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September 27, 2007

**Via ELECTRONIC FILING**

The Honorable Vernon A. Williams
Secretary
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423-0001

**Re: STB Ex Parte No. 664 – Methodology to Be Employed in Determining the Railroad Industry's Cost of Capital**

Dear Secretary Williams:

Pursuant to the Notice served by the Board on August 20, 2007, and the Board's scheduling order served August 31, 2007, in the above proceeding, attached is a copy of the Opening Comments of BNSF Railway Company. Please direct any questions concerning these comments to the undersigned.

Sincerely yours,

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

**BEFORE THE**
**SURFACE TRANSPORTATION BOARD**

**STB Ex Parte No. 664**

# METHODOLOGY TO BE EMPLOYED IN DETERMINING THE RAILROAD INDUSTRY'S COST OF CAPITAL

## OPENING COMMENTS OF BNSF RAILWAY COMPANY

BNSF Railway Company respectfully submits these Opening Comments in accordance with the Board's August, 2007 order extending the due date for filing opening comments in the captioned proceeding until September 27, 2007. BNSF's Opening Comments are supported by the attached verified statement of Mr. Thomas N. Hund, BNSF's Executive Vice President and Chief Financial Officer.

Determining an appropriate cost of capital is an issue of crucial importance to BNSF. The unrealistically low cost of capital value recently developed by the Board in this proceeding through its proposed application of the CAPM model raises serious concerns that future investments in railroad infrastructure will fall below the levels needed to accommodate the forecasted growth in demand for rail transportation. BNSF urges the Board to reexamine its proposed methodology and to adopt an approach that yields a cost of capital that is sufficient to induce adequate investment in the nation's freight rail transportation system.

### I. The Drastic Drop in the Cost of Capital That Would Result from the Board's Implementation of the Proposed CAPM Method Portends Curtailment of Investment in Needed Rail Infrastructure

Perhaps the most striking feature of the Board's decision proposing adoption of a new methodology for determining the cost of equity capital is the precipitous drop in the cost of

capital that the Board's proposal would yield. For 2005, the last year for which the Board has completed its cost of capital calculations, the railroad industry cost of equity capital would drop from 15.2 percent calculated under the Board's current DCF methodology to 8.4 percent calculated under the Board's CAPM approach. (The corresponding change in the overall cost of capital would be a reduction from 12.2 percent to 7.5 percent.) Surprisingly, the Board makes no comment whatever on the magnitude of this change, and makes no attempt to assess the potential significance of this change. The Board's silence on these issues is hard to understand.

The Board is required by statute to make an ongoing effort to assist railroads to achieve revenue levels that will "attract and retain capital in amounts adequate to provide a sound transportation system in the United States." 49 U.S.C. § 10704(a)(2)(B). The Board's failure to explain how its proposed change in the method for determining the cost of equity capital comports with this statutory directive is a serious oversight and suggests the Board has not taken into account the likely real-world consequences of its proposed methodology.

As Mr. Hund explains, the precipitous drop in the cost of capital under the Board's proposed approach "will limit BNSF's ability to attract and retain capital and will discourage further investment in rail capacity." Hund V.S. at 2. The need for additional investment is undisputed. Demand for rail transportation has risen steadily over the last decade. Demand is projected to increase for the foreseeable future. A recent study prepared for the Association of American Railroads projects an 88 percent increase in demand for rail transportation by 2035.[1]

BNSF's track record of capital investment over the past decade shows both that BNSF has invested massive amounts in maintaining and improving its rail infrastructure and that the level of capital that BNSF is willing to invest in new infrastructure is closely correlated with the

[1] Cambridge Systematics, Inc., *National Rail Freight Infrastructure Capacity and Investment Study* (September 2007).

level of BNSF's return on investment. In other words, when BNSF earns higher returns, it is able and willing to put more money into maintaining and expanding its rail network.

The dramatic reduction in the railroad cost of capital that would result from adoption of the Board's proposed CAPM methodology poses threats to future investments in the rail infrastructure for two related reasons. Potential efforts to cap rail revenues as a result of a carrier having become revenue adequate using new cost of capital measures could limit the amount of capital available for infrastructure investments. As a consequence, investors will be deterred from investing in railroads if railroads like BNSF are unable to earn returns at levels that investors find necessary to justify such investments.

In short, there is a very substantial risk that if the Board adopts a method for determining railroad cost of equity capital that has the effect of understating the cost of capital, investment in railroad infrastructure will be deterred. The Board should avoid an outcome that is so plainly contrary to the public interest.

## II. The Board's Proposed CAPM Method for Determining the Cost of Equity Capital Appears to Produce an Outlier at the Low End of the Range of Possible Outcomes

How likely is it that the CAPM methodology proposed by the Board in this proceeding understates the railroad cost of equity capital? The first step in answering this question is to determine how reliable CAPM point estimates generally are thought to be. The second step is to examine the appropriateness of the particular inputs selected by the Board for use in its model.

In its August 2007 Notice of Proposed Rulemaking, the Board asserts the importance of measuring the cost of capital "as accurately and practically as possible." NOPR at 4. The apparent thrust of this assertion and of the Board's characterization of the CAPM model as "the superior financial model," "the dominant model" and "the industry norm" is to create the

impression that any point estimate output of any given CAPM model is highly reliable. But this is clearly not the case.

In fact, it is widely understood that there is no single "correct" CAPM estimate of the cost of equity capital. The CAPM model will yield a range of estimates depending on the inputs into the model. Confidence intervals around CAPM point estimates are far from tight. Professors Fama and French identify empirical problems with CAPM that "are compounded by the large standard errors of estimates of the market premium and of betas for individual stocks, which probably suffice to make CAPM estimates of the cost of equity rather meaningless. . . ."[2] The Professors refer to the two standard error range around CAPM point estimates as producing a range of results "sufficient to make most projects appear either profitable or unprofitable." *Id.* Such an unreliable point estimate would not allow the Board to determine whether or not a railroad is able to "attract and retain capital in amounts adequate to provide a sound transportation system in the United States." 49 U.S.C. § 10704(a)(2)(B).

The particular problem with the Board's cost of equity capital calculation is that both the risk premium values and the Betas proposed by the Board as inputs to the model appear to be understated, and, as a result, the Board's point estimate of the cost of equity capital is too low. Mr. Hund explains that "the data inputs used by the Board for both the equity risk premium and Beta variables of the CAPM model contribute to the unrealistically low cost of equity capital determined by the Board." Hund V.S. at 5. Using different time periods of historical data can affect the risk premium significantly. Therefore, as Mr. Hund notes, "a long-horizon equity risk premium covering the full term of historical data dating back to 1926 would be most appropriate

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[2] Eugene F. Fama and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives – Volume 18, Number 3 – Summer 2004*, p. 44 n.7.

in order to minimize short term fluctuations caused by temporary market disruptions." *Id.* at 5-6. Moreover, "the Board's use of a Beta less than 1.0 does not accurately reflect the risks that BNSF and other railroads face going forward or the risks that marginal investors assess when deciding whether to invest." *Id.* at 6. Mr. Hund explains that a "Beta of less than 1.0 would indicate the railroad industry is less risky than the market, which I suggest is inconsistent with the risks specific to both the rail industry and BNSF." *Id.*

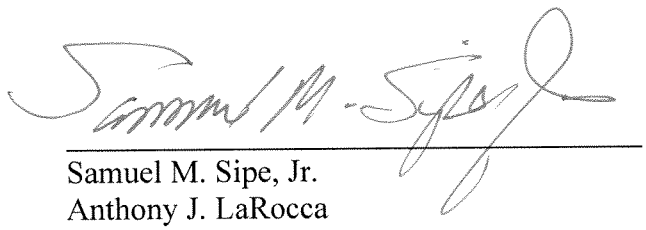
In short, the 8.4 percent cost of equity capital for 2005 calculated by the Board under the CAPM method proposed in the August 2007 NOPR appears to be an outlier at the low end of the range of results that might be produced by CAPM. In light of the need to promote investment in rail infrastructure and to avoid the risk that investment will be thwarted, it would be appropriate for the Board to adopt a railroad cost of capital between the median and the upper end of the range of plausible CAPM outputs. It would also be appropriate for the Board to consider adopting alternative models or at least to use the results of alternative models as a "sanity check" on the outcome of its CAPM determination.

## III. The Board Should Be Receptive to Reexamining Other Dimensions of the Revenue Adequacy Calculus

BNSF is seriously troubled that the Board chose to reexamine the issue of the cost of equity capital in isolation from other factors to which it is logically connected. Although not its exclusive use, the most important use of the cost of capital is in the Board's annual revenue adequacy determination. To determine if a railroad is revenue adequate, the Board calculates whether the railroad is earning the industry cost of capital on the depreciated book value of its asset base. BNSF believes that the continued use of the book value of a railroad's asset base may no longer be warranted. It is appropriate to consider alternatives to historical cost accounting.

In addressing the issue of whether it would expand the scope of this proceeding to reexamine how the cost of capital determination is used in the Board's annual revenue adequacy determination, the Board took the position that it had neither the inclination nor the obligation to examine proactively the impact of a new cost of capital methodology on revenue adequacy. *NOPR* at 9. It is disappointing that the agency that is charged by statute to promote revenue adequacy on the part of the nation's railroads would adopt this stance. BNSF hopes that there will be an early opportunity for the parties who have an interest in railroad revenue adequacy, including the Board, to engage constructively on this critical issue.

Respectfully submitted,



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September 27, 2007

**BEFORE THE**
**SURFACE TRANSPORTATION BOARD**

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**STB Ex Parte No. 664**

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# METHODOLOGY TO BE EMPLOYED IN DETERMING THE RAILROAD INDUSTRY'S COST OF CAPITAL

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## VERIFIED STATEMENT OF THOMAS N. HUND

My name is Thomas N. Hund. I am Executive Vice President and Chief Financial Officer of BNSF Railway Company. My offices are located at 2500 Lou Menk Drive, Fort Worth, Texas 76131.

Cost of capital is a matter of extreme importance to BNSF, and therefore the proposal outlined in the Board's August 2007 notice to revise its methodology for determining the industry's cost of capital is of utmost concern to us. As employed by the Board, CAPM results in an unrealistically low cost of capital figure for BNSF and other railroads. This would have the undesired effect of stifling investment in rail infrastructure at the very time that there is a critical need for more investment. I urge the Board to reexamine its proposed implementation of the CAPM model and to explore alternative models that may produce a more reasonable result or range of results for industry cost of capital. If the Board adheres to only using CAPM, then I urge the Board to improve the determination of the variables used and not to select inputs for the model which arbitrarily produce a cost of capital value at the low end of the range of reasonable values, thus impeding sufficient investment in railroad infrastructure.

## I. Cost of Capital and the Need for Investment in Rail Infrastructure

Operating, maintaining and expanding a large rail network is a capital-intensive endeavor. BNSF continuously evaluates how expected returns compare to the cost of making rail infrastructure and other investments. Where expected returns to BNSF are not likely to exceed the capital costs, investment cannot be justified. Likewise, to the extent that BNSF fails to achieve returns above its cost of capital, BNSF will have difficulty attracting and retaining investors who will make available the capital necessary to provide for a sound rail network. The risk of understating the industry cost of capital is that unrealistically low estimates will be used in regulatory proceedings and limit the rail industry's ability to earn returns commensurate with the transportation services provided and investment required. As a result, the industry will face a greater challenge in accessing capital markets to fund the investments necessary to meet expected freight demand in the future. Such a result will harm not only the interests of our shareholders, but also the interests of all other stakeholders (i.e., customers, employees, consumers, etc.) in the nation's freight transportation system.

BNSF is concerned that the Board's decision to make a wholesale change to the methodology used to estimate the industry's cost of capital will limit BNSF's ability to attract and retain capital and will discourage further investment in rail capacity. The Board's notice in this proceeding indicates that the cost of equity as calculated under the proposed CAPM methodology will be substantially lower than under the Board's existing approach. For the most recent year, 2005, the Board's new approach would reduce the calculated cost of equity by nearly half. The Board's reported results for several other years are nearly as dramatic.

Given what is at stake – continuing investment in the nation's rail infrastructure – understating railroad cost of capital could have a serious adverse impact on the level of future capital expenditures. While the Board has previously acknowledged the importance of

encouraging more investment in freight railroad infrastructure, the downward revisions to railroad cost of capital proposed by the Board in this proceeding would ultimately discourage such investment. Furthermore, it could adversely impact BNSF's ability to handle peak volume conditions (see BNSF's September 11, 2007 letter to the Board regarding peak volume preparedness).

There is widespread acknowledgment that the nation's railroads are currently faced not only with the task of maintaining the current infrastructure, but with the task of increasing the capacity of the rail network through substantial investment in new infrastructure. Demand for rail transportation has increased dramatically over the last decade. Between 1996 and 2006, the unit volume of shipments on BNSF increased by more than 50 percent. Between 2001 and 2006, unit volume increased by 30 percent. There were numerous drivers for this increased demand. These include the increase in trans-pacific container shipments arriving at West Coast ports and the increase in intermodal partnerships with trucking firms that are turning to railroads to help them cope with highway congestion, driver shortages, environmental concerns, and higher fuel costs. We have also seen increased demand for cleaner-burning, low-sulfur coal from the Powder River Basin and increasing levels of grain exports to China, India, and other Asian Pacific countries.

Demand for rail transportation is expected to continue to increase. A report to the AAR prepared by Cambridge Systematics, Inc., *National Rail Freight Infrastructure Capacity and Investment Study* (September 2007), indicates that the demand for rail transportation, measured in tonnage, will increase 88% by 2035. Future demand growth will be driven not just by a growing economy but also by the advantages that rail transportation offers in comparison to transportation by truck, particularly over longer distances. Transportation by rail is significantly

more fuel-efficient and, if fuel prices continue to rise, transportation by rail will become even more cost-effective than the truck alternative. Rail transportation also offers other benefits such as reduced pressure on the nation's congested highway system and attendant environmental benefits.

Rail networks that are already facing capacity constraints cannot handle expected future traffic volumes without substantial new investment. BNSF has been proactive in making capital investments to ensure adequate capacity. Since 1996, BNSF has invested more than $8 billion in locomotives and expansion of our network and facilities. BNSF has been adding second main track on our transcontinental main line between Chicago and Los Angeles. By the end of 2007, all but 31 miles of this high-volume 2,200-mile route will be double tracked. In addition, BNSF is expanding intermodal facilities in various locations across the network, such as Texas, Washington State, California, Tennessee and Illinois.

On the coal route, in 2006, BNSF built 18 miles of third main track and 20 miles of second main track in Wyoming and Nebraska and expanded the BNSF yard at Lincoln, Nebraska to support record volumes of coal traffic. In 2007, BNSF plans to add about 60 miles of third and fourth main track in the Powder River Basin and about 50 miles of double track in Nebraska and Wyoming. BNSF will also install multiple sidings between Springfield, Missouri, and Birmingham, Alabama.

BNSF's ability to make continuing significant capital investments depends on our ability to earn an adequate rate of return. As long as volume is forecasted to grow and BNSF can receive proper value for the transportation services provided, BNSF will strive to invest capital at the appropriate levels to promote infrastructure expansion. If, however, the Board effectively caps BNSF's earning capacity at a level that does not reflect the real-world cost of capital, BNSF

will be unable to justify continuing investment or, indeed, to attract the capital necessary for such investment.

## II. The Cost of Equity Capital Developed through the Board's Proposed Application of the CAPM Model Is Unrealistically Low

Given the clear need for continued capital investments, BNSF is concerned that the Board's proposed approach to calculating the cost of equity capital will result in a systematic understatement of BNSF's true cost of capital. The 8.4 percent cost of equity capital that the Board calculated for 2005 using the CAPM model is significantly different than the 15.2 percent cost of equity capital calculated under the previously favored DCF approach. Large changes in the cost of equity capital resulting entirely from methodological changes should serve as a warning that estimating the cost of equity capital is not a precise science. Therefore, I suggest that a review by the Board of a range of cost of equity estimates is more appropriate in this instance than computing a single point estimate. In my judgment, the Board's new value is unrealistically low and is not indicative of the levels of return that our investors demand. It appears that this anomalous result can be largely attributed to the data inputs the Board has relied upon in its application of the CAPM model. Given that the inputs to the CAPM model are subjective, it may be appropriate to establish a range of estimates of the inputs or alternatively to compare the outcome of the CAPM model with estimates of cost of equity produced by alternative models.

Specifically I believe that the data inputs used by the Board for both the equity risk premium and Beta variables of the CAPM model contribute to the unrealistically low cost of equity capital determined by the Board. The Board's calculated market-wide risk premium is 5.2 percent. However, utilizing differing time periods of historical data can impact the risk premium significantly. Therefore, a long-horizon equity risk premium covering the full term of historical

data dating back to 1926 would be most appropriate in order to minimize short term fluctuations caused by temporary market disruptions.

Second, I suggest that the Board's use of a Beta less than 1.0 does not accurately reflect the risks that BNSF and other railroads face going forward or the risks that marginal investors assess when deciding whether to invest. Beta is a measure of the riskiness in an investment in an individual firm versus the risk in the market as a whole. In general, investors require an investment return commensurate with the level of risk they assume. A Beta of less than 1.0 would indicate the railroad industry is less risky than the market, which I suggest is inconsistent with the risks specific to both the rail industry and BNSF. This is evident in current estimates of Beta. For instance, the September, 2007 Bloomberg estimate of Beta for BNSF is 1.1 using 5 years of monthly data and rises to 1.4 using 2 years of monthly data.

Third, regarding the risk-free rate, the Board states its preference for a long-term rate, yet it chooses to use the 10-year Treasury Note as a proxy. I would suggest that all reasonable risk-free rates be considered thoroughly in determining which is most appropriate and why.

We strongly believe that investors' expressions of confidence in BNSF will continue to be rewarded because we are successfully addressing current business risks and will continue to successfully manage future business risks. However, our confidence does not belie the real risks specific to BNSF, especially in terms of sustaining the growth we have experienced over the past few years. BNSF operates in a complex and ever-changing risk environment. There are different sorts of risks associated with each of BNSF's four distinct business segments – Consumer Products, Agricultural Products, Coal, and Industrial Products – and each has its own unique set of risk factors.

- Consumer Products: Due to the increase in globalization of the consumer goods market, this segment of our business has experienced the largest growth in recent years, and investors presumably are anticipating continued growth in this area, which primarily encompasses international and domestic intermodal transportation. This segment provides a good example of the volatility in our business, as 2007 unit volumes are down from 2006 following a period of strong growth. Risk factors that could affect continued growth in this segment include variations in international trade flows, the value of different currencies in global markets, the disposable income of the U.S. consumer, and the threat to such trade if Congressional action is taken to address real or perceived trade imbalances.
- Agricultural Products: Returns on BNSF's agricultural business depend on conditions in both U.S. and global agricultural products markets. Demand for transportation of agricultural products is quite variable. It depends in part upon production conditions in the U.S. and elsewhere. In years when non-U.S. production is strong, export prices may be depressed and demand for rail transportation in export markets can decrease. The opposite is true in years when non-U.S. production is weak, for example when other major international grain producers experience a serious drought. A host of domestic conditions, including weather and crop yield can also have a significant impact on demand for rail transportation. Increasing demand for corn to be used in ethanol production is an emerging factor that contributes additional complexity in predicting returns from the agricultural business segment. Other risk factors that impact BNSF's role in global agricultural trade include foreign exchange rates and government tariffs.

- Coal: Unique risk factors that apply to BNSF's coal business include the growing debate over the environmental impact of carbon-based fuels. Transportation of Powder River Basin coal has increased in recent years due in part to its environmental benefits vis-à-vis higher sulfur coal from other producing regions. While this trend has benefited BNSF, coal-fired generating plants nonetheless remain a significant source of greenhouse gasses, and there is growing pressure to curtail construction of new coal-fired generating plants and to further regulate emissions from existing plants. Uncertainty about how global warming issues will be addressed in the future is a long term risk factor associated with our coal transportation business. Meanwhile, in the shorter term, coal demand varies with shifts in domestic and global energy markets, including changes in the prices of competing fuels.
- Industrial Products: BNSF's industrial products segment includes transportation of building products, construction products, petroleum products, chemicals and plastics products, among others. For many of these commodities, volumes and revenues are sensitive to swings in the U.S. economy as a whole and various sectors of the economy. A good example is the current slowdown in housing starts. Historically, railroads have suffered in periods of national recession, and that is a risk factor with which we continue to live.

When taken together, the risk factors affecting our diverse business segments create volatility in BNSF's financial performance and make forecasting likely returns complex. BNSF's investors expect substantial returns precisely because they recognize the risks BNSF faces. They expect BNSF will manage these risks well and that their investments will therefore

be prudent. Use of a Beta less than 1, signifying a less than average risk, is not consistent with the reality of the rail sector. Indeed, the Board's involvement in determining the industry cost of capital illustrates that our industry faces a regulatory risk that most other companies do not share. If the Board's actions in this proceeding result in an unreasonable limit on BNSF's permitted rate of return, investors will not be able to earn sufficient returns to compensate them for the level of risk that they willingly assume when they invest in BNSF.

I urge the Board to consider not only the CAPM model but also other alternative models that may render a more reasonable determination of the cost of equity capital. I urge the Board to reexamine and clarify the source and timeframe of the variables used in the CAPM model if, after careful consideration of alternative models, that model is chosen for use in the overall cost of capital methodology. I urge the Board to address the most appropriate way of measuring return, to include alternatives to historical cost accounting. Finally, I urge the Board to remain sensitive to the impact these measures will have on the rail industry's ability to access the resources needed to expand our nation's rail infrastructure to meet expected demand.

I, Thomas N. Hund, declare under penalty of perjury, that the foregoing statement is true and correct and that I am qualified and authorized to file this statement.

Executed on September 25, 2007

Thomas N. Hund

**CERTIFICATE OF SERVICE**

I, Frederick J. Horne, hereby certify that on September 27, 2007, I caused a copy of BNSF Railway Company's Opening Comments to be served by first-class mail upon all persons identified in the Board's service list for STB Ex Parte No. 664.

Frederick J. Horne