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Via Electronic Filing

Ms. Cynthia T. Brown
 Chief, Section of Administration
 Office of Proceedings
 Surface Transportation Board
 395 E Street, S.W.
 Washington, D.C. 20423

ENTERED
 Office of Proceedings
 September 16, 2013
 Part of
 Public Record

Re: STB Docket No. EP 664 (Sub-No. 2), *Petition of the Western Coal Traffic League to Institute a Rulemaking Proceeding to Abolish Use of the Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital*

Dear Ms. Brown:

Enclosed for filing in the above-referenced proceeding is the Reply of the Association of American Railroads ("AAR") to the Western Coal Traffic League's Petition to Institute a Rulemaking Proceeding to Abolish the Use of the Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital.

This filing includes a Verified Statement by John T. Gray, AAR's Senior Vice President – Policy & Economics. A disc containing Mr. Gray's electronic workpapers is being transmitted to the Board under separate cover.

Thank you for your assistance in this matter. If you have any questions, please let us know.

Sincerely,

Matthew J. Warren

Enclosures

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

PETITION OF THE WESTERN COAL
TRAFFIC LEAGUE TO INSTITUTE A
RULEMAKING PROCEEDING TO ABOLISH
THE USE OF THE MULTI-STAGE
DISCOUNTED CASH FLOW MODEL IN
DETERMINING THE RAILROAD
INDUSTRY'S COST OF CAPITAL

Ex Parte 664 (Sub-No. 2)

REPLY OF THE ASSOCIATION OF AMERICAN RAILROADS

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**BEFORE THE
SURFACE TRANSPORTATION BOARD**

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Ex Parte 664 (Sub-No. 2)

REPLY OF THE ASSOCIATION OF AMERICAN RAILROADS

The Association of American Railroads (“AAR”) and its members respectfully submit this Reply to the Western Coal Traffic League’s (“WCTL’s”) Petition to Institute a Rulemaking Proceeding to Abolish the Use of the Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry’s Cost of Capital (“Petition”). WCTL’s Petition does not come close to satisfying its burden to justify reopening the Board’s well-settled and well-supported decision to average the Capital Asset Pricing Model (“CAPM”) with a Multi-Stage Discounted Cash Flow model (“multi-stage DCF”) when determining the railroad industry’s cost of equity. That decision was the product of an extensive, detailed rulemaking proceeding in which the Board amassed a substantial record through six rounds of comments and two public hearings. Far from providing grounds to revisit that decision, WCTL’s Petition simply repackages many of the same criticisms of the Morningstar/Ibbotson multi-stage DCF model that WCTL made and the Board rejected in the Ex Parte 664 (Sub-No. 1) proceeding and in subsequent annual cost-of-capital

proceedings. There is no need for the Board to devote its limited resources to yet another cost-of-capital rulemaking to reconsider arguments that it has already found to be “without merit.”¹

Section I of this Reply details the procedural history of the Board’s adoption of the Morningstar/Ibbotson multi-stage DCF model as a factor in its cost of equity calculations, the strong support in the rulemaking record for the Board’s current approach, and the fact that many of the arguments in WCTL’s Petition have already been considered and rejected by the Board. Section II addresses WCTL’s specific criticisms of the Morningstar/Ibbotson multi-stage DCF model. As demonstrated by the attached Verified Statement of John T. Gray, AAR’s Senior Vice President – Policy & Economics (“Gray V.S.”), many of WCTL’s criticisms echo arguments that the Board previously rejected, and all of them are meritless.

I. BACKGROUND AND PROCEDURAL HISTORY.

The Board annually measures the railroad industry’s current cost of capital and uses that figure for a variety of regulatory purposes. The Board calculates the cost of capital as a weighted average of the industry’s cost of debt and its cost of equity, with the weights determined by the capital structure of the industry. *See Multi-Stage DCF Adoption* at 2. While cost of debt calculations are relatively straightforward (because cost of debt can be directly observed from publicly available information on outstanding long-term debt instruments), cost of equity cannot be directly observed and must be based upon one or more finance models.

The Board’s current approach to estimating the cost of equity is the result of extensive agency proceedings in which the Board received six rounds of comments, conducted two public hearings, consulted with other government agencies, and thoroughly considered the merits of

¹ *Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry’s Cost of Capital*, STB Ex Parte No. 664 (Sub-No. 1), at 8 (Jan. 23, 2009) (“*Multi-Stage DCF Adoption*”).

various cost of equity approaches. The Board’s eventual decision to estimate cost of equity by averaging the results of CAPM and the Morningstar/Ibbotson multi-stage DCF model was supported by this administrative record and strongly endorsed by the U.S. Department of Transportation. WCTL was an active participant in those proceedings, and the Board “carefully scrutinized” WCTL’s objections to use of the Morningstar/Ibbotson multi-stage DCF model before rejecting those arguments. *Multi-Stage DCF Adoption* at 8. A brief summary of these prior proceedings demonstrates both how thoroughly the Board has considered these issues and the lack of support for instituting another rulemaking for WCTL to renew its stale complaints.

A. Ex Parte 664: The Board Explores Alternatives to Single-Stage DCF.

For many years the Board and its predecessor agency used a single-stage DCF model to estimate cost of equity. *See Railroad Cost of Capital – 1981*, 365 I.C.C. 734, 741 (1982). After that methodology was criticized by WCTL during proceedings for the 2005 cost of capital determination, the Board issued an Advance Notice of Proposed Rulemaking to explore alternative methodologies for calculating the cost of capital. *See Methodology To Be Employed in Determining the Railroad Industry’s Cost of Capital*, STB Ex Parte No. 664 (Sept. 20, 2006). After considering parties’ comments and after conducting a public hearing, the Board issued a Notice of Proposed Rulemaking (“NPRM”) to replace the single-stage DCF with CAPM. *See Methodology To Be Employed in Determining the Railroad Industry’s Cost of Capital*, STB Ex Parte No. 664 (Aug. 14, 2007). The Board received another two rounds of comments on that NPRM and conducted another public hearing, in which multiple parties advocated for the use of a multi-stage DCF model as a reasonable alternative to the single-stage DCF. For example, the U.S. Department of Transportation argued that “no single methodology has a monopoly on producing reasonable, real-world estimates” and thus that the Board’s analysis should “include

other methodologies such as multi-stage DCF.” Hearing Statement of the U.S. Department of Transportation at 2, 3, Ex Parte No. 664 (filed Nov. 26, 2007).

In *Methodology To Be Employed in Determining the Railroad Industry’s Cost of Capital*, STB Ex Parte No. 664 (Jan. 17, 2008), the Board adopted its NPRM proposal to replace single-stage DCF with a CAPM approach. But in doing so, the Board recognized that there could be merit to using a multi-stage DCF model in conjunction with CAPM to estimate the cost of equity. *See id.* at 13 (“While CAPM is a widely accepted tool for estimating the cost of equity, it has certain strengths and weaknesses, and it may be complemented by a DCF model. . . . [B]y taking an average of the results from the two approaches, we might be able to obtain a more reliable, less volatile, and ultimately superior estimate than by relying on either model standing alone.”). The Board found that it did not yet have a sufficient record to select a particular multi-stage DCF model, but that it would “explore in a separate sub-proceeding the possibility of using an average of CAPM and a reasonable multi-stage DCF model.” *Id.* at 14.

B. Ex Parte 664 (Sub-No. 1): The Board Considers Complementing CAPM With A Multi-Stage DCF Model.

Shortly after its Ex Parte 664 decision, the Board instituted a new subproceeding to consider using a multi-stage DCF model to complement CAPM for cost of equity calculations. *See Methodology To Be Employed in Determining the Railroad Industry’s Cost of Capital*, STB Ex Parte No. 664 (Sub-No. 1) (Feb. 11, 2008). The Board received comments on an Advance Notice of Proposed Rulemaking and then another two rounds of comments on a Notice of Proposed Rulemaking that proposed to use the Morningstar/Ibbotson model in conjunction with CAPM. *See Methodology To Be Employed in Determining the Railroad Industry’s Cost of Capital*, STB Ex Parte No. 664 (Sub-No. 1) (Aug. 11, 2008) (“*Multi-Stage DCF NPRM*”).

In the *Multi-Stage DCF NPRM*, the Board recognized that both testimony in Ex Parte No. 664 and “robust economic literature” confirmed that “in many cases, combining forecasts from different models is more accurate than relying on a single model.” *Id.* at 2-3 & n.3. The Board noted that a combination of the two approaches was particularly attractive because CAPM and multi-stage DCF were complementary models that took different approaches to calculating the same estimate. *See id.* at 2. The *Multi-Stage DCF NPRM* proposed using the Morningstar/Ibbotson multi-stage DCF model as a complement to CAPM, noting that it was a multi-stage model that incorporated a wide variety of cash flows, could be modified to include only the Class I carriers used in the cost of capital calculation, and would enhance the precision of the cost of equity estimate when used in conjunction with CAPM. *See id.* at 3-4.

The Board’s proposal was strongly supported by multiple parties, including AAR and the U.S. Department of Transportation.² WCTL objected to the Board’s proposal and identified a number of alleged shortcomings in the Morningstar/Ibbotson model. *See* Opening Comments of WCTL, STB Ex Parte No. 664 (Sub-No. 1) (filed Sept. 15, 2008). For example, WCTL argued that the Morningstar/Ibbotson model should be rejected because it allegedly produced costs of equity higher than those in some stock analysts’ reports, *see id.* at 25-26; because its second-stage growth rate did not incorporate “a gradual transition” between first-stage and third-stage growth rates, *id.* at 5-10; and because it failed to account for the impact of actions like share repurchases on growth in earnings per share. *See id.* at 12-14.

² *See* Comments of the U.S. Dep’t of Transp. at 1, Ex Parte 664 (Sub-No.-1) (filed Sept. 15, 2008). (“[USDOT] continues to support generally the use of MS-DCF in conjunction with CAPM to improve the reliability and stability of the STB’s cost of equity calculation, and supports in particular the Board’s choice of the Morningstar/Ibbotson MS-DCF model.”).

On January 23, 2009, the Board adopted the average of the Morningstar/Ibbotson multi-stage DCF and CAPM as its methodology for cost-of-equity calculations. *See Multi-Stage DCF Adoption* at 15. In doing so, the Board noted that its “technical staff carefully scrutinized the four criticisms raised by WCTL regarding the Morningstar/Ibbotson multistage DCF model,” and the Board found that all of WCTL’s arguments were “without merit.” *Id.* at 8-14. Neither WCTL nor any other party sought appellate review of the Board’s final rule.

C. WCTL Collateral Attacks on Ex Parte 664 (Sub-No. 1) Rule in Annual Ex Parte 558 Proceedings.

The Board’s final Ex Parte 664 (Sub-No. 1) rule has not gone unchallenged, however. On the contrary, WCTL perennially uses the Board’s annual cost-of-capital proceedings to launch collateral attacks on the use of multi-stage DCF. Many of these attacks have repeated the same arguments that the Board rejected in *Multi-Stage DCF Adoption* and that WCTL repeats again in its Petition. For example, WCTL has used the annual 558 proceedings to complain that the Morningstar multi-stage DCF produces higher cost of equity results than CAPM,³ that it produces results higher than those of certain stock analysts,⁴ and that it fails to account for the effect of share repurchases.⁵ The Board has rejected these attacks, both on the merits and as procedurally improper.⁶

³ *See* Reply Comments of WCTL at 3, Ex Parte No. 558 (Sub-No. 12) (filed Mar. 9, 2009); Reply Comments of WCTL at 7, Ex Parte No. 558 (Sub-No. 15) (filed May 10, 2012); Reply Comments of WCTL at 1, Ex Parte No. 558 (Sub-No. 16) (filed May 10, 2013).

⁴ *See* Reply Comments of WCTL at 10-11, Ex Parte No. 558 (Sub-No. 12) (filed Mar. 9, 2009); Reply Comments of WCTL at 7, Ex Parte No. 558 (Sub-No. 15) (filed May 10, 2012).

⁵ *See* Reply Comments of WCTL at 1, Ex Parte No. 558 (Sub-No. 16) (filed May 10, 2013).

⁶ *See Railroad Cost of Capital—2012*, at 9, Ex Parte No. 558 (Sub-No. 16) (July 31, 2013) (refusing to address WCTL argument); *Railroad Cost of Capital—2011*, at 15, Ex Parte No. 558 (Sub-No. 15) (Sept. 11, 2012) (both rejecting WCTL arguments on merits and holding that they were improper collateral attacks on Ex Parte 664 (Sub-No. 1) rule); *Railroad Cost of Capital—*

* * *

The Board's current approach was adopted after almost two-and-a-half years of proceedings in which the Board considered six rounds of comments, held two public hearings, and consulted with multiple other federal agencies. And the current approach was adopted after the Board considered and rejected arguments from WCTL that mirror almost every argument in its Petition. There is no need for the Board to conduct yet another rulemaking to revisit a conclusion that is eminently correct.

II. WCTL'S PETITION DOES NOT PROVIDE SUFFICIENT GROUNDS FOR REOPENING THE EX PARTE 664 (SUB-NO. 1) RULEMAKING.

The Board has made clear that it will not entertain further challenges to its cost of capital methodology unless a party "can show why the Board should reopen this [*Multi-Stage DCF Adoption*] decision." *Railroad Cost of Capital—2008*, at 2, Ex Parte No. 558 (Sub-No. 12) (Sept. 24, 2009). None of WCTL's arguments come close to meeting this burden. WCTL touts the fact that it has chosen to raise its complaints in a petition for rulemaking rather than an annual cost of capital proceeding, but that does not change the fact that WCTL is making the same arguments that it made and that the Board rejected in the Ex Parte 664 (Sub-No. 1) proceeding.

In the first place, WCTL's petition is fatally incomplete. Even if its specific criticisms of the Morningstar/Ibbotson multi-stage DCF model were valid (and they are not), WCTL has not supported its requested relief: that the Board abandon multi-stage DCF models altogether and rely exclusively on CAPM for calculating cost of equity. Nowhere does WCTL challenge the Board's conclusions (1) that multi-stage DCF is an economically valid method for estimating

2008, at 2, Ex Parte No. 558 (Sub-No. 12) (Sept. 24, 2009) (refusing to address WCTL arguments).

cost of equity and (2) that averaging CAPM and a multi-stage DCF model produces “a more reliable, less volatile, and ultimately superior estimate” than would be produced by “relying on either model standing alone.” *Multi-Stage DCF Adoption* at 3. Indeed, WCTL and one of its experts both admit that multi-stage DCF is “generally” a valid technique for cost of equity estimates, and that their only quarrel is with the Morningstar/Ibbotson model. Petition at 9; *id.*, Hodder V.S. at 11.⁷ To justify its requested rule that the Board abandon its past decisions to incorporate a multi-stage DCF model into the cost of capital analysis, it is not enough for WCTL to quibble with the Morningstar/Ibbotson DCF model. WCTL rather has to show that the Board should not be using any multi-stage DCF model. It has not even attempted to make that showing.

Regardless, none of WCTL’s criticisms of the Morningstar/Ibbotson multi-stage DCF model withstand scrutiny. The attached Verified Statement of John Gray demonstrates that each of WCTL’s arguments is unsupported and invalid.

First, WCTL argues that the Morningstar/Ibbotson model is suspect because in recent years it has produced cost of equity estimates higher than the CAPM results. Petition at 5-6. But as the Board recognized when rejecting this same argument previously, the fact that CAPM and a multi-stage DCF model will produce differing results provides no justification for asserting that one model is superior to the other—on the contrary, the expectation of differing results is the whole reason for the Board’s decision to average the two models. *See Railroad Cost of Capital—2011*, at 15, Ex Parte No. 558 (Sub-No. 15) (Sept. 11, 2012); Gray V.S. at 2. And as

⁷ In past proceedings WCTL similarly has endorsed the use of multi-stage DCF models. *See* Reply Comments of WCTL at 19, Ex Parte No. 664 (filed Oct. 29, 2007) (“[A] multiple-stage DCF model, properly applied, has considerable potential to serve as a check on the reasonableness of application of the CAPM approach”).

the Board observed in *Arizona Electric Power Cooperative, Inc. v. BNSF Railway Co. & Union Pacific Railroad Co.*, a difference between CAPM and Multi-Stage DCF results in recent years does not mean that the Multi-Stage DCF results are too high—on the contrary, “it is just as likely that CAPM results in a cost of equity that is too low.” *Arizona Electric Power Coop., Inc. v. BNSF Ry. Co. & Union Pacific R.R. Co.*, STB Docket No. NOR 42113, at 137 (Nov. 16, 2011).

In fact, Mr. Gray’s Verified Statement shows that the disparity between multi-stage DCF and CAPM in recent years is more likely due to CAPM understating the cost of equity. *See Gray V.S.* at 3-6. Because the interest rate on 20-year U.S. Treasury bonds is a direct input to CAPM (and not to multi-stage DCF), the extraordinarily low interest rates driven by Federal Reserve actions in response to the recent economic recession has significantly depressed CAPM results from where they would have been in a more typical interest environment. *See id.* at 5-6. If the Board were to institute another cost of capital rulemaking (and it should not), then such a rulemaking would have to include an investigation of whether the Board’s current version of CAPM should be adjusted or excluded from the cost of equity analysis. It would be unfair and irrational to grant WCTL’s request for a proceeding limited to investigating the alleged shortcomings of the model that produces results WCTL does not like while ignoring the limitations of the model that produces results it does like.

Indeed, WCTL’s affection for the CAPM methodology appears to be a direct result of the artificially low interest environment. As Mr. Gray’s statement explains, the higher interest rates of the early 1980s would have caused CAPM to produce cost of equity over 20%. *See Gray V.S.* at 5, Chart 1. As a result, WCTL and other shipper groups strenuously opposed the use of CAPM in Interstate Commerce Commission cost of capital proceedings in the early 1980s, arguing that it “produces erroneous estimates of the cost of capital”:

One shipper notes that the CAPM approach is falling into disfavor in the financial community, while another cites literature which concludes that CAPM provides a poor explanation of how capital assets are priced. The shippers, in extended discussions, point out the unreasonableness of the many assumptions upon which the CAPM methodology is based.

Because the shippers believe that the CAPM produces erroneous estimates of the cost of capital, none of the shippers produced its own CAPM analysis.

Railroad Cost of Capital—1981, 365 I.C.C. 734, 740 (1982). WCTL’s historical pattern of favoring whichever cost of capital methodology happens to produce lower numbers at the time is no reason for the Board to institute a rulemaking. On the contrary, the historical fluctuations in CAPM confirm the wisdom of the Board’s decision to average two independent methodologies when determining the railroad industry’s cost of equity.

Second, WCTL argues that the Morningstar/Ibbotson multi-stage DCF results are “unrealistically high” when compared to analyst estimates. Petition at 6-7. Once again, this argument is a warmed-over version of one that WCTL has made in several prior proceedings.⁸ Moreover, Mr. Gray shows that only two of the sources cited by WCTL’s expert calculated individual railroad cost of equity calculations, and that each of those sources is suspect. *See Gray V.S.* at 9-10. One repeats the same cost of equity value in several years (raising serious questions about how those values are calculated), and the other is a small internet firm whose expertise was not substantiated. *See id.*

Third, WCTL claims that the second stage of the Morningstar/Ibbotson multi-stage DCF model does not have a “gradual transition” to link the third stages. Petition at 8. This too is a recycled argument from Ex Parte 664 (Sub-No. 1) that the Board firmly rejected. *See Multi-Stage DCF Adoption* at 8-9; Opening Comments of WCTL at 5-10, STB Ex Parte No. 664 (Sub-

⁸ *See* Opening Comments of WCTL at 25-26, STB Ex Parte No. 664 (Sub-No. 1) (filed Sept. 15, 2008); Reply Comments of WCTL at 10-11, Ex Parte No. 558 (Sub-No. 12) (filed Mar. 9, 2009); Reply Comments of WCTL at 7, Ex Parte No. 558 (Sub-No. 15) (filed May 10, 2012).

No. 1) (filed Sept. 15, 2008). And as Mr. Gray notes, there is no basis for WCTL's claim that the second stage of the model is or must be a "transition stage" between the first stage and third stage growth rates, for "transition stage" is a term nowhere used by Morningstar/Ibbotson to describe its model. Gray V.S. at 12.

Fourth, WCTL reiterates the arguments it made in Ex Parte 664 (Sub-No. 1) and the most recent annual cost of capital proceeding about the potential impact of stock repurchases on earnings per share estimates. Petition at 8.⁹ As Mr. Gray explains, the effect of share repurchases is reflected in analyst estimates to the extent that such purchases are known, and there is no basis to assume that the Morningstar/Ibbotson methodology will not adequately incorporate the effects of share repurchases over time. *See* Gray V.S. at 13-14.

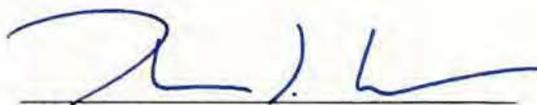
Fifth, WCTL and its expert Dr. Hodder express various concerns about the quantity of analyst forecasts and allegedly unrealistic forecasts of individual railroad growth and the long-run growth rate for the U.S. economy. But as Mr. Gray explains, higher individual railroad growth forecasts are not unrealistic, both because railroad cash flows have been growing faster than the economy for a number of years and because railroad cash flow as a percent of net income still lags behind other industries. *See* Gray V.S. at 15. Moreover, Dr. Hodder's belief that the third stage growth rate produced by the Morningstar/Ibbotson multi-stage DCF is too high appears to be based on little more than his judgment of the economy's recent short-term performance and does not constitute a legitimate basis to conclude that the model's growth projections are invalid. *See id.* at 16.

⁹ *See* Opening Comments of WCTL at 12-14, STB Ex Parte No. 664 (Sub-No. 1) (filed Sept. 15, 2008); Reply Comments of WCTL at 1, Ex Parte No. 558 (Sub-No. 16) (filed May 10, 2013).

CONCLUSION

The CAPM/Multi-Stage DCF averaging approach is the product of several years of consideration and substantial efforts by the Board and its staff to develop a reasonable methodology for estimating the railroad industry's cost of equity. WCTL's Petition does not justify reopening that settled administrative record, which thoroughly addressed many of the same arguments WCTL raises in its Petition. The Board should not devote its limited resources to another cost of capital rulemaking (which in fairness would have to reexamine the CAPM model alongside the multi-stage DCF model), and WCTL's Petition should be denied.

Respectfully submitted,



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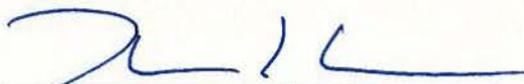
Counsel for the Association of American Railroads

September 16, 2013

CERTIFICATE OF SERVICE

I hereby certify this 16th day of September, 2013, that I have served copies of the foregoing on all parties of record in this proceeding.

Robert D. Rosenberg
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A handwritten signature in blue ink, appearing to read 'M. J. Warren', written over a horizontal line.

Matthew J. Warren

BEFORE THE
SURFACE TRANSPORTATION BOARD

EX PARTE NO. 664 (Sub-No. 2)

PETITION OF THE WESTERN COAL TRAFFIC LEAGUE TO INSTITUTE A
RULEMAKING PROCEEDING TO ABOLISH THE USE OF THE MULTI-STAGE
DISCOUNTED CASH FLOW MODEL IN DETERMINING THE RAILROAD INDUSTRY'S
COST OF EQUITY CAPITAL

VERIFIED STATEMENT

OF

JOHN T. GRAY

SENIOR VICE PRESIDENT — POLICY AND ECONOMICS

ASSOCIATION OF AMERICAN RAILROADS

September 16, 2013

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Verified Reply 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 425 Third Street, S.W., Washington, DC 20024. 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 as well as a substantial number of smaller freight railroads, account for about 97 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.

A summary of my qualifications and experience appears at the end of this statement. Most recently, I submitted a verified statement on behalf of the Association of American Railroads in Ex Parte No. 558 (Sub-No. 16) on April 19, 2013. In this submission, I am responding to the August 27, 2013, Western Coal Traffic League (WCTL) petition to abolish the use of the Multi-Stage Discounted Cash Flow model (MSDCF) in determining the railroad industry’s cost of equity capital.

II. General Comments

As an initial matter, I note that many of the observations and arguments in WCTL's petition have already been made in STB Ex Parte No. 664 (Sub-No. 1) and, less appropriately, in the annual proceedings relating to cost of capital determinations such as STB Ex Parte No. 558 (Sub-No. 15) and (Sub-No. 16).

Each cost of equity estimation model has its strengths and weaknesses. However, it should be recognized that it is possible only to estimate the cost of equity. No model's results can ever be regarded as a mathematically precise depiction of the market's perception of equity costs. The two models used currently by the Board are sensitive to different variables and, as such, will react differently to various economic stimuli or economic policies. WCTL seems to regard this as a weakness of the current Cost of Capital process. Rather, it is a strength. The Board has been wise in its use of two models, since, as I will note below, any single model can exaggerate the impact of a specific trend at a particular point in time. A more accurate estimate of equity cost relies upon multiple tools designed to estimate equity costs in very different ways and then combines these estimates into a single value. To obtain the best overall measure of the cost of railroad equity, the Board should continue to utilize the multiple methods specified in its current rules.

III. CAPM and the Cost of Equity

WCTL claims that over the 2008-2012 period use of the MSDCF model has increased the cost of equity substantially higher than that which would have been produced by exclusive application of the Capital Asset Pricing Model (CAPM). The Board has repeatedly rejected

similar arguments from WCTL and others in prior proceedings,¹ and it has rightly concluded that a difference between CAPM and Multi-Stage DCF results in recent years does not mean that the Multi-Stage DCF results are too high—on the contrary, “it is just as likely that CAPM results in a cost of equity that is too low.” *Arizona Electric Power Coop., Inc. v. BNSF Ry. Co. & Union Pacific R.R. Co.*, STB Docket No. NOR 42113, at 137 (Nov. 16, 2011).

A more accurate assessment of the results would be that the CAPM *decreased* the cost of equity substantially during this time frame, because interest rates have been artificially depressed by government actions (instead of determined by the markets). As I noted above, both models have their strengths and weaknesses, with neither being the single, indisputably correct method to estimate the railroad industry cost of equity. While the MSDCF currently produces higher cost of equity estimates than the CAPM, different circumstances—and particularly higher interest rates—would produce different results.

The CAPM method for estimating equity cost is as follows:

$$K = RF + (MRP \times \text{Beta})$$

Where:

K = Cost of Equity

RF = Risk Free Interest Rate

MRP = Market Risk Premium, and,

Beta = Coefficient of Systematic, Non-Diversifiable Risk of a Stock

Thus, the CAPM model is most sensitive to two market factors:

1. The value of the risk free interest rate; and
2. The volatility of an equity versus broader market performance (beta)

¹ See, e.g., *Railroad Cost of Capital—2011*, at 15, Ex Parte No. 558 (Sub-No. 15) (Sept. 11, 2012) (rejecting WCTL argument that difference between results of CAPM and multi-stage DCF warrants investigation into which method “is more plausible” and reaffirming approach of using averaging to resolve differences between the models’ results).

A. Interest Rate Sensitivity

The first major driver of CAPM results are risk free interest rates. In the CAPM formula, the risk free interest rate is purely additive to the results calculated for the market risk premium, such that each percentage point of additional risk free cost adds an identical amount to the cost of equity computed for a firm. For the CAPM estimation used by the Board, risk free rates are stated in terms of the interest rates for 20-Year U.S. Treasury Bonds. As demonstrated in Table 1, these are currently at levels far below where they have been in most of the last twenty years.

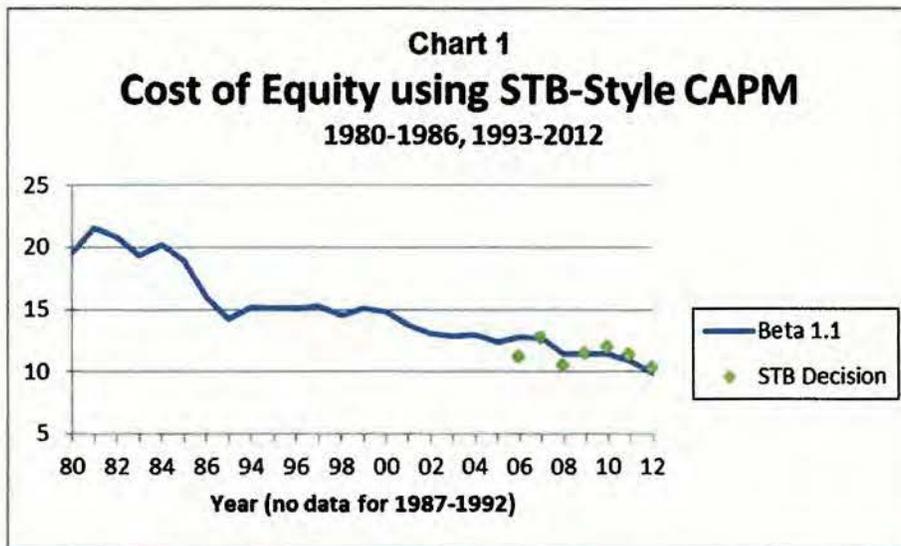
Table 1
20-Year U.S. Treasury Bonds 1993-2012

Year	Average Annual Rate
1993	6.29 %
1994	7.49
1995	6.95
1996	6.83
1997	6.69
1998	5.72
1999	6.20
2000	6.23
2001	5.63
2002	5.43
2003	4.96
2004	5.04
2005	4.64
2006	5.00
2007	4.91
2008	4.36
2009	4.11
2010	4.03
2011	3.62
2012	2.54

Source: Federal Reserve

The 20-Year Treasury Bond rate for 2012 is 2.54%, while the rate for 2002 was 5.43% and the rate for 1994 was 7.49%. The 2012 rate of 2.54% is the lowest rate in this series, which began in 1962, and less than half the average interest rate for the last 20 years. In fact, the interest rates for the last five years are the five lowest interest rates during the last 20 years and each is below the average. As with all domestic interest rates, the 20-Year Treasury Bond rates are driven by the basic Federal Reserve Board interest rates which, for reasons relating to the Fed's well-publicized efforts to assist the economy to recover from the 2008-2009 recession, have been only slightly above zero percent for most of the last four years. Clearly interest rates at this level are not sustainable.

When interest rates inevitably rise, there will be an equivalent impact on CAPM valuations. Chart 1 illustrates how the changes in interest rates drive CAPM levels.² Using the 20-year Treasury Bond rates, the chart shows the resulting CAPM value calculated using the STB method and assuming a 1.1 beta for each period.



² The Federal Reserve database has a 20-Year U.S. Treasury Bond series that ran from 1962 – 1986, and was then discontinued. A second 20-Year Treasury series started in 1993.

Previously shipper groups opposed using CAPM because it depends so much on the risk-free interest rate. In 1981, the average 20-Year Treasury Bond rate was 13.72%, and shippers were strongly opposed to the use of the CAPM method.

“One shipper notes that the CAPM approach is falling into disfavor in the financial community, while another cites literature which concludes that the CAPM provides a poor explanation of how capital assets are priced. The shippers, in extended discussions, point out the unreasonableness of the many assumptions upon which the CAPM methodology is based.”

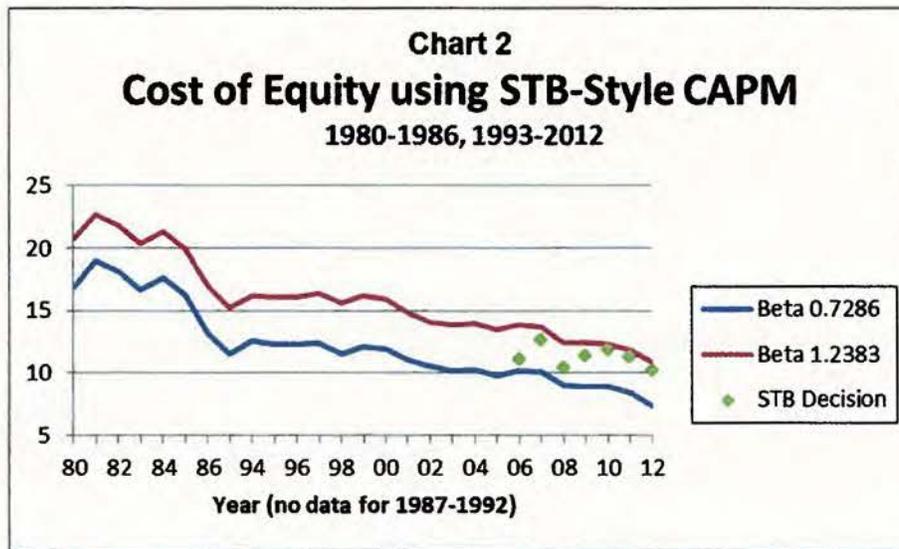
“Because the shippers believe that the CAPM produces erroneous estimates of the cost of capital, none of the shippers produced its own CAPM analysis.”³

CAPM’s sensitivity to interest rate levels combined with historically low interest rates, demonstrates the invalidity of WCTL’s claim that MSDCF must be inaccurate because its results are higher. Moreover, it affirms the wisdom of the Board’s decision to rely on two different calculations to measure the cost of equity.

B. Beta Sensitivity

CAPM results are also sensitive to the calculation of beta, the measure of non-diversifiable risk. Chart 2 illustrates the range of CAPM results based on the highest and lowest beta values in Table 2.

³ *Railroad Cost of Capital – 1981*, 365 I.C.C. 734, 740 (1982).



Beta values, in turn, vary widely depending on the assumptions that the model makes (e.g. daily vs. weekly stock prices; one, three, or five year periods). For example, during the Tech Stock Bubble period, railroad stocks were less volatile than the market as a whole, which was being driven by technology stock performance, railroad betas for that period were less than 1.0. See Table 2. In Ex Parte 664, WCTL argued for an unusually long five to ten year time frame for measurement of betas, longer than the more conventional period of one to three years. In contrast, the railroad industry has had a beta above 1.1 for the last three years. *Id.* Yet if a ten-year period were used in calculating the beta, four of the ten years would include the Tech Bubble years when market conditions prevailed that are quite different than current market conditions.

Table 2
STB Betas* for CAPM

Year	Beta
1992	1.2383
1993	1.2342
1994	1.1969
1995	1.1780
1996	1.1649
1997	1.1023
1998	0.9704
1999	0.9780
2000	0.9235
2001	0.8277
2002	0.7286
2003	0.7731
2004	0.7642
2005	0.8004
2006	0.8604
2007	1.1027
2008	0.9317
2009	1.0915
2010	1.1619
2011	1.1623
2012	1.1543

* Betas from 1992 through 2005 are from STB workpapers from 2007 using 10-year regressions and other variations in methodology not currently used. Betas beginning 2006 are from Cost of Capital decisions.

The sensitivity of CAPM to the assumptions chosen for the model's beta calculation confirm the wisdom of the Board's prior decision not to rely solely on CAPM for determining the cost of equity. Moreover, as I explain in the next part, the critical role such assumptions play in CAPM results should cause the Board to reject WCTL claims that results of undisclosed CAPM models discredit the MSDCF methodology.

IV. Reasonableness of MSDCF Model

WCTL states that the “MSDCF values are unrealistically high.” However, the only benchmark for this claim appears to be cost of equity rates computed by CAPM, a measure demonstrated to have certain weaknesses (including being unusually low under current conditions) when used in isolation. In its filing, WCTL states its consultant, Mr. Fapp, “reviewed numerous analyses” of railroad cost of equity estimates. In the first place, WCTL’s claim that multi-stage DCF produces cost of equity estimates out of line with stock analyst estimates is an argument that it unsuccessfully made in Ex Parte 664 (Sub-No. 1).⁴ AAR and its witnesses in that proceeding showed that WCTL’s arguments were meritless, and the Board rejected them.⁵

Moreover, Mr. Fapp’s analysis fails to show that the Morningstar/Ibbotson model—an established model by “a highly regarded, independent provider of information on the cost of capital for hundreds of industries”—is out of line with analyst estimates.⁶ In his verified statement, while claiming to have reviewed the work of twenty-five firms, he selects and reports on the individual railroad cost of equity calculations from only two firms, one a national rating agency and the second a much smaller, more obscure independent, regional research firm. Mr. Fapp’s Table 1 compares the STB MSDCF to a cost of equity used by Standard & Poor’s (S&P). No information is provided as to what type of model is used by S&P to obtain its values.⁷ However, it seems odd that the S&P cost of equities for two of the railroads never change over four years, and the third railroad does not change over the last three years. No explanation is

⁴ See Opening Comments of WCTL at 25-26, STB Ex Parte No. 664 (Sub-No. 1) (filed Sept. 15, 2008).

⁵ See Reply Comments of AAR at 17-19, STB Ex Parte No. 664 (Sub-No. 1) (filed Oct. 14, 2008); *id.*, V.S. Stangle at ¶¶5-16; *Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry Cost of Capital*, Ex Parte 664 (Sub-No. 1) at 7-8 (Jan. 23, 2009).

⁶ See *Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry Cost of Capital*, Ex Parte 664 (Sub-No. 1) at 7-8 (Jan. 23, 2009).

⁷ In fact, if S&P is using a CAPM, then its CAPM produces a *higher result* than the CAPM used by the Board for 2012.

offered for these results but it seems highly unlikely that these values were actually computed for each railroad for each year. It may be that S&P has computed a value one year and then simply continued using that same value in subsequent years. In any case, these numbers relied upon by Mr. Fapp must be regarded as suspect.

Mr. Fapp's second independent equity research firm is called MarketGrader.

MarketGrader, which is located in Coral Gables, Florida, began operations in 1999, but did not launch its first research system until 2003.⁸ No evidence was offered as to its professional capabilities and the reliability or technical quality of its work has not been substantiated. In particular, there is no indication that MarketGrader results are used by institutional investors who are the predominant shareholders in the railroads that meet the STB's criteria for inclusion in the Cost of Capital calculation.

Mr. Fapp has incorrectly stated "In every case where the railroad cost of equity was reported, the cost of equity estimate used by the research firm was lower than the MS-DCF and CAPM costs of equity determined and used by the STB."⁹ But *all* of the S&P cost of equities for 2012 in his Table 1 are *higher*, not lower, than the Board's CAPM cost of equity for 2012 (which is 10.27%). As mentioned earlier, the S&P cost of equity figures in Fapp's Table 1 are already questionable – only one change among three railroads for data beginning in 2009 and ending in 2012. And without more background information, the results from MarketGrader simply cannot be relied upon.

⁸ From MarketGrader web site: <http://www.marketgrader.com/MGMainWeb/researchinfo/whatismg.jsp>

⁹ Ex Parte No. 664 (Sub-No. 2), *Petition of the Western Coal Traffic League to Institute a Rulemaking Proceeding to Abolish Use of the Multi-stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital*, August 27, 2013, Verified Statement of Daniel L. Fapp, page 2.

WCTL ignores the fact that the STB's MSDCF model is the model published by Morningstar in its *Ibbotson SBBI Valuation Yearbook*.¹⁰ Morningstar is a leading provider of market information and research and was endorsed by WCTL when it advocated use of the CAPM to determine the cost of equity. In its reply comments in Ex Parte 558 (Sub-No 9) in 2006, WCTL said "Ibbotson Associates is a leading provider of financial data and was acquired on March 1, 2006 by Morningstar, Inc., a leading provider of independent investment research."¹¹

V. Criticisms of the Board's MSDCF Model

WCTL presents a number of criticisms of the Board's MSDCF model. Many have been argued before and rejected in earlier cost of capital proceedings or in the original proceeding where the Board adopted its present methodology.

A. MSDCF vs. CAPM

WCTL's second consultant, Dr. James E. Hodder, discusses the difference between the cost of equity estimated by the Board's MSDCF and CAPM for the years 2008 through 2012. He expresses concern that the MSDCF estimates exceed the CAPM, and says it "warrants investigation."¹² But the Board has repeatedly rejected similar claims from WCTL that differences between MSDCF and CAPM results require investigation. *See supra* at 3.¹³ Moreover, he assumes that the problem is the MSDCF methodology, not that of the CAPM. As

¹⁰ In the *Ibbotson SBBI 2013 Valuation Yearbook*, the three-stage model is discussed beginning on page 50. The Stage 3 growth rate is listed on page 52. The equity risk premium used in the Board's CAPM is found on page 54.

¹¹ Ex Parte No. 558 (Sub-No. 9), *Railroad Cost of Capital 2005*, Reply Comments of the Western Coal Traffic League, April 28, 2006, page 9.

¹² Ex Parte No. 664 (Sub-No. 2), *Petition of the Western Coal Traffic League to Institute a Rulemaking Proceeding to Abolish Use of the Multi-stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital*, August 27, 2013, Verified Statement of James E. Hodder, page 3.

¹³ *Railroad Cost of Capital—2011*, at 15, Ex Parte No. 558 (Sub-No. 15) (Sept. 11, 2012) ("we are not persuaded by WCTL's argument that further consideration should be given to determine which figure is more plausible between the 15.83% result of the MSDCF analysis and the 11.31% result of the CAPM analysis").

was noted earlier, CAPM is hardly immune from methodological problems, with its computational characteristics making it particularly sensitive to interest rate changes and to variances of the performance of a firm's stock from the market norm. While Dr. Hodder provides an energetic criticism of the MSDCF methodology, he fails to note comparable flaws in CAPM. In any event, the criticisms of the Morningstar/Ibbotson MSDCF lack merit.

B. MSDCF Second Stage of Growth

WCTL expresses concern about the second stage of the Morningstar/Ibbotson MSDCF model, calling it a "transition stage," but one that does not have a gradual transition to link the first and third stages. WCTL made similar claims about the alleged need for a "gradual transition" in the second stage in Ex Parte 664 (Sub-No. 1).¹⁴ The Board rejected that argument after AAR showed it to be groundless.¹⁵ The argument remains meritless today. In the Morningstar/Ibbotson SBBI 2013 Valuation Yearbook, the second stage is not described as a "transition stage." Rather, the Ibbotson Yearbook says that the second stage growth rate is based on the assumption that "over a middle horizon, growth of any particular company will lie more in line with the industry as a whole."¹⁶ There is no mention of the purpose of the second stage as being a transition between stages one and three. The word "transition" does not appear anywhere on the page nor is the description of the second stage's structure indicative of a process designed to be a transition. Thus, Dr. Hodder's critique of this facet of the Morningstar/Ibbotson model

¹⁴ See Opening Comments of WCTL at 5-10, STB Ex Parte No. 664 (Sub-No. 1) (filed Sept. 15, 2008).

¹⁵ See *Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry Cost of Capital*, Ex Parte 664 (Sub-No. 1) at 8-10 (Jan. 23, 2009); Reply Comments of AAR at 6-7, STB Ex Parte No. 664 (Sub-No. 1) (filed Oct. 14, 2008); *id.*, V.S. Stangle at ¶¶18-20;.

¹⁶ See Morningstar's *Ibbotson SBBI 2013 Valuation Yearbook*, page 51.

relies on changing the intent and methodology of the second stage and substituting his own version of an MSDCF construct.

C. MSDCF and Buybacks

As it did in Ex Parte 664 (Sub-No. 1) and the most recent annual cost of capital proceeding,¹⁷ WCTL also expresses concern that the analyst growth rates are for growth in Earnings Per Share (EPS) and consider stock buybacks, while the Morningstar/Ibbotson MSDCF uses EPS forecasts as a proxy for growth in earnings that are not affected by buybacks. It is factual that analyst growth rates are expressed in earnings per share.¹⁸ However, it is not accurate to state that these growth rates do not also assume that there will be buybacks, stock issuances or changes in dividend policy if these are known to the analyst at the time earnings per share are computed based on cash flow modeling of a firm's future expectations. However, neither an analyst, nor any other modeler of the performance of a firm, can anticipate future policy that a firm may have regarding how it will return value to shareholders. This will depend on future market conditions, future financial performance of the firm and future economic considerations such as interest rate levels. There is no basis for anticipating that a firm, simply because it may be buying back stock today, will continue to do so in the future. For example, it may find that it is more beneficial to change the level of dividends than to change the stock structure. In any case, over time as policy changes occur, analysis of the firm and the way in which that analysis is

¹⁷ See Opening Comments of WCTL at 12-14, STB Ex Parte No. 664 (Sub-No. 1) (filed Sept. 15, 2008); Reply Comments of WCTL at 1, Ex Parte No. 558 (Sub-No. 16) (filed May 10, 2013). AAR thoroughly rebutted WCTL's arguments in each proceeding. See Reply Comments of AAR at 10, STB Ex Parte No. 664 (Sub-No. 1) (filed Oct. 14, 2008); *id.*, V.S. Stangle at ¶¶26-31; Rebuttal Comments of AAR at 6-7, Ex Parte No. 558 (Sub-No. 16) (filed May 31, 2013).

¹⁸ Ex Parte No. 558 (Sub-No. 16), *Railroad Cost of Capital 2012*, Comments of the Association of American Railroads and Its Member Railroads, April 19, 2013, Appendix L of Verified Statement of John T. Gray.

used in modeling the firm's cost of equity should be self-correcting since the results of actual policies will be used in conjunction with future cash flow estimates to determine expected earnings per share growth rates. Ibbotson and Morningstar, which use their methodology for a variety of purposes, presumably believe that their methodology is sound in this regard.

D. Analyst Growth Rates Used for the MSDCF

WCTL's witness Dr. Hodder expresses concern about the analyst growth rates used for the first two stages of growth in the MSDCF. He objects to the quantity of forecasts ("no more than five or six for each railroad") and the differences among them. However, this is not a legitimate concern, nor an issue which the Board has not already addressed in its cost of capital decisions. In the 2002 AAR cost of capital submission, there were six December analyst estimates for CSX and NSC, with a high of 30 percent and a low of 8 percent.¹⁹ UNP had 5 estimates with a high of 15 and low of 8 percent. Ten years later, the number of analyst estimates, and their variety, is not much different. However, Dr. Hodder fails to note that the Board's MSDCF methodology already eliminates extreme forecasts by using medians.

Dr. Hodder is also concerned that two of the forecasts have not "been adjusted since July 2008, despite the substantial disruption that the economy has experienced since then." However, the forecasts have been reviewed every year, and each of those reviews provides the analyst with an opportunity to adjust the forecast if he feels it appropriate to do so. WCTL expresses support for Dr. Hodder's concern about forecast accuracy. But in an ironic contrast, WCTL has no reservations about Mr. Fapp's use of cost of equity calculations made by Standard & Poor's

¹⁹ Ex Parte No. 558 (Sub-No. 6), *Railroad Cost of Capital 2002*, Comments of the Association of American Railroads, March 28, 2003, Appendix B of Verified Statement of Craig F. Rockey.

which were unchanged over three or four year periods, and therefore, could not have reflected changing interest rates and betas during the same period of “economic disruption.”

Dr. Hodder also expresses concern with forecasts that show the railroads growing faster than the U.S. economy. However, railroad cash flows have been growing faster than the economy for about half of the years shown in the table below, so growth rates higher than the economy’s growth rate are not unrealistic.

Table 3
Growth in Basic Cash Flow
for Class I Railroads
vs. Growth in GDP

Year	Class I Railroads (\$ mil)					U.S. (\$ bil)		
	Net Income ¹	Depreciation and Amortization	Deferred Taxes ²	Capital Expenditures	Cash Flow ³	Chg.	Gross Domestic Product	Chg.
2002	\$3,201	\$3,383	\$1,450	\$5,605	\$2,429	25.9%	\$10,980	3.3%
2003	2,683	3,482	1,063	5,989	1,239	-49.0%	11,512	4.8%
2004	2,867	3,842	1,052	6,345	1,416	14.2%	12,277	6.6%
2005	4,917	4,319	280	7,068	2,448	72.9%	13,095	6.7%
2006	6,482	4,462	786	8,159	3,571	45.9%	13,858	5.8%
2007	6,797	4,803	1,082	9,853	2,829	-20.8%	14,480	4.5%
2008	8,102	5,036	1,957	10,189	4,906	73.4%	14,720	1.7%
2009	6,429	5,297	2,050	9,701	4,076	-16.9%	14,418	-2.1%
2010	9,262	5,628	2,438	9,618	7,710	89.2%	14,958	3.7%
2011	11,039	5,860	3,745	12,640	8,003	3.8%	15,534	3.8%
2012	12,047	6,211	2,353	13,306	7,305	-8.7%	16,245	4.6%

¹ Represents net income from continuing operations
² Represents net change in deferred tax liabilities
³ Sum of net income from continuing operations, depreciation and amortization, deferred taxes, less capital expenditures from Statement of Cash Flows

Sources: Railroads, Annual Report Form R-1. GDP, Bureau of Economic Analysis (includes 7/31/2013 revision)

This is especially the case, since free cash flow as a percent of net income is still considered low for railroads, as the aerospace, construction, trucking, and telecommunication industries all have better percentages. A typical North American industrial company converts about 90 percent of net income into free cash flow, while railroads averaged 43 percent in 2012.²⁰

²⁰ *Freight Monitor Weekly*, BMO Capital Markets, August 22, 2013, page 1.

E. MSDCF Stage Three Long-Run Growth Rate for the U.S. Economy

The third stage of growth in the Morningstar/Ibbotson MSDCF model assumes that “even in a rapidly growing industry there will come a time when growth slows to be more in line with the overall economy.”²¹ The Morningstar/Ibbotson MSDCF uses a simple combination of the long-term inflation rate with the long-term real growth rate for U.S. Gross Domestic Product (Real GDP) as its rate for the third stage. The long-term Real GDP portion is estimated by calculating the annual growth rate since 1929. For 2012, the rate was 3.22 percent.²² Dr. Hodder believes the 3.22 percent is too high, and cites some government agencies using lower rates for their own projections. Dr. Hodder appears to be allowing his long-term judgment of the economy’s performance to be unduly influenced by the short-run events of the past half-decade to project economic performance ten years or more into the future. In such situations one may be either too pessimistic or, in more robust times, too optimistic. In the present instance, it is unlikely that the growth rates used by the MSDCF methodology are necessarily too high. By using a base year of 1929, the Board has ensured that multiple slow growth periods (such as the Great Depression, the Post World War II Recession, the Mid-1970s Recession, and the 2007-2009 “Great Recession” with its slow recovery) are included in the computation. Thus, it is unlikely that the long term growth rate calculated from this series is significantly in error.

VI. Summary

WCTL’s petition to institute a rulemaking proceeding to abolish the use of the STB’s MSDCF model used in determining the cost of equity fails to recognize that the cost of equity

²¹ Morningstar’s *Ibbotson SBBi 2013 Valuation Yearbook*, page 51.

²² Morningstar’s *Ibbotson SBBi 2013 Valuation Yearbook*, page 52.

computational process is an estimate and is thus best served by relying on multiple methodologies which bring differing strengths and weaknesses to the process. An accurate estimate of the cost of equity portion of the cost of capital process remains best served by the Board's continued use of its current methodology relying on both the CAPM and the MSDCF.

VII. Qualifications of John T. Gray

My name is John T. Gray. I am Senior Vice President — Policy and Economics for the Association of American Railroads (AAR), with offices located at 425 Third Street SW, Suite 1000, Washington, D.C. 20024. Among other responsibilities, my duties include the collection, analysis, and presentation of economic data related to railroads and their economic environment. One of my principal duties is conducting and supervising economic, financial, statistical and cost studies dealing with various aspects of the rail industry.

Prior to joining the AAR, I worked for Union Pacific Railroad where my most recent position was as Executive Director, responsible for the commercial relationship with other transportation carriers and ports, and for strategic policy analysis on issues involving regulatory proposals, legislation and potential litigation. I have also held marketing, planning, and operating positions with other railroads including the Southern Pacific, the Burlington Northern and the Alaska Railroad. I began my railroad career at Atchison, Topeka, and Santa Fe in their cost analysis organization. Additionally, I have also worked for ARCO Alaska.

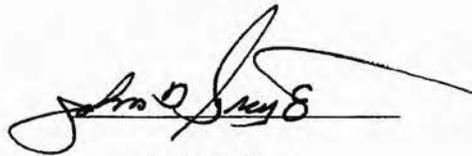
At Southern Pacific, I was responsible for network planning, analysis, and management, as well as the company's cost analysis organization. I provided testimony on behalf of Southern Pacific regarding the economic impact to the company of the proposed combination of the Chicago and North Western Transportation Company with Union Pacific Railroad. Later, I

provided extensive testimony on the economic position of Southern Pacific during the STB's review of the merger application for Union Pacific and Southern Pacific.

I hold both a Bachelors and Masters degree in Civil Engineering from Tulane University and did post-graduate work in mathematical modeling of transportation networks and rail cost systems at Northwestern University. I have also served on the faculty at the University of Alaska, where my work included network modeling and research concerning the interrelationship of transportation and economic development.

VERIFICATION

I, John T. Gray, declare under penalty of perjury, that the foregoing Statement is true and correct, and that I am qualified and authorized to file this Statement.

A handwritten signature in black ink, appearing to read "John T. Gray", with a long horizontal flourish extending to the right.

John T. Gray

Executed,
September 16, 2013