

SLOVER & LOFTUS LLP

ATTORNEYS AT LAW

1224 SEVENTEENTH STREET, N. W.
WASHINGTON, D. C. 20036-3003

WILLIAM I. SLOVER
C. MICHAEL LOFTUS
JOHN H. LE SEUR
KELVIN J. DOWD
ROBERT D. ROSENBERG
CHRISTOPHER A. MILLS
FRANK J. PERGOLIZZI
ANDREW B. KOLESAR III
PETER A. PFOHL
DANIEL M. JAFFE
STEPHANIE P. LYONS
STEPHANIE A. ARCHULETA

OF COUNSEL
DONALD G. AVERY

January 28, 2011

TELEPHONE:
(202) 347-7170

FAX:
(202) 347-3619

WRITER'S E-MAIL:

kjd@sloverandloftus.com

VIA HAND DELIVERY

Ms. Cynthia Brown
Chief, Section of Administration
Surface Transportation Board
395 E Street, S.W.
Washington, DC 20423-0001

Re: Docket No. 41191 (Sub-No. 1), AEP Texas
North Company v. BNSF Railway Company

Dear Ms. Brown:

228703

Enclosed for filing in the referenced proceeding are an original and ten (10) copies of the Reply of AEP Texas North Company to Comments of BNSF Railway Company on Remand. Also enclosed are three compact computer disks which contain the filing and supporting workpapers.

Kindly acknowledge receipt and filing of these materials by date-stamping the extra copy of this filing and returning it to our messenger.

Sincerely,



Kelvin J. Dowd
An Attorney
for AEP Texas North Company

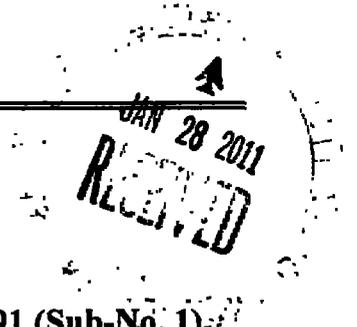
Enclosures

ENTERED
Office of Proceedings

JAN 28 2011

Part of
Public Record

**BEFORE THE
SURFACE TRANSPORTATION BOARD**



AEP TEXAS NORTH COMPANY)	
)	
Complainant,)	
v.)	Docket No. 41191 (Sub-No.1)
)	
BNSF RAILWAY COMPANY)	
)	
Defendant.)	
)	

**REPLY OF AEP TEXAS NORTH COMPANY
TO
COMMENTS OF BNSF RAILWAY COMPANY ON REMAND**

AEP TEXAS NORTH COMPANY
1 Riverside Plaza
Columbus, Ohio 43215

By: Patricia M. Castro
Senior Counsel
AEP Texas North Company
155 West Nationwide Boulevard
Suite 300
Columbus, Ohio 43215

Of Counsel:

Slover & Loftus
1224 Seventeenth St., N.W.
Washington, D.C. 20036

William L. Slover
Kelvin J. Dowd
Robert D. Rosenberg
Slover & Loftus LLP
1224 Seventeenth Street, N.W.
Washington, D.C. 20036
202.347.7170

Dated: January 28, 2011

Attorneys and Practitioners

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

AEP TEXAS NORTH COMPANY)	
)	
Complainant,)	
)	
v.)	Docket No. 41191 (Sub-No.1)
)	
BNSF RAILWAY COMPANY)	
)	
Defendant.)	
)	

**REPLY OF AEP TEXAS NORTH COMPANY
TO
COMMENTS OF BNSF RAILWAY COMPANY ON REMAND**

Complainant AEP Texas North Company (“AEP Texas”) hereby replies to the comments of BNSF Railway Company on Remand (“BNSF Comments”), which were filed in this proceeding on November 22, 2010. The BNSF Comments relate to the U.S. Court of Appeals for the District of Columbia Circuit’s June 18, 2010 decision in *AEP Texas North Company v. Surface Transportation Board*, 609 F. 3d 432 (D.C. Cir. 2010) (“*AEP Texas v. STB*”). In that decision, the D.C. Circuit vacated and remanded the Board’s May 15, 2009 ruling in this proceeding, for the purpose of reconsideration of the issue of the proper cost of capital to be used for the year 2005 in calculating stand-alone costs for the hypothetical Texas Northern Railroad (“TNR”), and adjudicating the reasonableness of the BNSF rates at issue in this case.

The BNSF Comments urge the Board on remand to reach the same conclusion that was vacated by the Court of Appeals, and continue to calculate stand-alone costs for the AEP Texas movement using a 2005 cost of capital for the TNR developed under the Single Stage Discounted Cash Flow (“SSDCF”) methodology, rather than the Capital Asset Pricing Model (“CAPM”), which the Board already had proposed to adopt for general use in place of SSDCF at the time of its initial decision in this proceeding,¹ and had formally adopted by the time it served the decision that was reviewed and vacated by the Court.² BNSF argues that using CAPM to determine the TNR’s 2005 cost of capital would involve an impermissible *ex post* revision of the general industry cost of capital for that year, because it would undermine investor reliance on that SSDCF-derived figure. BNSF Comments at 9-14. BNSF also asserts that a 2005 cost of capital calculated using SSDCF is objectively reasonable. *Id.* at 15-17.³

As demonstrated herein, and in the accompanying Verified Statements of Professor James E. Hodder and Messrs. Thomas D. Crowley and Daniel L. Fapp, BNSF is wrong on both counts. The use of CAPM to calculate the TNR’s 2005 cost of capital

¹ The Board proposed the adoption of CAPM in *Methodology to be Employed in Determining the R.R. Indus. Cost of Capital*, STB Ex Parte No. 664 (STB served Aug. 20, 2007) (“*NOPR Decision*”). The initial decision in this proceeding was served on September 10, 2007.

² CAPM was adopted for general use in *Methodology to be Employed in Determining the R.R. Indus. Cost of Capital*, STB Ex Parte No. 664 (STB served Jan. 17, 2008 (“*Final COC Decision*”). The decision on reconsideration in this proceeding, which was reviewed by the Court, was not served until May 15, 2009.

³ The BNSF Comments include a joint Verified Statement by Professor Robert S. Hamada and Mr. Rajiv B. Gokhale, both of whom have appeared previously in this proceeding on BNSF’s behalf.

implicates the application of a contemporaneous rule to a pending case, not a retroactive revision of a settled industry determination. BNSF's arguments regarding investor reliance and expectations are directed solely to the industry calculation, and thus miss the mark. They also lack merit on a more general level, as Professor Hodder demonstrates. Likewise, BNSF's attempt to demonstrate the reasonableness of an SSDCF-derived 2005 cost of capital falls short, and is more persuasive in showing that there is *no* reasonable basis for selecting the SSDCF figure for use with the TNR, in preference to the admittedly superior and more accurate CAPM-derived cost of capital.

On remand, the Board should recalculate the maximum revenue-to-variable cost ("R/VC") ratios for the AEP Texas movement displayed in Table 2 of the May 15, 2009 Decision using a 2005 cost of capital for the TNR determined under CAPM. As shown in Messrs. Crowley and Fapp's Verified Statement and supporting workpapers, the revised R/VC table should be as follows:

Maximum R/VC Ratio Under MMM⁴

<u>Year</u>	<u>MMM R/VC</u>
2000	166%
2001	166%
2002	161%
2003	211%
2004	224%
2005	--
2006	--
2007	--
2008	--
2009	--
2010	--
2011	--
2012	219%
2013	216%
2014	218%
2015	224%
2016	222%
2017	217%
2018	212%
2029	208%
2020	200%

⁴ Source: V.S. Crowley/Fapp, Table 10.

ARGUMENT

1. **Restatement of the 2005 TNR Cost of Capital Does Not Require an *Ex Post* Revision of the General Industry Determination**

BNSF's arguments concerning alleged investor reliance rest on two (2) false assumptions concerning the issues presented by the Court's remand: (1) that AEP sought (and continues to seek) a retroactive or *ex post* application of CAPM to the 2005 cost of equity; and (2) that AEP would have the Board apply CAPM to change the 2005 general industry cost of capital as previously determined in *Cost of Capital – 2005*, STB Ex Parte No. 558 (Sub-No. 9) (STB served Feb. 12, 2007). *See* BNSF Comments at 9-15. Neither is correct, and BNSF's misdirected focus undermines its position with respect to the proper resolution of this case on remand.

As the Court of Appeals recognized, AEP Texas never sought retroactive or *ex post* application of the CAPM approach to calculating the cost of equity. *AEP Texas v. STB*, 609 F. 3d at 439. AEP Texas' pleadings before the Board in 2007 and 2008 with respect to 2005 capital costs related exclusively to the cost of capital for the TNR, an issue that was *open and not yet decided* when AEP Texas argued for the use of CAPM, which had been formally adopted and was the governing methodology when the parties submitted their supplemental evidence on reconsideration of the Board's September, 2007 decision.⁵ The established rule is that for pending matters, an agency should apply the law or regulatory rule that is in place at the time of its decision, subject to limited

⁵ *See Opening Fourth Supplemental Evidence of Complainant*, August 8, 2008; and *Reply Fourth Supplemental Evidence of Complainant*, September 5, 2008. As noted *supra*, the Board's *Final COC Decision* was served January 17, 2008.

exceptions. *Thorpe v. Housing Authority of the City of Durham*, 393 U.S. 268, 281-282 (1969); *Inmates of the D.C. Jail v. Jackson*, 158 F. 3d 1357, 1361 (D.C. Cir. 1998). The law also is clear that such an application is not *ex post* or retroactive simply because an affected party might have been expecting a different outcome. *National Petrochemical & Refiners Association v. E.P.A.*, D.C. Cir. No. 10-1070, December 21, 2010, Slip. Op. at 30. Indeed, “most economic regulation would be unworkable if all laws disrupting prior expectations were deemed suspect.” *Chemical Waste Management v. E.P.A.*, 869 F. 2d 1526, 1536 (D.C. Cir. 1989). *See also BNSF Ry. v. S.T.B.*, 526 F. 3d 770, 784 (D.C. Cir. 2008) (Even if analyzed under a retroactivity test, “[a] new rule may be applied retroactively to the parties to an ongoing adjudication” so long as they have notice and an opportunity to present evidence, which clearly was the case in this proceeding).

Likewise, AEP Texas’ prior pleadings made clear that it was not pursuing a revision or restatement of the general industry cost of capital published by the Board in the *Ex Parte No. 558* series, for 2005 or any other year.⁶ While the Board’s May 15, 2009 Decision indicated some recognition of this distinction,⁷ the explanation given for the decision to use an SSDCF-derived cost of capital for the TNR related solely to the alleged, adverse investor impacts of a revision of the general industry figure.⁸ The Board

⁶ *See, e.g., Reply Fourth Supplemental Evidence of Complainant*, September 5, 2008 at 16-17.

⁷ Decision served May 15, 2009 at 7 (“...we conclude that we have the discretion to use a different cost-of-equity figure than previously published.”)

⁸ *Id.* at 8. Indeed, the Board’s decision in this regard repeated, virtually *verbatim*, its analysis of the same issue in another, entirely separate maximum coal rate case. *Compare id.* at 8 and *Western Fuels Association, Inc. and Basin Electric Cooperative, v.*

did not address what the Court of Appeals characterized as the “unique circumstances of the 2005 cost of capital determination,”⁹ or the specific evidence and argument presented by AEP Texas concerning the superiority of CAPM as a methodology to set the cost of capital for the TNR in this maximum rate proceeding. In its Comments, BNSF reprises the fallacy that a more accurate cost of capital for the TNR implicates an *ex post* threat to investor reliance on the Board’s annual general industry figure. Assuming *arguendo* that the Board’s prior consideration of investor reliance was balanced and sound, a point addressed *infra*, it would not be offended by a finding on remand that a CAPM-derived 2005 cost of capital would be the most reasonable and accurate to apply to the TNR.

That a calculation of the 2005 cost of capital for the TNR using CAPM would neither require a revision to the industry cost of capital for that year nor undermine any reasonable investor reliance on the industry figure is fully consistent -- and, indeed, supported by -- the *Guidelines*. In its original decision adopting CMP and the SAC constraint, the Board’s predecessor confirmed that the cost of capital for an individual SARR would not necessarily have to be assumed to be the same as that for the industry generally, and that a SARR proponent could “use some other level of capital costs...if it fully supports its proposed figures.” *Guidelines*, 1 I.C.C. 2d at 544 n. 63. The agency re-affirmed this rule five (5) years later. *Coal Trading Corp., et al. v. B&O Railroad Co., et al.*, 6 I.C.C. 2d 361, 425 (1990). Though the Board and litigants in major rate cases

BNSF Railway Company, STB Docket No. 42088, (STB served February 18, 2009) at 23. No mention whatsoever was made of the evidence submitted by AEP Texas with respect to the TNR.

⁹ *AEP Texas v. STB.*, 609 F. 3d at 441.

generally utilize the industry cost of capital in SAC calculations, these precedents confirm that a departure from the industry figure in the case of an individual SARR does *not* implicate any disturbance or modification of the general industry determination.¹⁰ They provide independent justification to reject BNSF’s claim that determining the TNR’s cost of capital using the superior (to SSDCF) CAPM approach somehow would “undermine the settled expectations of current investors”¹¹ with respect to annual industry cost of capital findings.

2. There Was No Reasonable Basis for Investor Reliance on a 2005 SSDCF Cost of Capital for the TNR

In his accompanying Verified Statement, Professor James Hodder responds to claims advanced by BNSF and its witnesses Hamada and Gokhale regarding “investor reliance,” and explains both why a correction of the 2005 cost of capital for the TNR would have no rational impact on investor decisions, and why on a more general level there is no reasonable basis to conclude that “railroads and investors actually or reasonably could have relied on the permanence of the 2005 [SSDCF-derived] cost of capital determination.”¹²

First, Professor Hodder points out (as discussed *supra*) that what is at issue in this case is a single year’s cost of capital in the context of a single maximum rail rate proceeding, a matter that while important to AEP Texas and presumably BNSF, is

¹⁰ The Court of Appeals’ opinion strongly implies recognition of this concept. *See AEP Texas v. STB*, 609 F.3d at 435.

¹¹ BNSF Comments at 15.

¹² *AEP Texas v. STB*, 609 F. 3d at 441.

insignificant to the broad community of sophisticated investors.¹³ Indeed, as Professor Hodder points out, BNSF and its witnesses do not even allege that *BNSF* made any investment or rate making determinations predicated on an SSDCF-derived 2005 cost of capital for the TNR.¹⁴

Responding to BNSF's claim that "[i]vestors making investments during 2005 would have no reason to expect that the Board would not use the DCF model for that year,"¹⁵ Professor Hodder catalogues several clear indicators of likely flaws in the 2005 SSDCF figure that would or should have been known to any reasonably informed investor in 2005. These included the availability of multiple, credible estimates of railroad costs of equity that uniformly showed that the SSDCF figure was unusually high by comparison; the dramatic (in excess of 15%) increase in the STB's estimated figure for 2005 over 2004, which could not be explained by any real world developments affecting the railroads' prospects for raising capital; and the fact that the Board's 2005 cost of equity estimate came under legal attack almost immediately upon its proposal.¹⁶

V.S. Hodder at 4-5. As Professor Hodder explains:

¹³ V.S. Hodder at 3.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ Any investor that monitors the STB's annual cost of capital determinations knows that they are made retrospectively, after the year in question has ended. It is incongruous to argue that an investor could reasonably rely on a number before it is released to the public. In the case of the 2005 cost of capital proceeding, the first challenge was lodged in April 2006, very shortly after the Board published the proposed figure. Thus, investors had actual notice that the estimate and its underlying methodology were called into serious question from the very outset of the proceeding to consider it.

A fundamental characteristic of the investment environment is a lack of certainty regarding future outcomes, and sophisticated investors always attach weight to the probability of change. Under the circumstances noted above, a knowledgeable investor certainly should have been aware of building pressure for the Board to change its cost of equity estimation procedure.

Id. at 5-6.

Finally, the claim by BNSF's witnesses that correcting the 2005 cost of capital for the TNR through application of the admittedly superior CAPM approach somehow would usher in an age of investor uncertainty regarding retroactive industry capital cost restatements¹⁷ dramatically overstates the significance of this proceeding vis-à-vis the larger investment community, and ignores the fact that a CAPM-based cost of equity was hardly a new phenomenon. As professor Hodder notes, the approach traces back at least to the late 1960s, was presented to and considered by the Board's predecessor, and was the subject of a 1969 published article by BNSF's witness Hamada himself. V.S. Hodder at 6-7.

In its opinion vacating the May 15, 2009 Decision, the Court of Appeals found that the Board failed to consider whether BNSF or its investors specifically did or reasonably could have relied on the assumption that the Board would use a SSDCF-derived cost of capital for the TNR, in light of the undermining evidence presented by AEP Texas and the Board's own inquiry into a substitute methodology, and instead had relied "only on generalized conclusions about how industry players rely on cost of capital

¹⁷ V.S. Hamada/Gokhale at 4.

determinations....” *AEP Texas v. STB*, 609 F. 3d at 441. In its Comments on Remand, BNSF and its witnesses essentially offer nothing more than those same “generalized conclusions,” in arguing for a reprise of the ruling rejected by the Court. Properly considered, however, the evidence of record points in the opposite direction: there was no reasonable basis for railroad or investor reliance on the presumed use of SSDCF to determine 2005 capital costs for the TNR.

3. A SSDCF-Derived 2005 Cost of Capital for the TNR Is Objectively Unreasonable

The Court in *AEP Texas v. STB* also vacated the Board’s May 15, 2009 finding that a SSDCF-derived cost of capital for the TNR was objectively reasonable based on a supposed comparison of SSDCF to other cost of equity estimates, including results obtained using CAPM. *Id.*, 609 F. 3d at 441-443. Referring to the Board’s characterization of its comparison as justifying the reasonableness of the SSDCF figure based on its place among a range of other estimates, the Court demurred:

Certainly this is true, but it only establishes that one cannot determine if the Board’s figures were invalid just by comparing them to the four other models’ figures. It is problematic, then, that the Board apparently decided that such a comparison was all that was necessary to conclude its estimates were reasonable.

Id., 609 F.3d at 442. In its Comments, BNSF attempts to provide legitimacy for the Board’s comparisons, essentially by boasting the pedigrees of the data sources. BNSF Comments at 15-16. However, this fails to cure the infirmity found by the Court of Appeals.

First, BNSF ignores -- and in fact appears to deny¹⁸ -- the unassailable fact that the Board adopted CAPM because it was found to be *superior* to SSDCF, and a “more sophisticated and precise technique[]” for measuring the cost of equity. *NOPR Decision* at 4. In the final decision adopting CAPM, the Board started its discussion of the reasons for the change by invoking the statutory directive to “ensure the availability of accurate cost information in regulatory proceedings,”¹⁹ and went on to identify a central flaw in the SSDCF approach that supported its displacement:

The simplicity of this model, however, is due in part to an assumption that the 5-year growth rate will remain constant forever. Yet all experts agree that the growth rate of a particular industry cannot exceed the long-term growth rate of the economy indefinitely. Thus, in years when the 5-year growth rate is very high, this model may overstate the cost of equity. Similarly, in years when the railroads experience a downturn and the predicted 5-year growth rate is very low, the model may understate the cost of equity.

COC Decision at 4. The Board pointed out that none of “the reputable financial experts that testified” in the proceeding would offer support for SSDCF. *Id.* at 2.²⁰ And as the Court of Appeals noted in its opinion, during arguments on review of the Board’s 2006 decision not to replace SSDCF with CAPM to determine the 2005 *general industry* cost of capital, “counsel for the Board conceded that the DCF methodology was flawed.”

AEP Texas v. STB, 609 F. 3d at 436. Elsewhere, and recently, BNSF itself has argued

¹⁸ BNSF Comments at 12.

¹⁹ *COC Decision* at 1, citing 49 U.S.C. § 10101 (14).

²⁰ In contrast, the Board referred approvingly to the analytical work of the Canadian Transportation Agency, which “concluded that CAPM produces an estimate that best reflects the state of relevant capital markets and is a better indicator [than SSDCF] of changes in financial markets.” *COC Decision* at 2.

that it would be error for the Board to continue to use a displaced methodology in a pending matter, in preference to a successor approach adopted prior to the decision at issue:

Indeed, in *Major Issues*, the Board went so far as to conclude that the use of movement-specific adjustments was a “flawed approach” to determining the Board’s jurisdiction....Therefore it would be arbitrary and capricious for the Board to require the parties to continue using the movement-specific adjustments from the original decision to determine the Board’s jurisdiction over BNSF’s rates today.

Texas Municipal Power Agency v. BNSF Railway Company, STB Docket No. 42056, “BNSF’s Reply to TMPA’s Petition for Enforcement of Decision,” January 6, 2011 at 18.

Second, BNSF’s own witnesses effectively undermine the carrier’s argument concerning the reasonableness of the Board’s “comparison” approach to justify the use of SSDCF for the TNR’s 2005 cost of capital. Addressing a statistical analysis offered by AEP Texas before the Court of Appeals, which was based on the same comparison data relied upon by the Board, Professor Hamada and Mr. Gokhale opine:

A reliable application of the ‘standard statistical methods’ referred to by AEP requires that at least two conditions be met—that the observations are independent and that they are normally distributed. Neither one of these criteria are met in AEP’s statistical analysis. To begin with, the four cost of equity models used by AEP (*and by the Board*) employ many common inputs, such as the rate of inflation and the risk-free interest rate. These common assumptions are one reason why the cost of equity estimates from these models move together from one year to the next. *See Exhibit 3*. There is no reason to believe that the observations generated by these four different models are independent.

Hamada/Gokhale V.S. at ¶ 24 (emphasis supplied). They go on to assert that AEP Texas and the Board also used too small an observation sample size, which they claim exacerbates the flaws in the comparison. *Id.* at ¶ 25. Putting to one side the reputability of the data sources chosen by the Board, the Hamada/Gokhale criticisms contradict their sponsor's argument that the Board's comparison chart could justify reliance on SSDCF in determining the TNR's 2005 cost of capital.

Third, as AEP's Texas' witnesses Crowley and Fapp explain, the available data clearly demonstrates the *unreasonableness* of the Board's use of SSDCF to calculate 2005 cost of capital costs for the TNR. In their joint Verified Statement, Messrs. Crowley and Fapp detail the demonstrable inaccuracies in the 2005 SSDCF results which should have signaled their unsuitability for use with the TNR. These include: (1) the unsustainably high earnings growth rate that the SSDCF model assumed the railroads would enjoy in perpetuity;²¹ (2) the unreasonableness of the 15.18% 2005 cost of equity produced by the SSDCF when compared to published equity costs for eleven (11) other industry sectors with risk profiles very similar to the railroads', all of which were under 8.6% and were within a range of only 0.23%;²² (3) the unexplainable (other than by reference to SSDCF's flaws) difference between the Board's 2005 equity figure and market returns, which generally correlate very closely with the railroads' cost of equity;²³ and (4) the disconnect between the measurable improvement in railroad profitability

²¹ V.S. Crowley/Fapp at 5-7.

²² *Id.* at 7-11.

²³ *Id.* at 12-15.

witnessed by investors in real time over the 2004-2005 period, and the *increase* in equity costs calculated by the SSDCF model.²⁴

Messrs. Crowley and Fapp also demonstrate why the comparison chart referred to by the Board in its May 15, 2009 Decision – and criticized by the D.C. Circuit – does not represent a reliable indicator of the reasonableness of the 2005 SSDCF cost of equity. The defects include a mismatch between the groups of railroads included in the Board’s cost of equity calculation, on the one hand, and the equity costs reported by Morningstar and included in the Board’s chart, and the flaws in the Dixon Extreme Outlier Test relied upon by the Board before the Court, flaws which BNSF’s witnesses Hamada and Gokhale point out themselves.²⁵ Likewise, Messrs. Crowley and Fapp show how the substitute “outlier” test offered by Professor Hamada and Mr. Gokhale in an effort to justify the 2005 SSDCF equity figure does not actually identify true outliers at all, and lacks both logical and statistical validity.²⁶

Finally, Messrs. Crowley and Fapp present a recalculation of the revenue to variable costs results for the Maximum Markup Methodology model shown in the May 15, 2009 Decision, after substitution of the CAPM-derived 2005 TNR cost of capital for the SSDCF-derived figure used by the Board. V.S. Crowley/Fapp at 30-33. As they explain, making no adjustments other than this 2005 cost of capital substitution, the maximum r/vc ratios applicable to the AEP Texas coal movement under the stand-alone

²⁴ *Id.* at 14-16. As noted by Messrs. Crowley and Fapp, an improvement in a firm’s profitability should *lower* its cost of equity. *Id.*

²⁵ *Id.* at 18-23.

²⁶ *Id.* at 26-29.

cost constraint of the *Coal Rate Guidelines* are meaningfully lower than those reflected in the Board's prior Decision, and materially impact the retrospective and prescriptive relief to which AEP Texas is entitled for most years in the 20-year DCF period. The revised r/vc results are shown on Crowley/Fapp Table 10, and the underlying calculations are detailed in their accompanying workpapers.

CONCLUSION

For the reasons set forth in this Reply and in AEP Texas' previous submissions in this case, the Board should issue a decision on remand (a) revising the 2005 cost of capital for the TNR to reflect the 9.0% figure calculated using CAPM; (b) revising its prior determinations regarding maximum rate levels for the issue traffic in accordance with AEP Texas' updated MMM calculations; and (c) ordering prescriptive relief and reparations as indicated by the revised maximum rate calculations.

Respectfully submitted,

AEP TEXAS NORTH COMPANY

By: Patricia M. Castro
Senior Counsel
155 West Nationwide Boulevard
Suite 300
Columbus, OH 43215

William L. Slover
Kelvin J. Dowd
Robert D. Rosenberg
Slover & Loftus LLP
1224 Seventeenth Street, NW
Washington, DC 20036
(202) 347-7170



Of Counsel:

Slover & Loftus LLP
1224 Seventeenth Street, NW
Washington, DC 20036

Dated: January 28, 2011

Attorneys & Practitioners

VERIFIED STATEMENT

OF

JAMES E. HODDER

My name is James E. Hodder. I am the Charles and Laura Albright Professor of Finance at the University of Wisconsin-Madison. I have served on the faculty of the Wisconsin School of Business since 1992 and served as Chair of its Finance Department from 2004 to 2008. From 1978 to 1992, I served on the faculty of Stanford University, where I received my Ph.D. in Economics in 1979. My other academic degrees are a Bachelor of Science in Industrial Engineering from Stanford University, a Masters of Business Administration from the University of Michigan, and a Masters of Arts in Economics from the University of California (Berkeley).

At Wisconsin, I have taught Corporate Finance at the graduate level as well as corporate-oriented courses on Financial Policy and on Multinational Business Finance at both graduate and undergraduate levels. In addition, I have taught several courses on options and other derivative securities. Last year, I taught a contemporary topics course on Hedge Funds. At Stanford, most of my teaching was in corporate finance with a particular focus on valuing manufacturing and technology investments.

A substantial portion of my research and publications has addressed the subjects of investment evaluation and discounting. A key aspect of those subjects is the firm or project cost of capital, including appropriate risk and inflation adjustments. Another substantial portion of my research has addressed corporate capital structure. I previously have submitted testimony to the Surface Transportation Board ("Board") in several coal rate cases, including a 2008 Verified Statement on behalf of AEP Texas North Company ("AEP Texas") in an earlier phase of this

proceeding against BNSF Railway Company. I also provided testimony to the Board on several occasions on behalf of the Western Coal Traffic League (“WCTL”) in connection with Ex Parte No. 664, Methodology to be Employed in Determining the Railroad Industry’s Cost of Capital, and Ex Parte No. 664 (Sub-No. 1), Use of a Multi-Stage Discounted Cash Flow Methodology In Determining the Railroad Industry’s Cost of Capital. My participation included a Verified Statement in December 2006, a Public Hearing in February 2007, a Verified Statement in September 2007, a Reply Verified Statement in October 2007, a Public Hearing in December 2007, and a Verified Statement in April 2008. A copy of my detailed curriculum vitae is included herewith as Appendix A.

In the current proceeding, I have been asked by Counsel for AEP Texas to review and respond to the joint Verified Statement (“VS”) of Professor Robert S. Hamada and Mr. Rajiv B. Gokhale that was submitted to the Board on behalf of BNSF Railway Company on November 22, 2010 in STB Docket No. 41191 (Sub-No.1), AEP Texas North Company v. BNSF Railway Co.

Hamada and Gokhale group their comments into two major themes: a) how a Board decision concerning the cost of capital for the hypothetical stand-alone railroad posited in the AEP Texas v. BNSF case would impact investor expectations and future investment decisions, involving the railroad industry and b) whether continued use of the original single-stage DCF-based cost of equity estimate for the stand-alone railroad’s 2005 cost of capital remains reasonable.

First of all, the Hamada and Gokhale statement amplifies the significance of this case for investor expectations beyond all reasonable proportion. The matter at issue here is a single rate

case and, at this point, the cost of equity for a single year (2005) that also is utilized as part of a multiple-year average. The Board's decision in this case will affect the interests of AEP Texas and perhaps BNSF, but it will not be an event of significant consequence for investors in the railroad industry generally. Analysts may well comment, but only because they are always looking for something current to add to their commentaries. It is highly unlikely that sophisticated investors will be deterred from investing in railroads by a decision in which the Board opts to utilize a more accurate estimation methodology to determine the 2005 cost of equity for this case. In fact, that decision would make the Board's cost of equity estimate more reasonable. Indeed, the Board has previously indicated publicly it would consider such a re-estimation, so the fact that it occurs would not surprise regular observers of the agency or upset what reasonably could be considered settled expectations.

Hamada and Gokhale do not suggest, much less demonstrate, that BNSF made any actual investment used to serve the AEP Texas movement in reliance on the Board's 2005 industry cost of capital. Furthermore, there is no indication that BNSF would not have made such an investment if the Board had published a lower cost of capital. Nor do Hamada and Gokhale suggest that BNSF took the Board's 2005 cost of capital into account in setting the rate for the AEP Texas movement. Also, the Board has itself stressed that most railroad traffic is not subject to regulation, when claiming that there is no circularity in its use of analysts' projections to calculate the cost of equity in its single-stage (or multi-stage) DCF methodology. Since it is that cost of equity calculation which is claimed to give rise to analysts' reliance on the Board's estimate, the same logic indicates that investors place little weight on the cost of equity used by the Board for regulatory purposes, especially for a single year of a multiple-year average in a

single rate case.

Hamada and Gokhale do assert that “[i]nvestors making investments during 2005 would have no reason to expect that the Board would not use the DCF model for that year because it was not until April 2006 that WCTL formally requested that the Board consider switching to the CAPM.”¹ This assertion ignores several facts, including:

- a) The Board’s practice is to set the Railroad Cost of Capital in arrears. So the April 2006 date actually refers to 2005 Railroad Cost of Capital proceedings. In other words, from the very beginning of Board proceedings to determine the 2005 industry cost of capital, investors were on notice that the DCF model was under challenge.
- b) The WCTL had been complaining about the Board’s DCF model since at least 1997.²
- c) Financial analysts had been estimating costs of equity for individual Class I railroads as well as weighted average costs of capital (“WACC”) for the industry at levels below that set by the Board in recent years. For example, Standard & Poor’s in a February 21, 2004 report on BNSF estimated the cost of equity at 9.1%.³ A similar 2004 report on CSX Corp. had a cost of equity at 10%.⁴ For 2004, the Board’s estimated cost of equity was 13.16%. Clearly, there is an obvious disagreement between estimates from financial analysts and those of the Board. At the industry level, a UBS Investment Research report on Railroads in April 2006 uses a WACC of 9.5% for 2005 as well as years going back to 2002

¹ Hamada and Gokhale VS, page 4.

² See discussion on page 5 of the U.S. Appeals Court Decision dated June 18, 2010 regarding Case 09-1202.

³ Stock Report on Burlington Northern Santa Fe by Standard & Poor’s dated 21 February 2004.

with the comment: “The exact WACC of these companies is debatable, and the closest thing we can find to a consensus among CFO’s and investors is about 9.5%; hence that’s the benchmark we’re using.”⁵ For 2005, the Board’s estimate for the industry cost of capital was 12.12% (with a cost of equity at 15.18%). Again, we have large discrepancy which should be obvious to any sophisticated investor.

- d) As of 2005, Ibbotson Associates (now Ibbotson/Morningstar) had been publishing CAPM-based cost of equity estimates for the railroad industry that were consistently below the Board’s since the late 1990s.⁶ From 2001 – 2005, the Ibbotson CAPM-based estimate averaged over 4 percentage points below the Board’s single-stage DCF-based estimate. A percentage point gap of that magnitude (amounting to over one-fourth of the Board’s average estimate during that period) is huge for cost of equity estimation and provides an observant investor with a clear signal that something is awry. For 2005, the gap was over 6.5%; and it is noteworthy that the Ibbotson number was available in 2005, whereas the Board’s estimate wasn’t announced until 2006.
- e) The cost of equity calculated under the Board’s single-stage DCF model increased from 13.16% in 2004 to 15.19% in 2005 (an increase of over 2 percentage points and more than 15% of the 2004 estimate) without any identified increase in underlying inflation, risk, or other reasonably attributable cause. The inference to be drawn is that this significant jump resulted from the simple (mis)functioning

⁴ Stock Report on CSX Corp. by Standard & Poor’s dated 27 March 2004.

⁵ “Railroads” Sector Comment by UBS Investment Research dated 18 April 2006.

⁶ See the Board’s May 15, 2009 decision at p. 10.

of the model and its inherent assumptions regarding such factors as growth rates, rather than any actual changes in the railroads' prospects for raising capital.

It certainly seems that investors had strong indications that there were problems with the Board's cost of equity estimation procedure and its apparently anomalous results. A fundamental characteristic of the investment environment is a lack of certainty regarding future outcomes, and sophisticated investors always attach weight to the probability of change. Under the circumstances noted above, a knowledgeable investor certainly should have been aware of building pressure for the Board to change its cost of equity estimation procedure. Indeed, it is surprising that it took so long for that change to occur.

Hamada and Gokhale go on to argue that “[i]nvestors funding investments during the debate over this matter would not expect the Board to make *ex post* changes because doing so would introduce confusion and unpredictability into the regulatory system.”⁷ That argument is not valid with respect to the 2005 cost of equity estimate since investors were clearly on notice that the 2005 estimate was being contested and potentially subject to reconsideration. Not only had WCTL requested a change in the estimation procedure early during the Board's 2005 Railroad Cost of Capital proceedings, but it had petitioned the U.S. Appeals Court for review of the Board's 2005 Cost of Capital determination. Moreover, during oral argument before the Court, “the Board itself represented that it might be appropriate to reconsider at least the 2005 figures.”⁸

Hamada and Gokhale's final point regarding investor expectations is that “making *ex post* methodological changes would decrease future investors' incentive to invest in the railroad

⁷ Hamada and Gokhale VS, page 4.

industry, because all participants ... would never know whether the emergence of a newer cost of capital model in the future would lead to changes in the prior year cost of capital.”⁹ First of all, this massively over-amplifies the significance of the current proceeding for sophisticated investors (who control the vast majority of investable funds in the U.S.). The record in this case indicates that it affects less than one percent of BNSF’s coal traffic, and a much lesser percentage of its total traffic. An informed investor would not even be expected to make a decision whether or not to buy BNSF stock based on the outcome of this case, much less a decision regarding investments in railroads generally. Their assertion is also not appropriate for the 2005 cost of equity estimate as discussed above. Furthermore, the implication that a CAPM-based cost of equity estimation is somehow relatively new is unsupportable. The CAPM-based approach has been around since the 1960’s. Indeed, Professor Hamada authored in 1969 a rather sophisticated article discussing cost of capital in the context of the CAPM with leverage and tax effects as well differing project risk.¹⁰

On the question of whether the Board’s continued use of a 2005 cost of equity estimate based on the DCF model in this case was reasonable, Hamada and Gokhale argue that “[b]y definition, no model is perfect because the cost of equity cannot be observed directly.”¹¹ They continue that “discarding a model because it may have produced an ‘outlier’ result in one year would create a precedent for discarding all existing models.”¹² The STB did not replace the DCF model with the CAPM because the former produced an outlier result in one year. It did so because the CAPM represented a superior methodology based on considered study and the many

⁸ U.S. Appeals Court Decision dated June 18, 2010 regarding Case 09-1202, page 15.

⁹ Hamada and Gokhale VS, page 4.

¹⁰ Hamada, Robert S., “Portfolio Analysis, Market Equilibrium and Corporation Finance,” Journal of Finance, Vol. 24 (1), March 1969, pp. 13-31.

¹¹ Hamada and Gokhale VS, page 4.

comments and analyses provided by interested parties. Once adopted, its application to pending matters – such as this case – would be compelled by logic and reason. Moreover, model imperfections do not have to do with observing the cost of equity directly. If the cost of equity could be observed directly, we would not need a model with which to estimate it. Choosing to not use the single-stage DCF model in conditions where it is known to generate biased results for a number of consecutive years hardly amounts to “discarding all existing models”.

The key weakness (imperfection) in the single-stage DCF model is that it assumes a constant dividend growth rate that continues in perpetuity. The Board proxied for dividend growth using an estimate of earnings growth. If the assumed industry (or firm) growth rate is both moderate and roughly similar to the growth rate for the economy as a whole, the single-stage DCF model can generate plausible estimates. However, if the assumed growth rate is either very low or very high, that model generates inaccurate and irrational results.¹³ When the assumed growth rate is very low, the cost of equity estimate is biased downwards – frequently generating a cost of equity estimate below the cost of borrowing (an unsupportable notion). When the assumed growth rate is very high, the cost of equity estimate is biased upward. These biases are well-known. I addressed this problem in my corporate finance classes circa 1980 and would be quite surprised if Professor Hamada was not also aware of the problem years ago. Certainly nothing in the Hamada/Gokhale statement indicates any belief on their part that the single-state DCF model is conceptually sound, that the assumptions used by the Board in its 2005 calculation are reasonable or even plausible, or that the estimate produced by that model for 2005 is objectively accurate.

¹³ Hamada and Gokhale VS, page 4.

In view of this bias problem, the single-stage DCF procedure is a very poor choice when the assumed growth rate differs substantially from a rate that can plausibly be maintained for a very long time (perpetuity). That was clearly the case for 2005, where the Board was using a growth rate of 13.66%, while plausible nominal growth rates for the economy were on the order of 5.5% - 6.0%.

Hamada and Gokhale's final point under their heading of the "Unreasonableness of 2005 Cost of Equity" is:

Changing the 2005 cost of capital because of a subsequent change in methodology (i.e., adoption of a new model for the cost of equity) would be akin to establishing a new principle, namely the adoption of a new and better model justifies restatement of all prior year cost of capital estimates. However, applying this principle every time the Board changes a methodology would create the risk of chaos in the regulatory system.¹⁴

It is not clear what this last point has to do with whether or not the 2005 estimate was unreasonable. Perhaps Hamada and Gokhale are trying to say that even if the 2005 estimate was unreasonable, it should not be revised on the grounds that such a revision would "create the risk of chaos in the regulatory system". Again they purport to address a problem which is not present in the current proceeding. The issue here is not "restatement of all prior year cost of capital estimates."¹⁵ The issue at hand is a single year's cost of capital for a hypothetical railroad that was to be determined *after* the STB had substituted CAPM for DCF, and *after* counsel for the STB admitted to the U.S. Court of Appeals "that the DCF method was flawed."¹⁶ Furthermore as discussed above, there had been very substantial notice that use of the DCF method for calculating the 2005 estimate was suspect and that a different approach might be

¹³ For a discussion of this problem, see pages 7 -10 of my December 2006 Verified Statement in connection with Ex Parte No. 664, Methodology to be Employed in Determining the Railroad Industry's Cost of Capital, and Ex Parte No. 664 (Sub-No. 1).

¹⁴ Hamada and Gokhale VS, page 4.

needed to produce a plausible figure. Consequently, there is no risk of chaos here; but there is a risk that a regulatory agency will persist in using an inaccurate figure calculated using a defective methodology and/or inherently flawed assumptions. Investors, customers, and the public at large will have greater confidence in an agency and regulatory process that strives for the most accurate outcomes, which includes a willingness to acknowledge and correct errors when presented with superior tools and information.

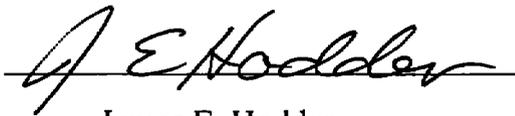
In my view, the Board should definitely correct the 2005 cost of equity for the AEP Texas stand-alone railroad. With an assumed growth rate of 13.66% for 2005, the single-stage DCF model generated a cost of equity estimate that is much too high. This was obvious and well-known, and ignoring the issue is unreasonable. It is important to remember that the main underlying issue here is economic efficiency, not the short-term interest of a firm or sub-group of investors. Indeed, investors as a broadly defined group hold shares (and debt) in utilities and other railroad customers as well as the railroads themselves. Consequently, an outcome that has gains for one firm will reflect offsetting losses for another, with a net effect that is perhaps breakeven for investors collectively. More important is the long-term value of “getting it right,” which generates greater investor stability and economic efficiency, and is a benefit for all. Stated differently, a decision to persist in using an unreliable figure produced by a flawed methodology is likely lead to a misallocation of societal resources, to the detriment of investors, consumers, and the public interest.

¹⁵ The U.S. Appeals Court remanded only the issue of the 2005 cost of equity and accepted the Board's decision not to restate the cost of equity for earlier years.

¹⁶ U.S. Appeals Court Decision dated June 18, 2010 regarding Case 09-1202, page 7.

VERIFICATION

I, James E. Hodder, 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 "J E Hodder", written over a horizontal line.

James E. Hodder

Executed on
January ~~24~~ 2011

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

**AEP TEXAS NORTH COMPANY
V.
BNSF RAILWAY COMPANY**

)
)
)
)
)
)

STB Docket No. 41191 (Sub-No.1)

Verified Statement

**Of
Thomas D. Crowley
President**

and

**Daniel L. Fapp
Vice President**

**L.E. Peabody & Associates, Inc.
On Behalf Of**

AEP Texas North Company

January 28, 2011

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	2005 COST OF EQUITY	4
	A. SINGLE-STAGE DCF SHOULD NOT HAVE BEEN USED IN 2005	5
	B. THE 2005 RAILROAD COE IS UNREASONABLE WHEN COMPARED TO OTHER INDUSTRIES COE	7
	C. THE 2005 SSDCF COE UNJUSTIFIABLY DIVERGES FROM THE MARKET RETURN	12
III.	STB COST OF EQUITY COMPARISON CHART	17
	A. THE STB COE GROUP AND MORNIGSTAR COE GROUP ARE NOT COMPARABLE	18
	B. THE MORNINGSTAR COE ARE IMPLICITLY HIGHER THAN THE STB COE	19
	C. THE STB'S OUTLIER TEST ON THE COE TABLE DATA IS FLAWED	21
IV.	HAMADA/GOKHALE OUTLIER TEST	24
	A. A COE CAN BE JUDGED UNREASONABLE BASED UPON ONE OBSERVATION	24
	B. HAMADA/GOKHALE'S OUTLIER TEST IS UNSUPPORTED AND ILLOGICAL	26
	1. Hamada/Gokhale's Test Is Not A True Statistical Test.....	27
	2. Hamada/Gokhale's Definition Of An Outlier Does Not Comport To Standard Practices.....	27
	3. Hamada/Gokhale's Approach Produces Illogical Results.....	28
V.	IMPACT ON STB'S MMM RESULTS OF SUBSTITUTING THE 2005 CAPM COE FOR THE 2005 SSDCF COE	30

LIST OF EXHIBITS

<u>EXHIBIT NO.</u>	<u>EXHIBIT DESCRIPTION</u>
(1)	(2)
1	Statement of Qualifications of Thomas D. Crowley
2	Statement of Qualifications of Daniel L. Fapp
3	Comparison of STB Costs of Equity and Estimated Market Return

I. INTRODUCTION

We are Thomas D. Crowley and Daniel L. Fapp. We are economists and, respectively, the President and a Vice President of L. E. Peabody & Associates, Inc., an economic consulting firm that specializes in solving economic, transportation, marketing, financial, accounting and fuel supply problems. Mr. Crowley has spent most of his consulting career of over thirty-nine (39) years evaluating fuel supply issues and railroad operations, including railroad costs, prices, financing, capacity and equipment planning issues. His assignments in these matters were commissioned by railroads, producers, shippers of different commodities, and government departments and agencies. A copy of his credentials is included as Exhibit No. 1 to this verified statement ("VS").

Mr. Fapp has been with L. E. Peabody & Associates, Inc. since 1997. During this time, he has worked on numerous projects dealing with railroad revenue, operational, economic and financial issues. Prior to joining L. E. Peabody & Associates, Inc., Mr. Fapp was employed by BHP Copper Inc. in the role of Transportation Manager - Finance and Administration, where he also served as an officer and Treasurer of the three BHP Copper Inc. subsidiary railroads, The San Manuel Arizona Railroad, the Magma Arizona Railroad and the BHP Nevada Railroad. A copy of his credentials is included as Exhibit No. 2 to this VS.

Our consulting assignments regularly involve working with and determining various facets of railroad financial issues, including cost of capital determinations. In these assignments, we have calculated railroad capital structures, market values, cost of railroad debt, cost of preferred railroad equity and common railroad equity. We are also well acquainted with and have used many recognized models for estimating a firm's cost

of equity, including Single-Stage Discounted Cash Flow Models (“SSDCF”), Multi-Stage Discounted Cash Flow Models (“Multi-Stage-DCF”), the Capital Asset Pricing Model (“CAPM”), and the Fama-French Three Factor Model.

We have developed railroad industry average cost of capital and company specific cost of capital data for use in litigation and for use in general business management. For several clients, we have both individually and together determined the Going Concern Value (“GCV”) of privately held railroads. Developing the GCV under the Income Based Methodology requires developing company specific costs of debt and equity for use in discounting future company cash flows, as well as creating forecasts of expected cash flows to the firm and to holders of common equity from company financial statements. We have also developed cost of capital in order to capture the costs associated with shipper investment in railroad equipment and road property. Our findings regarding railroad cost of capital have been presented to U.S. District and State courts, the Interstate Commerce Commission, the Surface Transportation Board (“STB”) and the Federal Railroad Administration.

We have been requested by Counsel for AEP Texas North Company (“AEP Texas”) to address the chart included on page 10 of the STB’s decision in Docket No. 41191 (Sub-No. 1), *AEP Texas North Company v. BNSF Railway Company*, served May 15, 2009 (“2009 Decision”) comparing various estimates of the railroad industry cost of equity (“COE”), and to discuss the specific calculation of the STB’s 2005 COE as calculated by the STB using the SSDCF approach. In addition, Counsel requested we review the Comments of BNSF Railway On Remand filed November 22, 2010, (“BNSF Comments”) including the joint Verified Statement of Dr. Robert S. Hamada and Mr. Rajiv B. Gokhale (“Hamada/Gokhale VS”). We were also asked to calculate the impact

on the STB's Maximum Markup Methodology ("MMM") revenue to variable cost ratios of substituting the 2005 CAPM cost of equity for the 2005 SSDCF cost of equity. The Board's 2009 Decision was vacated by the U.S. Court of Appeals for the D.C. Circuit on June 18, 2010, and remanded to the STB for reconsideration of its determination as to the 2005 cost of capital to be used in this maximum rate proceeding.

Our testimony is organized under the following topical headings:

- II. 2005 Cost of Equity
- III. STB Cost of Equity Comparison Chart
- IV. Hamada/Gokhale Outlier Test
- V. Impact on STB's MMM Results of Substituting the 2005 CAPM COE for the 2005 SSDCF COE

II. 2005 COST OF EQUITY

Prior to its decision in Ex Parte No. 664, *Methodology To Be Employed In Determining The Railroad Industry's Cost of Capital*, served January 17, 2008 (“*Ex Parte 664*”), the STB had estimated the railroad industry COE using the SSDCF approach. In *Ex Parte 664*, the STB found that the SSDCF approach had been displaced by other more current COE methodologies, primarily due to the SSDCF’s overly simplistic assumptions that could lead to erroneous estimates. As indicated by the STB, the SSDCF approach will overstate the COE when forecasts of dividend growth are too high and understate the COE when the forecasted growth estimates are too low.¹ Because of this flaw in the SSDCF approach, the STB chose instead to calculate the COE using the CAPM approach beginning in 2006.

Even though the STB recognized that the SSDCF approach can produce unreasonable COE estimates when the assumed perpetual growth rates are too high, it indicated in its *2009 Decision* that the COE estimates produced by its SSDCF models between 1994 and 2004 were not out of the norm based on a visual comparison to railroad industry COE produced by different approaches developed by Morningstar Inc. (“Morningstar”).² The STB also ruled that while its 2005 SSDCF COE estimate was above the norm of other 2005 COE estimates, it did not believe the increase above other estimates was sufficiently large to justify using CAPM to calculate 2005 capital costs for purposes of this case.³

While the STB’s *2009 Decision* found that the 2005 COE developed by the SSDCF approach was reasonable, current economic teaching and examination of the

¹ See *Ex Parte 664* Notice of Proposed Rulemaking at 4.

² See *2009 Decision* at 10.

³ See *2009 Decision* at 10.

underlying assumptions and calculations of the 2005 COE using SSDCF show it is in fact unreasonable. First, current economic teaching and analysis shows that the SSDCF approach should not have been used to calculate the 2005 COE in this case, given the abnormally large and unsustainable forecasted growth rates in railroad earnings used in the model. Second, the STB's 2005 COE produced illogical and unreasonable results when evaluated against industries with similar COE but which face much higher market risk. Third, the STB 2005 COE results in unexpected and unjustified deviations from the market return, confirming that the calculation was highly suspect. We discuss each of these issues in greater detail below.

**A. SINGLE-STAGE DCF
SHOULD NOT HAVE
BEEN USED IN 2005**

One of the primary assumptions underlying the SSDCF approach is that the growth in company dividends will continue at the same level in perpetuity. The STB explicitly recognized this, and understood that if the constant growth rate assumption is inaccurate, unreasonable results can occur.⁴ This point is not trivial and cannot be ignored. The use of temporarily high growth estimates in the SSDCF approach will lead to an unreasonable overstatement in the COE. This point was made explicitly clear by Dr. Stewart C. Myers, a leading professor of finance and an expert witness for the railroad industry, over 15 years ago:

The constant-growth DCF model "solves" this problem (of tying growth in stock price to the company's performance) by assuming that the expected rate of return from capital gains equals the expected growth rate of dividends per share. However, this only works if the expected future growth rate of dividends is constant from here to eternity. If dividend growth is expected to

⁴ See *Ex Parte 664* Notice of Proposed Rule Making at 4.

vary, then the equation is wrong. It will overestimate the true cost of equity when immediate growth rates are temporarily high, and underestimate it when they are temporarily low⁵

In developing its 2005 COE, the STB assumed a perpetual growth rate of 13.66 percent when applying the SSDCF approach.⁶ The question that must be answered then is could the railroad industry maintain an average growth rate of nearly 14 percent in perpetuity? The clear answer is no. At some point, growth in the industry must slow. As the STB indicated in *Ex Parte 664*, the growth rate of a particular industry cannot substantially exceed the long term growth rate of the economy indefinitely.⁷ To assume otherwise means that in a little over 100 years the railroad industry's earnings would be larger than the entire U.S. economy. In fact, any assumed perpetual growth rate higher than 7 percent should raise concerns as to its accuracy for use in a SSDCF calculation.⁸

The fact that we are discussing the assumed rate of growth in the railroad industry and not an individual company's growth rate does not negate the fact that the perpetual 13.66 percent growth rate is unreasonable. The STB calculated the 2005 industry growth rate by calculating a weighted-average of the truncated average growth rates for the four Class I railroads included in the 2005 study year – Burlington Northern Santa Fe Corporation (“BNSF”), CSX Corporation (“CSX”), Norfolk Southern Corporation (“NS”) and Union Pacific Corporation (“UP”). As shown in the STB's *2005 Cost of Capital*, each of the railroads had forecasted growth rates above 12 percent, with CSX

⁵ See Myers, Stewart C. and Borucki, Lynda S., “Discounted Cash Flow Estimates of the Cost of Equity Capital – A Case Study,” *Financial Markets, Institutions and Instruments*, Vol. 3, No. 3, August 1994 at 9 to 45 (“Myers and Borucki”).

⁶ See STB Ex Parte No. 558 (Sub-No. 9), *Railroad Cost of Capital – 2005*, served September 20, 2006 (“*2005 Cost of Capital*”) at 10.

⁷ See *Ex Parte 664* Notice of Proposed Rule Making at 4.

⁸ See for example Pratt, Shannon, P., *Cost of Capital: Estimation and Applications*, 2nd ed., John Wiley & Sons, Inc. 2002 at 113 (“Pratt”), “It is theoretically impossible for the sustainable perpetual growth rate for a company to significantly exceed the growth rate in the economy. Anything over a 6-7% perpetual growth rate should be questioned carefully.”

topping the list at 15.52 percent. It is implausible to assume that each of the carriers would grow at these high forecasted rates forever.

Given the abnormal growth rates used in the SSDCF approach for 2005, it was inevitable that the approach would produce an implausibly high COE. As Dr. Myers indicated, the SSDCF is the wrong model to use when faced with these situations.

**B. THE 2005 RAILROAD
COE IS UNREASONABLE
WHEN COMPARED TO
OTHER INDUSTRIES' COE**

Contemporary finance theory holds that any company or industry's COE is equal to the return on other investments that carry the same level of risk. Stated differently, COE is the return available in the competitive market on a comparable investment, with risk being the most important component of comparability.⁹ Dr. Myers made this point exceedingly clear when he stated, "The expected rate of return r is not the private property of any company; it is identical for all stocks of the same risk."¹⁰

The STB estimated the 2005 COE to be 15.18 percent based on application of the SSDCF approach. Based on the discussion above and the statement by Dr. Myers, the railroad industry should be deemed just as risky as other companies or industries that have the same or similar COE. Stated differently, if the railroads' COE is determined accurately, then other companies and industries that do not have the same risk as the railroad industry should not have the same or similar COE.

To test whether the SSDCF COE for 2005 met this criterion, we identified companies that would fall into the risk class implied by the STB's 2005 COE estimate

⁹ See Pratt at 4.

¹⁰ Myers and Borucki at 19.

using 2005 COE estimates published by Dr. Aswath Damodaran of New York University's Stern School of Business.¹¹ A review of Dr. Damodaran's published data identified four industry groups that had costs of equity within 1.52 percent (or the 2005 STB COE of 15.15 percent multiplied by one (1) plus or minus 10 percent) of the STB's 2005 COE: the computer software and services industry, computers and peripherals industry, power generating and equipment industry and the entertainment technology industry.

Table 1 below compares Dr. Damodaran's COE for these four industries and his calculation of the corresponding beta estimate (reflecting each industry's investment risk) to the STB's 2005 COE for the railroad industry and a 2005 beta estimate for the railroad industry as defined by the STB in its *2005 Cost of Capital* proceeding.

<u>Industry Name</u> (1)	<u>Cost of Equity 1/</u> (2)	<u>Beta 1/</u> (3)
1. Computer Software and Services	14.29%	2.06
2. Computers and Peripherals	15.07%	2.23
3. Power & Generation Equipment (including renewable)	15.10%	2.23
4. Entertainment Technology	16.24%	2.47
5. STB 2005 COE <u>2/</u>	15.18%	0.84 <u>3/</u>

1/ Data from <http://pages.stern.nyu.edu/~adamodar/>
2/ 2005 *Cost of Capital* at page 18.
3/ Beta calculated using *Ex Parte 664* methodology

¹¹ Dr. Damodaran is an acknowledged expert in the fields of corporate finance and valuation, and makes available his calculations of industry level financial statistics, including costs of equity and beta estimates. See Dr. Damodaran's website at <http://pages.stern.nyu.edu/~adamodar/> for a complete list of his publicly available data.

As shown in Table 1, Dr. Damodaran identified four industries with COE similar to the STB's 2005 COE for the railroads. If the STB COE was accurate, these industries likewise should share similar levels of risk, as reflected in their betas. However, this is not the case. All would be considered high-tech industries and would by their nature be considered more risky than the railroad industry by most prudent standards. This greater risk is indicated by their high beta values, which all exceed 2.0.¹² In contrast, the 2005 railroad industry beta as calculated using the STB's beta estimation methodology developed in *Ex Parte 664* equals 0.84.¹³

The mismatch in 2005 COE and beta is telling and points directly towards the unreasonableness of the STB's 2005 SSDCF COE estimation. Beta is a primary indicator of market risk, which accounts for most of the risk inherent in an asset or firm.¹⁴ As discussed above, basic finance theory holds that the COE must be the same for all stocks that face the same risk. Therefore, one would expect companies with similar COE to

¹² While beta is most closely identified with the CAPM, the usefulness of beta as a measure of security risk does not depend on the strict validity of the CAPM. Beta by definition is equal to the covariance of a stock or portfolio of stocks and the market divided by the variance of the market. While its application in the CAPM is viewed controversial by some, it rightly can be used as a proxy for risk. See Myers, Stewart C., "On the Use of Modern Portfolio Theory in Public Utility Rate Cases: Comment," *Financial Management*, Autumn, 1978: 7, 3.

¹³ To gauge the reasonableness of our 2005 railroad industry beta estimate, we compared our beta estimate to publicly available estimates of the 2005 beta. Ibbotson calculated betas for the four railroads included in the 2005 Cost of Capital decision ranging from 0.59 to 0.89. Similarly, Bloomberg calculated 5-year monthly betas for the four railroads ranging from 0.60 to 0.90 for year-end 2005. Dr. Bruce Stangle testifying on behalf of the Association of American Railroads ("AAR") calculated in his Opening VS in STB 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*, filed April 14, 2008, a railroad industry beta of 0.82. Dr. Damodaran also calculates a beta and COE for the railroad industry, including not only the publicly traded Class I railroads, but also publicly traded short-line railroads and railroad railcar and supply companies, so his calculation is not directly comparable to the COE calculated by the STB.

¹⁴ Capital market theory divides risk into two primary components: systematic risk and unsystematic risk. Systematic risk, or market risk, stems from the fact that there are some risks that perils all assets in the market, which cannot be eliminated through diversification. Unsystematic risk, or unique risk, stems from unique risks to a company or industry. Investors can eliminate unique risk through diversification, therefore it is only systematic or market risk that is relevant.

have similar betas.¹⁵ Conversely, companies with similar betas should have similar COE. Table 1 above shows this is true for the four industries identified by Dr. Damodaran. In contrast however, the STB's 2005 COE is clearly out of line with the railroad industry beta estimate.

A similar comparison can also be made from the perspective of the beta estimate. As noted above, companies with similar betas should also have similar COE. Table 2 below compares the COE from industries with betas similar to the railroad industry's 2005 beta to the 2005 SSDCF COE estimated by the STB.

¹⁵ Beta indicates the amount of systematic risk inherent in a stock and accounts for much of the premium inherent in stocks. Unsystematic risk is much smaller than systematic risk in almost all cases. Researchers believe that most of an investment's unsystematic risk may be captured in a company's size premium. See Pratt at 36. The size premiums for the industries included in Table 1 above range from 85 to 173 basis points (0.85 to 1.73 percent), while the railroads included in the STB cost of capital group have premiums ranging from -37 basis points to a positive 67 basis points (-0.37 percent to 0.67 percent). Even if one were to subtract the size premiums from the different industries COE shown in Table 1 above, the adjusted COE for all the industries would still be similar, while the railroad beta would still be substantially smaller.

Table 2
2005 Beta and Cost of Equity by Industry Sector

<u>Industry Name</u> (1)	<u>Beta 1/</u> (2)	<u>Cost of Equity 1/</u> (3)
1. Packaging and Containers	0.82	8.31%
2. Toiletries/Cosmetics	0.82	8.31%
3. Diversified Companies	0.82	8.33%
4.. Paper and Forest Products	0.82	8.34%
5. Machinery	0.83	8.39%
6. Chemicals (Diversified)	0.84	8.42%
7. Aerospace/Defense	0.84	8.44%
8. Newspaper	0.86	8.50%
9. Grocery	0.86	8.50%
10. Home Appliances	0.86	8.52%
11. Information Services	0.86	8.54%
12. STB 2005 COE 2/	0.84 3/	15.18%

1/ Data from <http://pages.stern.nyu.edu/~adamodar/>

2/ 2005 *Cost of Capital* at page 18.

3/ Beta calculated using *Ex Parte 664* methodology

As Table 2 above shows, industries with average betas similar to the railroad industry's 2005 beta have COE ranging from 8.31 percent to 8.54 percent as calculated by Dr. Damodaran. These COE figures lie in stark contrast to the SSDCF COE value of 15.18% estimated by the STB.

There is no way to explain the extreme mismatch between the STB's 2005 COE estimate and the market risk faced by the railroad industry, other than by concluding that the COE estimate is inflated and inaccurate. It is fundamental that firms with the same risk must have the same costs of equity. The fact that the STB's 2005 COE is so dramatically different than the estimate of market risk highlights its unreasonableness.

**C. THE 2005 SSDCF
COE UNJUSTIFIABLY
DIVERGES FROM
THE MARKET RETURN**

The STB's COE comparison included in the *2009 Decision* implies that because the SSDCF model produced COE results prior to 2005 that were within a range of COE estimates produced by a third party, it should be assumed that the 2005 SSDCF is not an unreasonable estimate. However, the fact that a model can produce a result that is reasonable in one year does not mean that the same model will produce reasonable results in others. Rather, each estimate must be evaluated based on the factors relevant for that particular period.

A recent study by the Brattle Group performed for the Canadian Transportation Agency concludes that it is not enough to place blind faith in a model's results, but that one must look at the underlying causes of the results, and interpret them given the then current factors:

Analysts must exercise common sense as well as expertise in interpreting results from these [cost of equity] models. They should try to understand why things may look unusual when they do – and be able to use that understanding to shape their interpretation of the results.¹⁶

As we discussed above, the major factor that is driving the erroneous STB 2005 COE results is the assumption of nearly 14 percent perpetual growth. The

¹⁶ See "Review of Regulatory Cost of Capital Methodologies" prepared by the Brattle Group for the Canadian Transportation Agency at pages 3 and 4. A copy of the report may be obtained through the Canadian Transportation Agency website at http://www.otc-cta.gc.ca/doc.php?sid=2077&lang=eng#tc-tm_1_2. Dr. James Hodder, who is also submitting a VS on behalf of AEP Texas in this proceeding; made this same point in his oral testimony before the STB in the *Ex Parte 664* proceedings: "So, any time that you see something that doesn't seem consistent with what you were seeing before and it doesn't seem consistent with the cross-check, then I think its fair to say, okay, what's the economics going on, not just the numbers that's coming out of the black box?" *Ex Parte 664* transcript at 75.

unreasonableness of the 2005 COE results is also shown when we compare the results of prior STB COE estimates against the return on the market as a whole.

As shown in Exhibit No. 3 to this VS and summarized in Table 3 below, the railroad industry COE as calculated by the STB had historically been within approximately one (1) percentage point of the return on the market as a whole, as measured by Morningstar, Inc.'s valuation of all market investments. However, in 2005 the STB's COE estimate shot up to nearly 3.5 percent above the estimated return on the market.

Table 3
Comparison of Estimated Market Returns and the STB COE

<u>Year</u> (1)	<u>STB COE</u> (2)	<u>Estimated Market Return</u> (3)	<u>Difference</u> (4)
1. 1993	13.20%	13.48%	(0.28%)
2. 1994	13.80%	14.49%	(0.69%)
3. 1995	13.34%	14.36%	(1.02%)
4. 1996	13.90%	14.32%	(0.42%)
5. 1997	13.80%	14.48%	(0.68%)
6. 1998	13.10%	13.72%	(0.62%)
7. 1999	12.90%	14.29%	(1.39%)
8. 2000	13.90%	14.03%	(0.13%)
9. 2001	12.80%	13.03%	(0.23%)
10. 2002	12.60%	12.43%	0.17%
11. 2003	12.70%	12.16%	0.54%
12. 2004	13.16%	12.25%	0.91%
13. 2005	15.18%	11.75%	3.43%

Source: Exhibit No. 3

As shown in Table 3 above, the difference between the railroad industry COE as calculated by the STB and the estimated return on the market remained fairly minimal between 1993 and 2004; that is, the market assessed railroad investment risk as generally comparable to the performance of the economy as a whole. The difference in 2005 jumped significantly, implying that somehow the railroad industry had become much more risky from a market perspective in just one year. However, this conclusion is contradicted by the facts surrounding the railroad industry at that time.

First, the railroad industry had entered what it terms the “Railroad Renaissance” in the time period prior to 2005, where the railroads were seeing increasing pricing power and earnings. As summarized by railroad analyst Anthony Hatch:

But the potential for a return to good times was always there, and the added capacity and improved networks and systems all came together in the early years of this century when the country came roaring out of its small recession and the mythical line between supply (capacity) and demand for rail transportation was crossed, likely sometime in 2003. Rates, which had only declined since deregulation in 1980, now actually increased, and there was more volume than the rails could, frankly, handle well. Suddenly the phrase “Railroad Renaissance” was back - and so was the comeback, this time, it seems, to stay.¹⁷

The impact of the so-called Renaissance is clearly shown in the change in the railroad’s net income from continuing operations between 2004 and 2005.¹⁸ As shown in Table 4 below, the railroads’ profitability significantly increased between 2004 and 2005.

¹⁷ See “‘Railroad Renaissance’: Proven True” by Anthony Hatch, *Traffic World*, November 17, 2008.

¹⁸ We reviewed income from continuing operations rather than bottom line net income because the former does not take into consideration income from discontinued operations or accounting changes, and therefore better reflects the railroads’ core increase in profitability.

Railroad	2004 Profit Before Extraordinary Items (millions) 1/	2005 Profit Before Extraordinary Items (millions) 1/	Percent Change 2/
(1)	(2)	(3)	(4)
1. BNSF	\$791.0	\$1,531.0	93.6%
2. CSX	\$418.0	\$720.0	72.2%
3. NS	\$923.0	\$1,281.0	38.8%
4. UP	\$604.0	\$1,026.0	69.9%

1/ Railroad 2005 SEC Forms 10-K.
2/ [Column (3) ÷ Column (2)] -1.

As shown in Table 4 above, the four large Class I railroads included in the STB's 2005 cost of capital determination saw significant increases in their profitability between 2004 and 2005, confirming the so-called "Renaissance" within the industry. This infers that the railroads were becoming less of a risky investment, and not more as inferred by the increase in the SSDCF COE. Moreover, this improved profitability would have been known to investors during 2005, as they regularly monitor firms' quarterly earnings reports and related data.

Second, the railroads saw a large drop in leverage, or debt, in 2005, which also made them less financially risky. Modigliani and Miller's Proposition 2 states that the expected rate of return on the common stock of a levered firm changes in proportion to the debt-equity ratio.¹⁹ In other words, holding all else constant, a company's COE will fall with a decline in the amount of debt relative to the amount of equity. As the railroad industry's capital structure shifted towards greater weighting on equity and less on debt in 2005, we should have expected a decline in the COE. However, as indicated in Table

¹⁹ See Brealey, R. A., Myers, S. C., and Allen, F., "Principles of Corporate Finance, Eighth Edition," McGraw-Hill Irwin, 2006, pages 453 to 456 ("Brealey, Myers and Allen") for a discussion of Modigliani and Miller's Proposition 2.

5 below, the STB's 2005 SSDCF approach showed an increase in the COE, further evidence that its flawed growth assumption was producing unreasonable results.

<u>Year</u> (1)	<u>Debt as Percent of Capital</u> (2)	<u>Common Equity as Percent of Capital</u> (3)	<u>Preferred Equity as a Percent of Capital</u> (4)	<u>STB COE</u> (5)
1. 2001	41.8%	56.0%	2.2%	12.80%
2. 2002	41.2%	56.7%	2.1%	12.60%
3. 2003	42.8%	57.2%	0.0%	12.70%
4. 2004	38.5%	61.5%	0.0%	13.16%
5. 2005	30.4%	69.6%	0.0%	15.18%

Source: *Ex Parte 558* decisions.

As Table 5 above shows, the railroad industry 2005 COE as estimated by the SSDCF approach was substantially increasing at a time when financial theory holds that the exact opposite should have occurred. Investors require a higher return on levered equity due to the greater risk faced. Here, though, while railroad investors are facing lower financial risk, the COE as measured by the STB in 2005 was substantially increasing.

The above evidence demonstrates rather clearly that the STB's COE approach in 2005 calculated an unreasonable increasing value.

III. STB COST OF EQUITY COMPARISON CHART

In the *2009 Decision*, the STB concluded that its 2005 COE was reasonable based mainly on a visual comparison between its prior COE estimates and Morningstar's COE for Line-Haul Operating Railroads. From this visual inspection, the STB concluded that the 2005 SSDCF COE did not vary significantly from the COE produced by Morningstar for 2005. In support of this proposition, the STB introduced an analysis in its brief to the D.C. Circuit attempting to show that the 2005 SSDCF COE was not a statistical outlier and could provide a reasonable estimate of the true COE.

We believe there are several flaws with the STB's analysis and use of Morningstar COE data that led to the erroneous conclusion that the 2005 SSDCF COE is reasonable. First, the group of railroads included in the Morningstar estimates is different than the group of railroads included in the STB's cost of capital determination. Second, the additional railroads included in the Morningstar group, including Kansas City Southern Industries ("KCS"), Genesee & Wyoming, Inc. ("G&W"), Providence & Worcester Railroad ("P&W") and Pioneer Railcorp ("Pioneer"), lend an upward bias to the Morningstar COE when compared to the STB group of railroads, which in turn lead to an erroneous comparison. Third, the statistical analysis the STB used to justify the reasonableness of its 2005 COE value is flawed because it violates the basic assumptions that underlie the type of statistical test applied by the STB. We discuss these issues below.

**A. THE STB COE GROUP AND
MORNINGSTAR COE GROUP
ARE NOT COMPARABLE**

The STB details in its annual cost of capital determinations the criteria it uses for a railroad to be included in its cost of capital determination. As indicated most recently in the *2009 Cost of Capital* determination, for the STB to include a railroad in the cost of capital cohort, a railroad must:

1. Be a Class I railroad;
2. Be listed on the New York or American Stock Exchange;
3. Pay cash dividends throughout the year;
4. Have railroad assets greater than 50% of its total assets; and
5. Have an investment level debt rating.²⁰

As indicated above, four railroads – BNSF, CSX, NS and UP – met these criteria in 2005.

In contrast to the four railroads included in the STB's cost of capital group, Morningstar included eight railroads in its 2005 line-haul railroad COE calculations cited by the STB in its *2009 Decision*. The Morningstar group included the four railroads used in the STB's 2005 cost of capital determination, along with the KCS, G&W, P&W and Pioneer. On its face this creates an apples to oranges comparison. The COE produced by the four railroads included in the STB group necessarily will be different from that produced by the eight railroads in the Morningstar Group.

The STB has in the past rejected comparisons that relied upon data sets with different compositions. For example, in STB Docket No. 42056, *Texas Municipal Power Agency v. The Burlington Northern and Santa Fe Railway Company*, served March 24, 2003 ("*TMPA*"), the STB rejected the use of a rate forecast developed using data from

²⁰ See 2009 Cost of Capital at 2, note 5.

coal basins throughout the western U.S. to adjust rail rates for Powder River Basin (“PRB”) coal,²¹ because it relied on information that did not pertain to PRB coal.

The same is true of the STB’s comparison of COE in its *2009 Decision*. The group of railroads included in the STB cost of capital group is significantly different than the group included in the Morningstar COE group. As was held in *TMPA*, the use of unmatched comparisons should be avoided as they can lead to erroneous results.

**B. THE MORNINGSTAR
COE ARE IMPLICITLY
HIGHER THAN THE STB COE**

Beyond the fact that the STB and Morningstar comparison groups are of different sizes and composition, the additional railroads included in the Morningstar group inevitably lead to a higher COE than the STB group. This stems from a large body of evidence that smaller companies have higher COE than larger companies.

Independent studies, including studies developed by Morningstar²² and Standard & Poor’s, have provided strong evidence concerning the proposition that the cost of capital tends to increase with decreasing company size.²³ The four railroads not included in the STB 2005 cost of capital group (KSC, P&W, G&W and Pioneer) are all smaller than the four Class I railroads used by the STB to calculate its 2005 COE, and will tend to have higher COE than the railroads in the 2005 cost of capital determination. This fact is supported by the KCS’ Opening Statement in the *Ex Parte 657* proceeding:

²¹ See 6 STB 573 at 603.

²² The study was originally performed by Ibbotson Associates, which Morningstar acquired in 2006. Morningstar has continued to perform the study on an annual basis. For consistency purposes, we will continue use the name “Morningstar” when discussing this study.

²³ See Pratt at 90.

In its detailed discussion of the limitations and perils of the Board's continued reliance on an industry-wide cost of capital figure in such simplified cases, KCS pointed out that the industry-wide cost of capital derives from the respective costs of capital of the four largest North American railroads – BNSF, CSX, NS and UP – which are far larger than KCS and which enjoy more favorable costs of equity and debt than KCS does.²⁴

An example of the premiums assigned to smaller firms is seen in a 2005 study performed by Morningstar. The Morningstar study separated companies into ten (10) deciles based upon their equity market capitalization and compared the excess returns for those companies over the basic general equity risk premium. The study found that the excess returns by these companies over the general risk premium increases as the size of the company is reduced. Table 6 below displays the size premiums calculated by Morningstar for year-end 2005.

Decile (1)	Market Cap of Smallest Company (millions) (2)	Market Cap of Largest Company (millions) (3)	Size Premium Over Equity Premium (4)
1. 1 – Largest	\$16,091	\$367,495	-0.37%
2. 2	\$7,189	\$16,016	0.67%
3. 3	\$3,969	\$7,187	0.85%
4. 4	\$2,525	\$3,961	1.10%
5. 5	\$1,729	\$2,519	1.49%
6. 6	\$1,282	\$1,728	1.73%
7. 7	\$872	\$1,281	1.67%
8. 8	\$587	\$872	2.33%
9. 9	\$265	\$586	2.76%
10. 10 - Smallest	\$1	\$264	6.36%

Source: Morningstar Risk Premium Over Time Report: 2006

²⁴ See Opening Statement of the Kansas City Southern Railway Company in *Ex Parte 664* at page 6.

As shown in Table 6 above, Morningstar estimated the size premiums to range from a negative 0.37 percent for the largest companies to 6.36 percent for the smallest. Based on their year-end 2005 market caps, the KCS could expect a size premium of 1.49 percent (\$2,012 million market cap), G&W 1.73 percent (\$1,389 million market cap), and P&W and Pioneer 6.36% (\$67 and \$12 million market caps, respectively).

The implications of the KCS' Opening Statement in *Ex Parte 664* and the size premiums found by Morningstar directly relate to the STB's COE comparison included in its *2009 Decision*. The Morningstar COE included in the STB's comparison table are higher than would be indicated if only the four railroads included in the STB's cost of capital group were included. If only the four STB group railroads were included in the Morningstar OCE, the gap between the STB's 2005 COE estimate and the Morningstar 2005 COE estimates would increase, which further indicates the unreasonableness of the 2005 STB calculation.

**C. THE STB'S OUTLIER
TEST ON THE COE
TABLE DATA IS FLAWED**

In its Brief to the Court of Appeals, the STB included an analysis to support its claim that its 2005 COE was not an "outlier" and therefore was a reasonable estimate of the railroad industry COE. Specifically, the STB applied a Dixon Extreme Outlier Test, also called a Dixon Q-Test ("Dixon Test"), in an attempt to show that its 2005 COE should not be deemed unreasonable. The STB included the Dixon Test in an attempt to refute a different analysis referenced in AEP Texas' Brief that indicated that the 2005 COE was not consistent with the data in the STB's comparison. The STB argued that the Dixon Test confirmed that its 2005 COE was reasonably consistent with other measures of the 2005 railroad industry COE. However, the STB's Dixon Test fails the same

criteria invoked by Hamada/Gokhale in their critique of the analysis included in AEP Texas' Brief. If the STB were to accept Hamada/Gokhale's explanation regarding AEP Texas' analysis, it must also reject its own Dixon Test analysis.

In their VS at page 9, Hamada/Gokhale criticize the confidence level analysis that AEP Texas included in its Brief, arguing that AEP Texas' analysis improperly assumes two facts about the data in the STB's COE comparison. First, Hamada/Gokhale state that AEP Texas improperly assumed the 2005 COE estimates are independent of each other. Second, they state that AEP Texas incorrectly assumed that the observations are normally distributed.²⁵ If one holds Hamada/Gokhale's criticisms to be valid, then the STB Dixon Test also must be rejected on the same basis.

First, the Dixon Test assumes that the data being analyzed is normally distributed. If the data set is not normally distributed, then either the data must be transformed into a set with a normal distribution or another test must be used.²⁶ However, Hamada/Gokhale point out that the data included in the STB's COE comparison chart is not normally distributed, which is one of the primary requirements for the Dixon Test. Therefore, the STB violated the first assumption underlying the Dixon Test.

Second, the Dixon Test assumes that the observations included in the sample are independent. This is a primary reason why the Dixon Test customarily is only used in situations where the observations are confirmed to be independent. Where the observations are dependent, the test results are suspect and unreliable.²⁷

²⁵ See Hamada/Gokhale VS at 9.

²⁶ See "Data Quality Assessment: Statistical Methods for Practitioners," United States Environmental Protection Agency, Office of Environmental Information, Washington DC, EPA/240/B-06/003, February 2006 at page 117.

²⁷ For example, this is why the Dixon Test is not recommended to be used to test the results of regression analysis, since in regression analysis the observations are not independent. See <http://www.chem.utoronto.ca/course/notes/analsci/StatsTutorial/Outliers.html>.

Hamada/Gokhale note that the COE estimates developed by Morningstar and the STB employ many common inputs, such as the rate of inflation and the risk-free rate of interest, and are the reason the different COE estimates tend to move in similar patterns.²⁸ They therefore conclude that there is no proof that the observations are independent. If Hamada/Gokhale are correct, then the second assumption of the Dixon Test used by the STB was also violated.

²⁸ See Hamada/Gokhale VS 9.

**IV. HAMADA/GOKHALE
OUTLIER TEST**

Hamada/Gokhale attempt to support the COE comparison included on page 10 of the *2009 Decision* by asserting that it would be inappropriate to judge the reasonableness of a model's estimates based on a single year's results. They also claim, based on a test of their own design, that the STB's 2005 SSDCF COE is not unreasonable because it was only an outlier once during the STB's comparison period, while the other COE included in the STB's analysis were outliers more often.

In actuality, it is perfectly appropriate to gauge whether the 2005 COE is reasonable based on a single example when, as we have demonstrated above, sufficient evidence exists that the particular estimate under review is based on erroneous assumptions. Moreover, Hamada/Gokhale's test provides no probative weight because it is unsupported by any basis in statistical analysis, does not identify potential outliers, and produces illogical results.

**A. A COE CAN BE JUDGED
UNREASONABLE BASED
UPON ONE OBSERVATION**

Hamada/Gokhale argue that a model should not be judged on the basis of one year's results, but rather that the results of the model should be judged over time.²⁹ Hamada/Gokhale's argument is flawed for several reasons. First, it is well established that models can become outdated and produce erroneous results. Second, it is illogical and contrary to STB precedent to continue to use a model only on the basis that it produced reasonable results in the past, without examining the model's current results.

²⁹ See Hamada/Gokhale VS at 10.

The STB acknowledged in *Ex Parte 664* that the SSDCF had been supplanted by more current methods to calculate COE. As the STB stated:

The record reveals that modern finance practices have changed since the last time the agency reviewed its cost of capital methodology and that this simple DCF approach has been displaced by more sophisticated and precise techniques to estimate the cost of equity.³⁰

It is also well established, as we discussed above, that the SSDCF will produce erroneous COE results when unrealistically high or low assumed perpetual growth rates are used. Hamada/Gokhale ignored these issues and simply assumed that because the SSDCF may have produced what appear to be reasonable estimates in prior years (they fail to note that the Morningstar and STB groups had different compositions), one can ignore the case when the model produces clearly anomalous results. As we illustrated above, the 2005 STB COE is completely divorced from the underlying economics facing the railroad industry in 2005, e.g., increasing earnings, declining leverage, and betas less than 1.0. Yet, Hamada/Gokhale would continue to accept the incongruent results. There is no reason to accept the STB's 2005 COE given the amount of data showing that it is flawed.³¹

Second, continuing to rely upon results from the SSDCF model just because it may have produced accurate results in the past is inconsistent with STB practices. In *TMPA*, the STB rejected continued use of the Speed Factored Gross Ton-Mile ("SFGT") formula to calculate maintenance of way expenses as an element of the railroad's variable

³⁰ See *Ex Parte 664* Notice of Proposed Rule Making at 4.

³¹ Of the five (5) values considered by the STB in its chart, the Board's SSDCF calculation produces the highest average value over the eight-year period ending in 2007 (13.01%). Hamada/Gokhale VS, Exhibit 2. The Board's approach was biased well before 2005.

cost calculations, despite the fact that it had been relied upon for years, because it believed the formula no longer produced accurate results. As explained by the STB:

Thus, although the SFGT formula originally fit the data well, the passage of time and profound changes in this industry have plainly rendered unreliable the continued use of the SFGT formula. We need not use an outdated formula forever simply because it was accepted in prior cases.³²

The situation with the STB's SSDCF approach is clearly analogous. Although the SSDCF may have produced what appeared to be reasonable COE results during times of slow railroad growth, by 2005 its time had passed as the railroads entered their self-described "Renaissance." Contrary to Hamada/Gokhale's claim, there is no reason to continue to rely upon the 2005 SSDCF COE just because it was used in prior years.

**B. HAMADA/GOKHALE'S
OUTLIER TEST IS
UNSUPPORTED AND ILLOGICAL**

Hamada/Gokhale argue that because any COE model can produce high or low results in any particular year, the implausibly high COE produced by the STB's SSDCF approach in 2005 should be assumed to be reasonable. To support their argument, they created a "simple" outlier test which purported to show that all of the Morningstar COE estimates were outliers in various years. According to Hamada/Gokhale, the STB 2005 COE is reasonable because it was only an outlier in one year.

There are several flaws with the Hamada/Gokhale analysis. First, their outlier test is not a true statistical test. Second, their definition of outlier does not comport with standard practice. And third, their analysis leads to illogical results.

³² See 7 STB 803, at 812.

**1. Hamada/Gokhale's Test
Is Not A True Statistical Test**

Hamada/Gokhale describe their analysis as a “simpler test of outliers” than the ones included by the STB and AEP Texas in their Court of Appeals Briefs.³³ While the Hamada/Gokhale test is simple, they have produced no support or any evidence that their “test” is used by anyone other than themselves to identify outliers, nor have they produced any indication that it is based on statistical principles. Rather it appears to be no more than a simple rule of thumb approach.

The closest real world calculation that we know of similar to Hamada/Gokhale's outlier test is the calculation of a trimmed-mean. A trimmed-mean is the mean obtained from trimming off a certain percentage of the observations from either end of the data set. This eliminates the influence potential outliers might have on the measure of central tendency of the data group. However, this only produces a robust estimator of the central tendency of the observations and in no way identifies whether the eliminated observations in fact were outliers.

**2. Hamada/Gokhale's Definition Of An
Outlier Does Not Comport To Standard Practice**

Hamada/Gokhale's test identifies alleged outliers by developing a “confidence band” for each year's COE estimates. The upper range of the confidence band is placed at the midpoint between the highest value and the second highest value, while the lower range is placed at the midpoint between the lowest value and the second lowest value.³⁴ Hamada/Gokhale define any observation that is outside the confidence band as an outlier.

³³ See Hamada/Gokhale VS at 10.

³⁴ See Hamada/Gokhale VS at 10.

The implication of Hamada/Gokhale's model is that the values at the upper and lower ends of the COE range are automatically assumed to be outliers. This definition of outlier does not comport with standard practice. An outlying observation, or outlier, is a value that appears to deviate markedly from other members of the sample in which it occurs.³⁵ The term is used to denote the value that does not belong to the population under study. This distinction is important because outliers, as opposed to extreme values, should be eliminated. Hamada/Gokhale's approach makes no attempt to determine if the upper and lower values in the range deviate *markedly* from other members in the sample. Rather, it just assumes that the values at the upper and lower ends of the range are outliers.

In practice, once a value is identified as a potential outlier, further investigation is needed to determine whether an assignable cause can be found for the spurious results.³⁶ As we discussed above, we found such a cause for the 2005 COE, e.g., the improper assumption that the railroad industry will grow at nearly 14 percent for eternity. However, Hamada/Gokhale make no such attempt to identify underlying causes. Instead, they simply classify the highest and lowest values as outliers.

3. Hamada/Gokhale's Approach Produces Illogical Results

One cannot arbitrarily place confidence bands between the midpoint of the highest (lowest) and second highest (lowest) value and then make inferences on the validity of a particular model. As discussed above, the process of simply assigning confidence bands in this manner will automatically result in at least two outliers for each

³⁵ See for example Barnett V., Lewis T., "Outliers in Statistical Data," John Wiley, 1994.

³⁶ See for example, Anderson, Norman H., "Empirical Direction in Design and Analysis," L. Erlbaum, 2001.

year. Using this midpoint technique to create bounds leads to false outliers in years where none exist.

For example, Table 7 below contains the 1998 COE estimates contained in the STB's COE comparison.

<u>COE Method</u> (1)	<u>COE Estimate</u> (2)
1. Morningstar CAPM	12.57%
2. STB SINGLE-STAGE DCF	13.11%
3. Morningstar MS-DCF	13.41%
4. Morningstar 3-Factor	13.84%
5. Morningstar SINGLE-STAGE DCF	14.36%

As shown in Table 7, the Morningstar CAPM and Morningstar Single-Stage DCF produced the highest and lowest COE estimates, respectively. Even though the entire range of estimates is less than 2 percentage points, and the differences between the highest and lowest values and the next highest and lowest are only about 50 basis points, Hamada/Gokhale's test would classify the Morningstar CAPM and Morningstar Single-Stage DCF COE estimates as outliers.

Hamada/Gokhale's approach does not really identify outliers, but rather only identifies which COE models produce the highest and lowest values within any year. The fact that a particular model produced the highest or lowest value in any one year does not in any way provide support for the claim that the 2005 SSDCF COE is a reasonable value.

**V. IMPACT ON STB'S MMM RESULTS OF
SUBSTITUTING THE 2005 CAPM COE FOR THE 2005 SSDCF COE**

The STB rejected the continued use of the SSDCF approach due to the model's propensity to overstate or understate the COE during times of high or low forecasted dividend growth, respectively. This particular problem led to a clear overstatement in the STB's 2005 COE estimate. As requested by Counsel for AEP/Texas, in order to demonstrate the impact the overstatement of the STB's 2005 COE had on the final revenue to variable cost ("R/VC") results produced by the STB's MMM model used in the *2009 Decision*, we have adjusted the STB's *2009 Decision* work papers by substituting the 2005 COE based on the CAPM for the 2005 SSDCF COE calculated by the STB. Correcting the overstated 2005 COE leads to a significant decline in the final MMM R/VC ratios.

To make the adjustments to the STB's work papers, we first developed the 2005 COE using the STB's CAPM methodology as detailed in *Ex Parte 664* (and as clarified in subsequent STB cost of capital proceedings). The calculation of the 2005 CAPM COE, including the development of a 2005 railroad industry beta, are included in our work papers, and are summarized in Table 8 below.

<u>Item</u> (1)	<u>2005 CAPM</u> <u>Cost Of Equity</u> (2)
1. Risk Free Rate	4.65%
2. Beta	0.837
3. Market Risk Premium	<u>7.10%</u>
4. Cost of Equity 1/	10.59%

Source: Crowley/Fapp VS work papers.
1/ $\text{Line 1} + (\text{L2} \times \text{L3})$.

As shown in Table 8 above, the 2005 CAPM COE equals 10.59 percent.

We next calculated the railroad industry weighted average cost of capital (“WACC”) using the 2005 CAPM COE and the other WACC inputs included in the STB’s *2005 Cost of Capital* decision. We show the results of these changes in Table 9 below.

Table 9
2005 Adjusted Weighted Average Cost of Capital

<u>Item</u> (1)	<u>2005 WACC</u> (2)
1. Weighted Cost of Equity	
a. Railroad Industry Cost of Equity ^{1/}	10.59%
b. Common Equity Portion of Capital Structure ^{2/}	<u>69.59%</u>
c. Weighted Cost of Railroad Industry Common Equity ^{3/}	7.37%
2. Weighted Cost of Debt	
a. Railroad Industry Cost of Debt ^{2/}	5.36%
b. Debt Portion of Capital Structure ^{2/}	<u>30.41%</u>
c. Weighted Cost of Railroad Industry Debt ^{4/}	1.63%
3. Weighted Cost of Preferred Equity ^{2/}	
a. Railroad Industry Cost of Debt	0.0%
b. Debt Portion of Capital Structure	<u>0.0%</u>
c. Weighted Cost of Railroad Industry Debt	0.0%
4. Railroad Industry Weighted Cost of Capital ^{5/}	9.00%

^{1/} Table 7.

^{2/} 2005 Cost of Capital.

^{3/} Line 1a x Line 1b.

^{4/} Line 2a x Line 2b.

^{5/} Line 1c + Line 2c + Line 3c.

As shown in Table 9 above, substituting the 2005 CAPM COE for the STB's SSDCF COE produces an overall 2005 WACC of 9.00%.³⁷

Finally, we adjusted the STB's DCF model from its 2009 Decision work papers by substituting the 2005 CAPM COE and WACC quantified above in order to calculate revised stand-alone revenue requirements. We input these revised revenue requirements

³⁷ The 9.0 percent WACC developed using the 2005 CAPM COE is consistent with railroad 2005 WACC developed by an independent third-party. Standard & Poor's ("S&P") estimated that the year-end 2005 WACC for the BNSF, NS and UP equaled 8.0 percent, while it estimated that CSX's year-end WACC equaled 7.5 percent. The difference between our calculation of the 2005 WACC and S&P's estimates may be due to S&P's adjustment of its cost of debt estimate for interest tax shields. Such adjustments are common adjustment made by financial and valuation analysts. See Pratt at 46. Even with these adjustments to the cost of debt, S&P's WACC estimates infer COE in the 9 percent range, which are significantly lower than the STB's 15.18 percent COE based on the SSDCF approach. We have included copies of the S&P Stock Reports in our work papers.

into the STB's MMM model to calculate revised MMM R/VC ratios. Table 10 below compares the MMM R/VC ratios included in the *2009 Decision* to the adjusted MMM R/VC based on 2005 CAPM COE and resulting 2005 WACC.

Table 10
Comparison of STB MMM R/VC and Adjusted MMM R/VC

<u>Year</u> (1)	<u>STB MMM R/VC 1/</u> (2)	<u>Adjusted MMM R/VC 2/</u> (3)
1. 2000	202%	166%
2. 2001	200%	166%
3. 2002	195%	161%
4. 2003	243%	211%
5. 2004	263%	224%
6. 2005	SAC > Rev	SAC > Rev
7. 2006	SAC > Rev	SAC > Rev
8. 2007	SAC > Rev	SAC > Rev
9. 2008	SAC > Rev	SAC > Rev
10. 2009	SAC > Rev	SAC > Rev
11. 2010	SAC > Rev	SAC > Rev
12. 2011	SAC > Rev	SAC > Rev
13. 2012	250%	219%
14. 2013	248%	216%
15. 2014	250%	218%
16. 2015	256%	224%
17. 2016	254%	222%
18. 2017	249%	217%
19. 2018	245%	212%
20. 2019	242%	208%
21. 2020	237%	200%

1/ Source: 2009 Decision at page 17.
2/ Source: Crowley/Fapp VS work papers.

As shown in Table 10 above, substituting the 2005 CAPM COE for the STB's 2005 SSDCF COE significantly impacts the final MMM R/VC ratios.³⁸

³⁸ Correcting the 2005 COE impacts all years of the SAC analysis, including those years prior to 2005, based on the STB's methodology for calculating the SAC DCF model capital carrying charges. SAC capital carrying charges are developed through an iterative process that determines the stream of nominal cash flows that will recover a SARR's total investment on a present value basis taking into consideration tax payments and tax shields. Correcting the 2005 COE lowers the WACC for future years, which increases the present value of future SAC cash flows (the higher the WACC the lower the present value of future cash flows). Because the capital carrying charges do not need to be as large to recover the initial investment because of the lower discount rate, all of the quarterly capital carrying charges are lowered, even those before 2005.

STATEMENT OF QUALIFICATIONS

My name is Thomas D. Crowley. I am an economist and President of the economic consulting firm of L. E. Peabody & Associates, Inc. The firm's offices are located at 1501 Duke Street, Suite 200, Alexandria, Virginia 22314, 760 E. Pusch View Lane, Suite 150, Tucson, Arizona 85737 and 21 Founders Way, Queensbury, New York 12804.

I am a graduate of the University of Maine from which I obtained a Bachelor of Science degree in Economics. I have also taken graduate courses in transportation at George Washington University in Washington, D.C. I spent three years in the United States Army and since February 1971 have been employed by L. E. Peabody & Associates, Inc.

I am a member of the American Economic Association, the Transportation Research Forum, and the American Railway Engineering and Maintenance-of-Way Association.

The firm of L. E. Peabody & Associates, Inc. specializes in analyzing matters related to the rail transportation of coal. As a result of my extensive economic consulting practice since 1971 and my participating in maximum-rate, rail merger, service disputes and rule-making proceedings before various government and private governing bodies, I have become thoroughly familiar with the rail carriers that move coal over the major coal routes in the United States. This familiarity extends to subjects of railroad service, costs and profitability, railroad capacity, railroad traffic prioritization and the structure and operation of the various contracts and tariffs that historically have governed the movement of coal by rail.

STATEMENT OF QUALIFICATIONS

As an economic consultant, I have organized and directed economic studies and prepared reports for railroads, freight forwarders and other carriers, for shippers, for associations and for state governments and other public bodies dealing with transportation and related economic problems. Examples of studies I have participated in include organizing and directing traffic, operational and cost analyses in connection with multiple car movements, unit train operations for coal and other commodities, freight forwarder facilities, TOFC/COFC rail facilities, divisions of through rail rates, operating commuter passenger service, and other studies dealing with markets and the transportation by different modes of various commodities from both eastern and western origins to various destinations in the United States. The nature of these studies enabled me to become familiar with the operating practices and accounting procedures utilized by railroads in the normal course of business.

Additionally, I have inspected and studied both railroad terminal and line-haul facilities used in handling various commodities, and in particular unit train coal movements from coal mine origins in the Powder River Basin and in Colorado to various utility destinations in the eastern, mid-western and western portions of the United States and from the Eastern coal fields to various destinations in the Mid-Atlantic, northeastern, southeastern and mid-western portions of the United States. These operational reviews and studies were used as a basis for the determination of the traffic and operating characteristics for specific movements of coal and numerous other commodities handled by rail.

I have frequently been called upon to develop and coordinate economic and operational studies relative to the acquisition of coal and the rail transportation of coal on behalf of electric

STATEMENT OF QUALIFICATIONS

utility companies. My responsibilities in these undertakings included the analyses of rail routes, rail operations and an assessment of the relative efficiency and costs of railroad operations over those routes. I have also analyzed and made recommendations regarding the acquisition of railcars according to the specific needs of various coal shippers. The results of these analyses have been employed in order to assist shippers in the development and negotiation of rail transportation contracts which optimize operational efficiency and cost effectiveness.

Moreover, I have developed numerous variable cost calculations utilizing the various formulas employed by the Interstate Commerce Commission ("ICC") and the Surface Transportation Board ("STB") for the development of variable costs for common carriers, with particular emphasis on the basis and use of the Uniform Railroad Costing System ("URCS") and its predecessor, Rail Form A. I have utilized URCS/Rail form A costing principles since the beginning of my career with L. E. Peabody & Associates Inc. in 1971.

I have frequently presented both oral and written testimony before the ICC, STB, Federal Energy Regulatory Commission, Railroad Accounting Principles Board, Postal Rate Commission and numerous state regulatory commissions, federal courts and state courts. This testimony was generally related to the development of variable cost of service calculations, rail traffic and operating patterns, fuel supply economics, contract interpretations, economic principles concerning the maximum level of rates, implementation of maximum rate principles, and calculation of reparations or damages, including interest. I presented testimony before the Congress of the United States, Committee on Transportation and Infrastructure on the status of

STATEMENT OF QUALIFICATIONS

rail competition in the western United States. I have also presented expert testimony in a number of court and arbitration proceedings concerning the level of rates, rate adjustment procedures, service, capacity, costing, rail operating procedures and other economic components of specific contracts.

Since the implementation of the Staggers Rail Act of 1980, which clarified that rail carriers could enter into transportation contracts with shippers, I have been actively involved in negotiating transportation contracts on behalf of coal shippers. Specifically, I have advised utilities concerning coal transportation rates based on market conditions and carrier competition, movement specific service commitments, specific cost-based rate adjustment provisions, contract reopeners that recognize changes in productivity and cost-based ancillary charges. I have also reviewed, analyzed and evaluated both UP's Circular 111 and BNSF 90068 rate levels and other terms and conditions on behalf of coal shippers.

I have been actively engaged in negotiating coal supply contracts for various users throughout the United States. In addition, I have analyzed the economic impact of buying out, brokering, and modifying existing coal supply agreements. My coal supply assignments have encompassed analyzing alternative coals to determine the impact on the delivered price of operating and maintenance costs, unloading costs, shrinkage factor and by-product savings.

I have developed different economic analyses regarding rail transportation matters for over sixty (60) electric utility companies located in all parts of the United States, and for major associations, including American Paper Institute, American Petroleum Institute, Chemical

STATEMENT OF QUALIFICATIONS

Manufacturers Association, Coal Exporters Association, Edison Electric Institute, Mail Order Association of America, National Coal Association, National Industrial Transportation League, North America Freight Car Association, the Fertilizer Institute and Western Coal Traffic League. In addition, I have assisted numerous government agencies, major industries and major railroad companies in solving various transportation-related problems.

In the two Western rail mergers that resulted in the creation of the present BNSF Railway Company and Union Pacific Railroad Company and in the acquisition of Conrail by Norfolk Southern Railway Company and CSX Transportation, Inc., I reviewed the railroads' applications including their supporting traffic, cost and operating data and provided detailed evidence supporting requests for conditions designed to maintain the competitive rail environment that existed before the proposed mergers and acquisition. In these proceedings, I represented shipper interests, including plastic, chemical, coal, paper and steel shippers.

STATEMENT OF QUALIFICATIONS

I have participated in various proceedings involved with the division of through rail rates. For example, I participated in ICC Docket No. 35585, Akron, Canton & Youngstown Railroad Company, et al. v. Aberdeen and Rockfish Railroad Company, et al. which was a complaint filed by the northern and mid-western rail lines to change the primary north-south divisions. I was personally involved in all traffic, operating and cost aspects of this proceeding on behalf of the northern and mid-western rail lines. I was the lead witness on behalf of the Long Island Rail Road in ICC Docket No. 36874, Notice of Intent to File Division Complaint by the Long Island Rail Road Company.

STATEMENT OF QUALIFICATIONS

My name is Daniel L. Fapp. I am Vice President of the economic consulting firm of L. E. Peabody & Associates, Inc. The firm's offices are located at 1501 Duke Street, Suite 200, Alexandria, VA 22314, 760 E. Pusch View Lane, Suite 150, Tucson, Arizona 85737 and 21 Founders Way, Queensbury, New York 12804.

I received a Bachelor of Science degree in Business Administration with an option in Marketing (cum laude) from the California State University, Northridge in 1987, and a Master of Business Administration degree from the University of Arizona's Eller College of Management in 1993, specializing in finance and operations management. I am also a member of Beta Gamma Sigma, the national honor society for collegiate schools of business.

I have been employed by L. E. Peabody & Associates, Inc. since December 1997. Prior to joining L. E. Peabody & Associates, Inc., I was employed by BHP Copper Inc. in the role of Transportation Manager - Finance and Administration, and where I also served as an officer of the three BHP Copper Inc. subsidiary railroads, The San Manuel Arizona Railroad, the Magma Arizona Railroad (also known as the BHP Arizona Railroad) and the BHP Nevada Railroad. I have also held operations management positions with Arizona Lithographers in Tucson, AZ and MCA-Universal Studios in Universal City, CA.

While at BHP Copper Inc., I was responsible for all financial and administrative functions of the company's transportation group. I also directed the BHP Copper Inc. subsidiary railroads' cost and revenue accounting staff. and managed the San Manuel Arizona Railroad's and BHP Arizona Railroad's dispatchers and the railroad dispatching functions. I served on the company's Commercial and Transportation Management Team and the company's Railroad

STATEMENT OF QUALIFICATIONS

Acquisition Team where I was responsible for evaluating the acquisition of new railroads, including developing financial and economic assessment models. While with MCA-Universal Studios, I held several operations management positions, including Tour Operations Manager, where my duties included vehicle routing and scheduling, personnel scheduling, forecasting facilities utilization, and designing and performing queuing analyses.

As part of my work for L. E. Peabody & Associates, Inc., I have performed and directed numerous projects and analyses undertaken on behalf of utility companies, short line railroads, bulk shippers, and industry and trade associations. Examples of studies which I have participated in organizing and directing include, traffic, operational and cost analyses in connection with the rail movement of coal, metallic ores, pulp and paper products, and other commodities. I have also analyzed multiple car movements, unit train operations, divisions of through rail rates and switching operations throughout the United States. The nature of these studies enabled me to become familiar with the operating procedures utilized by railroads in the normal course of business.

Since 1997, I have participated in the development of cost of service analyses for the movement of coal over the major eastern and western coal-hauling railroads. I have conducted on-site studies of switching, detention and line-haul activities relating to the handling of coal. I have also participated in and managed several projects assisting short-line railroads. In these engagements, I assisted short-line railroads in their negotiations with connecting Class I carriers, performed railroad property and business evaluations, and worked on rail line abandonment projects.

I have been frequently called upon to perform financial analyses and assessments of Class I, Class II and Class III railroad companies. In addition, I have developed various financial

STATEMENT OF QUALIFICATIONS

models exploring alternative methods of transportation contracting and cost assessment, developed corporate profitability and cost studies, and evaluated capital expenditure requirements. I have determined the Going Concern Value of privately held freight and passenger railroads, including developing company specific costs of debt and equity for use in discounting future company cash flows. My consulting assignments regularly involve working with and determining various facets of railroad financial issues, including cost of capital determinations. In these assignments, I have calculated railroad capital structures, market values, cost of railroad debt, cost of preferred railroad equity and common railroad equity. I am also well acquainted with and have used the commonly accepted models for determining a firm's cost of equity, including the Discounted Cash Flow Model ("DCF"), Capital Asset Pricing Model ("CAPM"), Fama-French Three Factor Model and Arbitrage Pricing Model.

In my tenure with L. E. Peabody & Associates, Inc., I have assisted in the development and presentation of traffic and revenue forecasts, operating expense forecasts, and discounted cash-flow models which were presented in numerous proceedings before the STB. I presented evidence applying the STB's stand-alone cost procedures in Docket Number 42057, *Public Service Company of Colorado d/b/a Xcel Energy v. The Burlington Northern and Santa Fe Railway Company*, and in Docket Number 42071, *Otter Tail Power Company v. BNSF Railway Company*. I have also presented evidence before the STB in Ex Parte No. 661, *Rail Fuel Surcharges*, in Ex Parte No. 558 (Sub-No. 10), *Railroad Cost of Capital – 2006*, and Ex Parte No. 664, *Methodology To Be Employed In Determining The Railroad Industry Cost Of Capital*. In addition, my reports have been used as evidence before the Nevada State Tax Commission.

Comparison of STB Costs of Equity and Estimated Market Return

Year (1)	STB Cost of Equity 1/ (2)	Equity Risk Premium 2/ (3)	Risk-Free Rate 3/ (4)	Estimated Market Return 4/ (5)	Difference Between Estimated Market and STB COE 5/ (6)
1. 1993	13.20%	7.20%	6.28%	13.48%	(0.28%)
2. 1994	13.80%	7.00%	7.49%	14.49%	(0.69%)
3. 1995	13.34%	7.40%	6.96%	14.36%	(1.02%)
4. 1996	13.90%	7.50%	6.82%	14.32%	(0.42%)
5. 1997	13.80%	7.80%	6.68%	14.48%	(0.68%)
6. 1998	13.10%	8.00%	5.72%	13.72%	(0.62%)
7. 1999	12.90%	8.10%	6.19%	14.29%	(1.39%)
8. 2000	13.90%	7.80%	6.23%	14.03%	(0.13%)
9. 2001	12.80%	7.40%	5.63%	13.03%	(0.23%)
10. 2002	12.60%	7.00%	5.43%	12.43%	0.17%
11. 2003	12.70%	7.20%	4.96%	12.16%	0.54%
12. 2004	13.16%	7.20%	5.05%	12.25%	0.91%
13. 2005	15.18%	7.10%	4.65%	11.75%	3.43%

1/ Source: STB *Ex Parte 518, Ex Parte 523 and Ex Parte 558* Decisions.

2/ Source: Morningstar Stocks, Bonds, Bills and Inflation: 2007 Valuation Edition at page 189.

3/ Source: Board of Governors of the Federal Reserve System, Series ID GS20, updated 1/4/2011.

4/ Column (3) + Column (4).

5/ Column (2) - Column (5).

CERTIFICATE OF SERVICE

I hereby certify that on this 28th day of January, 2011, I caused a copy of the foregoing Reply of AEP Texas North Company to Comments of BNSF Railway Company on Remand to be served by hand delivery on counsel for BNSF, as follows:

Samuel M. Sipe, Jr.
Anthony J. LaRocca
Steptoe & Johnson, L.L.P.
1330 Connecticut Avenue, N.W.
Washington, D.C. 20036-1795



Kelvin J. Dowd