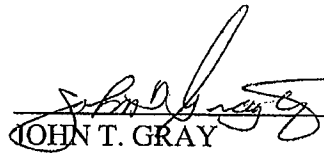
Dependent Variable: ZRR

Parameter	Estimate	Standard Error	t Value	Pr > t
Intercept	0.0038674780	0.00171748	2.25	0.0252
ZSP5	0.9343538171	0.06796402	13.75	<.0001

VERIFICATION

WASHINGTON, D.C.)
) SS.

I, John T. Gray, being duly sworn, state that I have read the foregoing statement, that I know its contents, and that those contents are true as stated.


JOHN T. GRAY

Subscribed and sworn to before me this 19th day of June 2009.


Notary Public

My Commission expires:

**Pamela C. Nwosu
Notary Public, District of Columbia
My Commission Expires 2/14/2012**

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

RAILROAD COST OF CAPITAL - 2008

)
)
)
Ex Parte No. 558
(Sub-No. 12)

**REPLY VERIFIED STATEMENT
OF
BRUCE E. STANGLE
CHAIRMAN, ANALYSIS GROUP, INC.
ON BEHALF OF
ASSOCIATION OF AMERICAN RAILROADS**

June 19, 2009

I. INTRODUCTION AND SUMMARY

1. My name is Bruce E. Stangle, and I submitted a verified statement in this proceeding on behalf of the Association of American Railroads ("AAR") on April 20, 2009. In that statement, I computed the railroad industry's cost of equity using the Morningstar/Ibbotson Multi-Stage Discounted Cash Flow ("MSDCF") model. My estimate was averaged with the cost of equity computed by the AAR using the Capital Asset Pricing Model ("CAPM"), and the average was used by the AAR as an input into its 2008 estimate of the railroad industry cost of capital.
2. I have been asked by counsel for the AAR to review the May 20, 2009 comments of the Western Coal Traffic League ("WCTL") and the Arkansas Electric Cooperative Corporation ("AECC") and discuss their criticisms concerning the Board's use of the MSDCF model in this proceeding and my MSDCF estimate of the 2008 railroad cost of equity. The WCTL's comments refer to the Verified Statement of Thomas D. Crowley and Daniel L. Fapp (hereafter, "Crowley and Fapp"), which I also discuss below.
3. There is nothing in the comments of the WCTL or the AECC that cause me to revise my estimate of the 2008 railroad cost of equity using the MSDCF model. I continue to believe the correct estimate based on that method is 16.29 percent. The method I used to derive this estimate is consistent with the Board's August 11, 2008 proposal and subsequent January 28, 2009 decision in STB Ex Parte No. 664 (Sub-No. 1). The method is also consistent with the most recent published documentation from Morningstar/Ibbotson describing its MSDCF model, and the method is reasonable from an economic and financial perspective.

II. THE 2008 RAILROAD COST OF EQUITY

4. The essence of the WCTL's comments is that the Board should reconsider its averaging of the MSDCF and CAPM cost of equity estimates because the

current MSDCF estimate is “implausibly high.”¹ I disagree. In fact, the changes in the MSDCF and CAPM cost of equity estimates between 2007 and 2008 only serve to confirm the Board’s wisdom in estimating the cost of equity through an average of the MSDCF and CAPM estimates.

5. Exhibit 1 shows that despite the relatively large changes in the MSDCF and CAPM estimates between 2007 and 2008, the average of the two estimates has remained stable. The 2008 average cost of equity of 13.35 percent is essentially the same as the 2007 average of 13.39 percent. The 2007 average cost of equity was known at the time that the Board adopted its averaging method,² and so the 2007 level itself is not unusual. In addition, Exhibit 1 shows that the AAR’s weighted average cost of capital estimate for 2008 (11.89 percent) is the same as the cost of capital that would have prevailed in the 2007 proceeding if the Board had used the averaging method for the cost of equity. As the Board stated in its January 17, 2008 decision in STB Ex Parte No. 664:³

Predictability is particularly important with regard to the cost of capital, as this calculation reflects the return the Board will permit carriers to earn on their capital investments and will therefore influence their investment decisions.

6. In its August 11, 2008 proposal to compute the cost of equity using an average of the CAPM and MSDCF model, the Board further noted that:⁴

[W]e sought a multi-stage DCF model that, when used in combination with CAPM, would enhance the precision of the resulting cost-of-equity estimate, one that over a sufficiently lengthy

¹ WCTL Comments, May 20, 2009, p. 3. The WCTL once again cites various *cost of capital* estimates by Standard & Poor’s and UBS as support for its argument that the MSDCF *cost of equity* estimate is too high. I addressed a very similar argument by the WCTL in section II of my October 14, 2008 verified statement in STB Ex Parte No. 664 (Sub-No. 1). I note that the WCTL once again makes the mistake of confusing the cost of equity and the cost of capital on pages 10-11 of its current reply (“the MSDCF figures are also substantially above the COC figures”). In addition, the UBS cost of capital figure is a fixed benchmark that has been used by UBS in evaluating railroad earnings at least as far back as 2002, and it has no particular relevance to this proceeding.

² See Exhibit 3 of my April 14, 2008 verified statement in STB Ex Parte No. 664 (Sub-No. 1).

³ STB decision in Ex Parte No. 664, January 17, 2008, p. 12.

⁴ STB proposal in Ex Parte No. 664 (Sub-No. 1), August 11, 2008, p. 4.

historical analysis period would result in a combined forecast with a lower variance than a forecast relying on the CAPM approach alone.

7. Exhibit 1 confirms that the Board's use of both the MSDCF and CAPM helps it to achieve the stability it seeks. If the Board were to follow the advice of the WCTL and AECC and disregard the information contained in the MSDCF estimate, the railroad cost of equity as measured by the CAPM would be highly volatile and for 2008 would fall by 2.27 percentage points (from 12.68 to 10.41) and the railroad cost of capital would fall by 1.75 percentage points (from 11.33 to 9.58). Although financial markets were highly volatile in 2008, I doubt it would be sound policy for the Board to determine that the railroad cost of equity had fallen by 18 percent in one year.
8. The recent volatility in the cost of equity estimates was anticipated by the U.S. Department of Transportation in its comments in STB Ex Parte No. 664 (Sub-No. 1) and was an important factor in its decision to support the Board's averaging proposal. The DOT's reasoning was as expressed as follows:⁵

The record in Ex Parte 664 demonstrated that an attempt to identify one financial model as superior in all respects to others is likely doomed to failure, because each possesses strengths, weaknesses, and some degree of arbitrariness. Moreover, the validity of different models may wax and wane with the state of the economy at any given time; one may be more responsive to short-term commercial or financial fluctuations, while another may deliver more stable results over longer periods.

Economic and financial academic research accordingly tends to favor combining different models in order to obtain results superior to those produced by a single model. Using two models in conjunction diminishes uncertainty and improves confidence in the overall estimate of the cost of equity, because each model adapts to changes in the economy in different ways, protecting against factors that might on occasion bias the results from a single model.

⁵ DOT Comments, STB Ex Parte No. 664 (Sub-No. 1), September 15, 2008, pp. 5-6.

III. THE USE OF MARKET DATA FROM MARCH 2009

9. Crowley and Fapp maintain that it is incorrect to use the value of common equity and analyst earnings forecasts as of March 2009 to estimate the 2008 railroad cost of equity. Their arguments do not make economic sense and are inconsistent with the method followed by Morningstar/Ibbotson. The use of data from March 2009 is the only way to ensure that the railroads' 2008 year-end financial results are incorporated into the 2008 MSDCF cost of equity estimate.
10. If the Board were to follow the method advocated by Crowley and Fapp of using market values and analyst forecasts from the end of December 2008, the resulting cost of equity would reflect railroad financial performance for at most the first three quarters of 2008, not the entire year. Year-end financial data are not released until after the close of the fiscal year, and for that reason Morningstar/Ibbotson uses market value and analyst projections from March 2009 in its 2008 MSDCF cost of equity estimates.
11. The flaw in the Crowley-Fapp position is perhaps best illustrated in the following paragraph from their verified statement:⁶

First, as a matter of application, the Morningstar/Ibbotson MS-DCF model uses the most recent market capitalization figures within the study year, and not three months after. Second, as a matter of finance theory, market values developed three months after the end of the study year will incorporate information and data that were not available to, and thus not considered by, the market during the subject period.
12. Crowley and Fapp's first statement confuses the Morningstar/Ibbotson "study year" with the *publication year* of the *Cost of Capital Yearbook*. In June of each year, Morningstar/Ibbotson publishes its annual *Cost of Capital Yearbook*, which is naturally titled as of the year it is published (i.e., the yearbook published in June 2009 will be titled the *2009 Cost of Capital Yearbook*). The June yearbook incorporates financial data released through March, and the data

⁶ Crowley and Fapp Verified Statement, May 20, 2009, p. 8.

released in March represent financial data for the previous calendar year. Thus the June yearbook represents a “study” of the *previous year’s* financial results. Crowley and Fapp’s first point is tantamount to saying that the Board’s forthcoming cost of capital decision represents the railroad cost of capital for 2009 because the decision is published in 2009.

13. Crowley and Fapp’s second statement actually supports the approach I used in my calculations. The primary example, of course, of “data that were not available to, and thus not considered by, the market during the subject period” are the *railroads’ 2008 year-end financial results*, which are not released until the first quarter of 2009. For the market to incorporate these critical data, the information must first be released, which is why Morningstar/Ibbotson does not begin their study of the previous year’s financial results until March of the following year.

IV. DEFERRED TAXES

14. The WCTL maintains that the MSDCF model contains a “grievous error” in that it does not allow for any repayment of the deferred tax liabilities that are carried on the balance sheets of the railroads. The deferred tax liability at any point in time is the sum of deferred taxes from previous periods that have not yet been paid.
15. The WCTL advocates that the third stage of the MSDCF model should be adjusted to draw down the deferred tax balance over time. This proposal is misguided for two basic reasons. First, the MSDCF model is a cash flow model, and it should not be manipulated in an ad hoc manner to achieve certain targets for balance sheet items (which are “stock” measures).⁷ Second, the MSDCF model assumes that the third stage embodies a “steady state” in which capital expenditures equal depreciation and railroad industry earnings grow at

⁷ Brealey, Myers, and Allen advise that in making financial decisions about what to discount “[o]nly cash flow is relevant.” See Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, 8th ed., McGraw-Hill Irwin, 2006, p. 113.

the same rate as the overall economy. The purpose of a steady state assumption is to create a situation “in which the company remains qualitatively similar year by year.”⁸ In a steady state where capital expenditures equal depreciation, the total deferred tax liability that exists on the balance sheet at the beginning of the steady state will be maintained in perpetuity. In a steady state, the deferred tax liability on the balance sheet remains constant because railroads’ total accelerated depreciation for tax purposes equals total straight line depreciation.⁹ New assets that are added to the railroads’ balance sheets during the steady state create an increase in the deferred tax liability that is offset by the reduction in the deferred tax liability that occurs as older assets reach the end of their useful lives, and so there is no net effect on the total size of the deferred tax liability balance. Thus, there is nothing at all improper with the Morningstar/Ibbotson assumption that the deferred tax balance remains “unpaid” in perpetuity. In fact, to adopt the WCTL proposal that this balance be eliminated would violate the steady state condition that the firm should remain qualitatively similar year after year.

16. The fact that the total deferred tax liability on the railroads’ balance sheets remains unchanged in the steady state does not mean that taxes are going unpaid. The income before extraordinary items (“IBEI”) measure on which cash flows in the third stage of the model are based is net of both current and deferred taxes. That is, in the third stage, the MSDCF model assumes that the full tax bill is paid in cash every period. Crowley and Fapp are simply incorrect when they state that “While the Morningstar/Ibbotson MS-DCF accounts for

⁸ Joakim Levin and Per Olsson, “Terminal Value Techniques in Equity Valuation - Implications of the Steady State Assumption,” SSE/EFI Working Paper Series in Business Administration No. 2000:7 (June 2000), p. 2. The steady state condition in which capital expenditures are set equal to depreciation in the terminal period is discussed in Steven N. Kaplan and Richard S. Ruback, “The Valuation of Cash Flow Forecasts: An Empirical Analysis,” *Journal of Finance*, September 1995, pp. 1059-1093.

⁹ Clyde P. Stickney, et al. *Financial Accounting: An Introduction to Concepts, Methods, and Uses*, South-Western, 2007, pp. 536-545 (showing that total income taxes payable and total income tax expense are the same when operations remain the same year after year and tax rates do not change).

deferred taxes in its first two stages, it fails to account for the impact of deferred taxes in the model's final stage.”¹⁰

17. Crowley and Fapp's misconception leads them to make an ad hoc adjustment to the third stage cash flows that is completely inappropriate. The proposed adjustment that Crowley and Fapp make to average earnings before extraordinary items is shown in Exhibit 2 using data for Burlington Northern Santa Fe (BNI) as an example. The proposed adjustment decreases the IBEI value that is used as an input to the third stage cash flows from \$2,020 million to \$1,657 million, which represents an increase in the firm's effective tax rate from 37 percent to 49 percent. The imposition of such an artificially high tax burden on the firm illustrates that this is an inappropriate method for modeling the steady state, as the firm is not maintained in a qualitatively similar position. In effect, the 49 percent tax burden would continue in perpetuity. The third stage adjustment made by Crowley and Fapp is purely result-oriented and has no basis in theory or industry practice.
18. In addition, the WCTL's proposal to reduce the total deferred tax balance of the railroads to zero during the third stage of the model would effectively require depreciation to exceed capital expenditures in the third stage of the model. Assuming a negative net investment rate would violate one of the key features of the MSDCF model, which is that firms should remain essentially unchanged in the third stage, growing at the rate of the overall economy. If one were to assume that a company has negative net investment in perpetuity (i.e., that depreciation exceeds capital expenditures), as the WCTL implicitly proposes, the firm's assets would eventually go to zero and the railroad industry would cease to exist. One cannot adjust the MSDCF model in a piecemeal fashion without considering the interrelated effects of changing assumptions. In this case, adopting the WCTL's proposal regarding the treatment of deferred taxes would result in a nonsensical model from an economic perspective.

¹⁰ Crowley and Fapp Verified Statement, May 20, 2009, p. 15.

V. REPLY TO COMMENTS OF THE AECC

19. The AECC proposes several result-oriented adjustments to the CAPM and MSDCF model that lack any foundation in economics or finance. The primary “corrections” advocated by the AECC include: (i) setting the beta estimate in the CAPM to 0.70; (ii) estimating the MSDCF model using the market value of common equity averaged over the year; and (iii) truncating the earnings growth projections of analysts at the level they would produce revenue adequacy for the railroad industry.¹¹
20. Setting the beta value in the CAPM to 0.70 is arbitrary and without economic support. The argument made by the AECC is similar to previous proposals in STB Ex Parte No. 664 that betas should be estimated over a long period of time to promote stability in the estimates. As I indicated in my written testimony to the Board in STB Ex Parte No. 664, beta depends primarily on how changes in a company’s stock price are tied to changes in the overall economy. Such relationships can and do change substantially over time as a firm’s mix of business changes, the firm acquires or divests assets, or the ratio of debt to equity changes, just to name a few factors. Such changes directly affect a firm’s beta and the premium over the risk-free rate that investors will demand to hold that particular stock in their portfolio. There is no sound basis in economics for fixing the value of beta to be used in the CAPM, particularly at such a low level.
21. In previous submissions as part of STB Ex Parte No. 664, I have presented evidence that railroad betas have increased as the standard five-year estimation period moved forward in time.¹² As railroads have become a more integral part of the global supply chain in recent years, railroad stock prices have become more closely tied to factors affecting the economy as a whole, with the result

¹¹ AECC Comments, May 20, 2009, pp. 3, 12.

¹² See “Verified Statement of R. Glenn Hubbard and Bruce E. Stangle,” STB Ex Parte No. 664, September 27, 2007, Exhibits 1a-1d.

being that railroad betas have increased towards 1.0, and in some years have exceeded 1.0.¹³

22. The AECC's recommendations regarding the implementation of the MSDCF model only serve to highlight the Board's foresight in selecting a model developed by a disinterested third party. As the Board indicated in its August 11, 2008 proposal to adopt the Morningstar/Ibbotson MSDCF model for use in conjunction with the CAPM:¹⁴

[W]e believe it is prudent to use an approach that was not developed simply as a tool for litigation before the Board, but rather to use an approach that has been tested in the marketplace and is used to estimate the cost of equity for different industries, not just the rail industry.

23. There are an endless number of ad hoc adjustments similar to those proposed by the AECC that could be made to the implementation of the MSDCF model. I believe the Board should ignore such proposals in their entirety and continue to rely on the well established methodology of the Morningstar/Ibbotson MSDCF model.

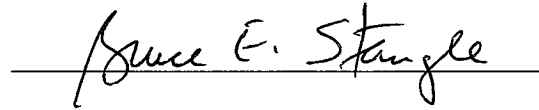
¹³ For evidence on railroad betas over time, see written testimony of Bruce E. Stangle, "Summary of the Presentation of the American Association of Railroads," STB Ex Parte No. 664, February 12, 2007.

¹⁴ STB proposal in Ex Parte No. 664 (Sub-No. 1), August 11, 2008, p. 6.

VERIFICATION

I, Bruce E. Stangle, declare under penalty of perjury that the foregoing is true and correct.

Executed on June 19, 2009

A handwritten signature in cursive script, reading "Bruce E. Stangle", is written over a horizontal line.

Bruce E. Stangle

Exhibit 1
WACC Estimates Using STB CAPM and Average of CAPM and MSDCF

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<u>Cost of Common Equity</u>											
CAPM ¹	11.80%	11.34%	10.89%	10.48%	9.83%	9.74%	10.19%	10.43%	11.13%	12.68%	10.41%
MSDCF ²	12.31%	13.80%	12.41%	11.64%	12.73%	13.51%	12.55%	13.48%	14.57%	14.10%	16.29%
Average of CAPM, MSDCF	12.05%	12.57%	11.65%	11.06%	11.28%	11.62%	11.37%	11.96%	12.85%	13.39%	13.35%
Cost of Preferred Equity ³	6.19%	6.30%	6.30%	6.30%	6.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cost of Debt ³	6.64%	7.20%	8.00%	6.90%	6.00%	5.00%	5.25%	5.36%	5.97%	6.15%	6.57%
<u>Weights³</u>											
Common Equity	0.6264	0.6272	0.5210	0.5600	0.5670	0.5720	0.6149	0.6959	0.7695	0.7932	0.7846
Preferred Equity	0.0135	0.0182	0.0250	0.0220	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Debt	0.3601	0.3546	0.4540	0.4180	0.4120	0.4280	0.3851	0.3041	0.2305	0.2068	0.2154
<u>WACC</u>											
CAPM	9.87%	9.78%	9.46%	8.89%	8.18%	7.71%	8.29%	8.89%	9.94%	11.33%	9.58%
Average of CAPM, MSDCF	10.03%	10.55%	9.86%	9.22%	9.00%	8.79%	9.01%	9.95%	11.26%	11.89%	11.89%

Sources:

1. 1998-2005: Exhibit 3, Stangle Verified Statement, April 14, 2008.
2006-2007: Final STB decisions in Ex Parte No. 558 (Sub-No. 10-11).
2008: Table 13a, Gray Reply Verified Statement, June 19, 2009.
2. 1998-2007: Exhibit 3, Stangle Verified Statement, April 14, 2008.
2008: Exhibit 3, Stangle Verified Statement, April 20, 2009.
3. 1998-2007: Final STB decisions in Ex Parte No. 558 (Sub-No. 2-11).
2008: Table 15a, Gray Reply Verified Statement, June 19, 2009.

Exhibit 2
Crowley-Fapp Average Cash Flow Calculation for BNI in 2008
(\$ in Millions)

	2004	2005	2006	2007	2008	Total
Net Income	\$791	\$1,531	\$1,887	\$1,829	\$2,115	\$8,153
Less : Extraordinary Items	\$0	\$0	\$0	\$0	\$0	\$0
IBEI	\$791	\$1,531	\$1,887	\$1,829	\$2,115	\$8,153
Capital Expenditures	\$1,527	\$1,750	\$2,014	\$2,248	\$2,175	\$9,714
Depreciation	\$1,012	\$1,075	\$1,130	\$1,293	\$1,397	\$5,907
Deferred Taxes	\$237	\$217	\$314	\$280	\$417	\$1,465
CF	\$513	\$1,073	\$1,317	\$1,154	\$1,754	\$5,811
Sales	\$10,946	\$12,987	\$14,985	\$15,802	\$18,018	\$72,738
	Ratio of CF to Sales $[\$5,811 / \$72,738] =$					0.07989
	Average Cash Flow in 2008 $[0.07989 \times \$18,018] =$					\$1,439
Income Before Income Taxes	\$1,273	\$2,448	\$2,992	\$2,957	\$3,368	\$13,038
Current Taxes	\$245	\$700	\$791	\$848	\$836	\$3,420
	Ratio of IBEI to Sales $[\$8,153 / \$72,738] =$					0.11209
	Morningstar / Ibbotson Average IBEI in 2008 $[0.11209 \times \$18,018] =$					\$2,020
	Ratio of (IBEI - Deferred Taxes) to Sales $[(\$8,153 - \$1,456) / \$72,738] =$					0.09195
	Crowley / Fapp Average IBEI in 2008 $[0.09195 \times \$18,018] =$					\$1,657
	Morningstar / Ibbotson Implied Tax Rate $[(\$3,420 + \$1,465) / \$13,038] =$					37%
	Crowley / Fapp Implied Tax Rate $[(\$3,420 + \$1,465 + \$1,465) / \$13,038] =$					49%

Source: Burlington Northern Santa Fe Corporation, Form 10-K for the years ended December 31, 2004-2008.