



ASSOCIATION OF
AMERICAN RAILROADS

Law Department
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March 29, 2004

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THE Honorable Vernon A. Williams
Secretary
Surface Transportation Board
1925 K. Street, N.W.
Washington, D.C. 20423

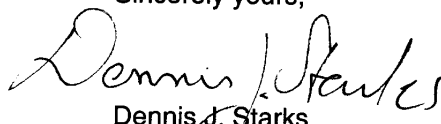
Re: Ex Parte No. 558 (Sub-No. 7), Railroad Costs of Capital - - 2003

Dear Secretary Williams:

Please find enclosed an original and ten (10) copies of the Comments of the Association of American Railroads and its Member Railroads in the proceeding referenced above. A copy of the same on 3.5inch diskette in Word, is also provided for the Board's convenience.

Please date-stamp the extra copy of the Comments and this letter, provided for that purpose, and return the same to the undersigned, via the messenger hand delivering them.

Sincerely yours,


Dennis J. Starks

Enclosures

**BEFORE THE
SURFACE TRANSPORTATION BOARD**



210 421

RAILROAD COST OF
CAPITAL--2003

EX PARTE NO. 558 (Sub- No. 7)

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

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March 29, 2004

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VERIFIED STATEMENTS

<u>Tab</u>	<u>Witness*</u>	<u>Subject</u>
1	Craig F. Rockey	The railroads' cost of common equity and overall cost of capital.
2	David F. Miller	Bond yields for 2003; yields on equipment trust certificates and conditional sales agreements; railroads' cost of debt and preferred equity; the market value capital structure.

*Verified statements are referenced in these comments by witness name -- viz., V.S. Rockey at

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

RAILROAD COST OF
CAPITAL--2003

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EX PARTE NO. 558 (Sub- No. 7)

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

By order served December 11, 2003, the Surface Transportation Board (STB/Board) instituted this proceeding to determine the railroads' cost of capital for the year 2003. That determination, as the Board noted, will enable it to make the statutorily required (49 U.S.C. 10701 (d)(2), 10704(a)(2)) annual individual railroad revenue adequacy determination for 2003. The Board noted further that the cost of capital determination may also be used in various other STB railroad proceedings. See Ex Parte No. 558 (Sub-No. 7) *Railroad Cost of Capital* – 2003 (Served December 11, 2003) (Slip Op. 1).

The railroads, through the Association of American Railroads (AAR) are submitting herewith their calculation of (1) the railroads' current 2003 cost of debt capital; (2) the railroads' 2003 current cost of preferred equity capital; (3) the railroads' 2003 cost of common equity capital and (4) the 2003 capital structure mix of the railroad industry on a market value basis.

AAR, through the attached verified statements of Craig F. Rockey, Vice President, Policy and Economics Department of the Association of American Railroads, and David F. Miller, Director - Accounting and Finance, AAR Policy and Economics Department. These statements establish the following:

1. The 2003 cost of debt capital is 4.99 (VS. Miller pp. 2, 14; Rockey pp. 2, 16).
2. There is no preferred equity capital for 2003 (VS. Miller p.2; Rockey p. 2).
3. The 2003 cost of common equity capital is 12.73 (VS. Rockey pp. 2, 16).
4. The capital structure of the railroad industry is 43.0% debt, 0.0% preferred equity and 57.0% common equity. (VS. Miller p. 15; VS. Rockey p. 2). From these data Mr. Rockey concludes that the overall railroad industry cost of capital for 2003 is 9.40% (V. S. Rockey pp. 2, 16).

I. INTRODUCTION

The sole purpose of this proceeding is to determine the cost of capital for 2003. Thus, while the revenue adequacy standards are not at issue in this proceeding, it has been held that the current cost of capital will continue to be the sole standard of revenue adequacy, and that the cost of capital will be computed using the current cost of debt and market value weights. See Ex Parte No. 393 (Sub-No. 1), *Standards for Railroad Revenue Adequacy*, 3 I.C.C. 2d 261 (1986), *aff'd sub. nom.*, *Consolidated Rail Corporation v. United States*, 855 F.2d 78 (3rd Cir. 1988).

II. THE COST OF COMMON EQUITY CAPITAL

The Discounted Cash Flow (DCF) methodology has been used in all previous cost of capital proceedings to determine the cost of equity. The validity of the DCF approach is recognized by nearly every rate of return analyst in the United States, and among federal and state regulatory

agencies, the DCF model is the most widely used method for determining the cost of equity.¹ Mr. Rockey has established the DCF methodology in his calculation of the cost of common equity in this proceeding.

Under the DCF methodology, the cost of common equity is determined by adding together the dividend yield (the expected dividend for the next period divided by the common stock price) and the expected growth rate. The dividend yield is computed using publicly available data from the stock market. In all cost of capital proceedings since 1982, the Board has determined the expected growth rate by using a truncated average of published long-term earnings growth forecasts by a large number of security analysts to obtain an estimate of the investors' consensus of earnings growth expectations. The use of analysts' forecasts to estimate the composite growth rate is the most accurate approach available. As the Board has properly recognized, this part of the DCF formula measures investors' expectations, and a consensus of analysts' forecasts is the best evidence of those expectations. V.S. Rockey at pp. 9-13.

In cost of capital proceedings prior to Ex Parte No. 473, *Railroad Cost of Capital--1987*, 4 I.C.C. 2d 621 (1988), the expected growth rate has been calculated based on the consensus forecasts made by a group of prominent investment analysts who follow the rail industry. Commencing with Ex Parte No. 473, however, the Board has expressed a preference for use of consensus analyst five-year earnings per share growth rate forecasts published in Institutional

¹ V.S. Rockey at 8-9; National Association of Regulatory Utility Commissioners, *Utility Regulatory Policy in United States and Canada 1994-1995*, at pp. 520, 588, 615 (August 23, 1995).

Brokers Estimate System (IBES) reports.² AAR has accordingly used IBES data in determining the expected growth rate in this proceeding. Rockey at p. 9-10.

Based on a four-railroad composite and the identical DCF procedures used in the last ten cost of capital proceedings, Mr. Rockey estimates that the cost of common equity capital for 2003 is 12.73 percent. V.S. Rockey at pp. 14.

III. THE COST OF PREFERRED EQUITY CAPITAL

Preferred stock is a hybrid security which has some characteristics of debt and some characteristics of equity. Its cost depends in large part on its specific features. David F. Miller, the AAR's Director - Accounting and Finance, has determined the cost of railroad preferred equity based on the methodology used by the Board in the last twelve proceedings. That methodology is based upon the following criteria:

- (a) Where the preferred is not convertible into common stock, and where the corporation is not required to redeem the preferred at specific times, the cost of preferred equity is equal to its current dividend yield.
- (b) Where the preferred is not convertible but is subject to mandatory redemption providing holders of the instrument with a premium, the cost is equal to the current dividend yield, plus the present value of the premium.

² These reports are available from Lynch, Jones & Ryan, 325 Hudson Street, New York, N.Y. 10013.

- (c) Where the preferred is convertible at the option of the holder, and the market values of the preferred and common indicate that conversion is likely to occur or that the conversion right controls the price of the preferred, the preferred has the same cost as common equity.

Because the railroads had no preferred stock outstanding at the end of 2003, there is no 2003 cost of preferred equity capital.. V.S. Rockey at p. 15. V.S. Miller at p.2.

IV. THE COST OF DEBT

To determine the cost of debt, Mr. Miller has computed the average current bond yield for all bonds of the sample railroads that were publicly traded in 2003 (comprising 66 bonds). This methodology is identical to that used in the last thirteen cost of capital proceedings. See *Ex Parte No. 558 (Sub 6) Railroad Cost of Capital - 2002*, __ S.T.B. __ (Served June 19, 2003); see also V.S. Miller at 5-6. Under this approach, the bond yield is effectively based on a sample representing 87.6 percent of the total market value of the bonds issued by the railroads in the sample. As the Board has recognized, equipment trust certificates (ETCs) and conditional sales agreements (CSAs) are not actively traded in secondary markets. Their costs were therefore estimated by comparing them to the yields on other debt securities that are actively traded.³ This is the same methodology used by the Board in the last sixteen proceedings. The composite current cost of debt is the market-weighted average cost of bonds, ETCs, and CSAs, plus a small floatation cost. Using the Board's established methodology, the railroads' 2003 cost of debt is 4.99 percent. V.S. Miller at p. 14.

³ V.S. Miller at 6-10.

V. **THE 2003 CAPITAL STRUCTURE OF THE RAILROAD INDUSTRY AND THE OVERALL COST OF CAPITAL**

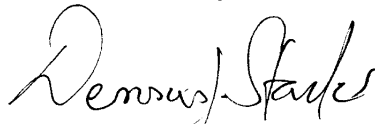
Pursuant to the Board's December 12, 2003 decision, the market values of debt, preferred equity, and common equity were compiled to compute the 2003 capital structure mix of the railroad industry. The railroads' market value capital structure is 43.0 percent debt, 0.0 percent preferred equity capital, and 57.0 percent common equity capital. V.S. Miller at p. 15. Based upon this capital structure, the overall 2003 cost of capital is 9.40 percent. V.S. Rockey at 16.

The cost of capital for 2003 is lower than the cost of capital for 2002, which was found to be 9.8 percent.

CONCLUSION

The Board should determine that the railroads' cost of capital for 2003 is 9.40 percent.

Respectfully submitted,



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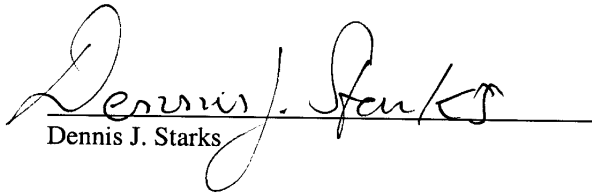
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William J. Wochner

Counsel for the Association of American Railroads
and Member Railroads

March 29, 2004

CERTIFICATE OF SERVICE

I, Dennis J. Starks, hereby certify that on this 29th day of March 2004, I have served true and accurate copies of the foregoing Comments of the Association of American Railroads and Its Member Railroads upon all parties on the service list in this proceeding.


Dennis J. Starks

BEFORE THE
SURFACE TRANSPORTATION BOARD

EX PARTE NO. 558 (Sub-No. 7)
RAILROAD COST OF CAPITAL - 2003

VERIFIED STATEMENT
OF
CRAIG F. ROCKEY
VICE PRESIDENT
ASSOCIATION OF AMERICAN RAILROADS

March 29, 2004

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VERIFIED STATEMENT

OF

CRAIG F. ROCKEY

I. INTRODUCTION

My name is Craig F. Rockey. I am Vice President – Policy and Economics of the Association of American Railroads (AAR), with offices at 50 F Street, N.W., Washington, D.C. 20001. The AAR is the trade association for the nation's railroads, as well as the railroads of Canada and Mexico. The AAR's United States railroad members, which include all of the Class I railroads, account for 94 percent of our nation's total railroad operating revenue.

The AAR serves as the central agency of the railroad industry for the collection and analysis of economic and financial data and it represents the industry in regulatory proceedings before the Surface Transportation Board ("STB" or "Board"). In particular, the AAR has participated in all of the STB proceedings addressing revenue adequacy standards and the annual cost of capital determinations.

Aside from other responsibilities, I have conducted or directed a wide range of analyses or projects addressing regulatory, legislative and internal issues relevant to the railroad industry. Furthermore, I have testified before federal, state, and local regulatory agencies, and have been an expert witness for the railroad industry on economic, statistical, and financial matters over the past 26 years. A summary of my qualifications and experience appears at the end of this statement.

In this submission, I am responding to the Board's decision of December 4, 2003 (served December 11) instituting the proceeding to determine the railroad industry's 2003 cost of capital – Ex Parte No. 558 (Sub-No.7), *Railroad Cost of Capital – 2003* ("Ex Parte 558 Decision"). In my statement, I calculate the cost of common equity capital and the overall cost of capital of the railroad

industry (incorporating the cost of debt, cost of preferred equity, and market value capital structure mix of the railroad industry as computed by the AAR using the procedures accepted in previous STB proceedings). My statement is accompanied by the Verified Statement of David F. Miller, Director – Accounting & Finance of the AAR in which he presents the details underlying the calculation of the current cost of debt and preferred equity, and the market value of the capital structure mix.

I conclude that the 2003 cost of capital for the railroad industry is 9.40 percent. This estimate is based on a cost of common equity capital of 12.73 percent, and a current cost of debt of 4.99 percent; and market value weights for common equity and debt of 57.0 percent, and 43.0 percent, respectively. All preferred stock was retired during 2003, therefore there is no preferred equity capital.

II. DETERMINING THE COST OF CAPITAL

A. Defining the Cost of Capital

The cost of capital is the minimum rate of return on investment which the providers of capital require as a condition for undertaking an investment. In essence, it is the threshold rate of return on investment which makes capital investment attractive. The cost of capital is an opportunity cost in that it recognizes what investors sacrifice by not investing their funds elsewhere. Investment funds generally flow to projects and companies where the expected returns are thought to at least equal to the expected returns available of other investment opportunities, giving consideration to the relative (or commensurate) risk of investment.

As an example of the cost of capital, assume that an investment in a company is valued at \$1,000 and that the current rate of return on that investment generated by that company is \$70, equating to 7.0 percent. The investors in that company would generally not elect to keep their money

in this company if, assuming equal risk, other investment opportunities offer higher expectations of greater returns. It may be that the cost of capital to this company is 12.0 percent, because that is the rate of return on investment required to attract investors and to keep investors from ultimately transferring their funds to alternative investments. In this case, the 12.0 percent return on investment to be found elsewhere is the opportunity cost, and thus, the cost of capital to the firm. Simply stated, that company's investors "demand" the opportunity (or expected) rate of return on investment or they will move their funds to alternative choices that provide such expectations.

B. The Composite Railroad Approach

The STB has adopted a composite railroad approach to computing an industry-wide cost of capital. This approach relies upon data from a sample of railroads meeting criteria established by the Board in Ex Parte No. 458, *Railroad Cost of Capital--1984*, 1 I.C.C. 2d 989, 1003-1004 (1985). The composite approach is both statistically and economically sound for several reasons. First, the current cost of investment-grade debt does not vary significantly among major railroads. This is because major railroads face similar market pressures from such forces as the economic climate, foreign trade policy, regulation and competition. Second, while there may be estimation errors associated with the direct measurement of the cost of equity for individual railroads, an industry-wide calculation tends to average out such errors. Third, financial theory indicates that, when computing the cost of capital based on current debt costs, increases (or decreases) in the debt/equity ratio cause corresponding increases (or decreases) in the cost of equity that result in a constant current cost of capital. (This relationship stems from the fact that as the percentage of debt in the capital structure increases, the cost of equity increases as a result of the increased risk.) Use of

an industry-wide debt/equity ratio and industry-wide costs of debt and equity are, therefore, appropriate.¹

C. Selection of Railroads for Analysis

Under the criteria established by the Board for individual firm inclusion in the composite railroad sample, the company must operate a Class I railroad, must have at least 50 percent of its assets devoted to rail operations, must be listed on the New York or American Stock Exchanges, must have investment grade debt², and must have paid dividends throughout the year in question. (Ex Parte 558 Sub -No. 3 Decision at 1-2.)

The Board's criteria for inclusion in the sample are generally sound. First, as the Board has recognized, in order to determine the cost of equity using the DCF model, it is essential that the company has paid dividends throughout the year at issue and that the company's stock is actively traded on either the New York or American Stock Exchanges. These qualifications help to insure that the dividend yield component of the DCF model is accurately estimated.

Second, it is necessary to determine the cost of debt for the composite sample based on investment grade railroad debt issues in order to avoid incorporating an estimate of the default premium associated with non-investment grade debt.

Finally, the composite must be representative of the railroad industry. The Board has properly determined that any company included should be predominantly railroad-oriented, and thus have at least 50 percent of its assets devoted to the railroad business.

¹See, e.g., F. Modigliani and M. Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment," American Economic Review, June 1958, p. 7; M. Miller, "Debt and Taxes," Journal of Finance, May 1977.

²Investment grade debt is defined as senior debt securities with a Rating of AAA to BBB.

This year there are four railroad corporations or holding companies in the sample under the Board's criteria: Burlington Northern Santa Fe Corporation; CSX Corporation; Norfolk Southern Corporation; and Union Pacific Corporation. (See Table No. 1.) The 2003 sample is composed of the same railroad entities that were included in the 2002 sample.

Table No. 1
Evaluation of Class I Railroads
Under Surface Transportation Board Selection Criteria
2003

Class I Railroad	Parent	Stock Symbol	Listed NYSE/ASE	Dividends Throughout 2003	Rail Assets	
					Account For At Least 50% of Parent	Adequate Debt Rating
BNSF	Burlington Northern Santa Fe Corp.	BNI	Yes	Yes	Yes	Yes
CSX	CSX Corporation	CSX	Yes	Yes	Yes	Yes
CNGT*	Canadian National Railway Co.	CNI	Yes	Yes	No	Yes
KCS	Kansas City Southern	KSU	Yes	No	Yes	Yes
NS	Norfolk Southern Corporation	NSC	Yes	Yes	Yes	Yes
SOO*	Canadian Pacific Railway Limited	CP	Yes	No	No	Yes
UP	Union Pacific Corporation	UNP	Yes	Yes	Yes	Yes

* CNGT is Grand Trunk Corporation, and consists of most of the U.S. railroad operations of Canadian National Railway (CN). SOO is Soo Line Railroad, the western U.S. operations of Canadian Pacific Railway (CP). Following STB precedent, CN and Canadian Pacific were not included in the Sample because both CN and CP are Canadian corporations – and the cost of capital proceeding is concerned with determining costs for U.S. railroads under STB jurisdiction.

As in past years, this year's sample includes a substantial percentage of both the revenues and assets of the entire rail industry. As shown in Table No. 2, based on nine months reporting, the four-firm composite accounts for approximately 92.6 percent of the revenues and 88.6 percent of the assets of all Class I railroads in 2003. Accordingly, the sample is representative of the industry.

Table No. 2

**Relative Size of the Railroad Composite Sample
2003
First Nine Months**

Railroad	Revenue (\$000)	Assets (\$000)	Pct of Total Class I RR	
			Revenue	Assets
BNSF	\$6,899,726	\$27,615,791	25.4 %	27.7 %
CSX	4,910,842	15,102,897	18.1	15.2
NS	4,792,283	13,582,000	17.6	13.6
UP	8,552,164	32,021,151	31.5	32.1
Total	\$25,155,015	\$88,321,839	92.6	88.6
Total Class I	\$27,164,681	\$99,655,031	100.0 %	100.0 %

NOTE: Revenue and asset figures are from the *Revenues, Expenses and Income* reports and the *Condensed Balance Sheet* reports, submitted by Class I railroads to the STB for the third quarter of 2003.

D. Types of Railroad Capital

A firm's overall cost of capital is the opportunity cost of the funds available to the firm and to its investors. As an alternative to investing in a new project of average risk, a firm could repurchase a fraction of its outstanding securities at prevailing market prices. Because the expected rate of return on the total market value of a firm's outstanding securities reflects the opportunity cost of funds used in repurchasing such securities, the expected rate of return on the total market value of the firm's outstanding securities is equal to its overall cost of capital. The total capital of a firm generally includes common and preferred stock (equity), as well as debt. Each of these three sources of capital have different expected rates of return, and thus the overall cost of capital is a market value of the weighted average of the costs of common equity, preferred equity, and debt.

Different approaches are used to estimate the costs of the three types of capital. In this statement, I estimate the cost of equity employing the DCF method and review the calculations of the cost of preferred equity and the cost of debt presented in the accompanying statement of Mr. Miller. These calculations are based on average 2003 costs. I then compute the industry's overall cost of capital as a weighted average based on the market value of the three types of capital.

III. THE COST OF COMMON EQUITY CAPITAL IN 2003

The cost of equity is the opportunity cost of investing in a share of a firm's stock; i.e., the expected rate of return, which investors require on the market value (purchase price) of the stock in light of alternative investment opportunities of comparable risk. Because investor expectations are not directly observable, analysts have developed methods of inferring the cost of equity from available financial data. The DCF method used in this statement to compute the cost of equity is the same method which has been used in the Board's previous cost of capital proceedings, and relies upon observed stock prices and analyst growth forecasts. The DCF method is recognized as a valid approach to measuring the cost of equity by the overwhelming majority of financial experts in the country, and among federal and state regulatory agencies it is the most widely used method for determining the cost of equity. See National Association of Regulatory Utility Commissioners, *Utility Regulatory Policy in United States and Canada 1995-96* at pages 269, 530, 603 and 631 (December 16, 1996).

A. The Discounted Cash Flow ("DCF") Method

In previous cost of capital determinations, the Board has relied upon the Discounted Cash Flow (DCF) methodology to determine the railroad industry's cost of common equity capital. The

DCF methodology requires an estimate of expected growth in earnings (the "g" component of the DCF formula), and the Board has in past proceedings encouraged the use of growth rate data developed by the Institutional Brokers Estimate System (IBES) for this purpose.³ Accordingly, I have employed the DCF methodology using IBES data, as relied on by the Board in its 2002 cost of capital determination in Ex Parte No. 558 (Sub-No 6), *Railroad Cost of Capital—2002* (June 2003).

The cost of equity under the DCF method is the discount rate which makes the present value of all expected returns from holding the stock, including both dividends and price appreciation, equal to the stock's current market value.

In formulaic terms, under the DCF model the firm's cost of equity capital may be expressed as:

$$K = \frac{D_1}{P_0} + g$$

where:

K = the firm's cost of equity,

D₁ = the prospective annual dividend,

P₀ = the current price of the firm's stock, and

g = the expected rate of earnings growth.

The two terms in the formula, $\frac{D_1}{P_0}$ and g, correspond to the two forms of return from holding a stock — namely, dividends and price appreciation. The first term, $\frac{D_1}{P_0}$, is the expected dividend yield. The price appreciation component (g) arises from the growth in the firm's earnings and dividends over time. If the earnings of the firm grow at a rate of g, and if the

³The IBES data are available from I/B/E/S Inc., 325 Hudson Street, New York, NY 10013.

earnings/price ratio of the firm's stock remains constant, the value of a share in the firm would also grow at a rate of g .

In the last 22 cost of capital proceedings, the STB used the current dividend yield (D_0) multiplied by unity plus one-half the growth rate, $\frac{D_0(1 + g/2)}{P_0}$, rather than one plus the full growth rate to estimate $\frac{D_1}{P_0}$. This multiplier was adopted by the Board on the assumption that dividends are paid annually. Actually, railroads pay quarterly dividends and thus the agency's multiplier understates the expected dividend rate because it ignores the time value of money; i.e., the payment of four quarterly dividends over the next year is more valuable than a single year-end dividend equal to the sum of the quarterly dividends. However, I agree with the previous statement of Dr. Robert H. Litzenberger, then Professor of Finance, Wharton School, University of Pennsylvania, in his testimony in Ex Parte No. 473, *Railroad Cost of Capital - 1987* on behalf of the railroad industry, that "...the use of the Commission's procedure is not a major source of bias...." Litzenberger Ex Parte No. 473 V.S. at 13.

1. Composite Growth Rate

In the past 22 cost of capital proceedings, the Board has used a consensus of security analysts' forecasts to obtain an estimate of the composite earnings growth rate. As the Board has recognized, the " g " component of the DCF formula measures investor's expectations, and a consensus of analysts' forecasts is the most accurate method available for estimating those expectations.

In its decision in Ex Parte No. 473, the Board expressed a preference for use of consensus analyst five-year earnings-per-share forecasts developed by IBES in lieu of the consensus five-year growth forecasts of prominent investment analysts that was employed in previous proceedings. I

have, accordingly, employed IBES data in determining the composite growth rate in this proceeding. As in Ex Parte No. 491, *Railroad Cost of Capital – 1990*, where the Board focused on the issue of a truncated average vs. an overall average forecast where sufficient forecasts are available for a sample railroad, I have employed a truncated average⁴ of IBES survey forecasts.

The methodology employed here is identical to that employed and accepted by the STB in Ex Parte No. 491. The truncated average of the IBES survey forecasts for each railroad was calculated for each month and then averaged over the 12-month period January 2003 through December 2003. From IBES data, the following are determined for each sample railroad for each of the 12 sample months during 2003: a simple average, the highest forecast, the lowest forecast, and the number of forecasts. The number of forecasts upon which the IBES sample average was based varied between a monthly high of 12 for Burlington Northern Inc. and Norfolk Southern to a monthly low of 7 for Union Pacific. For each of the four railroads in the industry composite, the 2003 average of the IBES monthly mean growth forecasts (both simple and truncated) is provided in Table No. 3. The composite growth estimate based on the truncated means is 11.00 percent.

⁴The Board has observed that a truncated average, which excludes the upper-most and lower-most forecasts, is more reliable than an overall average forecast. 4 I.C.C. 2d at 628.

Table No. 3
Calculation of Average Railroad Growth Rates
2003

Railroad	Simple Average ¹	Truncated Average ²	Railroad Weights ³	IBES Composite	
				Simple Average ⁴	Truncated Average ⁵
BNI	9.15	9.25	0.2602	2.38	2.41
CSX	11.51	11.45	0.1642	1.89	1.88
NSC	12.19	11.24	0.1948	2.37	2.19
UNP	11.70	11.88	0.3808	4.46	4.52
Average:	11.14	10.96			
Total:			1.0000		
Composite Growth Rate				11.10	11.00 %

Notes:

- ¹ Data extracted from IBES database; see Appendix B summary.
- ² Computed by eliminating high and low growth estimates from Simple Average computation; see Appendix C
- ³ Weights based on market value of each sample railroad divided by the composite railroad market value.
- ⁴ Computed by multiplying the Simple Average by the Railroad Weights.
- ⁵ Computed by multiplying the Truncated Average by the Railroad Weights.

As summarized in Table No. 3, the 11.00 percent composite growth estimate is calculated as follows:

- Step 1 A simple average rate of 11.14 percent is computed from the IBES estimates based on monthly averages for each railroad;
- Step 2 The high and low rates are deleted in each month for each railroad and a truncated simple average of 10.96 percent is derived;
- Step 3 Railroad weights are calculated using average daily closing prices from Dow Jones and the number of shares outstanding at the end of each quarter (as reported by the sample railroads). Quarterly data was adjusted with specific monthly data when there were new issues of common stock; and

Step 4 The weights for each railroad were multiplied by each railroad's truncated average to derive in a weighted-average, truncated growth rate of 11.00 percent.

Thus, the IBES consensus forecast provides an 11.00 percent estimate of the average 2003 long-term (five-year) growth expectations of investors. The 2003 average estimate of the industry's growth expectation is 13 basis points (approximately a tenth of a percentage point) less than the 2002 estimate used by the Board in its previous (2002) cost of capital determination Ex Parte No. 558 (Sub-No. 6) of 11.13 percent.

2. Composite Dividend Yield

Using the same methodology relied upon by the Board in prior proceedings, I have determined the 2003 dividend yield for the composite railroad as an average of the composite dividend yield for each month using the average of all daily closing stock prices for that month. The daily closing stock prices were obtained from Dow Jones News/Retrieval Service.

The estimate of the 2003 average current dividend yield for the composite railroad is 1.64 percent. This estimate is 24 basis points more than the 2002 average dividend yield determined by the Board in Ex Parte No. 558 (Sub-No. 6), i.e., 1.40 percent. Table No. 4 summarizes the calculation of the composite current dividend yield.

Table No. 4

**Calculation of Composite Current Dividend Yield
For Each Month and for Year
2003**

January			February			March		
Railroad	Weight	Weighted Yield	Railroad	Weight	Weighted Yield	Railroad	Weight	Weighted Yield
BNI	0.255097	0.467352 %	BNI	0.258617	0.489883 %	BNI	0.254067	0.491544 %
CSX	0.158604	0.221668	CSX	0.156433	0.232355	CSX	0.162842	0.234643
NSC	0.197543	0.282204	NSC	0.201150	0.295809	NSC	0.201031	0.299249
UNP	0.388757	0.604659	UNP	0.383799	0.633810	UNP	0.382060	0.641063
Total	1.000000	1.575885 %	Total	1.000000	1.651857 %	Total	1.000000	1.666499 %

April			May			June		
Railroad	Weight	Weighted Yield	Railroad	Weight	Weighted Yield	Railroad	Weight	Weighted Yield
BNI	0.254951	0.460234 %	BNI	0.258661	0.437945 %	BNI	0.266627	0.438141 %
CSX	0.166640	0.219697	CSX	0.167036	0.209057	CSX	0.161766	0.209542
NSC	0.198633	0.280188	NSC	0.203297	0.266618	NSC	0.198786	0.267211
UNP	0.379776	0.600230	UNP	0.371006	0.571160	UNP	0.372821	0.573188
Total	1.000000	1.560349 %	Total	1.000000	1.484780 %	Total	1.000000	1.488081 %

July			August			September		
Railroad	Weight	Weighted Yield	Railroad	Weight	Weighted Yield	Railroad	Weight	Weighted Yield
BNI	0.265371	0.561236 %	BNI	0.258325	0.565882 %	BNI	0.266373	0.553407 %
CSX	0.167919	0.214730	CSX	0.168280	0.216507	CSX	0.166046	0.212811
NSC	0.188745	0.312945	NSC	0.183996	0.315535	NSC	0.186531	0.310239
UNP	0.377966	0.587379	UNP	0.389399	0.592241	UNP	0.381049	0.582819
Total	1.000000	1.676289 %	Total	1.000000	1.690165 %	Total	1.000000	1.659276 %

October			November			December		
Railroad	Weight	Weighted Yield	Railroad	Weight	Weighted Yield	Railroad	Weight	Weighted Yield
BNI	0.271811	0.560050 %	BNI	0.255756	0.523910 %	BNI	0.256380	0.489586 %
CSX	0.161740	0.215366	CSX	0.168226	0.201469	CSX	0.164359	0.188973
NSC	0.185827	0.313963	NSC	0.193569	0.293703	NSC	0.198456	0.274680
UNP	0.380623	0.769323	UNP	0.382450	0.719679	UNP	0.380804	0.680514
Total	1.000000	1.858702 %	Total	1.000000	1.738761 %	Total	1.000000	1.633753 %

Note: The Simple Average of the 12 monthly dividend yields is: 1.64% percent.

3. Application of Data to DCF Model

The 11.00 percent growth rate and the percent dividend yield for the composite railroad produces a 2003 average cost of equity capital estimate of 12.73 percent. That is:

$$\begin{aligned} K &= \left[\frac{D_0}{P_0} \times (1 + g/2) \right] + g \\ &= [(1.64) \times (1.055)] + 11.00 \\ &= 12.73 \% ^5 \end{aligned}$$

B. Conclusion as to Cost of Equity Capital

The average 2003 cost of equity estimate for the composite railroad is 12.73 percent. The procedures used to obtain these estimates are identical to those used by the Board to obtain the estimates in the most recent previous proceedings. These procedures provide consistent and reliable annual average cost of equity estimates.

IV. THE COST OF DEBT IN 2003

The cost of debt calculations are presented in the separate, accompanying Verified Statement of David F. Miller. Mr. Miller found the 2003 average current cost of debt to be 4.83 percent before flotation costs and 4.99 percent after flotation costs. I have examined Mr. Miller's calculations and

⁵ The cost of common equity normally includes flotation costs because the net proceeds from the issues are reduced by both the underwriter's spread and the price pressure effect at the time of announcement of the stock issue. My calculation, however, does not include flotation costs. This is because the Commission has, in the past, allowed the inclusion of flotation costs for common equity only where a railroad has issued common equity capital in the year at issue -- in this case, 2003. Ex Parte No. 506, 8 I.C.C. 2d at 414-415. No new common equity capital was issued by any of the composite railroads in 2003, and therefore flotation costs were not included in my calculation.

methods and concur in his findings. The 2003 average current cost of debt of 4.99 percent is 101 basis points less than the corresponding 2002 (6.00 %) average.

V. THE COST OF PREFERRED EQUITY CAPITAL IN 2003

No preferred stock issues were outstanding at the end of 2003.

VI. THE OVERALL COST OF CAPITAL IN 2003

A. Determination of Market Value Weights

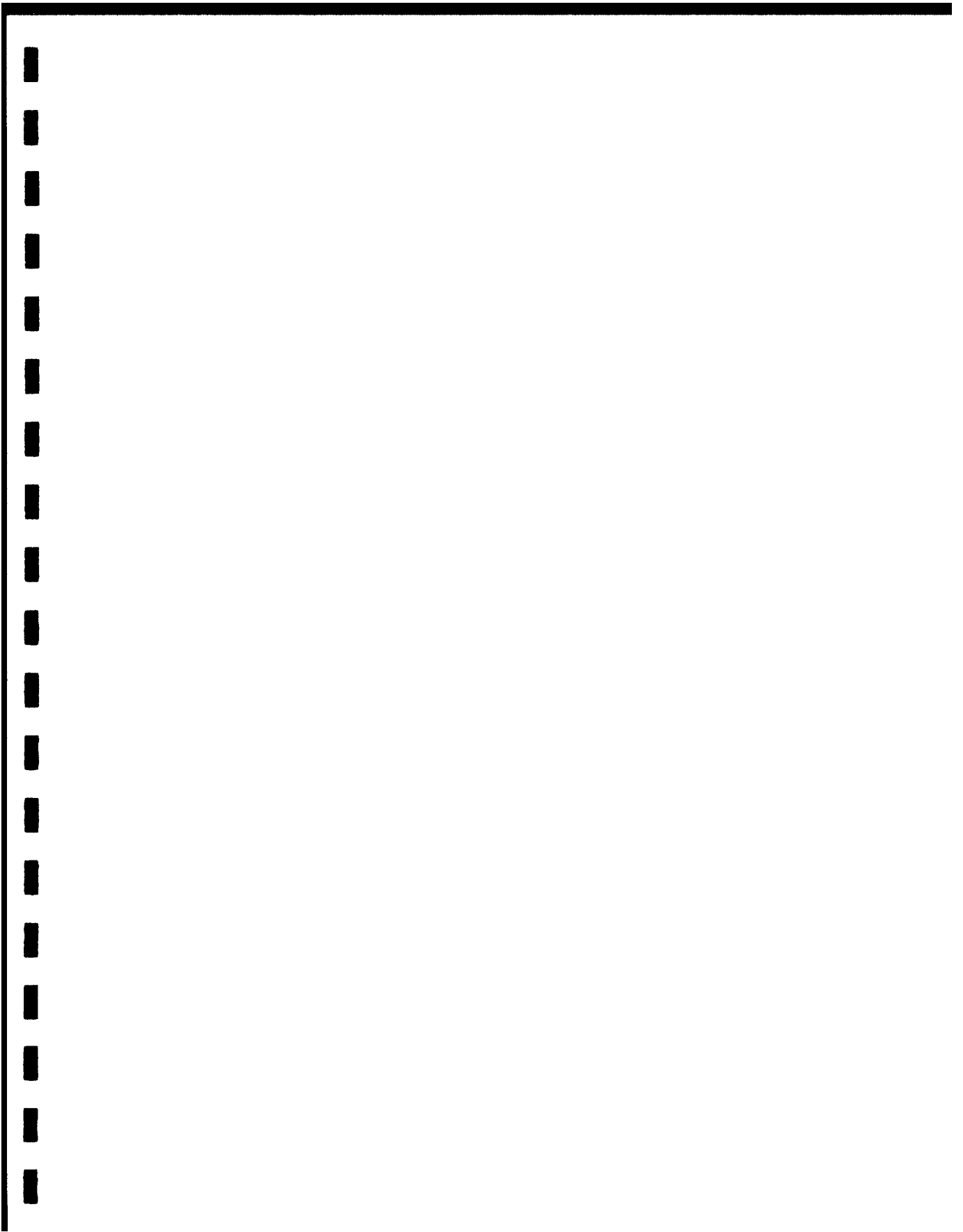
As calculated in Mr. Miller's Verified Statement, the market value of debt and common equity are \$30,110.8 million, and \$39,989.5 million, respectively. The figure for the market value of debt includes market values of bonds, notes, debentures, equipment trust certificates, and conditional sales agreements. Other debt and capitalized leases are included at their book value, because market values are difficult to determine (in some instances book values correspond to market values) and because these other instruments are a minimal portion of all railroad debt. Based on these calculations, the market value weights for debt and equity are 43.0 percent, and 57.0 percent, respectively.

B. The Overall Cost of Capital

Multiplying the cost of debt, the cost of common equity capital, and the cost of preferred equity capital by their respective market value proportions results in a 2003 average overall cost of capital of 9.40 percent, as shown below:

	Capital Structure Weight	Current Cost	Weighted Current Cost
Debt	43.0 %	4.99 %	2.146
Common Equity	57.0	12.73	7.256
Total	100.0		9.402
Weighted Current Cost of Capital			9.40 %

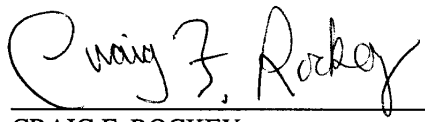
As mentioned in Section V, *The Cost of Preferred Equity Capital in 2003*, no preferred stock issues were outstanding at the end of 2003. Therefore, preferred equity capital is not included in the overall cost of capital.



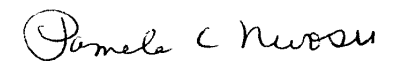
VERIFICATION

WASHINGTON, D.C.)
) SS.

I, Craig F. Rockey, being duly sworn, state that I have read the
foregoing statement, that I know its contents, and that those contents
are true as stated.

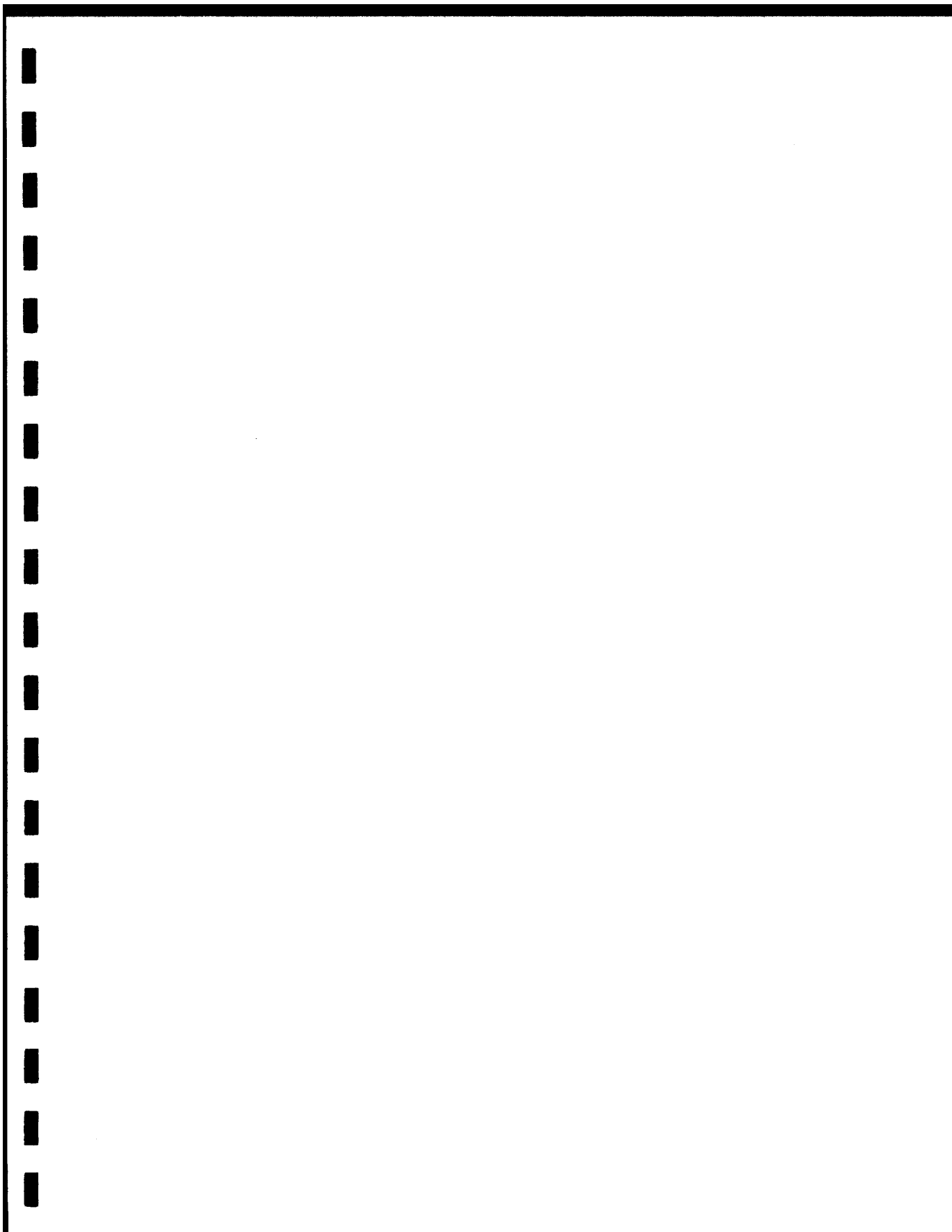

CRAIG F. ROCKEY

Subscribed and sworn to before me this 24th day of
March 2004.


Notary Public

My Commission expires:

My Commission Expires 2/14/07



Discounted Cash Flow Model

The discounted cash flow (DCF) approach to the estimation of the cost of equity capital is similar to the method employed by an investor using fundamental analysis to value a common stock. The DCF approach estimates the firm's cost of equity capital as the rate that makes the discounted value of all future cash flows expected by investors equal to the current price of the firm's stock. The future cash flows expected by investors can be specified as a stream of expected dividends over a fixed investment horizon and the expected stock price at the end of that horizon.

The most familiar model used to derive the cost of equity capital is based on the simplifying assumption that the firm pays dividends annually and the next dividend is one year hence.

The subsequent analysis assumes that over a fixed investment horizon:

- a) the firm's cost of capital, k , is constant;
- b) the firm's annual dividends per share grow at a constant rate, g ;
- c) annual earnings per share grow at the same rate as annual dividends per share; and
- d) the firm's price-earnings multiple is constant.

Under assumption (a), the price of the firm's stock may be expressed as:

$$1 \quad P_0 = \left[\sum_{t=1}^n \frac{D_t}{(1+k)^t} \right] + \frac{P_n}{1+k}$$

where:

- k = the firm's cost of equity capital;
- D_t = the firm's expected dividend t years hence,
- P_0 = the current price per share of the firm's stock, and
- g = the expected rate of growth in earnings and dividends over the investment horizon.

Under assumptions (b) and (c), the firm's dividend in year t is equal to:

$$2 \quad D_t = D_1(1+g)^{t-1}$$

where:

D_1 = the firm's expected dividend one year hence.

Substituting the right hand side of equation (2) for D_t in equation (1), the price of the firm's stock may be expressed as:

$$3 \quad P_0 = D_1 \left[\sum_{t=1}^{t=n} \frac{(1+g)^{t-1}}{(1+k)^t} \right] + \frac{P_n}{(1+k)^n}$$

Since the firm's expected price-earnings ratio n years from now has been assumed to equal its current price-earnings ratio, the price of the firm's stock would be expected to grow at the same rate as its earnings.

$$4 \quad P_n = P_0(1+g)^n$$

Recall that $P_n = \frac{P_n}{E_n} E_n(1+g_1)^n$ and $\frac{P_n}{E_n} = \frac{P_0}{E_0}$. The term in square brackets on the right hand side

of equation (3) is a geometric progression which can be expressed as:

$$5 \quad \left[\sum_{t=1}^{t=n} \frac{(1+g)^{t-1}}{(1+k)^t} \right] = \left(\frac{1}{k-g} \right) \left[1 - \frac{(1+g)^n}{(1+k)^n} \right]$$

Combining expression (5) with equations (3) and (4), and rearranging, gives equation (6):

$$6 \quad P_0 \left[1 - \frac{(1+g)^n}{(1+k)^n} \right] = D_0 \left(\frac{1}{k-g} \right) \left[1 - \frac{(1+g)^n}{(1+k)^n} \right]$$

Canceling the term in square brackets on both sides of equation (6) and solving for the cost of equity capital, k , yields equation (7):

$$7 \quad k = \frac{D_1}{P_0} + g$$

Although most firms pay quarterly dividends, the relation expressed by equation (7) is the formula most commonly used in the estimation of the firm's cost of equity capital. For the next yearly dividend term in equation (5), the Commission in Ex Parte No. 436 used an estimate of the sum of the next four expected quarterly dividends. It used the last quarter's annualized dividend rate time $(1 + 1/2 g)$. [correction needed?]

Because railroads pay dividends quarterly, rather than annually, equation (7) gives a downward biased estimate of the cost of equity capital. Since there is a time value of money, quarterly dividends would be preferred by a shareholder to a single payment at year's end. The next three quarterly dividends would be worth $D_{11}(1+k)^{(3/4)}$, $D_{21}(1+k)^{(1/2)}$, and $D_{31}(1+k)^{(1/4)}$ dollars, respectively, when reinvested until year's end at the firm's cost of equity capital. The only difference between this model and the more familiar model that assumes annual dividends is the recognition of the value of receiving a dollar earlier rather than later. This assumption is implemented by modifying assumption (b), which did not explicitly specify the quarter-to-quarter growth rate of dividends, as follows:

- (b') The firm's quarterly dividends per share grow at a constant rate from one quarter to the corresponding quarter in the following year.

Assuming that the firm pays dividends quarterly, and that for the next n years earnings and dividends grow at a constant rate, g , the firm's first quarter dividend in year one, D_{11} , will be equal to its first quarter dividend in year zero times one plus the growth rate, *i.e.*, $D_{11} = D_{10}(1+g)$. In general, the dividend in a given quarter would be equal to the product of the corresponding quarter's dividend in the prior year and one plus the rate of growth, *i.e.*, $D_{1t} = D_{1t-1}(1+g)$, $D_{2t} = D_{2t-1}(1+g)$, $D_{3t} = D_{3t-1}(1+g)$, and $D_{4t} = D_{4t-1}(1+g)$. Under these conditions, the current market value of the firm's stock, P_0 , may be expressed as:

$$8 \quad P_0 = \sum_{t=1}^n \sum_{q=1}^4 \frac{D_{qt}(1+g)^{t-1}}{(1+k)^{[t-(4-q)/4]}} + \frac{P_n}{(1+k)^n}$$

The first term on the right hand side of equation (8) is a finite geometric progression whose solution is:

$$\frac{\sum_{q=1}^4 D_{q1} (1+k)^{[(4-q)/4]} }{k-g} \left[1 - \frac{(1+g)^n}{(1+k)^n} \right]$$

Under the assumption that $\frac{P_n}{E_n} = \frac{P_0}{E_0}$, and $P_n = \frac{P_n}{E_n} [E_0 (1+g)^n] = P_0 (1+g)^n$, equation (6) reduces to:

$$\text{9} \quad P_0 = \frac{D_1}{k-g} \quad \text{NOTE: unknown symbol in D1}$$

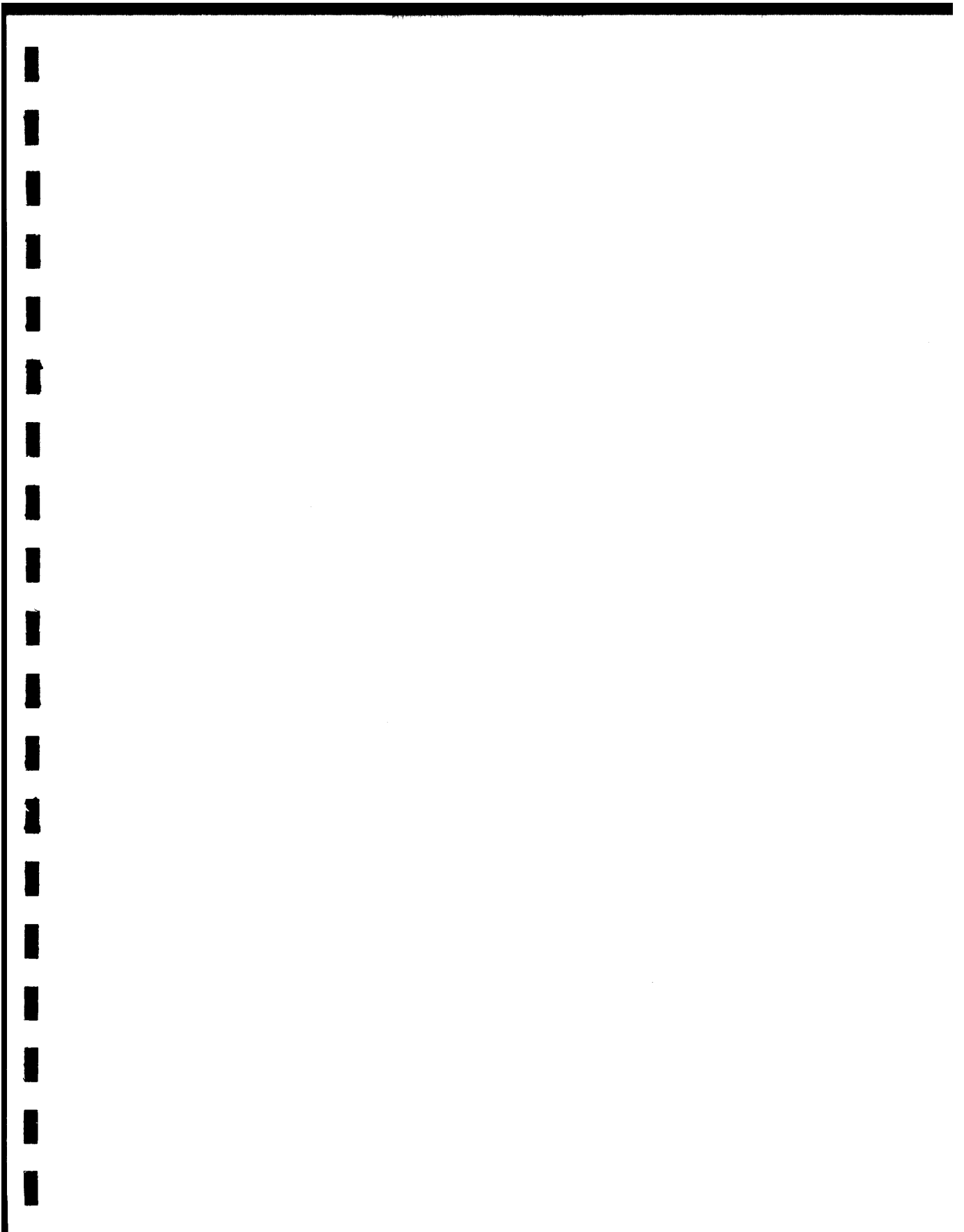
where:

$$\begin{aligned} D_1 &\equiv \sum_{q=1}^4 D_{q1} (1+k)^{[(4-q)/4]} \\ &= D_{11} (1+k)^{(3/4)} + D_{21} (1+k)^{(1/2)} + D_{31} (1+k)^{(1/4)} + D_{41} \\ &= D_{10} (1+k)^{(3/4)} + D_{20} (1+k)^{(1/2)} + D_{30} (1+k)^{(1/4)} + D_{40} \end{aligned}$$

Under the assumption that the firm pays quarterly dividends, the firm's cost of equity capital may be expressed as:

$$\text{10} \quad k = \frac{D_1 \{SYMBOL?\}}{P_0} + g$$

For most firms, $D_1 > D_0 (1+g/2) = 4D_{40} (1+g/2)$ (unknown symbol). That is, $4D_{40} (1+g/2)$ is approximately equal to $(D_{10} + D_{20} + D_{30} + D_{40}) (1+g)$, which is less than D_1 , which equals $D_{10} (1+k) + D_{20} (1+k)^{(1/2)} + D_{30} (1+k)^{(1/4)} + D_{40} (1+g)$. Therefore, the Commission's procedure for estimating D_1 (unknown symbol) results in a slight understatement of the cost of equity capital.



IBES
Monthly Long-Term Growth Rates and Number of Analysts Estimates

Burlington Northern Santa Fe Corp.
2003

	Mean Estimate	High Estimate	Low Estimate	Number of Estimates
January	8.88	12.00	5.00	8
February	8.38	12.00	5.00	8
March	9.33	13.00	5.00	10
April	9.22	13.00	5.00	10
May	9.02	12.00	5.00	10
June	9.00	12.00	5.00	11
July	9.18	13.00	5.00	11
August	9.18	13.00	5.00	11
September	9.45	13.00	5.00	11
October	9.50	13.00	5.00	12
November	9.42	12.00	5.00	12
December	9.30	12.00	5.00	10

Source: I/B/E/S International Inc. 345 Hudson St., New York, NY 10014

IBES
Monthly Long-Term Growth Rates and Number of Analysts Estimates

CSX Corporation
2003

	Mean Estimate	High Estimate	Low Estimate	Number of Estimates
January	11.13	15.00	7.00	8
February	11.38	15.00	7.00	8
March	11.79	17.00	7.00	10
April	11.21	15.00	7.00	9
May	11.43	15.00	7.00	9
June	11.67	15.00	7.00	9
July	11.22	15.00	7.00	9
August	11.22	15.00	7.00	9
September	10.93	15.00	7.00	9
October	12.00	21.00	7.00	11
November	12.00	21.00	7.00	11
December	12.20	21.00	7.00	10

Source: I/B/E/S International Inc. 345 Hudson St., New York, NY 10014

IBES
Monthly Long-Term Growth Rates and Number of Analysts Estimates

Norfolk Southern Corporation
2003

	Mean Estimate	High Estimate	Low Estimate	Number of Estimates
January	13.25	30.00	7.00	8
February	11.13	20.00	5.00	8
March	12.91	30.00	5.00	11
April	12.40	23.40	5.00	11
May	12.73	30.00	5.00	11
June	12.73	30.00	5.00	11
July	13.00	30.00	5.00	11
August	12.75	30.00	5.00	12
September	12.42	30.00	5.00	12
October	11.18	30.00	5.00	11
November	11.58	30.00	5.00	12
December	10.25	16.00	5.00	8

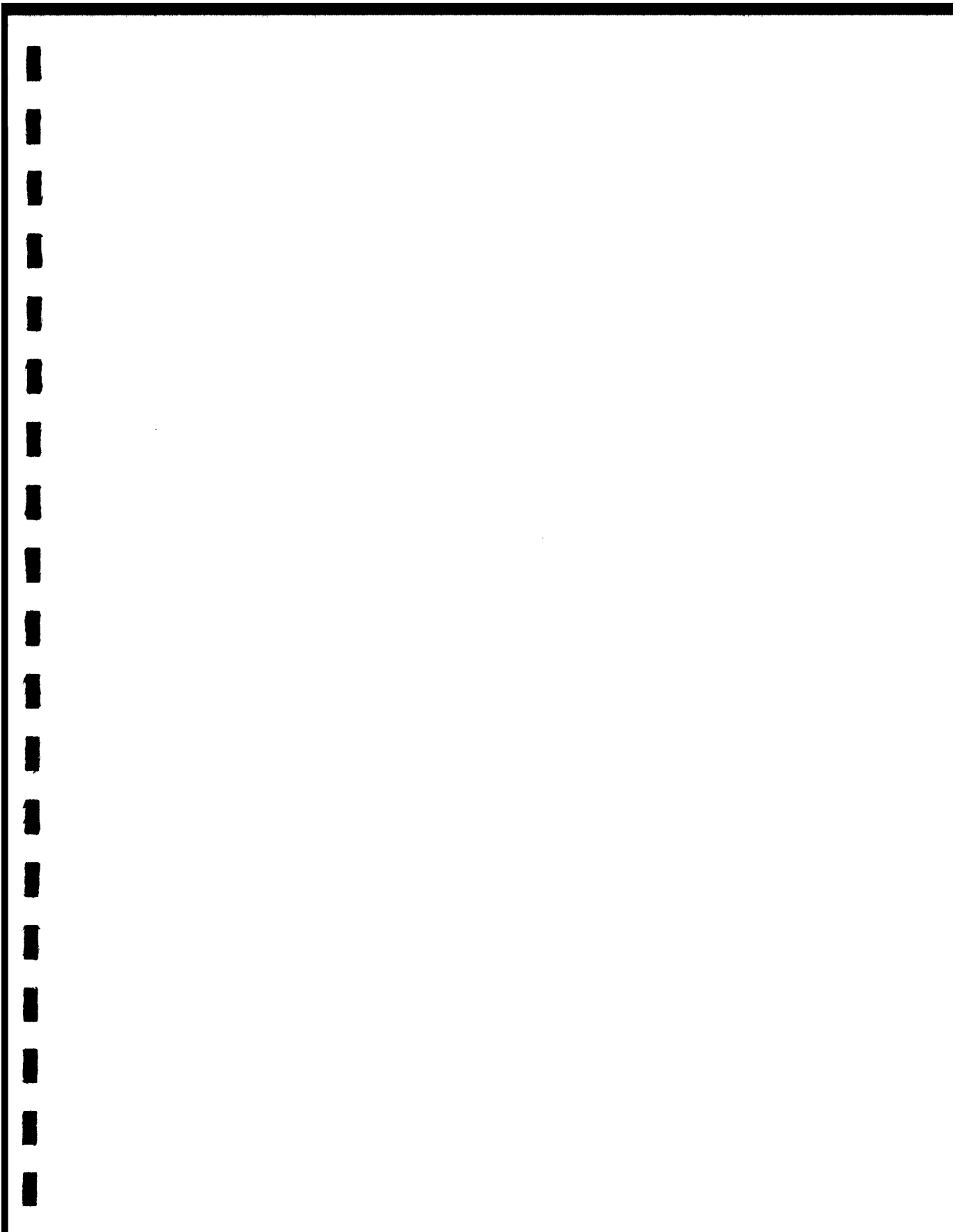
Source: I/B/E/S International Inc. 345 Hudson St., New York, NY 10014

IBES
Monthly Long-Term Growth Rates and Number of Analysts Estimates

Union Pacific Corporation
2003

	Mean Estimate	High Estimate	Low Estimate	Number of Estimates
January	11.64	15.00	9.00	7
February	11.64	15.00	9.00	7
March	11.52	13.00	9.00	10
April	11.03	13.00	7.00	10
May	11.85	15.00	9.00	10
June	11.85	15.00	9.00	10
July	11.95	15.00	6.00	10
August	11.95	15.00	6.00	10
September	11.95	15.00	6.00	10
October	11.72	15.00	6.00	9
November	11.72	15.00	6.00	9
December	11.56	15.00	6.00	8

Source: I/B/E/S International Inc. 345 Hudson St., New York, NY 10014



IBES
Computation of Simple Average and Truncated Average

Burlington Northern Santa Fe Corp.
2003

	Mean Estimate	High Estimate	Low Estimate	Number of Estimates	Truncated Average
January	8.88	12.00	5.00	8	9.00
February	8.38	12.00	5.00	8	8.33
March	9.33	13.00	5.00	10	9.41
April	9.22	13.00	5.00	10	9.28
May	9.02	12.00	5.00	10	9.15
June	9.00	12.00	5.00	11	9.11
July	9.18	13.00	5.00	11	9.22
August	9.18	13.00	5.00	11	9.22
September	9.45	13.00	5.00	11	9.56
October	9.50	13.00	5.00	12	9.60
November	9.42	12.00	5.00	12	9.60
December	9.30	12.00	5.00	10	9.50
Simple Average	9.15				9.25

Source: I/B/E/S International Inc. 345 Hudson St., New York, NY 10014

IBES
Computation of Simple Average and Truncated Average

CSX Corporation
2003

	Mean Estimate	High Estimate	Low Estimate	Number of Estimates	Truncated Average
January	11.13	15.00	7.00	8	11.17
February	11.38	15.00	7.00	8	11.50
March	11.79	17.00	7.00	10	11.74
April	11.21	15.00	7.00	9	11.27
May	11.43	15.00	7.00	9	11.56
June	11.67	15.00	7.00	9	11.86
July	11.22	15.00	7.00	9	11.29
August	11.22	15.00	7.00	9	11.29
September	10.93	15.00	7.00	9	10.91
October	12.00	21.00	7.00	11	11.56
November	12.00	21.00	7.00	11	11.56
December	12.20	21.00	7.00	10	11.75
Simple Average	11.51				11.45

Source: I/B/E/S International Inc. 345 Hudson St., New York, NY 10014

IBES
Computation of Simple Average and Truncated Average

Norfolk Southern Corporation
2003

	Mean Estimate	High Estimate	Low Estimate	Number of Estimates	Truncated Average
January	13.25	30.00	7.00	8	11.50
February	11.13	20.00	5.00	8	10.67
March	12.91	30.00	5.00	11	11.89
April	12.40	23.40	5.00	11	12.00
May	12.73	30.00	5.00	11	11.67
June	12.73	30.00	5.00	11	11.67
July	13.00	30.00	5.00	11	12.00
August	12.75	30.00	5.00	12	11.80
September	12.42	30.00	5.00	12	11.40
October	11.18	30.00	5.00	11	9.78
November	11.58	30.00	5.00	12	10.40
December	10.25	16.00	5.00	8	10.17
Simple Average	12.19				11.24

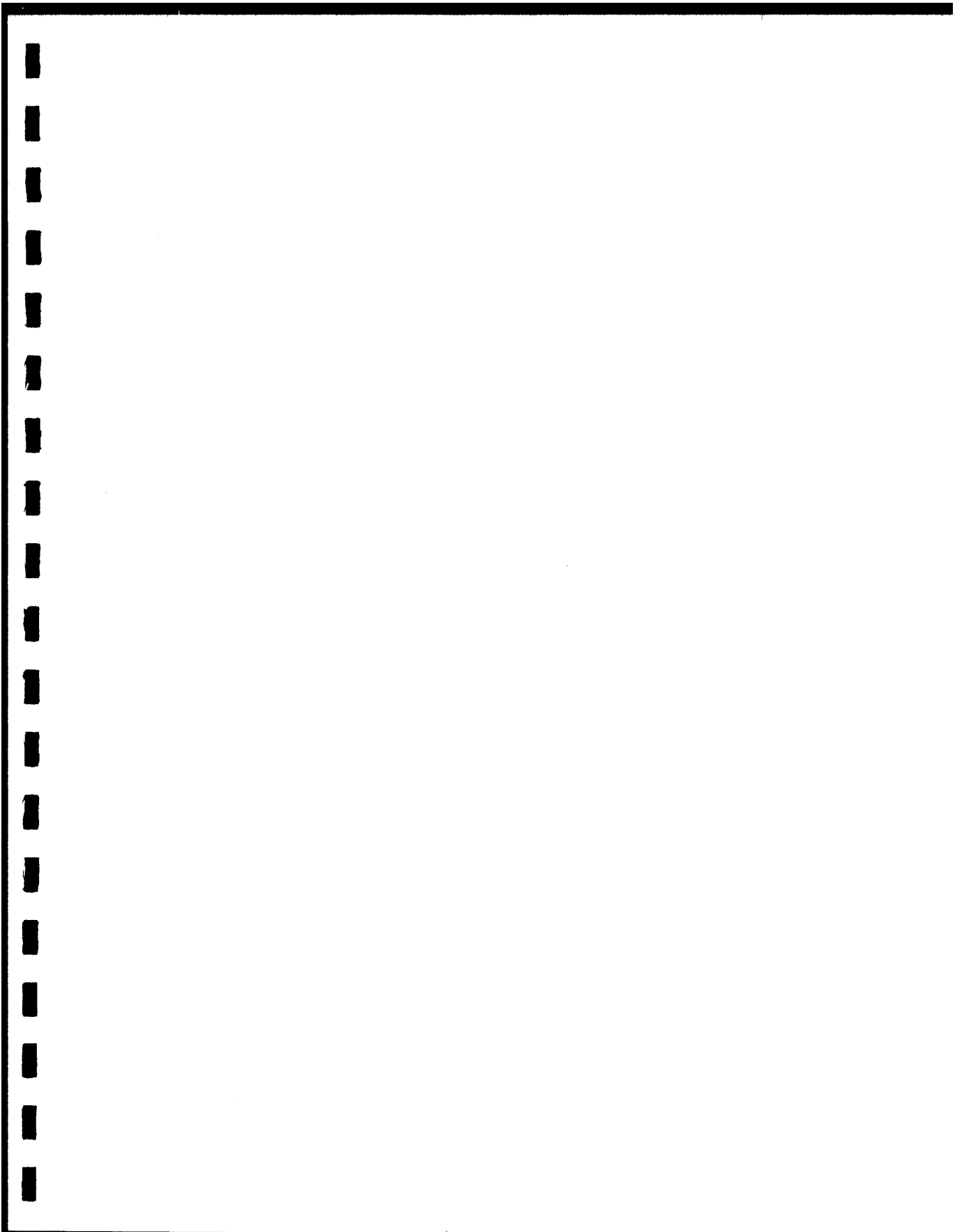
Source: I/B/E/S International Inc. 345 Hudson St., New York, NY 10014

IBES
Computation of Simple Average and Truncated Average

Union Pacific Corporation
2003

	Mean Estimate	High Estimate	Low Estimate	Number of Estimates	Truncated Average
January	11.64	15.00	9.00	7	11.50
February	11.64	15.00	9.00	7	11.50
March	11.52	13.00	9.00	10	11.65
April	11.03	13.00	7.00	10	11.29
May	11.85	15.00	9.00	10	11.81
June	11.85	15.00	9.00	10	11.81
July	11.95	15.00	6.00	10	12.31
August	11.95	15.00	6.00	10	12.31
September	11.95	15.00	6.00	10	12.31
October	11.72	15.00	6.00	9	12.07
November	11.72	15.00	6.00	9	12.07
December	11.56	15.00	6.00	8	11.92
Simple Average	11.70				11.88

Source: I/B/E/S International Inc. 345 Hudson St., New York, NY 10014



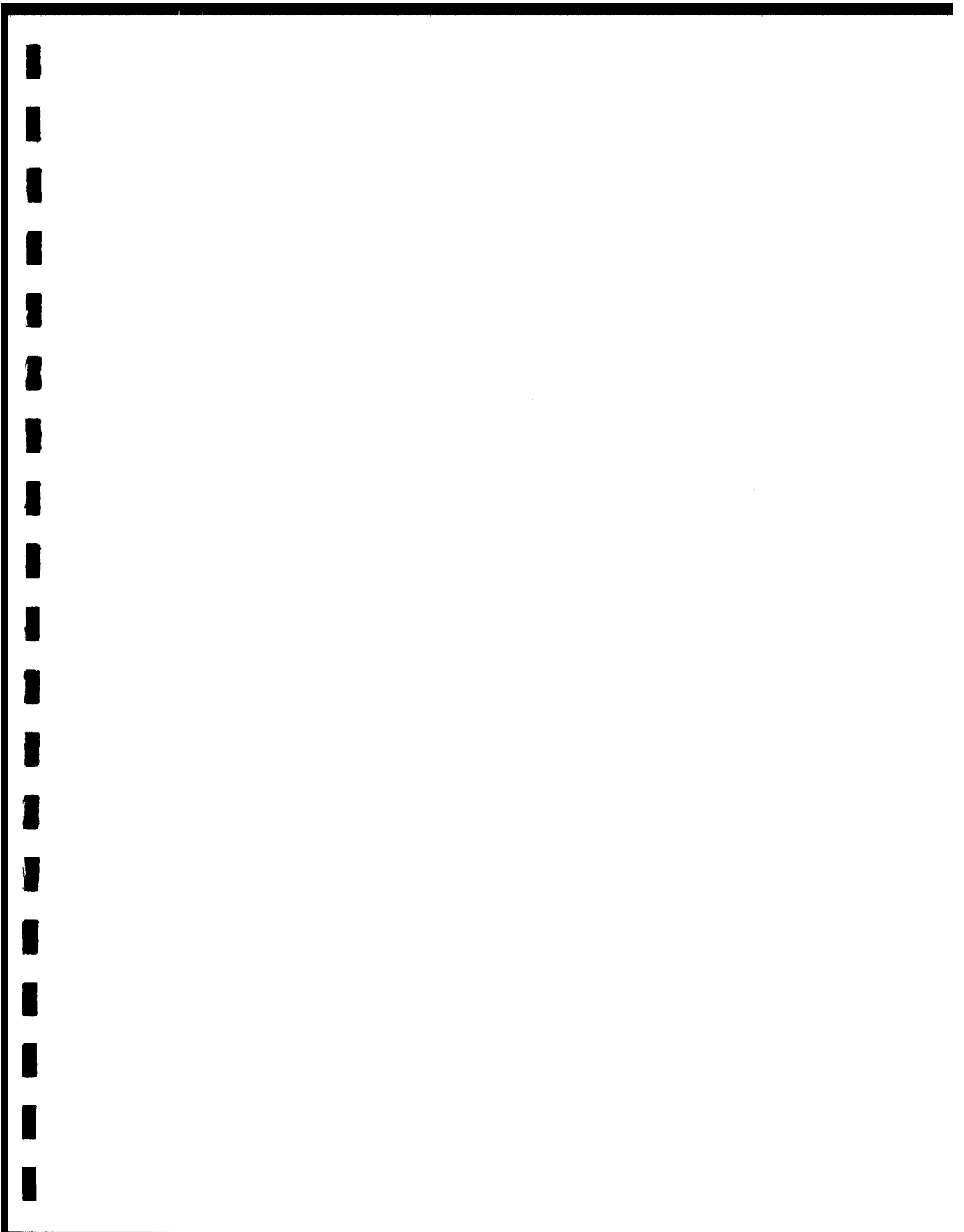
QUALIFICATIONS OF CRAIG F. ROCKEY

My name is Craig F. Rockey. I am Vice President of Policy and Economics for the Association of American Railroads (AAR), with offices located at 50 F Street, N.W., Washington, D.C. 20001. Among other responsibilities, my duties include the collection, analysis, and presentation of economic data related to railroads and their economic environment. One of my principal duties is conducting and supervising economic, financial, statistical and cost studies dealing with various aspects of the rail industry.

During my employment with the AAR, I have presented testimony before the Surface Transportation Board/Interstate Commerce Commission, Public Service Commission of Indiana, New York Department of Transportation, Ohio Public Utilities Commission, Pennsylvania Public Utility Commission, the West Virginia Public Service Commission, and the Illinois Department of Revenue. I routinely prepare and provide rail industry economic, financial and cost data; oversee the creation of databases, publications, and reports; and evaluate regulatory, legislative, and internal issues.

Preceding my employment with the AAR in April 1978, I was Senior Associate with the Washington, D.C.-based economic consulting firm of Snavelly, King and Associates, Inc. In that capacity I was responsible for various feasibility studies, special reports, and submissions to federal, state, and private organizations.

I hold a Bachelor of Science degree in Transportation Economics for the University of Maryland and have undertaken related course work subsequently. I have articles published in transportation journals, have co-authored a book entitled Small Railroads, am a member of various professional organizations, and have consulted for railroads in Africa, Asia, and North America.



BEFORE THE
SURFACE TRANSPORTATION BOARD

EX PARTE NO. 558 (Sub-No. 7)

RAILROAD COST OF CAPITAL

2003

VERIFIED STATEMENT

OF

DAVID F. MILLER

DIRECTOR - ACCOUNTING & FINANCE

ASSOCIATION OF AMERICAN RAILROADS

March 29, 2004

I. INTRODUCTION

My name is David F. Miller. I am Director - Accounting & Finance for the Policy and Economics Department of the Association of American Railroads (AAR), with offices at 50 F Street, NW, Washington, DC 20001. A summary of my qualifications and experience appears at the end of this statement.

The Policy and Economics Department of the AAR serves the railroad industry as a central agency for collection, analysis, and reporting of information regarding the financial and economic conditions of the railroad industry.

In this proceeding, my statement addresses the computation of the railroad industry's 2003 (i) current cost of long term debt and preferred stock, (ii) market value of long term debt, preferred stock and equity, and (iii) the capital structure mix. I have presented similar testimony on behalf of the railroad industry in previous cost of capital proceedings before the Surface Transportation Board ("Board" or "STB"). In an accompanying verified statement, Craig F. Rockey, Vice President of the Association of American Railroads, estimates the cost of equity and the overall cost of capital of the composite railroad.

In preparing my statement, I relied on a number of data sources including, but not limited to, the R-1 Annual Reports to the STB, shareholders' annual reports, 10Q and 10K Reports to the Securities and Exchange Commission, the BOND GUIDE (a monthly publication of Standard & Poor's Corporation), and data provided directly by the railroads.

In Ex Parte No. 393 (Sub-No. 1), Standards For Railroad Revenue Adequacy, 3 I.C.C.2d 261 (1986), aff'd sub nom Consolidated Rail Corporation v. United States, 855 F.2d 78 (CA3 1988), the Board reaffirmed that the cost of capital is to be based upon the current cost of debt and market value weights. My analysis in this proceeding is consistent with the Ex Parte No. 393 (Sub-No. 1) decision.

In addition, my analysis focuses upon railroads which met the sample criteria set forth in Ex Parte No. 558 (Sub - No. (7), Railroad Cost of Capital-2003 (order served December 11, 2003). As explained below, four railroad corporations met the criteria for inclusion in the sample: Burlington Northern Santa Fe Corporation, CSX Corporation, Norfolk Southern Corporation, and Union Pacific Corporation.

II. FINDINGS

A. Debt

Based on my examination of existing bonds, notes, debentures, equipment trust certificates (ETC's), and conditional sales agreements (CSA's) issued by the four firms in the sample, I find:

- (1) The railroad's current cost of debt for 2003 was 4.99 percent, and
- (2) The current market value of debt for 2003 was \$30,110.8 million.

B. Preferred Stock

In 2003 all outstanding preferred stock was retired.

C. Common Equity

Based on my examination of the number of common shares outstanding and monthly common stock prices for the sample railroads, I find:

The current market value of common equity for 2003 was \$39,989.5 million.

D. Capital Structure Weights

Based on my findings on the current market values of debt, preferred stock, and common equity capital, I have computed the following capital structure mix.

The market-weighted capital structure for 2003 was:

	<u>Market Weight</u>
Debt	43.0%
Equity	<u>57.0</u>
	100.0%

III. CONCEPTS USED IN MEASURING COST OF CAPITAL

A. The Cost of Capital Concept

It is generally recognized that the cost of capital for a firm is the rate that must be earned in order to satisfy the combined rates of return required by the firm's investors. In other words, to compete effectively in the marketplace for investor funds, a corporation must offer competitive returns. To do otherwise would mean that investors will not supply funds to the corporation. From the investors' perspective, the cost of capital can be viewed as the "opportunity cost" of funds. In this situation, the opportunity cost of funds to be committed to an investment is the income foregone because the funds cannot be used elsewhere. The cost of capital concept as applied herein is a forward-looking concept that measures the opportunity cost of obtaining capital.

In the following section, I apply the cost of capital concept described above in ascertaining the current cost of debt and preferred stock.

B. Measurement of the Current Cost of Debt

The current cost of debt must be determined from the current market-determined yields on all debt outstanding. This approach is necessary, and in past Board cost of capital decisions¹ has been accepted as appropriate because:

¹Ex Parte Nos. 415, 436, 452, 458, 464, 466, 473, 478, 486, 491, 506, 513, 518, 523, 523 (Sub-No. 1), 558, 558 (Sub-No. 1), 558 (Sub-No. 2), 558 (Sub-No. 3), 558 (Sub-No. 4), 558 (Sub-No. 5), and 558 (Sub-No. 6).

- (1) there is a lack of new issues from which to develop a representative current cost;
- (2) the stated rate of interest/dividend payment to the investor is not always the same as the cost to the railroad. For example, when securities are issued, the total amount paid by investors is seldom received by the firm. Administrative fees, such as compensation paid to investment bankers, reduce the proceeds to the firm. The effect of this is to increase the cost of the securities to the firm; and
- (3) the maturity mix and the type of security (equipment trust certificates, conditional sales agreements, long-term debt) of new security issues may be different from the average of existing securities. Because of the effect that length of maturity and type of security has on its current cost, the use of only new issues would not accurately measure the current cost.

IV. THE RAILROAD SAMPLE

The Board's order establishing this proceeding sets forth specific criteria for the inclusion of a railroad in the sample base. There are five qualifications which each railroad must meet to be included. They are as follows:

- (1) The company is a Class I line-haul railroad.
- (2) If the Class I railroad is controlled by another company, the controlling company is primarily a railroad company and is not otherwise included in the study sample.
- (3) The company's bonds are rated at least BBB by Standard & Poor's and Baa by Moody's.
- (4) The company's stock is listed on either the New York or American Stock Exchange.

(5) The company has paid dividends throughout 2003.

Appendix A shows the results of applying these criteria and the four railroad holding companies selected for inclusion in the sample. The four railroad corporations or holding companies are: Burlington Northern Santa Fe Corp., CSX Corporation, Norfolk Southern Corporation, and Union Pacific Corporation. The 2003 Sample is composed of the same railroad entities that were included in the 2002 Sample.

V. CURRENT COST AND MARKET VALUE OF DEBT

Current Cost of Bonds, Notes, and Debentures:

To determine the cost of bonds, notes and debentures, I have used information on bond prices and yields as published in Standard & Poor's monthly BOND GUIDE and a database provided by S&P.² As in previous cost of capital determinations, I calculated the cost of bonds based on all bonds, notes, and debentures for the sample railroads which were publicly traded during the year at issue. The publicly traded bonds represent 87.6 percent of the market value of the bonds issued by the railroads in the sample.³

Appendix B details for each of the 66 bonds the (i) monthly yield and price data, (ii) average 2003 yield and price based on a simple average of the monthly data, and (iii) book value of debt outstanding. Appendix C summarizes the yield or cost of each railroad's debt, which, when weighted by the market value of the traded debt, determines the sample composite cost of bonds, notes and debentures of 4.84 percent.

²Standard & Poor's (S&P) BOND GUIDE provides monthly financial and statistical data on approximately 6,200 corporate bonds. S&P provided a database of monthly railroad bond prices and yield data extracted from the Bond Guide.

³The only bonds not included in the BOND GUIDE are bonds that are not publicly traded. There is no practical way to obtain yields and prices for bonds which are privately held.

Market Value of Bonds, Notes, and Debentures:

Based on the identical methodology employed in previous cost of capital proceedings, the market value for bonds, notes, and debentures was computed using the average 2003 price for each traded bond. The average 2003 price was computed using the monthly bond price information for each bond from the BOND GUIDE.

The 2003 market value for all outstanding bonds, notes, and debentures issued by the composite railroad (comprising 119 issues) is based on Appendix D which displays for each bond the average traded price, if available from the BOND GUIDE, or the bond's "face" price. The traded prices represent what the investor is willing to pay for the bond in relation to its coupon and maturity date. For each traded bond, an average price was calculated based on the simple average of monthly prices. Where market prices were not available, I assumed them to be \$1,000, which means that investors would pay the "face value" on the bond. This assumption may slightly increase or decrease the market value of the particular issue depending upon the relationship of the instruments stated rate and the comparable market rate. However, this possible variation is not likely to significantly affect the overall estimate of the cost of debt capital because in this year 87.6 percent of the book value of bonds were priced at market.

The market values for bonds, notes, and debentures were derived by multiplying the average market price times the amount of debt outstanding as of December 31, 2003. Market value for bonds, notes, and debentures was \$19,235.4 million. See Appendix C.

A. Equipment Trust Certificates

Equipment Trust Certificates (ETCs) are debt obligations which are secured by the particular equipment which is acquired with the instrument's proceeds. In the event of default, creditors may repossess and resell the equipment to pay off the debt obligations. Because ETCs are not actively traded in secondary markets, it is necessary to determine their cost by examining the return on other

debt securities that are actively traded.

An ETC is generally serially issued. As such, each year during its life an equal amount (typically 1/15th) of the original amount must be retired. Consequently, an ETC may be thought of as a series of individual annually-retiring bonds. In fact, when ETCs are issued, each of the maturities is sold independently from the others. A serially issued debt instrument provides an investor with the ability to purchase only the maturities that interest him. To correctly compute the composite yield on a serially issued bond, the internal rate of return on the bond's principal and interest payments must be calculated.

As mentioned earlier, ETCs are not actively traded and their cost must be estimated by comparing them to the yield on other debt. To compare ETCs to other debt instruments, I compiled the yields to maturity as detailed in Appendix E for government bills, notes, and bonds having approximately the same maturities. A government yield curve for these securities (See Appendix E) was prepared, which shows the relationship between the current costs, or yields to maturity, and maturity dates for government bonds (which, unlike ETCs, are actively traded in secondary markets).

These yield data have been adjusted by the Federal Reserve Board to reflect constant maturities. Thus, the data accurately reflect the 2003 relationships between yields and maturities. After determining the yields to maturity for government bonds of maturities similar to those of an ETC, I adjusted those yields to reflect the riskiness of the ETC as compared to government bonds. In cost of capital filings prior to Ex Parte No. 486, Railroad Cost of Capital - 1989, yield spreads between government bonds and ETCs were based on the publication Analytical Record of Yields and Yield Spreads prepared by the Bond Market Research Department of Salomon Brothers, Inc. However, since 1988, Salomon Brothers no longer compiles yields and yield spreads for ETCs. Accordingly, identical to the methodology approved by the Board for application in Ex Parte No. 486 and subsequent proceedings, yields and yield spreads used in this proceeding are based on new issues

ETCs for the sample railroads as compiled by the AAR.⁴ (Identical to the methodology used in Ex Parte 486 and prior proceedings, the Salomon Brothers compilation of yields and yield spreads on comparable industrial instruments were used as a proxy for ETCs of the same rating⁵ where there were no new ETC issues of a particular rating.)

However in 2003, no new ETCs were issued by the sample railroads. Therefore, an alternative method of estimating yield spreads between government bonds and ETCs was necessary. I believe that recent historical yield spreads can be used to determine the current cost of ETCs. Consequently, I have determined the yield spread between ETCs and government bonds using an average of the spreads (government vs. BBB ETCs) used in the 1998, 1999 and 2000 Cost of Capital proceedings. The average spread between government bonds and new BBB ETCs for that period was 114 basis points. The yield spread of 114 basis points for 2003 is the same as the 2002 yield spread.

The methodology used is the same as the method employed and approved in previous proceedings to measure yield spread for ETC's. These risk-adjusted yields provide the basis to value each ETC.

Using formulae suggested by Standard Security Calculation Methods,⁶ I determined the

⁴The only difference between the two methodologies is the specificity of the data base regarding the new issues. Salomon Brothers, Inc. included all new issues of ETCs (i.e., airlines, railroads, etc.) in computing yield spreads between government bonds and ETCs, while I had included only new issues of ETCs by the sample railroads in computing yield spreads between government bonds and ETCs. Use of new issues of ETCs by the sample railroads is necessarily representative of the cost of ETCs because it is all-inclusive and reflects the actual cost of new ETC issuance.

⁵ETC's are rated by Standard & Poor's, a firm which specializes in analyzing and evaluating securities, according to the likelihood of a default by the railroad responsible to pay interest and to redeem the face value. The highest available rating, AAA, indicates the least risk of default. All other things being equal, investors will pay a higher price (or accept a lower yield) for a higher rated security than for a lower rated security.

market value of each maturity comprising an ETC. In effect, these formulae make it possible to determine the price investors would pay in 2003 for the contractual interest payments and price appreciation for holding the instrument. It is the best possible evidence as to the current cost of ETCs to the firm for the defined period. Computing the internal rate of return of the ETC prices and their associated cash flow streams established the current cost for ETCs. The weighted-average sum of all ETCs results in a current cost of 4.68 percent. The market value of all ETCs was \$1,476.9 million, as shown in Appendix H.

B. Conditional Sales Agreements

Conditional Sales Agreements (CSAs) are another form of railroad financing that are treated by investors as debt securities because their interest obligations are essentially the same as

⁶The formulae used to value these bonds are standards of the security industry. They are:

For bonds with less than six months to maturity:

$$DP = \left[\frac{100 + C/2}{1 + DY/360} \right] - \left[\frac{C}{2} * \frac{(180 - D)}{180} \right]$$

For bonds with six months or longer to maturity:

$$DP = \left[\frac{100}{(1 + Y/2)_{\text{EXP}}(N - 1 + D/180)} \right] + \left[\sum_{k=1}^N \frac{C/2}{(1 + Y/2)_{\text{EXP}}(K - 1 + D/180)} \right] - \left[C/2 \frac{(180 - D)}{180} \right]$$

Where:

DP	=	Dollar price of the bond
C	=	Coupon rate as a percent per year
D	=	Number of days from settlement date to coupon date
Y	=	Yield to maturity as a decimal per year
EXP	=	Raise the term on the left to the power indicated by the term on the right
N	=	Whole number of coupons payable plus 1
$\sum$		
K=1	=	Compute for K, values 1 to N and sum the results

interest obligations on ETCs. Like ETCs, CSAs are not generally traded in secondary markets. Accordingly, as in prior proceedings, I determined their current cost from current yields on government bonds, in a similar manner to ETCs.

In cost of capital proceedings prior to Ex Parte No. 486, Railroad Cost of Capital - 1989, yield spreads for CSAs were estimated using the yield on new issues of CSAs and the Salomon Brothers, Inc. publication Analytical Record of Yield and Yield Spreads to determine the yields and yield spreads between government bonds, ETCs, and CSAs of similar rating.

However in 2003, as in 1989-1995, there were no issues of CSAs by the sample railroads. Therefore, an alternative method of estimating yield spreads was required. I believe that historical yield spread data can be used to determine the current cost of CSAs. Consequently, I have determined the yield spread for A rated CSAs based on the yield-spread relationship between ETCs and CSAs issued in 1997 and used in the 1997, 1998 and 1999 Cost of Capital proceedings. This is the most practical and accurate method available for determining the cost of CSA's. This alternative method of estimating yield spreads has been used and approved in prior proceedings.

In 1997, a new CSA was issued, the first since 1987. The yield spread of the new CSA over ETCs in 1997 was 32bp. I have used that yield spread and added it to the current ETC yield spread over government bonds of 146bp to estimate the 2003 CSA yield spread over government bonds

Using this methodology, the current cost of CSAs is 5.17% percent. Using the same method as I used to compute the market value of ETCs, I determined the market value of CSAs to be \$118.4 million. The total market value for all outstanding CSAs is set forth in Appendix H.

C. Capital Leases and Miscellaneous Debt

Capital leases are contracts between two parties and as such take many forms.⁷ Since leases are not traded in the marketplace, their current cost is not directly observable. The lack of complete

⁷See generally 49 C.F.R. 1201, 2-20 for definitions.

information with respect to leases necessitates that many assumptions be made to estimate their current cost and their values. While the cost of this form of debt is typically higher than that of more senior debt, I have elected to exclude computation of its specific cost from the overall cost of debt for the reasons stated above. For market value purposes, capital leases have been included at book value. This is the only practical option available.

Miscellaneous debt, such as commercial paper, demand deposits, and various instruments with extremely small amounts outstanding were also excluded from the current cost computations. The book value (assumed market value) of both capital leases and miscellaneous debt is \$4,275.4 million; as a percent of the total outstanding debt of the composite railroad it is 14.2 percent. My treatment of capitalized leases and miscellaneous debt is the same approach accepted in prior Cost of Capital proceedings.

D. Flotation Costs On Debt Capital

When new debt is issued by a negotiated offering or a competitive bid, the issuing firm pays a fee to the investment banking firm or firms handling the offer. These fees, typically referred to as flotation costs, cover the banker's administrative costs in handling the sale (e.g., sales costs, taxes, and profits). Flotation costs generally vary by type of security. For ETCs and CSAs the fees are extremely small, but costs increase as the administrative burden and underwriting risk increase (i.e., in order of increasing cost — ETCs and CSAs, bonds and notes, convertible bonds, and preferred stock and common stock). As discussed below, flotation costs directly reduce the gross proceeds available to the issuing firm.

An example helps to illustrate how flotation costs permanently increase the cost of debt to the railroad. If a railroad sells a 10-year bond with an annual coupon of 15 percent and investors are willing to pay \$98 for each \$100 in face value, the effective yield on the bond is 15.40 percent. Because the investment banker requires compensation (flotation costs) for his work, the railroad does

not receive the full \$98 from the investors. If flotation costs reduce the net proceeds to say \$96, the effective cost to the railroad over the life of the bond is 15.82 percent. Therefore, flotation costs have increased the cost of debt from 15.40 to 15.82, or by 42 basis points. Proper accounting treatment requires the four dollars per \$100 (\$100-\$96) to be amortized on a straight line basis over the life of the bond. In addition, the Uniform System of Accounts requires the annual amortization to be charged directly to Account No. 548, Amortization of Discount on Funded Debt, a fixed charge item. This results in fixed charges for the year totaling \$15.40 (\$15.00 coupon payment + amortization of \$0.20 discount + \$0.20 flotation costs). It is important to note that these flotation costs are not recovered through operating costs but are fixed charges each year during the life of the bond. Also, it is evident that in order to reflect the total current cost of debt, flotation costs must be included.

A regulated firm requires the opportunity to cover flotation costs before it will have an incentive to make future capital expenditures. Before creditors will lend their funds, they must be assured that the railroad will have the opportunity to earn returns sufficient to cover all costs.

Due to the low volume of railroad bonds, notes, and debentures issued during the last several years, current flotation costs cannot be accurately determined by relying on recent railroad-specific data. However, the SEC's most recent study of flotation costs⁸ provides data for 659 debt issues. It concludes that flotation costs as a percent of gross proceeds are 1.59 percent. On a 20-year bond, this equates to an increased yield of 0.16 percent. For purposes of measuring the flotation cost of bonds, I have used 0.16 percent.

Based on data supplied by Salomon Brothers Inc. and the sample railroads, flotation costs for ETCs were computed. Appendix J summarizes flotation costs for ETCs issued between 1981-1997.

⁸"Cost of Flotation of Registered Securities 1971-1972," Securities and Exchange Commission, December 1974.

A simple average of all issues from 1981 to 1997 results in an increase of the yield by (.10) percent. These data are comparable to the findings of the Securities and Exchange Commission (SEC) using railroad ETC data for the years 1951, 1952 and 1955.⁹ In that study, the SEC determined that ETC flotation costs averaged 0.89 percent of gross proceeds. This SEC result equates to a 0.13 percent yield increase. For CSA's neither recent nor historical data are publicly available. I have therefore adopted a 0.13 percent, which is the same flotation cost for CSA's used in previous cost of capital proceedings.

To compute the overall effect of flotation cost on debt, the market value weight of the debt outstanding is multiplied by the respective flotation cost. As shown below, the effect of flotation cost increases the cost of debt by percent.

<u>Type of Debt</u>	<u>Market Weight</u>	<u>Current Cost</u>	<u>Weighted Average</u>
Bonds, Notes, Etc.	92.3%	.16	0.148
ETCs	7.1	.13	0.009
CSAs	<u>0.6</u>	.13	<u>0.001</u>
Total	100.0%		0.158

VI. SUMMARY: COMPOSITE CURRENT COST OF DEBT

To determine the overall composite current cost of debt, I multiplied the cost of each category of debt times its market value proportion. Market values are properly used in this connection because they represent the amounts on which the current cost must be paid. This resulted in an overall current cost of debt for 2003 of 4.99 percent (see Appendix H), as

⁹"Cost of Flotation of Corporate Securities 1951-1955," Securities and Exchange Commission, June 1957.

computed below:

<u>Type of Debt</u>	<u>Market Weight</u>	<u>Current Cost</u>	<u>Weighted Average</u>
Bond, Notes, Etc.	92.3	4.84%	4.47%
ETCs	7.1	4.68%	0.33
CSAs	<u>0.6</u>	5.17%	<u>0.03</u>
Subtotal	<u>100.0%</u>		4.83
Flotation Cost			<u>0.16</u>
Total	100.0%		4.99%

VII. MARKET VALUES OF DEBT AND EQUITY

As required by the Ex Parte No. 558 (Sub-No.7) Notice, the market values of debt, preferred equity and common equity have been compiled to compute the 2003 capital structure of the railroad industry.

The market value of debt is computed by summing the component market values as shown in Appendix I. The 2003 market value of debt is \$30,110.8 million. The computation of the 2003 market value of equity as detailed in Appendix P, is \$39,989.5 million.

The 2003 capital structure of the railroad composite is 43.0 percent debt and 57.0 percent common equity as indicated by the market values of debt, and common equity. All preferred stock was retired during 2003. Therefore, there is no capital structure weight for preferred equity capital. See Table No. 1 below.

Table No. 1

2003 Composite Capital

	<u>Structure</u>	
	<u>Millions</u>	<u>Weight</u>
Debt	\$30,110.8	43.0 %
Common Equity	<u>39,989.5</u>	<u>57.0</u>
Total	\$70,100.3	100.0 %

Source: Appendices H and J

QUALIFICATIONS OF DAVID F. MILLER

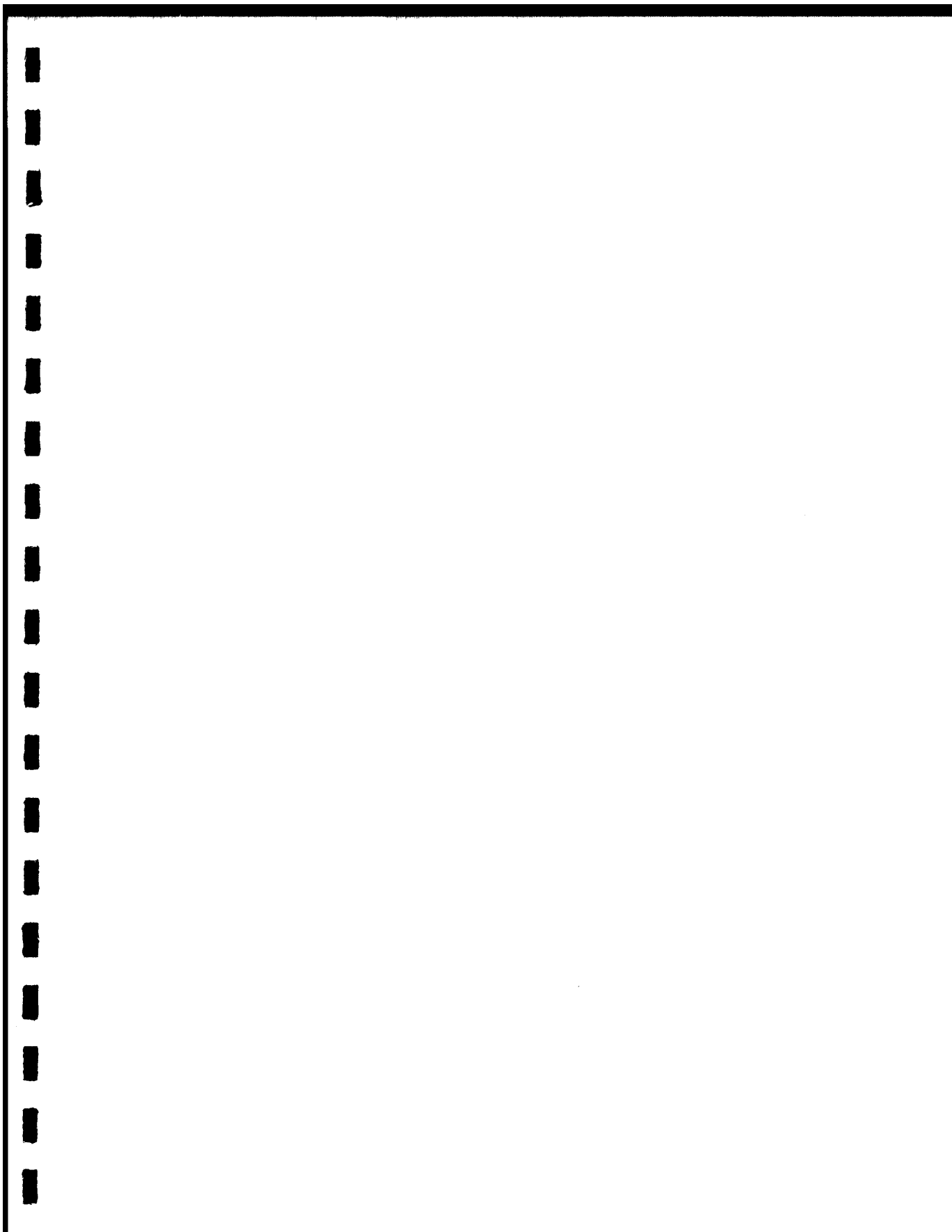
I am Director - Accounting & Finance in the Policy and Economics Department of the Association of American Railroads with offices at 50 F Street, N.W., Washington, D.C. 20001.

I received my degree of Bachelor of Arts in Accounting/Finance from the University of Maryland in 1967. In 1976, I received the degree of Master of Business Administration with concentration in Accounting from the George Washington University. Currently, I am a Certified Public Accountant licensed since 1976 in the State of Maryland. I also hold the following professional designations of (i) Certified Fraud Examiner (CFE) issued by the National Association of Certified Fraud Examiners, (ii) Certified Valuation Analyst issued by the National Association of Certified Valuation Analysts and (iii) Certified Rate of Return Analyst issued by The National Society of Rate of Return Analysts.

From 1974 until September 1986, I was employed by the consulting firm of R. L. Banks and Associates, Inc. as Senior Transportation Economist. At R. L. Banks and Associates, Inc., I conducted economic studies of the transit and railroad industries.

In addition to my consulting experience, I have taught at the college level during the period of 1976 to 2000. Currently, I am an Adjunct Associate Professor with the University of Maryland, and have taught courses in Auditing, Cost Accounting, Corporate Finance, and Investments. I am currently an active member in the Washington Chapter of Certified Fraud Examiners and a Vice President of the Maryland Chapter of Certified Valuation Analysts.

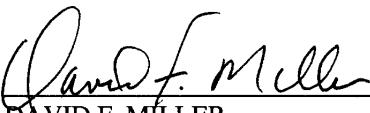
In the past I have testified and submitted verified statements in proceedings before the Surface Transportation Board, State of Delaware Chancery Court, and railroad industry arbitration panels.



VERIFICATION

WASHINGTON, D.C.)
) SS.

I, David F. Miller, being duly sworn, state that I have read the foregoing statement, that I know its contents, and that those contents are true as stated.



DAVID F. MILLER

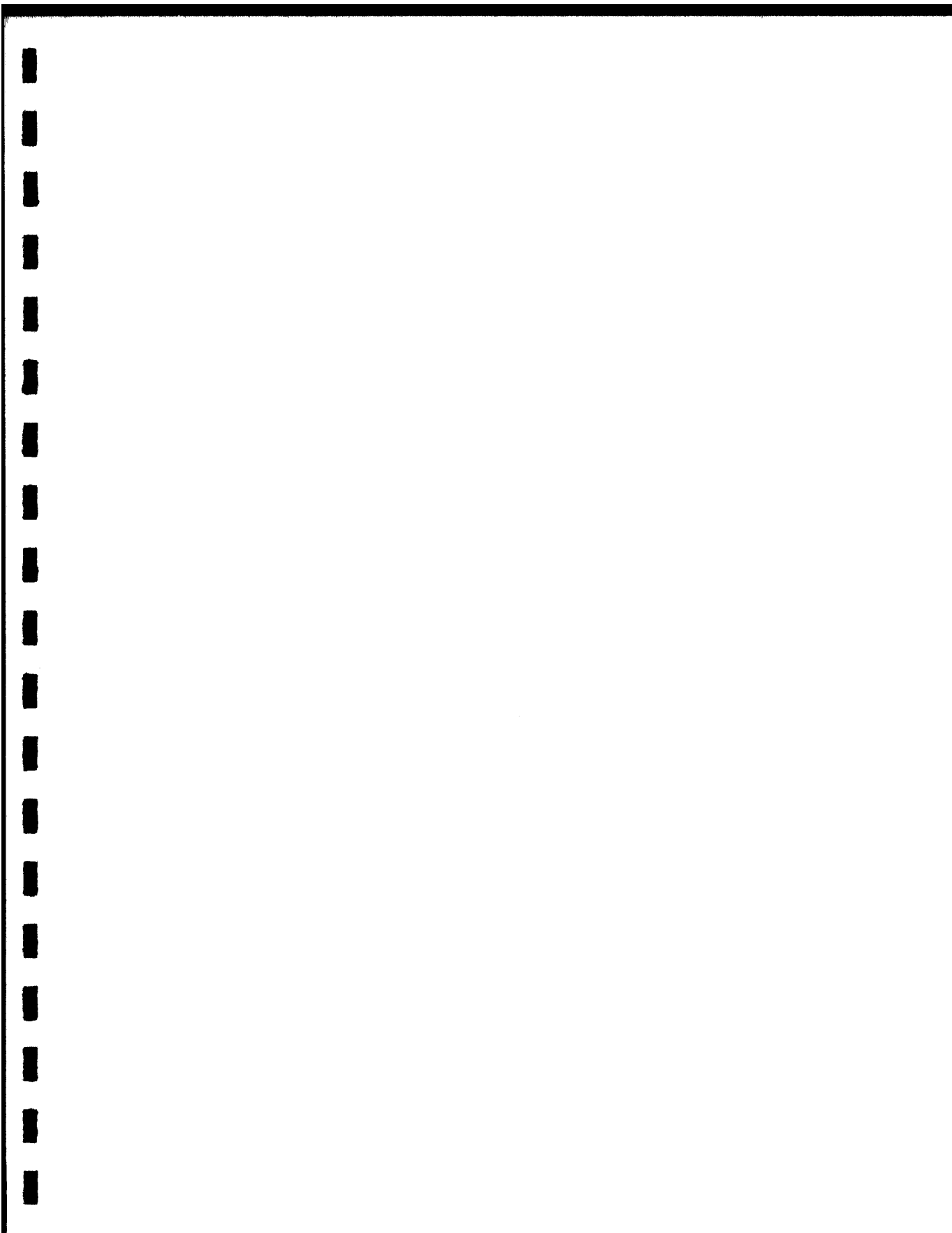
Subscribed and sworn to before me this 24th day of March 2004.



Notary Public

My Commission expires:

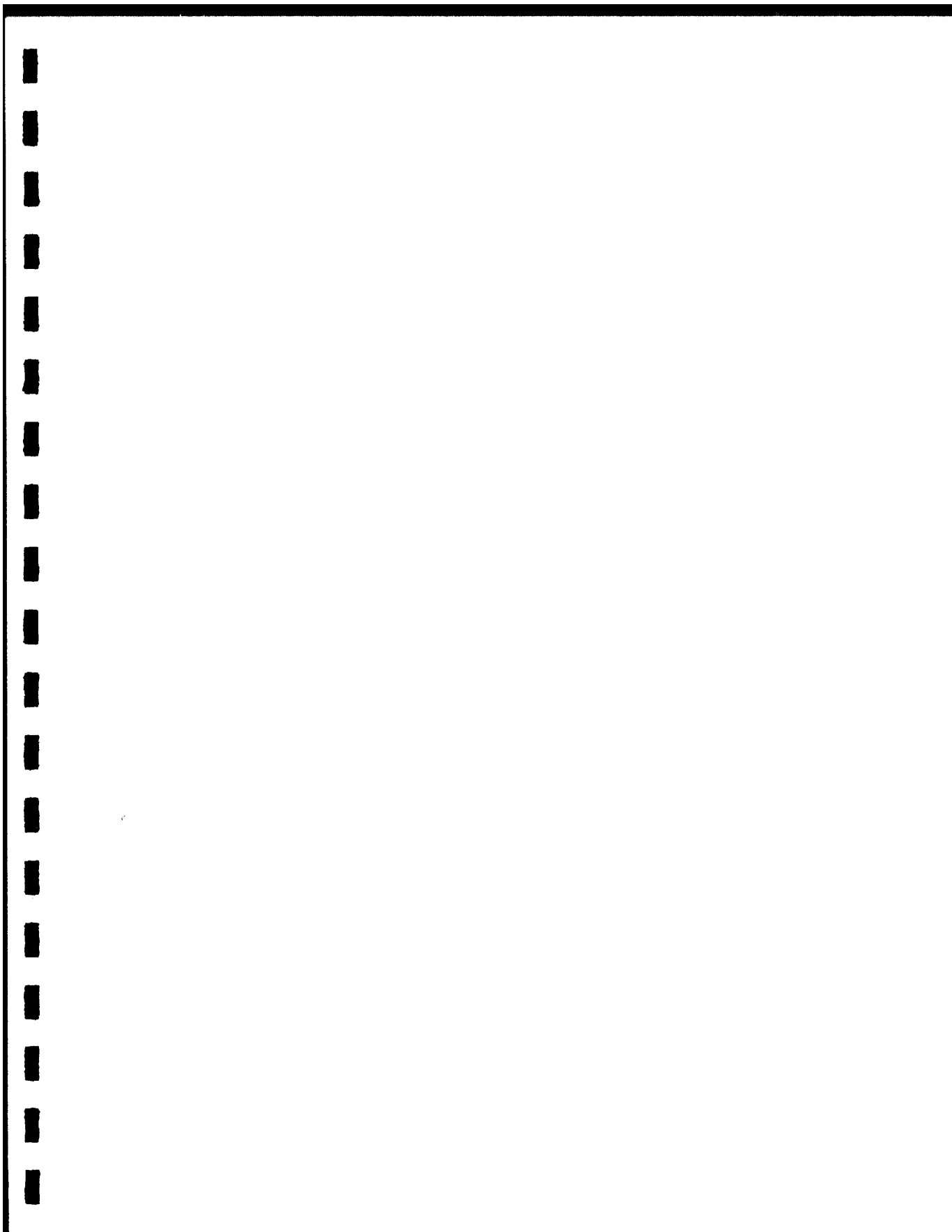
My Commission Expires **2/14/07**



**Evaluation of Class I Railroads
Under Surface Transportation Board Selection Criteria
2003**

Class I Railroad	Parent	Stock Symbol	Listed NYSE/ASE	Dividends Throughout 2003	Rail Assets	
					Account For At Least 50% of Parent	Adequate Debt Rating
BNSF	Burlington Northern Santa Fe Corp.	BNI	Yes	Yes	Yes	Yes
CSX	CSX Corporation	CSX	Yes	Yes	Yes	Yes
CNGT*	Canadian National Railway Co.	CNI	Yes	Yes	No	Yes
KCS	Kansas City Southern	KSU	Yes	No	Yes	Yes
NS	Norfolk Southern Corporation	NSC	Yes	Yes	Yes	Yes
SOO*	Canadian Pacific Railway Limited	CP	Yes	No	No	Yes
UP	Union Pacific Corporation	UNP	Yes	Yes	Yes	Yes

* CNGT is Grand Trunk Corporation, and consists of most of the U.S. railroad operations of Canadian National Railway (CN). SOO is Soo Line Railroad, the western U.S. operations of Canadian Pacific Railway (CP). Following STB precedent, CN and Canadian Pacific were not included in the Sample because both CN and CP are Canadian corporations – and the cost of capital proceeding is concerned with determining costs for U.S. railroads under STB jurisdiction.



Name: BNSF Rwy
Mortgage Bond Series H
Maturity: 10/1/2006
Coupon: 9.250 %
Amount Outstanding: \$275.000 million

Date	Price	Yield
01/31/2003	\$117.88	3.96 %
02/28/2003	114.00	4.95
03/31/2003	114.12	4.82
04/30/2003	118.59	3.44
05/31/2003	116.00	4.07
06/30/2003	119.62	2.88
07/31/2003	116.62	3.64
08/31/2003	114.95	4.05
09/30/2003	114.00	4.24
10/31/2003	115.25	3.69
11/30/2003	115.25	3.56
12/31/2003	113.50	4.01
Average	\$115.82	3.94 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF Rwy
 Mortgage Bond Series K
Maturity: 1/1/2020
Coupon: 6.550 %
Amount Outstanding: \$3.978 million

Date	Price	Yield
01/31/2003	\$98.25	6.72 %
02/28/2003	103.91	6.17
03/31/2003	102.54	6.30
04/30/2003	98.50	6.70
05/31/2003	100.00	6.55
06/30/2003	111.11	5.52
07/31/2003	104.13	6.15
08/31/2003	100.00	6.55
09/30/2003	107.18	5.86
10/31/2003	105.48	6.01
11/30/2003	108.42	5.74
12/31/2003	108.39	5.74
Average	\$103.99	6.17 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF Rwy
 Mortgage Bond Series L
Maturity: 1/1/2020
Coupon: 3.800 %
Amount Outstanding: \$6.195 million

Date	Price	Yield
01/31/2003	\$67.50	7.14 %
02/28/2003	71.62	6.62
03/31/2003	71.00	6.71
04/30/2003	75.75	6.14
05/31/2003	76.00	6.12
06/30/2003	79.83	5.70
07/31/2003	74.63	6.30
08/31/2003	78.00	5.92
09/30/2003	77.31	6.00
10/31/2003	75.97	6.17
11/30/2003	76.00	6.17
12/31/2003	75.50	6.24
Average	\$74.93	6.27 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF Rwy
Mortgage Bond Series M
Maturity: 1/1/2045
Coupon: 3.200 %
Amount Outstanding: \$12.998 million

Date	Price	Yield
01/31/2003	\$49.00	6.97 %
02/28/2003	48.00	7.10
03/31/2003	48.50	7.04
04/30/2003	50.12	6.82
05/31/2003	57.00	6.03
06/30/2003	55.25	6.22
07/31/2003	51.25	6.69
08/31/2003	51.50	6.66
09/30/2003	53.75	6.40
10/31/2003	52.00	6.60
11/30/2003	54.12	6.36
12/31/2003	52.25	6.58
Average	\$51.90	6.62 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF Rwy
 Mortgage Bond Series N
Maturity: 1/1/2020
Coupon: 8.150 %
Amount Outstanding: \$2.506 million

Date	Price	Yield
01/31/2003	\$120.10	6.21 %
02/28/2003	122.05	6.04
03/31/2003	102.52	7.87
04/30/2003	110.12	7.10
05/31/2003	129.48	5.43
06/30/2003	129.95	5.39
07/31/2003	120.00	6.19
08/31/2003	120.00	6.19
09/30/2003	125.24	5.74
10/31/2003	115.25	6.60
11/30/2003	126.49	5.63
12/31/2003	118.00	6.34
Average	\$119.93	6.23 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF Rwy
Mortgage Bond Series O
Maturity: 1/1/2020
Coupon: 6.550 %
Amount Outstanding: \$15.378 million

Date	Price	Yield
01/31/2003	\$96.00	6.96 %
02/28/2003	103.91	6.17
03/31/2003	102.54	6.30
04/30/2003	97.00	6.85
05/31/2003	102.25	6.33
06/30/2003	103.00	6.26
07/31/2003	100.00	6.55
08/31/2003	102.34	6.32
09/30/2003	97.12	6.84
10/31/2003	97.75	6.78
11/30/2003	100.00	6.55
12/31/2003	100.00	6.55
Average	\$100.16	6.54 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF Rwy
Mortgage Bond Series P
Maturity: 1/1/2020
Coupon: 8.150 %
Amount Outstanding: \$5.566 million

Date	Price	Yield
01/31/2003	\$119.41	6.27 %
02/28/2003	121.34	6.10
03/31/2003	119.84	6.22
04/30/2003	123.05	5.95
05/31/2003	128.83	5.48
06/30/2003	129.30	5.44
07/31/2003	121.32	6.08
08/31/2003	119.43	6.24
09/30/2003	124.58	5.79
10/31/2003	122.66	5.95
11/30/2003	115.00	6.62
12/31/2003	116.00	6.52
Average	\$121.73	6.06 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF Rwy
 Mortgage Bond Northern Pac.Ry. GL
Maturity: 1/1/2047
Coupon: 3.000 %
Amount Outstanding: \$34.479 million

Date	Price	Yield
01/31/2003	\$78.12	4.07 %
02/28/2003	70.00	4.60
03/31/2003	51.42	6.26
04/30/2003	52.21	6.17
05/31/2003	58.03	5.57
06/30/2003	68.00	4.75
07/31/2003	56.00	5.78
08/31/2003	50.66	6.36
09/30/2003	51.04	6.32
10/31/2003	51.17	6.30
11/30/2003	68.00	4.75
12/31/2003	73.00	4.41
Average	\$60.64	5.45 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
Debenture
Maturity: 12/15/2025
Coupon: 7.000 %
Amount Outstanding: \$350.000 million

Date	Price	Yield
01/31/2003	\$112.20	6.01 %
02/28/2003	114.22	5.86
03/31/2003	110.70	6.12
04/30/2003	112.54	5.98
05/31/2003	118.94	5.52
06/30/2003	115.64	5.75
07/31/2003	104.39	6.62
08/31/2003	106.19	6.47
09/30/2003	111.64	6.04
10/31/2003	109.54	6.20
11/30/2003	110.17	6.15
12/31/2003	109.51	6.20
Average	\$111.31	6.08 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
Debenture
Maturity: 2/15/2016
Coupon: 6.875 %
Amount Outstanding: \$175.000 million

Date	Price	Yield
01/31/2003	\$116.95	5.08 %
02/28/2003	119.83	4.80
03/31/2003	116.38	5.12
04/30/2003	115.89	5.16
05/31/2003	121.79	4.59
06/30/2003	119.56	4.79
07/31/2003	109.75	5.77
08/31/2003	110.74	5.66
09/30/2003	116.72	5.04
10/31/2003	113.10	5.40
11/30/2003	114.10	5.29
12/31/2003	114.61	5.23
Average	\$115.79	5.16 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
Debenture
Maturity: 6/1/2036
Coupon: 7.290 %
Amount Outstanding: \$200.000 million

Date	Price	Yield
01/31/2003	\$117.50	6.06 %
02/28/2003	120.40	5.88
03/31/2003	117.67	6.05
04/30/2003	118.64	5.99
05/31/2003	125.80	5.57
06/30/2003	122.16	5.78
07/31/2003	110.50	6.51
08/31/2003	114.76	6.23
09/30/2003	120.23	5.89
10/31/2003	116.03	6.15
11/30/2003	118.24	6.01
12/31/2003	118.91	5.96
Average	\$118.40	6.01 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
Debenture
Maturity: 8/1/2097
Coupon: 7.250 %
Amount Outstanding: \$200.000 million

Date	Price	Yield
01/31/2003	\$110.66	6.55 %
02/28/2003	113.59	6.38
03/31/2003	108.82	6.66
04/30/2003	111.15	6.52
05/31/2003	119.55	6.06
06/30/2003	115.21	6.29
07/31/2003	101.25	7.16
08/31/2003	103.40	7.01
09/30/2003	110.31	6.57
10/31/2003	106.12	6.83
11/30/2003	107.22	6.76
12/31/2003	108.02	6.71
Average	\$109.61	6.63 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
Debenture
Maturity: 12/1/2027
Coupon: 6.875 %
Amount Outstanding: \$200.000 million

Date	Price	Yield
01/31/2003	\$110.65	6.04 %
02/28/2003	113.01	5.87
03/31/2003	109.40	6.13
04/30/2003	111.44	5.98
05/31/2003	118.07	5.52
06/30/2003	114.65	5.75
07/31/2003	103.04	6.62
08/31/2003	104.90	6.47
09/30/2003	110.66	6.03
10/31/2003	107.72	6.25
11/30/2003	108.63	6.18
12/31/2003	109.27	6.13
Average	\$110.12	6.08 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
 Debenture 08 vs 28
Maturity: 8/1/2008
Coupon: 6.700 %
Amount Outstanding: \$200.000 million

Date	Price	Yield
01/31/2003	\$108.39	4.94 %
02/28/2003	110.73	4.45
03/31/2003	107.27	5.12
04/30/2003	109.30	4.68
05/31/2003	115.93	3.32
06/30/2003	112.52	3.96
07/31/2003	100.97	6.47
08/31/2003	102.81	6.03
09/30/2003	108.55	4.70
10/31/2003	105.09	5.46
11/30/2003	106.52	5.11
12/31/2003	107.18	4.93
Average	\$107.94	4.93 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
Debenture
Maturity: 3/15/2029
Coupon: 6.750 %
Amount Outstanding: \$200.000 million

Date	Price	Yield
01/31/2003	\$109.12	6.05 %
02/28/2003	111.51	5.88
03/31/2003	108.13	6.12
04/30/2003	109.78	6.00
05/31/2003	116.49	5.54
06/30/2003	113.03	5.77
07/31/2003	101.33	6.64
08/31/2003	103.34	6.48
09/30/2003	109.16	6.04
10/31/2003	106.31	6.25
11/30/2003	107.23	6.18
12/31/2003	107.89	6.13
Average	\$108.61	6.09 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
 Debenture
Maturity: 5/13/2029
Coupon: 7.082 %
Amount Outstanding: \$200.000 million

Date	Price	Yield
01/31/2003	\$113.48	6.05 %
02/28/2003	115.94	5.88
03/31/2003	112.45	6.12
04/30/2003	114.15	6.00
05/31/2003	121.08	5.54
06/30/2003	117.50	5.77
07/31/2003	105.40	6.64
08/31/2003	107.34	6.49
09/30/2003	113.34	6.05
10/31/2003	110.54	6.25
11/30/2003	111.48	6.18
12/31/2003	112.15	6.13
Average	\$112.90	6.09 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
 Debenture 300? 4/15?
Maturity: 4/17/2020
Coupon: 8.125 %
Amount Outstanding: \$200.000 million

Date	Price	Yield
01/31/2003	\$123.07	5.96 %
02/28/2003	124.00	5.88
03/31/2003	120.78	6.14
04/30/2003	122.40	6.00
05/31/2003	128.08	5.54
06/30/2003	125.09	5.77
07/31/2003	114.83	6.64
08/31/2003	116.46	6.49
09/30/2003	121.49	6.05
10/31/2003	118.40	6.31
11/30/2003	120.18	6.15
12/31/2003	120.69	6.10
Average	\$121.29	6.09 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
Debenture
Maturity: 8/15/2030
Coupon: 7.950 %
Amount Outstanding: \$275.000 million

Date	Price	Yield
01/31/2003	\$125.31	6.05 %
02/28/2003	128.02	5.88
03/31/2003	124.14	6.12
04/30/2003	126.00	6.00
05/31/2003	133.82	5.53
06/30/2003	129.85	5.76
07/31/2003	116.49	6.63
08/31/2003	118.46	6.49
09/30/2003	125.21	6.04
10/31/2003	121.95	6.25
11/30/2003	122.68	6.20
12/31/2003	123.41	6.15
Average	\$124.61	6.09 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF Rwy
Debenture
Maturity: 2/25/2022
Coupon: 8.750 %
Amount Outstanding: \$200.000 million

Date	Price	Yield
01/31/2003	\$121.87	6.70 %
02/28/2003	129.81	6.08
03/31/2003	128.27	6.19
04/30/2003	130.06	6.05
05/31/2003	136.38	5.59
06/30/2003	133.05	5.82
07/31/2003	121.70	6.69
08/31/2003	123.49	6.54
09/30/2003	129.04	6.10
10/31/2003	127.66	6.20
11/30/2003	128.24	6.15
12/31/2003	128.82	6.10
Average	\$128.20	6.18 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
 Note
Maturity: 7/1/2012
Coupon: 5.900 %
Amount Outstanding: \$300.000 million

Date	Price	Yield
01/31/2003	\$107.85	4.85 %
02/28/2003	110.39	4.52
03/31/2003	108.82	4.71
04/30/2003	109.14	4.66
05/31/2003	113.19	4.14
06/30/2003	111.51	4.34
07/31/2003	104.06	5.32
08/31/2003	104.60	5.24
09/30/2003	108.88	4.65
10/31/2003	106.83	4.92
11/30/2003	106.64	4.94
12/31/2003	107.01	4.88
Average	\$108.24	4.76 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
 Note
Maturity: 12/15/2005
Coupon: 6.375 %
Amount Outstanding: \$315.907 million

Date	Price	Yield
01/31/2003	\$110.43	2.58 %
02/28/2003	110.80	2.36
03/31/2003	110.30	2.42
04/30/2003	110.60	2.19
05/31/2003	110.97	1.93
06/30/2003	110.56	1.95
07/31/2003	108.77	2.54
08/31/2003	108.51	2.53
09/30/2003	109.56	1.93
10/31/2003	108.54	2.23
11/30/2003	107.85	2.42
12/31/2003	107.94	2.20
Average	\$109.57	2.27 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
 Note
Maturity: 7/15/2011
Coupon: 6.750 %
Amount Outstanding: \$400.000 million

Date	Price	Yield
01/31/2003	\$113.18	4.83 %
02/28/2003	115.37	4.52
03/31/2003	114.14	4.67
04/30/2003	114.45	4.61
05/31/2003	118.73	4.02
06/30/2003	117.08	4.22
07/31/2003	110.11	5.18
08/31/2003	111.23	5.01
09/30/2003	115.69	4.35
10/31/2003	112.54	4.78
11/30/2003	112.51	4.77
12/31/2003	113.36	4.63
Average	\$114.03	4.63 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
Medium Term Note
Maturity: 7/15/2037
Coupon: 6.530 %
Amount Outstanding: \$170.100 million

Date	Price	Yield
01/31/2003	\$103.81	6.26 %
02/28/2003	108.78	5.93
03/31/2003	105.26	6.16
04/30/2003	106.46	6.08
05/31/2003	117.77	5.39
06/30/2003	112.81	5.68
07/31/2003	100.26	6.51
08/31/2003	102.76	6.33
09/30/2003	107.77	5.99
10/31/2003	103.90	6.25
11/30/2003	104.19	6.23
12/31/2003	104.92	6.18
Average	\$106.56	6.08 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
Note
Maturity: 4/17/2007
Coupon: 7.875 %
Amount Outstanding: \$321.909 million

Date	Price	Yield
01/31/2003	\$116.03	3.72 %
02/28/2003	117.15	3.39
03/31/2003	116.24	3.53
04/30/2003	116.98	3.27
05/31/2003	118.76	2.74
06/30/2003	118.07	2.81
07/31/2003	114.96	3.53
08/31/2003	114.98	3.44
09/30/2003	117.67	2.62
10/31/2003	116.12	2.93
11/30/2003	114.96	3.17
12/31/2003	115.50	2.90
Average	\$116.45	3.17 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
 Note New \$250 pro 7.5/12
Maturity: 7/1/2013
Coupon: 4.300 %
Amount Outstanding: \$156.250 million

Date	Price	Yield
01/31/2003	Issued May 16 Prorated at 7.5/12	%
02/28/2003		
03/31/2003		
04/30/2003		
05/31/2003	100.00	4.30
06/30/2003	100.00	4.30
07/31/2003	100.00	4.30
08/31/2003	100.00	4.30
09/30/2003	96.96	4.69
10/31/2003	94.09	5.08
11/30/2003	94.57	5.02
12/31/2003	95.05	4.96
Average	\$97.58	4.62 %

Source: Standard & Poor's Bond Guide Database

Name: BNSF
Note
Maturity: 3/15/2009
Coupon: 6.125 %
Amount Outstanding: \$218.627 million

Date	Price	Yield
01/31/2003	\$110.38	4.18 %
02/28/2003	113.03	3.70
03/31/2003	111.82	3.88
04/30/2003	112.68	3.70
05/31/2003	115.53	3.17
06/30/2003	114.61	3.29
07/31/2003	109.20	4.26
08/31/2003	109.21	4.24
09/30/2003	112.42	3.60
10/31/2003	109.20	4.19
11/30/2003	108.75	4.26
12/31/2003	109.35	4.11
Average	\$111.35	3.88 %

Source: Standard & Poor's Bond Guide Database

Name: CSX Corporation
Debenture
Maturity: 8/15/2006
Coupon: 9.000 %
Amount Outstanding: \$300.000 million

Date	Price	Yield
01/31/2003	\$118.38	3.44 %
02/28/2003	119.20	3.11
03/31/2003	118.83	3.07
04/30/2003	119.07	2.88
05/31/2003	120.14	2.43
06/30/2003	119.66	2.43
07/31/2003	117.37	2.98
08/31/2003	116.50	3.12
09/30/2003	117.51	2.63
10/31/2003	116.06	2.96
11/30/2003	114.93	3.21
12/31/2003	115.28	2.90
Average	\$117.74	2.93 %

Source: Standard & Poor's Bond Guide Database

Name: CSX Corporation
Debenture
Maturity: 5/15/2022
Coupon: 8.625 %
Amount Outstanding: \$200.000 million

Date	Price	Yield
01/31/2003	\$126.38	6.25 %
02/28/2003	128.98	6.05
03/31/2003	125.48	6.31
04/30/2003	128.86	6.05
05/31/2003	135.04	5.60
06/30/2003	131.99	5.81
07/31/2003	120.98	6.65
08/31/2003	122.78	6.50
09/30/2003	127.33	6.14
10/31/2003	123.94	6.40
11/30/2003	124.13	6.38
12/31/2003	124.69	6.33
Average	\$126.72	6.21 %

Source: Standard & Poor's Bond Guide Database

Name: CSX Corporation
Debenture
Maturity: 9/15/2022
Coupon: 8.100 %
Amount Outstanding: \$150.000 million

Date	Price	Yield
01/31/2003	\$120.73	6.25 %
02/28/2003	123.30	6.05
03/31/2003	119.88	6.31
04/30/2003	123.18	6.05
05/31/2003	129.23	5.60
06/30/2003	125.46	5.87
07/31/2003	114.83	6.71
08/31/2003	116.59	6.56
09/30/2003	121.00	6.20
10/31/2003	119.07	6.35
11/30/2003	119.27	6.33
12/31/2003	119.84	6.28
Average	\$121.03	6.21 %

Source: Standard & Poor's Bond Guide Database

Name: CSX Corporation
Note
Maturity: 10/15/2008
Coupon: 6.250 %
Amount Outstanding: \$400.000 million

Date	Price	Yield
01/31/2003	\$110.32	4.19 %
02/28/2003	112.26	3.81
03/31/2003	111.27	3.96
04/30/2003	111.73	3.85
05/31/2003	114.99	3.19
06/30/2003	114.19	3.30
07/31/2003	109.57	4.18
08/31/2003	109.20	4.23
09/30/2003	111.94	3.64
10/31/2003	109.76	4.05
11/30/2003	109.16	4.16
12/31/2003	109.59	4.03
Average	\$111.17	3.88 %

Source: Standard & Poor's Bond Guide Database

Name: CSX Corporation
Maturity: 11/1/2009
Coupon: 4.875 %
Amount Outstanding: \$200.000 million

Not Traded in Jan

Date	Price	Yield
01/31/2003	\$100.00	4.88 %
02/28/2003	104.25	4.14
03/31/2003	103.23	4.31
04/30/2003	103.98	4.17
05/31/2003	107.33	3.59
06/30/2003	106.54	3.71
07/31/2003	100.83	4.72
08/31/2003	101.30	4.63
09/30/2003	104.87	3.97
10/31/2003	102.78	4.34
11/30/2003	102.57	4.38
12/31/2003	103.38	4.21
Average	\$103.42	4.25 %

Source: Standard & Poor's Bond Guide Database

Name: CSX Corporation
Maturity: 3/15/2012
Coupon: 6.300 %
Amount Outstanding: \$400.000 million

Not Traded in Jan

Date	Price	Yield
01/31/2003	\$100.00	6.30 %
02/28/2003	111.50	4.72
03/31/2003	109.73	4.94
04/30/2003	110.33	4.85
05/31/2003	115.04	4.23
06/30/2003	113.52	4.41
07/31/2003	106.40	5.36
08/31/2003	106.57	5.33
09/30/2003	111.04	4.70
10/31/2003	108.78	5.00
11/30/2003	108.22	5.07
12/31/2003	108.57	5.01
Average	\$109.14	4.99 %

Source: Standard & Poor's Bond Guide Database

Name: CSX Corporation
Med.Term Note
Maturity: 12/1/2028
Coupon: 6.800 %
Amount Outstanding: \$200.000 million

Date	Price	Yield
01/31/2003	\$107.14	6.24 %
02/28/2003	110.72	5.98
03/31/2003	107.15	6.24
04/30/2003	110.72	5.98
05/31/2003	117.17	5.54
06/30/2003	114.01	5.74
07/31/2003	102.64	6.58
08/31/2003	104.92	6.40
09/30/2003	109.45	6.06
10/31/2003	105.98	6.32
11/30/2003	106.77	6.26
12/31/2003	107.43	6.21
Average	\$108.68	6.13 %

Source: Standard & Poor's Bond Guide Database

Name: CSX Corporation
 Note New Pro 1.5/12 \$200
Maturity: 2/15/2014
Coupon: 5.300 %
Amount Outstanding: \$25.000 million

Date	Price	Yield
01/31/2003	100.00	5.30 %
02/28/2003	100.00	5.30
03/31/2003	100.00	5.30
04/30/2003	100.00	5.30
05/31/2003	100.00	5.30
06/30/2003	100.00	5.30
07/31/2003	100.00	5.30
08/31/2003	100.00	5.30
09/30/2003	100.00	5.30
10/31/2003	100.00	5.30
11/30/2003	100.00	5.30
12/31/2003	100.54	5.23
Average	\$100.05	5.29 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
Med Term Note Series A
Maturity: 3/1/2021
Coupon: 9.000 %
Amount Outstanding: \$250.000 million

Date	Price	Yield
01/31/2003	\$129.13	6.28 %
02/28/2003	131.27	6.11
03/31/2003	127.84	6.37
04/30/2003	128.52	6.31
05/31/2003	133.53	5.92
06/30/2003	130.68	6.13
07/31/2003	123.41	6.71
08/31/2003	125.53	6.53
09/30/2003	129.93	6.17
10/31/2003	126.59	6.43
11/30/2003	130.14	6.14
12/31/2003	130.69	6.09
Average	\$128.94	6.27 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
Med Term Note Series A
Maturity: 9/15/2006
Coupon: 7.400 %
Amount Outstanding: \$100.000 million

Date	Price	Yield
01/31/2003	\$112.77	3.60 %
02/28/2003	113.70	3.28
03/31/2003	114.10	3.07
04/30/2003	114.25	2.93
05/31/2003	115.52	2.46
06/30/2003	115.33	2.40
07/31/2003	113.31	2.91
08/31/2003	112.66	3.01
09/30/2003	114.42	2.33
10/31/2003	112.94	2.69
11/30/2003	111.97	2.91
12/31/2003	112.34	2.64
Average	\$113.61	2.85 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
Med Term Note Series A
Maturity: 9/15/2006
Coupon: 7.220 %
Amount Outstanding: \$100.000 million

Date	Price	Yield
01/31/2003	\$111.45	3.80 %
02/28/2003	112.39	3.47
03/31/2003	113.51	3.07
04/30/2003	113.68	2.93
05/31/2003	114.96	2.46
06/30/2003	114.78	2.40
07/31/2003	112.78	2.91
08/31/2003	112.14	3.01
09/30/2003	113.90	2.33
10/31/2003	112.44	2.69
11/30/2003	111.49	2.91
12/31/2003	111.87	2.64
Average	\$112.95	2.89 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
 Med Term Note Senior
Maturity: 4/15/2009
Coupon: 6.200 %
Amount Outstanding: \$400.000 million

Date	Price	Yield
01/31/2003	\$110.00	4.34 %
02/28/2003	111.86	4.00
03/31/2003	111.89	3.97
04/30/2003	111.97	3.92
05/31/2003	114.59	3.43
06/30/2003	113.83	3.53
07/31/2003	108.50	4.49
08/31/2003	108.20	4.53
09/30/2003	111.53	3.87
10/31/2003	109.83	4.16
11/30/2003	109.37	4.23
12/31/2003	109.97	4.08
Average	\$110.96	4.05 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
Maturity: Med Term Note Senior
Coupon: 5/15/2005
Amount Outstanding: 8.375 %
\$300.000 million

Date	Price	Yield
01/31/2003	\$112.38	2.75 %
02/28/2003	112.47	2.54
03/31/2003	111.92	2.56
04/30/2003	111.57	2.52
05/31/2003	111.59	2.29
06/30/2003	111.12	2.28
07/31/2003	109.87	2.68
08/31/2003	109.96	2.39
09/30/2003	110.23	1.94
10/31/2003	109.30	2.19
11/30/2003	108.77	2.24
12/31/2003	108.75	1.88
Average	\$110.66	2.36 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
 Med Term Note Senior
Maturity: 5/15/2010
Coupon: 8.625 %
Amount Outstanding: \$300.000 million

Date	Price	Yield
01/31/2003	\$122.33	4.94 %
02/28/2003	124.39	4.61
03/31/2003	123.40	4.72
04/30/2003	123.68	4.64
05/31/2003	127.66	4.03
06/30/2003	126.44	4.16
07/31/2003	119.37	5.20
08/31/2003	119.34	5.17
09/30/2003	123.43	4.49
10/31/2003	120.83	4.87
11/30/2003	120.75	4.85
12/31/2003	121.54	4.67
Average	\$122.76	4.70 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
 Med Term Note Senior
Maturity: 2/15/2011
Coupon: 6.750 %
Amount Outstanding: \$300.000 million

Date	Price	Yield
01/31/2003	\$112.29	4.88 %
02/28/2003	115.15	4.47
03/31/2003	113.27	4.71
04/30/2003	114.23	4.56
05/31/2003	118.42	3.95
06/30/2003	116.79	4.16
07/31/2003	110.48	5.06
08/31/2003	110.44	5.05
09/30/2003	114.64	4.40
10/31/2003	112.36	4.72
11/30/2003	112.52	4.68
12/31/2003	113.88	4.45
Average	\$113.71	4.59 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
Med Term Note Senior
Maturity: 2/15/2031
Coupon: 7.250 %
Amount Outstanding: \$700.000 million

Date	Price	Yield
01/31/2003	\$116.24	6.04 %
02/28/2003	116.23	6.04
03/31/2003	114.14	6.18
04/30/2003	116.97	5.99
05/31/2003	123.44	5.58
06/30/2003	119.42	5.83
07/31/2003	107.32	6.67
08/31/2003	109.74	6.48
09/30/2003	115.73	6.06
10/31/2003	112.95	6.25
11/30/2003	114.25	6.16
12/31/2003	113.24	6.23
Average	\$114.97	6.13 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
Med Term Note CR NSC 2007
Maturity: 5/15/2007
Coupon: 7.350 %
Amount Outstanding: \$740.325 million

Date	Price	Yield
01/31/2003	\$113.86	3.81 %
02/28/2003	115.00	3.49
03/31/2003	114.25	3.60
04/30/2003	114.46	3.48
05/31/2003	116.11	3.00
06/30/2003	116.52	2.82
07/31/2003	113.48	3.52
08/31/2003	111.71	3.93
09/30/2003	114.34	3.13
10/31/2003	113.43	3.30
11/30/2003	112.77	3.41
12/31/2003	113.58	3.08
Average	\$114.13	3.38 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
Med Term Note CR NSC 2017
Maturity: 5/15/2017
Coupon: 7.700 %
Amount Outstanding: \$550.000 million

Date	Price	Yield
01/31/2003	\$121.48	5.51 %
02/28/2003	125.86	5.12
03/31/2003	122.81	5.37
04/30/2003	123.41	5.31
05/31/2003	130.07	4.73
06/30/2003	127.81	4.91
07/31/2003	117.21	5.86
08/31/2003	116.94	5.88
09/30/2003	123.94	5.22
10/31/2003	119.52	5.62
11/30/2003	119.97	5.57
12/31/2003	120.50	5.51
Average	\$122.46	5.38 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
 Med Term Note CR NSC 2027
Maturity: 5/15/2027
Coupon: 7.800 %
Amount Outstanding: \$800.000 million

Date	Price	Yield
01/31/2003	\$121.62	6.08 %
02/28/2003	124.27	5.90
03/31/2003	120.43	6.16
04/30/2003	122.59	6.01
05/31/2003	128.82	5.60
06/30/2003	125.37	5.82
07/31/2003	113.52	6.66
08/31/2003	115.90	6.48
09/30/2003	121.31	6.09
10/31/2003	118.47	6.29
11/30/2003	119.43	6.22
12/31/2003	120.10	6.16
Average	\$120.99	6.12 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
Med Term Note CR NSC 2097
Maturity: 5/15/2097
Coupon: 7.900 %
Amount Outstanding: \$350.000 million

Date	Price	Yield
01/31/2003	\$112.50	7.02 %
02/28/2003	115.28	6.85
03/31/2003	111.86	7.06
04/30/2003	112.83	7.00
05/31/2003	123.56	6.39
06/30/2003	119.64	6.60
07/31/2003	107.31	7.36
08/31/2003	109.99	7.18
09/30/2003	115.79	6.82
10/31/2003	116.14	6.80
11/30/2003	117.34	6.73
12/31/2003	118.21	6.68
Average	\$115.04	6.87 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
 Inc Debenture, Sub Virginian Ry
Maturity: 8/1/2008
Coupon: 6.000 %
Amount Outstanding: \$3.825 million

Date	Price	Yield
01/31/2003	\$100.50	5.89 %
02/28/2003	101.00	5.78
03/31/2003	100.12	5.97
04/30/2003	101.00	5.77
05/31/2003	101.12	5.74
06/30/2003	101.00	5.77
07/31/2003	105.00	4.86
08/31/2003	105.00	4.84
09/30/2003	100.85	5.79
10/31/2003	100.00	6.00
11/30/2003	100.12	5.97
12/31/2003	101.00	5.75
Average	\$101.39	5.68 %

Source: Standard & Poor's Bond Guide Database

Name: Norfolk Southern
 Inc Debenture, Sub N&W Rwy
Maturity: 11/15/2015
Coupon: 4.850 %
Amount Outstanding: \$1.497 million

Date	Price	Yield
01/31/2003	\$91.49	5.80 %
02/28/2003	89.87	6.00
03/31/2003	92.00	5.75
04/30/2003	91.60	5.80
05/31/2003	108.00	4.03
06/30/2003	100.00	4.85
07/31/2003	90.08	6.00
08/31/2003	96.00	5.30
09/30/2003	98.00	5.07
10/31/2003	93.00	5.66
11/30/2003	93.04	5.66
12/31/2003	92.21	5.76
Average	\$94.61	5.47 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
 1st Mort. Series C Missouri Pacific RR
Maturity: 1/1/2005
Coupon: 4.250 %
Amount Outstanding: \$92.307 million

Date	Price	Yield
01/31/2003	\$100.00	4.25 %
02/28/2003	100.75	3.82
03/31/2003	101.25	3.50
04/30/2003	102.37	2.78
05/31/2003	100.62	3.84
06/30/2003	101.00	3.56
07/31/2003	100.62	3.79
08/31/2003	100.12	4.15
09/30/2003	100.25	4.04
10/31/2003	100.00	4.25
11/30/2003	100.00	4.25
12/31/2003	100.62	3.61
Average	\$100.63	3.82 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Maturity: 2/15/2009
Coupon: 3.875 %
Amount Outstanding: \$218.211 million

New \$249.384 Pro 10.5/12

Date	Price	Yield
01/31/2003	New Issue	%
02/28/2003	100.00	3.88
03/31/2003	100.00	3.88
04/30/2003	100.00	3.88
05/31/2003	100.00	3.88
06/30/2003	100.00	3.88
07/31/2003	100.00	3.88
08/31/2003	100.00	3.88
09/30/2003	100.53	3.76
10/31/2003	98.84	4.12
11/30/2003	98.54	4.19
12/31/2003	99.26	4.04
Average	\$99.74	3.93 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Debenture
Maturity: 2/1/2029
Coupon: 6.625 %
Amount Outstanding: \$594.454 million

Date	Price	Yield
01/31/2003	\$109.29	5.92 %
02/28/2003	112.24	5.71
03/31/2003	109.31	5.92
04/30/2003	111.53	5.76
05/31/2003	117.16	5.38
06/30/2003	112.86	5.67
07/31/2003	101.80	6.48
08/31/2003	103.65	6.33
09/30/2003	109.37	5.91
10/31/2003	106.30	6.13
11/30/2003	106.92	6.08
12/31/2003	107.82	6.02
Average	\$109.02	5.94 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Debenture SF \$275
Maturity: 5/1/2025
Coupon: 8.350 %
Amount Outstanding: \$112.411 million

Date	Price	Yield
01/31/2003	\$113.01	7.17 %
02/28/2003	116.05	6.92
03/31/2003	114.99	7.01
04/30/2003	114.54	7.04
05/31/2003	114.57	7.03
06/30/2003	114.10	7.07
07/31/2003	112.71	7.18
08/31/2003	111.48	7.29
09/30/2003	111.81	7.26
10/31/2003	111.23	7.31
11/30/2003	111.46	7.28
12/31/2003	110.74	7.34
Average	\$113.06	7.16 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Debenture
Maturity: 2/1/2016
Coupon: 7.000 %
Amount Outstanding: \$249.324 million

Date	Price	Yield
01/31/2003	\$115.10	5.37 %
02/28/2003	118.97	4.99
03/31/2003	117.37	5.13
04/30/2003	117.74	5.09
05/31/2003	123.53	4.54
06/30/2003	121.64	4.70
07/31/2003	112.11	5.64
08/31/2003	112.37	5.60
09/30/2003	116.84	5.14
10/31/2003	113.28	5.49
11/30/2003	114.02	5.41
12/31/2003	114.67	5.34
Average	\$116.47	5.20 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Debenture
Maturity: 2/1/2028
Coupon: 7.125 %
Amount Outstanding: \$247.672 million

Date	Price	Yield
01/31/2003	\$113.76	6.05 %
02/28/2003	118.04	5.75
03/31/2003	114.63	5.98
04/30/2003	116.73	5.84
05/31/2003	122.72	5.44
06/30/2003	119.42	5.65
07/31/2003	106.90	6.55
08/31/2003	109.18	6.38
09/30/2003	114.43	5.99
10/31/2003	111.74	6.18
11/30/2003	112.24	6.14
12/31/2003	112.87	6.10
Average	\$114.39	6.00 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
 Note
Maturity: 5/1/2005
Coupon: 7.600 %
Amount Outstanding: \$425.000 million

Date	Price	Yield
01/31/2003	\$110.78	2.63 %
02/28/2003	110.93	2.41
03/31/2003	110.44	2.43
04/30/2003	110.09	2.40
05/31/2003	110.57	1.96
06/30/2003	110.17	1.93
07/31/2003	109.13	2.24
08/31/2003	108.63	2.30
09/30/2003	109.34	1.61
10/31/2003	108.49	1.83
11/30/2003	107.21	2.42
12/31/2003	107.06	2.19
Average	\$109.40	2.20 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Note
Maturity: 2/1/2006
Coupon: 6.400 %
Amount Outstanding: \$249.987 million

Date	Price	Yield
01/31/2003	\$108.33	3.45 %
02/28/2003	109.10	3.12
03/31/2003	108.97	3.07
04/30/2003	109.12	2.92
05/31/2003	109.84	2.56
06/30/2003	109.75	2.48
07/31/2003	108.17	2.98
08/31/2003	107.79	3.04
09/30/2003	108.99	2.42
10/31/2003	107.97	2.72
11/30/2003	107.24	2.93
12/31/2003	107.67	2.59
Average	\$108.58	2.86 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Note
Maturity: 12/1/2006
Coupon: 6.700 %
Amount Outstanding: \$265.125 million

Date	Price	Yield
01/31/2003	\$109.91	3.89 %
02/28/2003	111.04	3.53
03/31/2003	111.67	3.29
04/30/2003	111.65	3.23
05/31/2003	113.01	2.78
06/30/2003	112.46	2.85
07/31/2003	110.02	3.49
08/31/2003	109.38	3.62
09/30/2003	112.79	2.48
10/31/2003	111.20	2.88
11/30/2003	110.04	3.17
12/31/2003	110.82	2.81
Average	\$111.17	3.17 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Note
Maturity: 11/1/2008
Coupon: 7.250 %
Amount Outstanding: \$249.902 million

Date	Price	Yield
01/31/2003	\$115.68	4.15 %
02/28/2003	117.61	3.77
03/31/2003	116.90	3.85
04/30/2003	116.63	3.86
05/31/2003	119.73	3.25
06/30/2003	118.86	3.36
07/31/2003	114.02	4.24
08/31/2003	113.37	4.33
09/30/2003	116.30	3.70
10/31/2003	114.07	4.11
11/30/2003	113.39	4.21
12/31/2003	113.75	4.08
Average	\$115.86	3.91 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Note
Maturity: 2/1/2008
Coupon: 6.625 %
Amount Outstanding: \$299.450 million

Date	Price	Yield
01/31/2003	\$112.00	3.96 %
02/28/2003	113.47	3.61
03/31/2003	112.60	3.75
04/30/2003	112.75	3.67
05/31/2003	114.80	3.19
06/30/2003	114.14	3.28
07/31/2003	110.71	4.00
08/31/2003	109.88	4.15
09/30/2003	112.87	3.41
10/31/2003	110.82	3.84
11/30/2003	110.22	3.94
12/31/2003	111.00	3.70
Average	\$112.11	3.71 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Note
Maturity: 1/15/2011
Coupon: 6.650 %
Amount Outstanding: \$398.452 million

Date	Price	Yield
01/31/2003	\$111.70	4.86 %
02/28/2003	114.00	4.52
03/31/2003	113.21	4.61
04/30/2003	113.42	4.56
05/31/2003	117.60	3.95
06/30/2003	116.22	4.12
07/31/2003	109.58	5.09
08/31/2003	109.88	5.03
09/30/2003	113.83	4.41
10/31/2003	111.63	4.73
11/30/2003	111.62	4.71
12/31/2003	111.52	4.71
Average	\$112.85	4.61 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Note
Maturity: 9/15/2009
Coupon: 7.375 %
Amount Outstanding: \$149.661 million

Date	Price	Yield
01/31/2003	\$116.29	4.50 %
02/28/2003	119.30	3.99
03/31/2003	118.57	4.07
04/30/2003	118.27	4.09
05/31/2003	121.50	3.53
06/30/2003	120.54	3.65
07/31/2003	114.38	4.65
08/31/2003	114.27	4.64
09/30/2003	117.89	3.97
10/31/2003	115.78	4.31
11/30/2003	115.61	4.30
12/31/2003	116.29	4.14
Average	\$117.39	4.15 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Note
Maturity: 10/15/2007
Coupon: 5.750 %
Amount Outstanding: \$346.999 million

Date	Price	Yield
01/31/2003	\$108.22	3.82 %
02/28/2003	109.98	3.40
03/31/2003	108.72	3.65
04/30/2003	109.20	3.50
05/31/2003	111.82	2.86
06/30/2003	111.00	3.00
07/31/2003	107.23	3.87
08/31/2003	106.51	4.02
09/30/2003	109.50	3.22
10/31/2003	107.32	3.74
11/30/2003	107.07	3.77
12/31/2003	107.91	3.50
Average	\$108.71	3.53 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Note
Maturity: 1/15/2012
Coupon: 6.125 %
Amount Outstanding: \$298.289 million

Date	Price	Yield
01/31/2003	\$109.18	4.85 %
02/28/2003	111.55	4.53
03/31/2003	109.85	4.74
04/30/2003	110.51	4.64
05/31/2003	114.39	4.12
06/30/2003	112.89	4.31
07/31/2003	105.93	5.25
08/31/2003	105.39	5.32
09/30/2003	110.40	4.60
10/31/2003	108.17	4.90
11/30/2003	108.10	4.90
12/31/2003	108.36	4.86
Average	\$109.56	4.75 %

Source: Standard & Poor's Bond Guide Database

Name: Union Pacific
Note
Maturity: 4/15/2012
Coupon: 6.500 %
Amount Outstanding: \$324.932 million

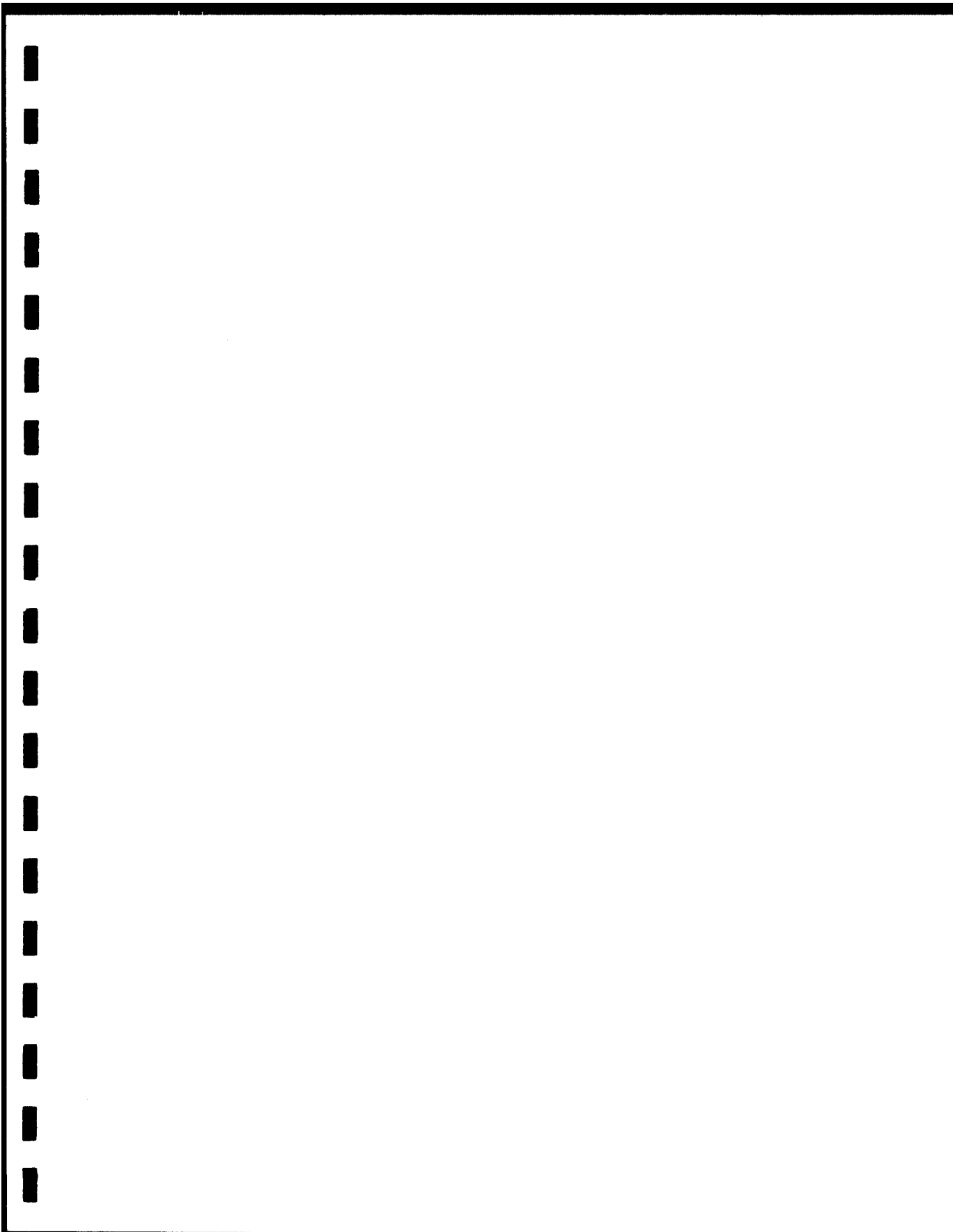
Date	Price	Yield
01/31/2003	\$112.11	4.85 %
02/28/2003	114.72	4.51
03/31/2003	112.96	4.72
04/30/2003	113.44	4.65
05/31/2003	117.21	4.16
06/30/2003	115.63	4.34
07/31/2003	108.25	5.30
08/31/2003	109.42	5.13
09/30/2003	113.32	4.60
10/31/2003	110.90	4.91
11/30/2003	110.81	4.91
12/31/2003	111.06	4.86
Average	\$112.49	4.75 %

Source: Standard & Poor's Bond Guide Database

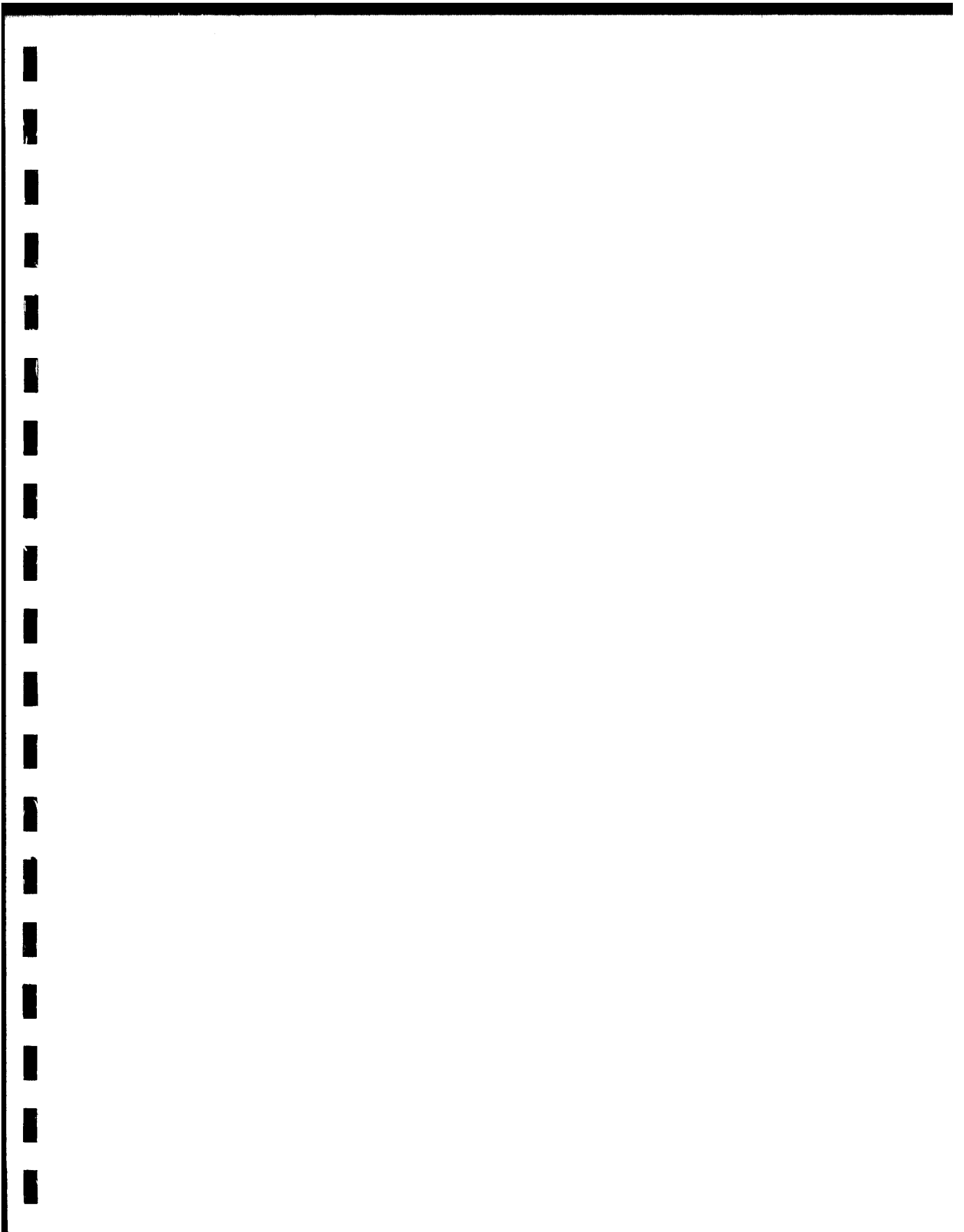
Name: Union Pacific
 Note, Med. Term Series E
Maturity: 11/9/2007 ?
Coupon: 6.790 %
Amount Outstanding: \$300.000 million

Date	Price	Yield
01/31/2003	\$112.58	3.87 %
02/28/2003	113.92	3.54
03/31/2003	113.43	3.60
04/30/2003	113.04	3.64
05/31/2003	115.35	3.06
06/30/2003	114.46	3.21
07/31/2003	110.52	4.08
08/31/2003	110.66	4.00
09/30/2003	113.16	3.33
10/31/2003	111.18	3.77
11/30/2003	111.16	3.72
12/31/2003	111.71	3.51
Average	\$112.60	3.61 %

Source: Standard & Poor's Bond Guide Database



SUMMARY OF LONG TERM DEBT FOR THE YEAR ENDING 2003			
Railroad	Market Value (Millions)	Current Cost	
BNSF	\$5,228,167	5.079%	
CSX	2,118,658	4.712%	
NSC	6,540,139	5.147%	
UNP	<u>5,348,457</u>	<u>4.288%</u>	
TOTAL MARKET VALUE:	<u>\$19,235,420</u>		
WEIGHTED AVERAGE CURRENT INTEREST COST:		4.842%	
Note: Market value and current cost includes debt issued in 2003.			
Source: (i)	Appendix D.		
(ii)	Appendix B.		



APPENDIX D

BURLINGTON NORTHERN SANTA FE											APPENDIX B	
DESCRIPTION (\$000)	AMOUNT	COUPON	DATE OF MATURITY	AVG 2003 PRICE	BOOK VALUE Plus MKT VALUE	PRICED MARKET VALUE	CURRENT INTEREST RATE	COST	TOTAL BONDS PRICED	PAGE #		
Mortgage Bonds :												
Ser H	\$275,000	9.250%	10-1-2006	1.1582	\$318,505	318,505	3.940%	\$12,549	1	1	1	
Ser K	3,978	6.550%	1-01-2020	1.0399	4,137	4,137	6.170%	255	1	1		
Ser L	6,195	3.800%	1-01-2020	0.7493	4,642	4,642	6.270%	291	1	1		
Ser M	12,998	3.200%	1-01-2045	0.5190	6,746	6,746	6.620%	447	1	1		
Ser N	2,506	8.150%	1-01-2020	1.1993	3,005	3,005	6.230%	187	1	1		
Ser O	15,378	6.550%	1-01-2020	1.0016	15,403	15,403	6.540%	1,007	1	1		
Ser P	5,566	8.150%	1-01-2020	1.2173	6,775	6,775	6.060%	411	1	1		
NP Gen Lien	34,479	3.000%	1-01-2047	0.6064	20,908	20,908	5.450%	1,139	1	1		
Emp. AM			1/1/2008		4,773			0	0	1		
Lin. Nat. Life	5,416	8.625%	7-01-2009		5,416			0	0	1		
GOB MORTGAGE	24,455	10.320%	1-01-2014		24,455			0	0	1		
Total:	\$390,744				\$414,765	\$380,121	4.284%	\$16,286	8	11		
Debentures												
BNSF	\$350,000	7.000%	12-15-2025	1.1131	389,585	389,585	6.080%	23,687	1	1		
BNSF	175,000	6.875%	02-15-2016	1.1579	202,633	202,633	5.160%	10,456	1	1		
BNSF	200,000	7.290%	06-01-2036	1.1840	236,800	236,800	6.010%	14,232	1	1		
BNSF	200,000	7.250%	08-01-2097	1.0961	219,220	219,220	6.630%	14,534	1	1		
BNSF	200,000	6.875%	12-01-2027	1.1012	220,240	220,240	6.080%	13,391	1	1		
BNSF	200,000	6.700%	08-01-2008	1.0794	215,880	215,880	4.930%	10,643	1	1		
BNSF	200,000	6.750%	03-15-2029	1.0861	217,220	217,220	6.090%	13,229	1	1		
BNSF	200,000	7.082%	05-13-2029	1.1290	225,800	225,800	6.090%	13,751	1	1		
BNSF	200,000	8.125%	04-17-2020	1.2129	242,580	242,580	6.090%	14,773	1	1		
BNSF	275,000	7.950%	08-15-2030	1.2461	342,678	342,678	6.090%	20,869	1	1		
Total BNSF	\$2,200,000				\$2,512,635	\$2,512,635	5.953%	\$149,565	10	10		

APPENDIX D

BURLINGTON NORTHERN SANTA FE (Page No. 2)										TOTAL BONDS	
DESCRIPTION (\$000.)	AMOUNT	Coupon	DATE OF MATURITY	AVERAGE 2003 PRICE	BOOK VALUE MARKET VALUE	PRICED MARKET VALUE	INTEREST RATE	COST	ALL		
SFP											
San Francisco Income Debentures	\$8,025	5.000%	1-01-2006	1.0000	8,025				1		
(BNI)-Debenture	200,000	8.750%	2-25-2022	1.2820	256,400	256,400	6.18%	15,946	1		
TOTAL SFP:	\$208,025				\$264,425	\$256,400	6.18%	\$15,846	2		
BNSF NOTES:											
Notes	\$300,000	5.900%	7/1/2012	1.0824	324,720	324,720	4.76%	15,457	1		
Notes	315,907	6.375%	12-15-2005	1.0957	346,139	346,139	2.27%	7,857	1		
Notes	400,000	6.750%	07/15/2011	1.1403	456,120	456,120	4.63%	21,118	1		
Medium Term Notes	170,100	6.530%	07-15-2037	1.0656	181,259	181,259	6.08%	11,021	1		
Medium Term Notes	321,909	7.875%	04-17-2007	1.1645	374,863	374,863	3.17%	11,883	1		
Medium Term Notes (See below)	156,250	4.300%	7/1/13	0.9758	152,469	152,469	4.62%	7,044	1		
Medium Term Notes	300,000	7.125%	12-15-2010	1.0000	300,000			0	1		
Medium Term Notes	218,627	6.125%	03-15-2009	1.1135	243,441	243,441	3.88%	9,446	1		
Total Notes	\$2,182,793				\$2,379,011	\$2,079,011	4.03%	\$83,826	8		
BNSF Railway											
Washington State DOT Note	278	0.00	10-01-2011	1.0000	278				1		
Amory Sales	8,808		2012-2022	1.0000	8,808				1		
Joliet Arsenal Facility	138,231	6.970%	08/01/22	1.0000	138,231				1		
Sub-Total:	\$147,317				\$147,317				3		
Total Notes:	\$2,330,110				\$2,526,328	\$2,079,011		\$83,826	7		
GRAND TOTAL:	\$5,128,879				\$5,718,153	\$5,228,167		\$265,523	26		
Note: New issues (principal) was prorated based on the period the bond was outstanding in 2003.											
CURRENT MKT VALUE					CURRENT MARKET VALUE +BOOK Value						
\$5,228,167					\$5,718,153						
5.079%											

Source: Debt description, amount outstanding, coupon and date of maturity

Source: Debt description, amount outstanding, coupon and date of maturity

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APPENDIX D

NORFOLK AND WESTERN RAILWAY COMPANY													
DESCRIPTION	OUTSTANDING AMOUNT	COUPON	DATE OF MATURITY	AVERAGE 2003 PRICE	Ref.	+ BK VAL MARKET VALUE	PRICED MARKET VALUE	CURRENT INTEREST RATE	ANNUAL INTEREST COST	TOTAL BONDS PRICED	ALL	Appendix B Page Number	
(\$ 000's)													
Medium Term Notes													
Note Series A	\$250,000	9.000%	3-01-2021	1.289	35	\$322,350	\$322,350	6.27%	\$20,211	1	1	1	1
Note Series A	100,000	7.400%	9-15-2006	1.136	36	113,610	113,610	2.85%	3,288	1	1	1	3
Note Series A	100,000	7.220%	9-15-2006	1.130	37	112,950	112,950	2.89%	3,264	1	1	1	4
Senior Note:	400,000	6.200%	4-15-2009	1.110	38	443,840	443,840	4.05%	17,976	1	1	1	5
Senior Note:	300,000	8.375%	5-15-2005	1.107	39	331,980	331,980	2.36%	7,835	1	1	1	6
Senior Note:	300,000	8.625%	5-15-2010	1.228	40	368,280	368,280	4.70%	17,309	1	1	1	7
Senior Note:	300,000	6.750%	2-15-11	1.137	41	341,130	341,130	4.59%	15,668	1	1	1	8
Senior Note:	700,000	7.250%	2-15-31	1.150	42	804,790	804,790	6.13%	49,334	1	1	1	9
Senior Note:	100,000	Various	2-28-05	1.000		100,000	0		0	0	0	1	
Senior Note:	200,000	6.000%	4-30-08	1.000		200,000	0		0	0	0	1	
	\$2,750,000					\$2,838,930	\$2,838,930		\$134,825	8	10		
Medium Term Notes (Cont'd)													
NSC 2007	\$740,325	7.350%	5-1-2007	1.141	43	844,933	844,933	3.38%	28,559	1	1	1	10
NSC 2017	550,000	7.700%	5-1-2017	1.225	44	673,530	673,530	5.38%	36,236	1	1	1	11
NSC 2027	800,000	7.800%	5-1-2027	1.210	45	967,920	967,920	6.12%	59,237	1	1	1	12
NSC 2037	716,600	7.050%	5-1-2037	1.126	46	806,892	806,892	6.17%	49,785	1	1	1	13
NSC 2097	350,000	7.900%	5-1-2097	1.150	47	402,640	402,640	6.87%	27,661	1	1	1	14
	\$3,155,925					\$3,695,915	\$3,695,915		\$201,478	5	5		

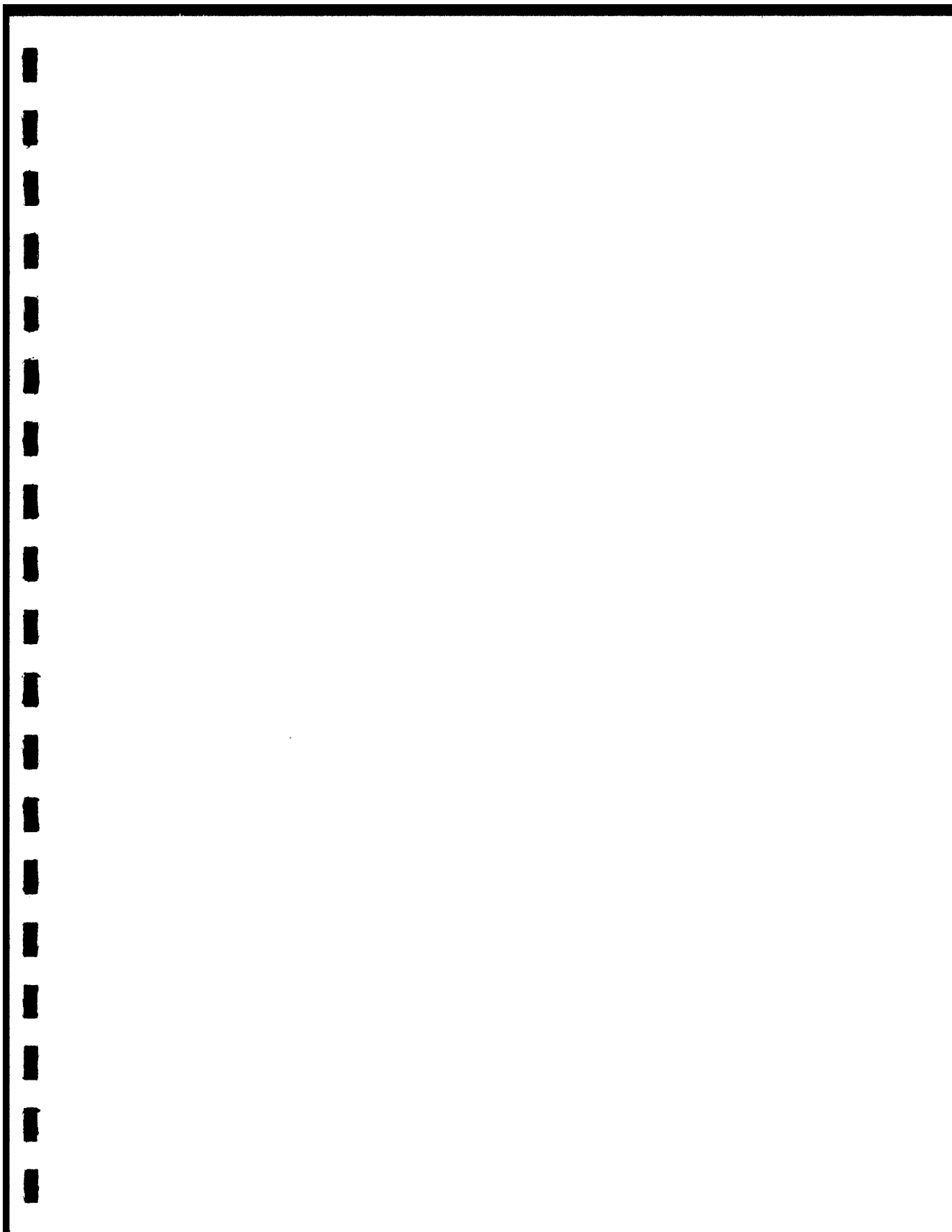
APPENDIX D

Income Debentures									
VGN Rwy Sub	\$3,825	6.00%	8-01-2008	1,014	48	\$3,878	\$3,878	5.68%	\$220
NW Rwy Sub	1,497	4.850%	11-15-2015	0.946	49	1,416	1,416	5.47%	77
Sub Total:	\$5,322					\$5,294	\$5,294		\$297
Bonds:									
Bond	\$75,734	8.25%	10-01-2019	1,000		\$75,734			1
"	9,169	8.25%		1,000		9,169			
Sub Total:	\$84,903					\$84,903			1
Marine Terminal									
	27,200	5.30%	-	1,000		\$27,200			1
		-	-	1,000		\$0			
		-	-	1,000		0			
						\$0			
GRAND TOTAL: (NSC)	\$6,024,350								\$336,600
									15
									19
							MARKET VALUE		
							\$6,540,139		
							5.147%		
Source: Debt description, amount outstanding, coupon and date of maturity based on data provided for the STB's 2003 Cost of Capital Proceeding.									
							MARKET + BOOK VALUE		
							\$6,652,242		

Source: Debt description, amount outstanding, coupon and date of maturity based on data provided for the STB's 2003 Cost of Capital Proceeding.

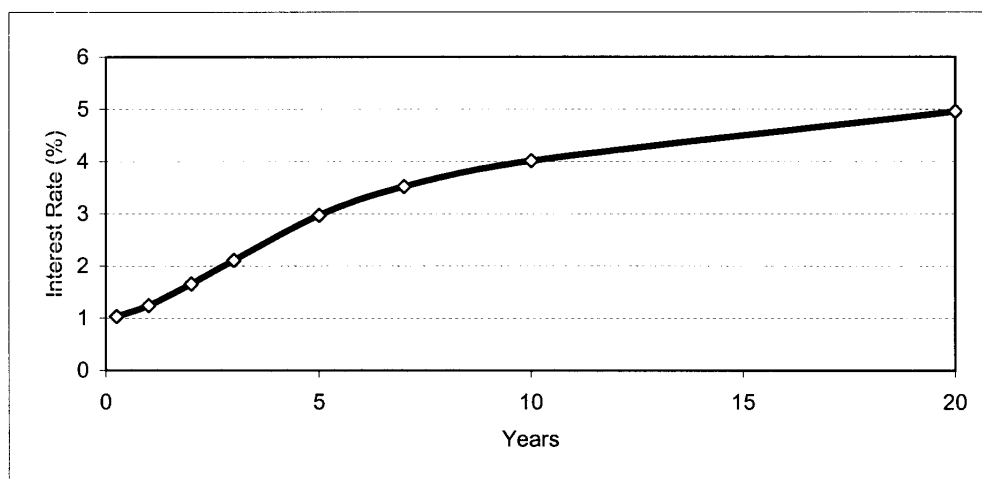
UNION PACIFIC CORPORATION - UNION PACIFIC RAILROAD COMPANY												
{ Page 2 }												
NEW ISSUES	% Debt Outstanding	AMOUNT	COUPON	DATE OF MATURITY	AVERAGE 2003 PRICE	+ BK VAL MARKET VALUE	PRICED MARKET VALUE	CURRENT INTEREST RATE	ANNUAL INTEREST COST	TOTAL BONDS PRICED	Appendix ALL	
198,266	58.30%	\$115,589	5.375%	2033	1.00000	\$115,589	\$0	\$0	\$0	0		
298,105	58.30%	173,795	3.625%	2010	1.00000	173,795	\$0	\$0	\$0	0		
249,384	87.50%	218,211	3.875%	2009	0.9974	217,644	\$217,644	3.930%	8,553	1	1	
		594,454	6.625%	2-01-2029	1.09020	648,074	648,074	5.940%	38,496	1	1	
		112,411	8.350%	5-01-2025	1.13060	127,092	127,092	7.160%	9,100	1	1	
		249,324	7.000%	2-01-2016	1.16470	290,388	290,388	5.200%	15,100	1	1	
		247,672	7.125%	2-01-2028	1.14390	283,312	283,312	6.000%	16,999	1	1	
		425,000	7.600%	5-01-2005	1.09400	464,950	464,950	2.200%	10,229	1	1	
		249,987	6.400%	2-01-2006	1.08580	271,436	271,436	2.860%	7,763	1	1	
		265,125	6.700%	12-01-2006	1.11170	294,739	294,739	3.170%	9,343	1	1	
		249,902	7.250%	11-01-2008	1.15860	289,536	289,536	3.910%	11,321	1	1	
		299,450	6.625%	2-01-2008	1.12110	335,713	335,713	3.710%	12,455	1	1	
		368,452	6.650%	1-15-2011	1.12850	449,653	449,653	4.610%	20,729	1	1	
		149,661	7.375%	9-15-2009	1.17390	175,687	175,687	4.150%	7,291	1	1	
		346,999	5.750%	10-15-2007	1.08710	377,223	377,223	3.530%	13,316	1	1	
		298,289	6.125%	1-15-2012	1.09560	326,805	326,805	4.750%	15,523	1	1	
		324,932	6.500%	4-15-2012	1.12490	365,516	365,516	4.750%	17,362	1	1	
		156,540	Various	Various	1.00000	156,540					1	
		7,708	Various	Various	1.00000	7,708					1	
		54,123	Various	Various	1.00000	54,123					1	
		25,000	Various	Various	1.00000	25,000					1	
		300,000	Various	2003-2007	1.12600	337,800	337,800	3.610%	12,195	1	1	
		120,688	Various	2003-2007	1.00000	120,688					1	
Sub Total:		\$5,383,312				\$5,909,012	\$5,255,568	4.296%	\$225,775	16	21	
Grand Total:		\$5,806,570				\$6,332,651	\$5,348,457	4.288%	\$229,323	17	36	
						Market Value						
						\$5,348,457						
						Current Interest Rate						
						4.288%						

Source: Debt description, amount outstanding, coupon and date of maturity based on data provided by UPC for the STB's 2003 Cost of Capital Proceeding.

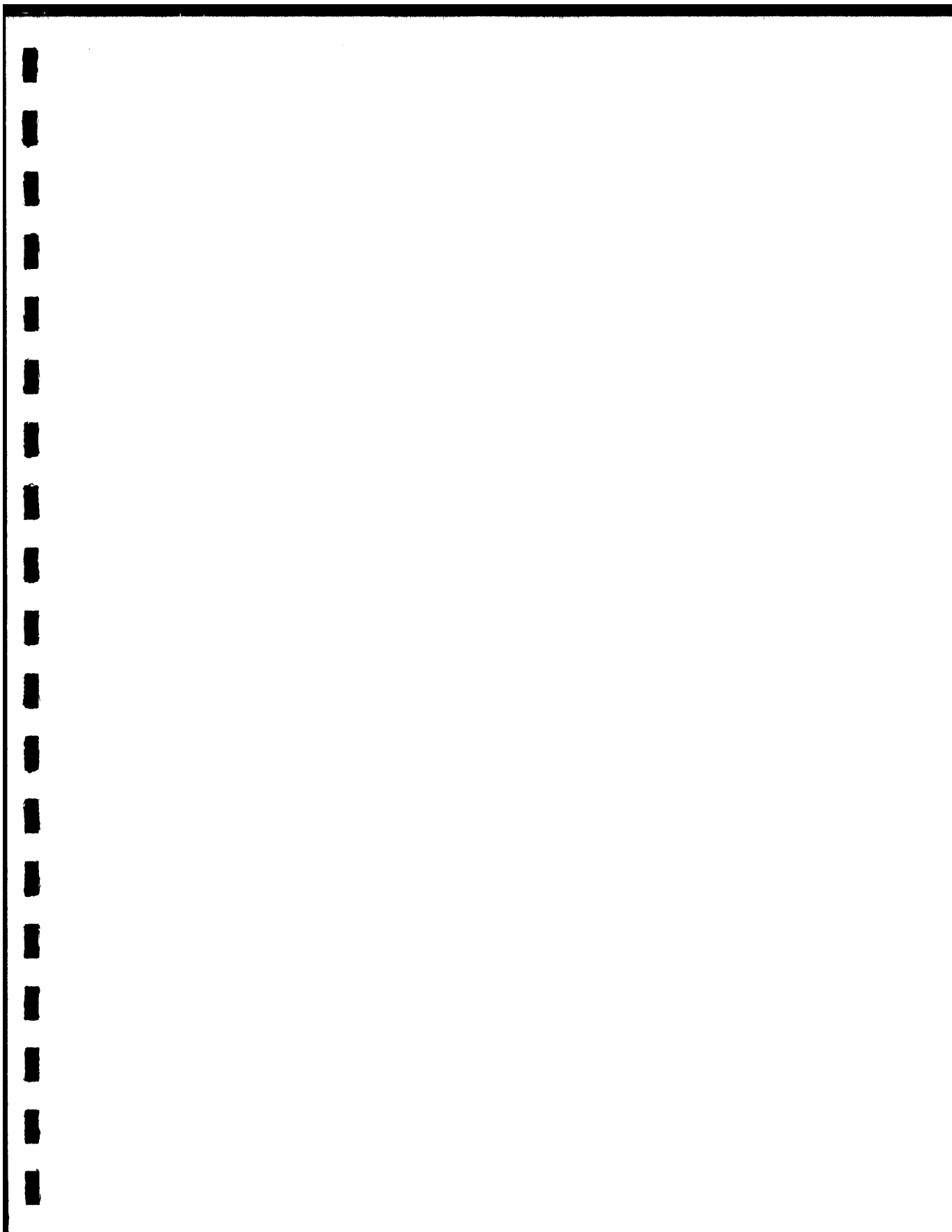


Interest Rates on Selected Government Instruments
Yield in Percent Per Annum, Constant Maturity Rates for 2003

	3 Month	1 Year	2 Year	3 Year	5 Year	7 Year	10 Year	20 Year
January	1.19	1.36	1.74	2.18	3.05	3.60	4.05	5.02
February	1.19	1.30	1.63	2.05	2.90	3.45	3.90	4.87
March	1.15	1.24	1.57	1.98	2.78	3.34	3.81	4.82
April	1.15	1.27	1.62	2.06	2.93	3.47	3.96	4.91
May	1.09	1.18	1.42	1.75	2.52	3.07	3.57	4.52
June	0.94	1.01	1.23	1.51	2.27	2.84	3.33	4.34
July	0.92	1.12	1.47	1.93	2.87	3.45	3.98	4.92
August	0.97	1.31	1.86	2.44	3.37	3.96	4.45	5.39
September	0.96	1.24	1.71	2.23	3.18	3.74	4.27	5.21
October	0.94	1.25	1.75	2.26	3.19	3.75	4.29	5.21
November	0.95	1.34	1.93	2.45	3.29	3.81	4.30	5.17
December	0.91	1.31	1.91	2.44	3.27	3.79	4.27	5.11
Average	1.03	1.24	1.65	2.11	2.97	3.52	4.02	4.96



Source: Federal Reserve statistical release H.15, Treasury Constant Maturities, Nominal



1983 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
01/01/83	05/01/97	BO	\$14,910	10.750 %	10.57 %	10.73 %
01/15/83	11/15/97	CO	16,500	10.750	10.58	10.76
04/01/83	04/01/98	BN	13,200	10.500	10.62	10.68
05/15/83	05/15/98	BN	50,000	10.970	11.05	11.19
07/14/83	07/14/98	CO	35,490	Various	11.64	11.77
07/15/83	09/15/95	SBD	15,717	11.500	11.62	11.78
11/17/83	11/17/98	CO	21,345	11.625	11.87	11.95
12/01/83	11/1/88-89	ATSF	2,000	11.75-11.90	N/A	N/A
12/01/83	12/01/98	SBD	19,335	11.750	11.82	11.98

1984 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
11/13/1984	3/15/1999	SBD	\$26,025	11.750 %	11.88 %	11.96 %
11/29/1984	8/15/1999	C&O	18,600	11.500	11.84	11.90

1985 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
02/04/85	11/15/99	SBD	\$11,730	11.375 %	11.57 %	11.66 %
05/05/85	03/01/00	SBD	33,630	11.250	11.34	11.37
05/30/85	04/01/00	SBD	33,960	11.125	11.23	11.30
05/29/85	12/01/99	ATSF	23,175	10.750	10.81	10.89
07/09/85	05/15/00	SBD	33,960	10.000	9.94	10.03
07/01/85	07/01/00	NW	24,375	10.125	10.47	10.53
07/15/85	07/15/00	SRS	25,650	10.000	10.03	10.10
09/01/85	09/01/00	NW	24,375	10.250	10.18	10.25
09/18/85	09/15/00	SRS	27,000	10.125	10.17	10.24
11/15/85	11/15/00	CO	22,800	10.250	10.28	10.39
12/19/85	12/15/00	MP	37,500	Various	9.14	9.20

N/A - Data on yield not available

1986 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
03/15/86	03/15/01	SRS	\$34,500	8.000 %	7.89 %	7.96 %
06/01/86	06/01/01	SRS	27,000	8.250	8.44	8.51
08/06/86	08/15/01	UP	35,055	Various	7.68	7.75
07/23/86	08/01/01	SRS	27,225	7.750	7.86	7.93

1987 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
1/18/1987	1/15/2002	UP	\$33,750	VAR %	7.48 %	N/A %
4/1/1987	4/1/2002	SRS	20,550	7.250	7.48	N/A

1988 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
05/15/88	05/15/03	NW	\$18,000	8.750 %	9.23 %	9.47 %
10/15/88		SRS	27,075	8.750	9.12	9.38

1989 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
02/15/89	02/15/99	UP	\$102,400	9.500 %	9.50 %	9.68 %
06/15/89	06/15/99	UP	105,300	9.000	9.00	9.25
11/15/89	11/15/04	NW	51,300	8.125	8.35	8.41
12/15/89	12/15/99	NW	70,800	8.350	8.35	8.46

1990 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
02/01/90	02/01/05	NW	\$34,950	8.750 %	8.99 %	9.07 %
03/14/90	03/15/02	UP	60,800	9.630	9.63	9.75

1991 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
03/01/91	03/01/06	NS	\$54,000	8.000 %	8.18 %	8.18 %
05/01/91	05/15/03	KCSI	32,156	Various	9.11	N/A
08/15/91	08/15/06	NS	63,000	7.750	8.02	8.02
09/17/91	10/01/06	UP	56,520	7.750	8.02	8.02
10/24/91	03/01/06	CSX	93,568	8.410	8.41	8.51

1992 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
01/14/92	07/14/13	BN	\$58,590	Various %	7.15 %	7.16 %
01/31/92	02/31/12	UP	83,000	Various	7.39	7.44
03/04/92	03/01/07	CSX	57,000	Various	7.55	7.55
08/01/92	08/01/07	NS	63,300	6.500	6.61	6.67
08/15/92	08/15/07	CSX	60,750	Various	6.58	6.58
12/01/92	12/01/07	CSX	30,000	Various	6.91	6.91

1993 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
03/15/93	03/15/08	CSX	\$73,500	Various %	6.10 %	N/A %
03/16/93	04/01/03	UP	57,400	6.150	6.15	6.20
11/04/93	11/15/08	CR	102,000	Various	5.53	5.59
11/15/93	11/15/08	NS	38,550	Various	5.70	5.74
12/21/93	01/02/12	BN	78,126	Various	6.32	6.42

N/A - Data on yield not available

1994 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
01/03/94	02/01/01	UP	\$87,900	6.120 %	6.12 %	6.19 %
06/21/94	07/01/09	CR	48,750	Various	7.37	7.37
09/15/94	09/15/09	NS	41,400	Various	7.44	7.49
11/15/94	11/15/09	CSX	39,000	Various	8.18	8.18
12/15/94	12/15/06	KCS	54,700	Various	8.56	8.68

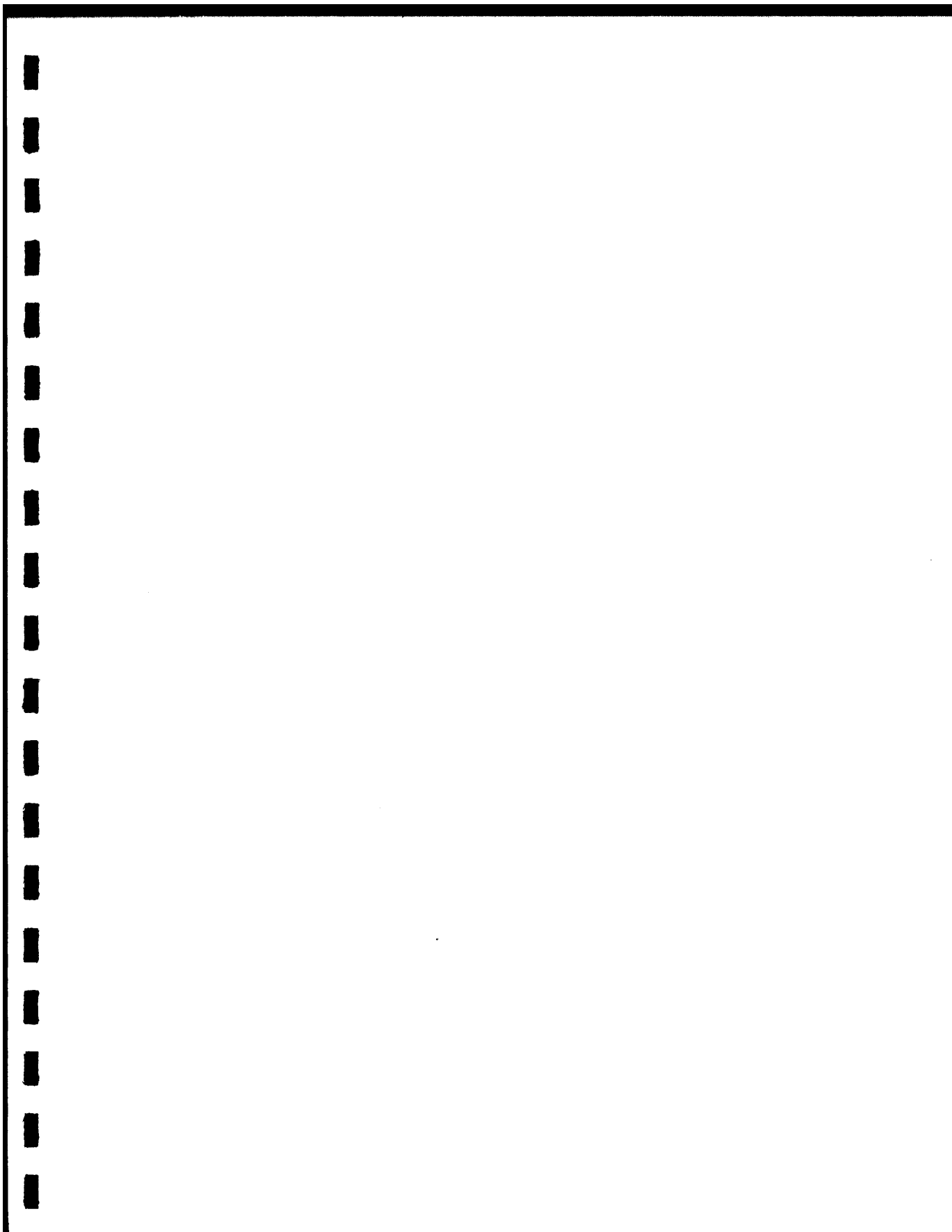
1995 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
03/15/95	03/15/10	CSX	\$58,500	Various %	7.48 %	7.59 %
06/01/95	06/01/10	CSX	57,000	Various	6.61	6.69

1996 EQUIPMENT TRUST CERTIFICATE ISSUES

Date of Issue	Maturity Date	Railroad	Amount (\$000)	Coupon Rate	Composite Yield	Cost to Company
03/15/96	03/15/11	CSX	\$57,000	Various	6.76	6.76 %
05/27/96	06/01/11	UP	81,500	Various	7.06	7.08
06/01/96	06/01/11	CSX	60,000	Various	7.29	7.36
07/01/96	07/01/11	CR	25,900	Various	7.06	7.11
09/24/96	09/24/11	BN	33,500	Various	7.21	7.24
11/19/96	12/01/11	UP	70,500	Various	6.50	6.50

N/A - Data on yield not available

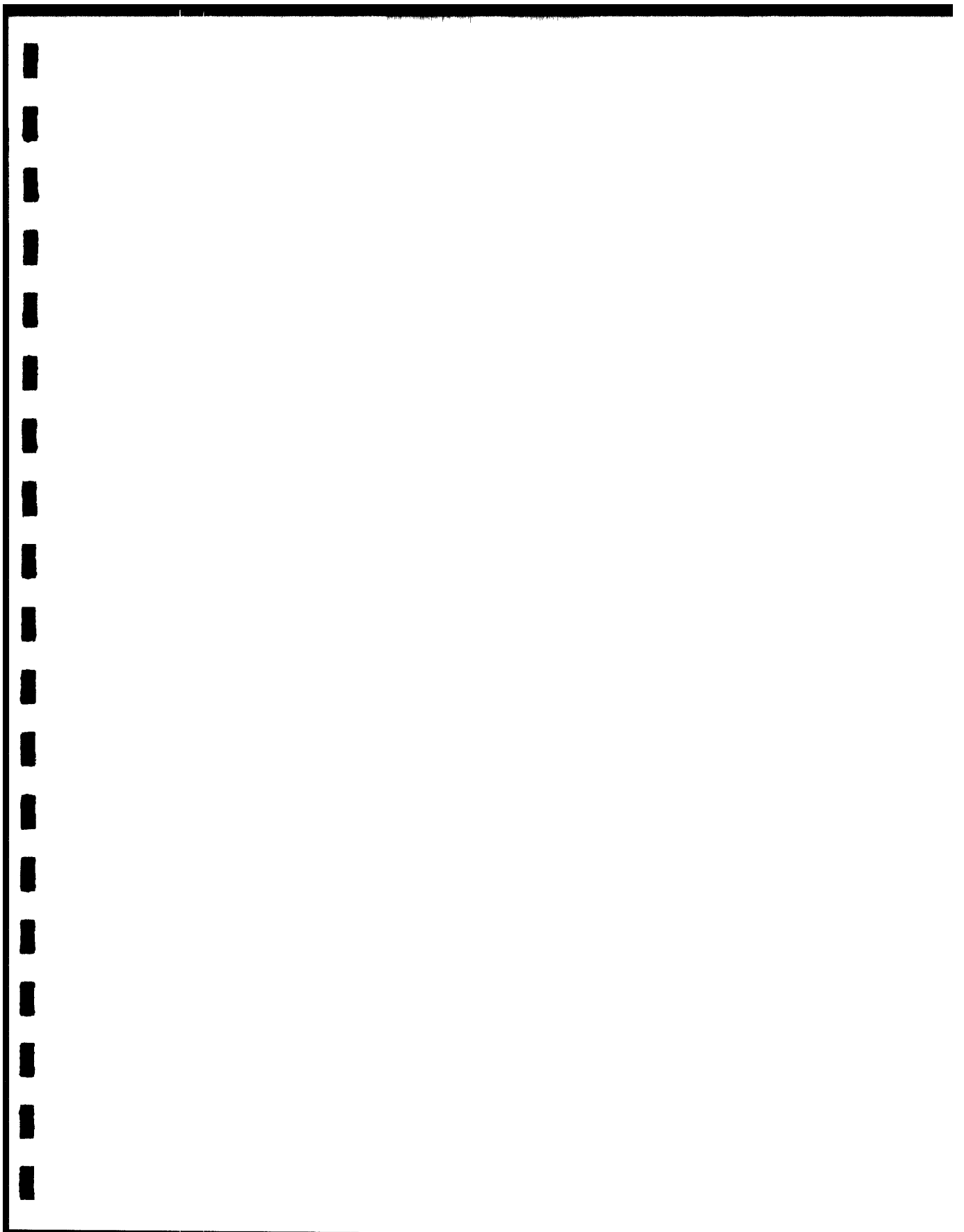


Summary of Yields for ETC's and CSA's

Versus

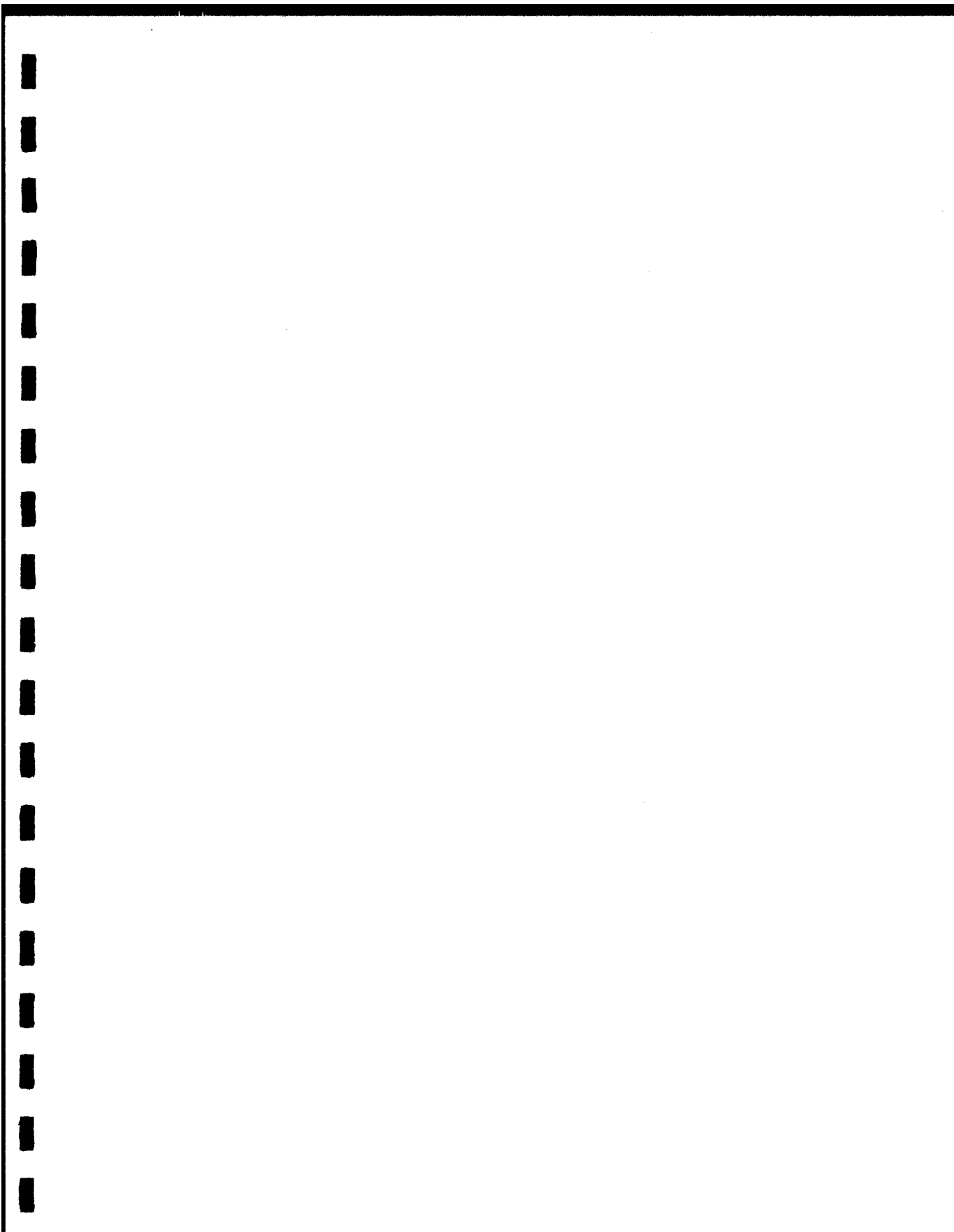
Government Bonds

Note: In 2003 there were no ETC's/CSA's issued by the Sample Railroads.



CURRENT COST OF DEBT AND MARKET VALUE
2003

Type of Debt	Market Value	Market Weight	Current Cost	Weighted Cost of Debt	Debt %	Floatation Costs	Floatation %	Weighted
Bonds, Notes & Debentures	\$19,235.4	92.34%	4.842%	4.471%	92.34%	0.16%	0.148%	
Equipment Trust Certificates	1,476.3	7.09%	4.680%	0.332%	7.09%	0.13%	0.009%	
Conditional Sales Agreements	118.4	0.57%	5.170%	0.029%	0.57%	0.13%	0.001%	
Sub Total:	\$20,830.1	100.0%		4.832%			0.158%	
Floatation Costs				0.158%				
Weighted Cost Current Cost of Debt for Year 2003:				4.990%	100.00%			
Traded Debt	\$20,830.1							
Non-Traded Debt								
Bonds, Notes & Debentures	\$5,005.3							
Miscellaneous Debt:								
Commercial Paper	\$242.3							
*Other Misc Debt	1,609.6							
Sub Total Misc Debt:	\$1,851.9							
Capital Leases:	\$2,423.5							
Total Market Value:	\$30,110.8							



**Flotation Costs for 1981 - 1997
Equipment Trust Certificate Issues**

Date of Issue	Railroad	Amount (\$000)	Composite Yield	Cost to Company	Flotation Costs
01/01/81	BN	\$26,250	14.31 %	14.44 %	0.13 %
02/01/81	ATSF	13,200	13.76	13.88	0.12
02/01/81	ATSF	26,250	15.31	15.41	0.10
02/01/81	MP	27,600	12.72	12.83	0.11
02/01/81	SOU	21,919	13.26	13.37	0.11
02/01/81	AGS	2,215	13.26	13.37	0.11
02/01/81	CAR & NW	566	13.26	13.37	0.11
02/01/81	GN	566	13.26	13.37	0.11
02/01/81	INTERSTATE	271	13.26	13.37	0.11
02/24/81	UP	25,500	13.28	13.32	0.04
04/15/81	SOU	22,740	13.55	13.67	0.12
04/15/81	AGS	1,458	13.55	13.67	0.12
04/15/81	CAR & NW	1,569	13.55	13.67	0.12
04/15/81	GN	359	13.55	13.67	0.12
04/15/81	INTERSTATE	166	13.55	13.67	0.12
04/28/81	UP	25,500	13.22	13.33	0.11
05/01/81	LN	17,250	14.05	14.21	0.16
05/15/81	MP	26,700	13.67	13.79	0.12
06/01/81	SOU	12,854	14.43	14.53	0.10
06/01/81	CNOTP	8,398	14.43	14.53	0.10
06/01/81	AGS	839	14.43	14.53	0.10
06/01/81	GS&F	839	14.43	14.53	0.10
06/01/81	CAR & NW	767	14.43	14.53	0.10
06/01/81	GN	302	14.43	14.53	0.10
06/01/81	INTERSTATE	101	14.43	14.53	0.10
07/01/81	SCL	24,750	14.19	14.33	0.14
08/01/81	AGS	2,494	14.73	14.86	0.13
08/01/81	CGA	842	14.73	14.86	0.13
08/01/81	SOU	9,216	14.73	14.86	0.13
08/01/81	CNOTP	5,325	14.73	14.86	0.13
08/01/81	GS&F	4,171	14.73	14.86	0.13
08/01/81	CAR & NW	552	14.73	14.86	0.13
08/01/81	GN	1,399	14.73	14.86	0.13
09/15/81	MP	26,700	15.50	15.62	0.12
11/01/81	SCL	24,750	13.60	13.76	0.16
12/15/81	MP	22,200	15.01	15.17	0.16
01/15/82	MP	28,200	15.14	15.27	0.13
02/01/82	ATSF	15,900	14.47	14.60	0.13
03/15/82	MP	12,300	14.13	14.27	0.14
08/24/82	UP	102,800	13.03	13.20	0.17

**Flotation Costs for 1981 - 1997
Equipment Trust Certificate Issues**

Date of Issue	Railroad	Amount (\$000)	Composite Yield	Cost to Company	Flotation Costs
01/01/83	B&O	\$14,910	10.57 %	10.73 %	0.16 %
01/15/83	C&O	16,500	10.58	10.76	0.18
04/01/83	BN	13,200	10.62	10.68	0.06
05/15/83	BN	50,000	11.05	11.19	0.14
07/15/83	SBD	15,717	11.62	11.78	0.16
07/15/83	C&O	35,490	11.64	11.77	0.13
11/17/83	C&O	21,345	11.87	11.95	0.08
12/06/83	SBD	19,335	11.82	11.98	0.16
11/13/84	SBD	26,025	11.88	11.96	0.08
11/29/84	C&O	18,600	11.84	11.90	0.06
02/04/85	SBD	11,730	11.57	11.66	0.09
05/05/85	SBD	33,630	11.34	11.37	0.03
05/03/85	SBD	33,960	11.23	11.30	0.07
05/29/85	ATSF	23,175	10.81	10.89	0.08
07/09/85	SBD	33,960	9.94	10.03	0.09
07/01/85	NW	24,375	10.47	10.53	0.06
07/15/85	SRS	25,650	10.03	10.10	0.07
09/01/85	NW	24,375	10.18	10.25	0.07
09/18/85	SRS	27,000	10.17	10.24	0.07
11/15/85	CO	22,800	10.28	10.39	0.11
12/19/85	MP	37,500	9.14	9.20	0.06
12/19/85	MP	37,500	8.54	8.60	0.06
03/15/86	SRS	34,500	7.89	7.96	0.07
06/01/86	SRS	27,000	8.44	8.51	0.07
08/06/86	UP	35,055	7.68	7.75	0.07
07/23/86	SRS	27,225	7.86	7.93	0.07
04/01/87	SRS	20,550	9.12	N/A	N/A
05/15/88	NW	18,000	9.23	9.47	0.24
10/15/88	SRS	27,075	9.12	9.38	0.26
01/15/89	UP	102,400	9.50	9.68	0.18
06/15/89	UP	105,300	9.00	9.25	0.25
11/15/89	NW	51,300	8.35	8.41	0.06
12/15/89	NW	70,800	8.35	8.46	0.11
02/01/90	NW	34,950	8.99	9.07	0.08
03/14/90	UP	60,800	9.63	9.75	0.12

N/A - Not Available

**Flotation Costs for 1981 - 1997
Equipment Trust Certificate Issues**

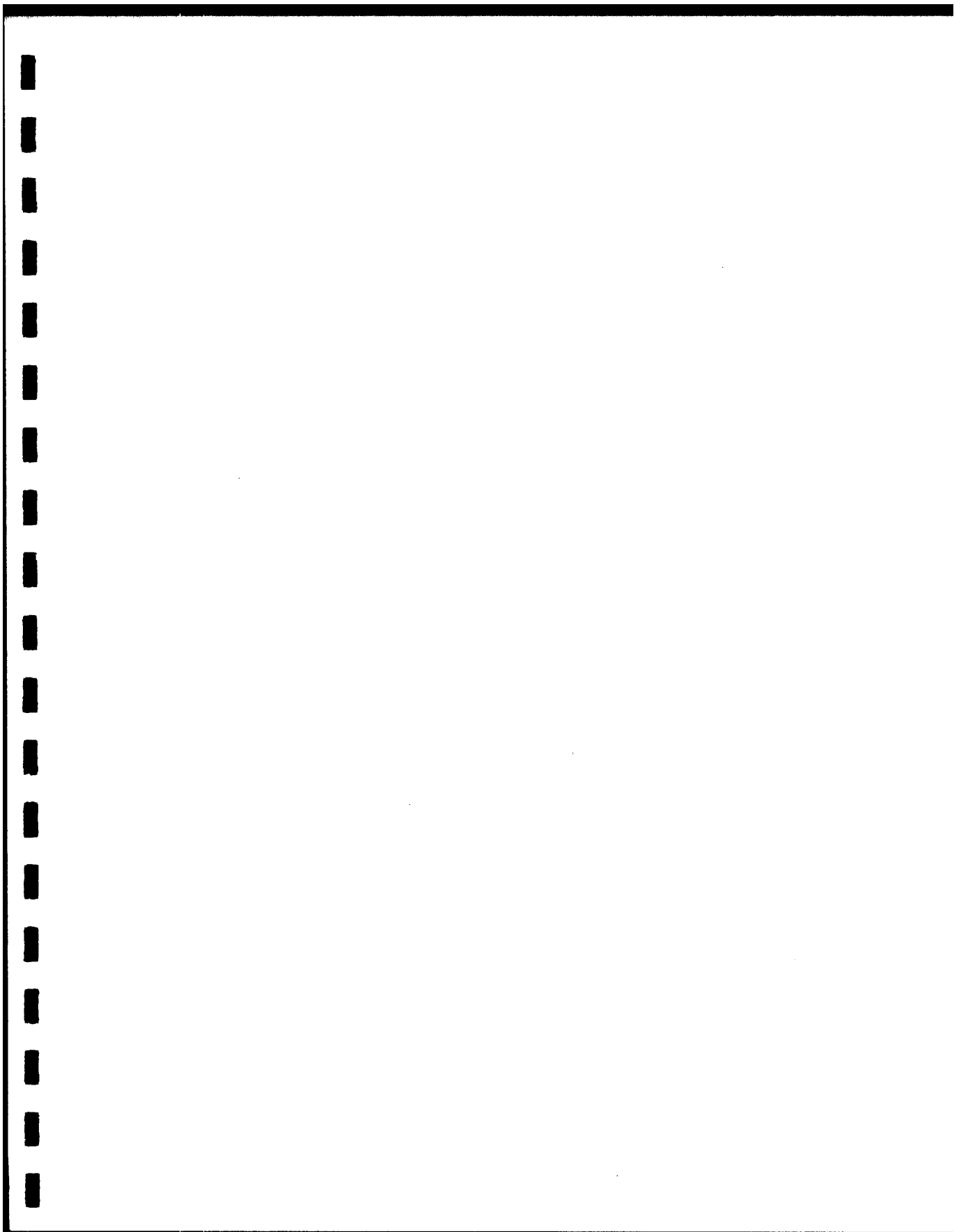
Date of Issue	Railroad	Amount (\$000)	Composite Yield	Cost to Company	Flotation Costs
03/01/91	NS	\$54,000	8.18 %	8.18 %	0.00 %
03/01/91	NS	250,000	9.00	N/A	N/A
08/15/91	NS	63,000	8.00	8.02	0.00
09/17/91	UP	56,520	7.83	7.89	0.06
10/24/91	CSX	93,568	8.41	8.51	0.10
01/14/92	BN	58,590	7.15	7.16	0.01
01/31/92	UP	83,000	7.39	7.44	0.05
03/04/92	CSX	57,000	7.55	7.55	0.00
08/01/92	NS	63,300	6.61	6.67	0.06
08/15/92	CSX	60,750	6.58	6.58	0.00
12/01/92	CSX	30,000	6.91	6.91	0.00
03/15/93	CSX	73,500	6.10	N/A	N/A
03/16/93	UP	57,400	6.15	6.20	0.05
11/04/93	CR	102,000	5.53	5.59	0.06
11/15/93	NS	38,500	5.70	5.74	0.00
12/21/93	BN	78,126	6.32	6.42	0.10
01/03/94	UP	87,900	6.12	6.19	0.07
06/21/94	CR	48,750	7.37	7.37	0.00
09/15/94	NS	41,400	7.44	7.49	0.05
11/15/94	CSX	39,000	8.18	8.18	0.00
12/15/94	KCS	54,700	8.56	8.68	0.12
03/15/95	CSX	58,500	7.48	7.59	0.11
06/01/95	CSX	57,000	6.61	6.69	0.08
03/15/96	CSX	57,000	6.71	6.76	0.05
05/27/96	UPC	81,500	7.06	7.08	0.02
06/01/96	CSX	60,000	7.29	7.36	0.07
07/01/96	CR	25,900	7.06	7.11	0.05
09/24/96	BN	33,500	7.21	7.24	0.03
11/19/96	UP	70,500	6.50	6.50	0.00

No issues for 1997.

N/A - Not Available

Simple Average 1981-1996 = 0.10 %

Source: Information provided (1981-1986) by Salomon Brothers Inc.'s "Special Report to Railroad Officers" and data provided by individual railroads. See Appendix F for detail on each ETC.



**Calculation of Composite Current Dividend Yield
For Each Month and for Year
2003**

January

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$26.20	375,777,467	\$9,845,369,635	0.255097	\$0.1200	1.83%	0.47%
CSX	\$28.62	213,880,595	6,121,262,629	0.158604	\$0.1000	1.40%	0.22%
NSC	\$19.60	388,985,340	7,624,112,664	0.197543	\$0.0700	1.43%	0.28%
UNP	\$59.15	253,659,129	15,003,937,480	0.388757	\$0.2300	1.56%	0.60%
Total			\$38,594,682,409	1.000000			1.58%

February

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$25.34	375,777,467	\$9,522,201,014	0.258617	\$0.1200	1.89%	0.49%
CSX	\$26.93	213,880,595	5,759,804,423	0.156433	\$0.1000	1.49%	0.23%
NSC	\$19.04	388,985,340	7,406,280,874	0.201150	\$0.0700	1.47%	0.30%
UNP	\$55.71	253,659,129	14,131,350,077	0.383799	\$0.2300	1.65%	0.63%
Total			\$36,819,636,387	1.000000			1.65%

March

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$24.81	373,092,301	\$9,256,419,988	0.254067	\$0.1200	1.93%	0.49%
CSX	\$27.76	213,718,513	5,932,825,921	0.162842	\$0.1000	1.44%	0.23%
NSC	\$18.81	389,377,049	7,324,182,292	0.201031	\$0.0700	1.49%	0.30%
UNP	\$54.83	253,868,288	13,919,598,231	0.382060	\$0.2300	1.68%	0.64%
Total			\$36,433,026,431	1.000000			1.67%

Sources:

Daily Stock prices were obtained from financial databases, and averaged.

Number of Shares of Stock and Dividends were obtained from railroads and SEC 10-K reports.

Market Value is the Average Stock Price multiplied by the number of shares.

Individual railroad weights are based on the Market Value.

**Calculation of Composite Current Dividend Yield
For Each Month and for Year
2003**

April

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$26.59	373,092,301	\$9,920,524,284	0.254951	\$0.1200	1.81%	0.46%
CSX	\$30.34	213,718,513	6,484,219,684	0.166640	\$0.1000	1.32%	0.22%
NSC	\$19.85	389,377,049	7,729,134,423	0.198633	\$0.0700	1.41%	0.28%
UNP	\$58.21	253,868,288	14,777,673,044	0.379776	\$0.2300	1.58%	0.60%
Total			\$38,911,551,435	1.000000			1.56%

May

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$28.35	373,092,301	\$10,577,166,733	0.258661	\$0.1200	1.69%	0.44%
CSX	\$31.96	213,718,513	6,830,443,675	0.167036	\$0.1000	1.25%	0.21%
NSC	\$21.35	389,377,049	8,313,199,996	0.203297	\$0.0700	1.31%	0.27%
UNP	\$59.76	253,868,288	15,171,168,891	0.371006	\$0.2300	1.54%	0.57%
Total			\$40,891,979,296	1.000000			1.48%

June

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$29.21	372,823,645	\$10,890,178,670	0.266627	\$0.1200	1.64%	0.44%
CSX	\$30.88	213,964,090	6,607,211,099	0.161766	\$0.1000	1.30%	0.21%
NSC	\$20.83	389,786,188	8,119,246,296	0.198786	\$0.0700	1.34%	0.27%
UNP	\$59.84	254,471,834	15,227,594,547	0.372821	\$0.2300	1.54%	0.57%
Total			\$40,844,230,612	1.000000			1.49%

Sources:

Daily Stock prices were obtained from financial databases, and averaged.

Number of Shares of Stock and Dividends were obtained from railroads and SEC 10-K reports.

Market Value is the Average Stock Price multiplied by the number of shares.

Individual railroad weights are based on the Market Value.

**Calculation of Composite Current Dividend Yield
For Each Month and for Year
2003**

July

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$28.37	372,823,645	\$10,577,006,809	0.265371	\$0.1500	2.11%	0.56%
CSX	\$31.28	213,964,090	6,692,796,735	0.167919	\$0.1000	1.28%	0.21%
NSC	\$19.30	389,786,188	7,522,873,428	0.188745	\$0.0800	1.66%	0.31%
UNP	\$59.20	254,471,834	15,064,732,573	0.377966	\$0.2300	1.55%	0.59%
Total			\$39,857,409,545	1.000000			1.68%

August

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$27.39	372,823,645	\$10,211,639,637	0.258325	\$0.1500	2.19%	0.57%
CSX	\$31.09	213,964,090	6,652,143,558	0.168280	\$0.1000	1.29%	0.22%
NSC	\$18.66	389,786,188	7,273,410,268	0.183996	\$0.0800	1.71%	0.32%
UNP	\$60.49	254,471,834	15,393,001,239	0.389399	\$0.2300	1.52%	0.59%
Total			\$39,530,194,701	1.000000			1.69%

September

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$28.88	371,031,021	\$10,715,375,886	0.266373	\$0.1500	2.08%	0.55%
CSX	\$31.21	214,018,692	6,679,523,377	0.166046	\$0.1000	1.28%	0.21%
NSC	\$19.24	389,998,572	7,503,572,525	0.186531	\$0.0800	1.66%	0.31%
UNP	\$60.15	254,836,898	15,328,439,415	0.381049	\$0.2300	1.53%	0.58%
Total			\$40,226,911,204	1.000000			1.66%

Sources:

Daily Stock prices were obtained from financial databases, and averaged.

Number of Shares of Stock and Dividends were obtained from railroads and SEC 10-K reports.

Market Value is the Average Stock Price multiplied by the number of shares.

Individual railroad weights are based on the Market Value.

**Calculation of Composite Current Dividend Yield
For Each Month and for Year
2003**

October

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$29.12	371,031,021	\$10,804,423,332	0.271811	\$0.1500	2.06%	0.56%
CSX	\$30.04	214,018,692	6,429,121,508	0.161740	\$0.1000	1.33%	0.22%
NSC	\$18.94	389,998,572	7,386,572,954	0.185827	\$0.0800	1.69%	0.31%
UNP	\$59.37	254,836,898	15,129,666,634	0.380623	\$0.3000	2.02%	0.77%
Total			\$39,749,784,427	1.000000			1.86%

November

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$29.29	371,031,021	\$10,867,498,605	0.255756	\$0.1500	2.05%	0.52%
CSX	\$33.40	214,018,692	7,148,224,313	0.168226	\$0.1000	1.20%	0.20%
NSC	\$21.09	389,998,572	8,225,069,883	0.193569	\$0.0800	1.52%	0.29%
UNP	\$63.77	254,836,898	16,250,948,985	0.382450	\$0.3000	1.88%	0.72%
Total			\$42,491,741,787	1.000000			1.74%

December

Railroad	Avg. Common Stock Price	Number Of Shares	Market Value	Weight	Dividend Paid	Dividend Yield	Weighted Yield
BNI	\$31.42	371,459,535	\$11,671,258,590	0.256380	\$0.1500	1.91%	0.49%
CSX	\$34.79	215,067,006	7,482,181,139	0.164359	\$0.1000	1.15%	0.19%
NSC	\$23.12	390,761,063	9,034,395,777	0.198456	\$0.0800	1.38%	0.27%
UNP	\$67.15	258,160,531	17,335,479,657	0.380804	\$0.3000	1.79%	0.68%
Total			\$45,523,315,162	1.000000			1.63%

The Simple Average of the 12 monthly dividend yields is: 1.64%

Sources:

Daily Stock prices were obtained from financial databases, and averaged.

Number of Shares of Stock and Dividends were obtained from railroads and SEC 10-K reports.

Market Value is the Average Stock Price multiplied by the number of shares.

Individual railroad weights are based on the Market Value.