

Re Verizon New Hampshire
DT 02-110
Order No. 24,265

New Hampshire Public Utilities Commission
January 16, 2004

ORDER determining the cost of capital required by an incumbent telecommunications local exchange carrier (ILEC) for its regulated telecommunications business.

Commission finds that a 9.82% cost of equity and an overall weighted cost of capital of 8.2% is reasonable for the ILEC. It declines to set different costs of capital for retail and wholesale -- unbundled network element (UNE) -- lines of business. Commission concludes that it is reasonable to view the ILEC as a whole to arrive at a weighted average cost of capital to be used by the ILEC for jurisdictional filings that require cost studies that call for an estimate of cost of capital. The commission will use this overall weighted cost of capital to (1) modify total element long-run incremental cost rates for UNEs; (2) adjust rates in any future retail rate case; and (3) examine earnings going forward. The ILEC is directed to file revised statement of generally available terms (SGAT) tariffs to reflect the new cost-of-capital determinations.

P.U.R. Headnote and Classification

1.

RETURN

s15

NH.P.U.C. 2004

[N.H.] Zone of reasonableness -- Legal framework -- Standard of review.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

2.

RETURN

s22

NH.P.U.C. 2004

[N.H.] Factors affecting reasonableness -- Attraction of capital -- Returns of comparable enterprises.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

3.

RETURN

s111

NH.P.U.C. 2004

[N.H.] Telecommunications carrier -- Retail and wholesale lines of business -- Rejection of segregated approach -- Use of overall weighted average cost of capital.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

4.

RETURN

s72

NH.P.U.C. 2004

[N.H.] As a whole -- Denial of differentiation by rate class -- Retail and wholesale lines of business -- Telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

5.

RETURN

s44

NH.P.U.C. 2004

[N.H.] Factors affecting reasonableness -- Risk -- Wholesale line of business -- Proposed unbundled network element risk premium -- Grounds for denial -- Incumbent telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

6.

TELEPHONES

s14

NH.P.U.C. 2004

[N.H.] Connecting carriers -- Pricing of unbundled network elements -- Denial of proposed risk premium -- Incumbent local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

7.

RETURN

s26.1

NH.P.U.C. 2004

[N.H.] Capital structure -- Factors considered -- Actual book value structure of nearest reporting entity -- Subsidiary incumbent telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

8.

RETURN

s26.1

NH.P.U.C. 2004

[N.H.] Capital structure -- Inclusion of short-term debt -- Incumbent telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

9.

RETURN

s26.1

NH.P.U.C. 2004

[N.H.] Capital structure -- Imputed structure -- Prudent manager standard --
Additional debt financing -- Incumbent telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

10.

RETURN

s26.2

NH.P.U.C. 2004

[N.H.] Cost of capital -- Cost of short-term debt -- Incumbent telecommunications
local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

11.

RETURN

s26.2

NH.P.U.C. 2004

[N.H.] Cost of capital -- Cost of long-term debt -- Use of embedded cost --
Incumbent telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

12.

RETURN

s26.4

NH.P.U.C. 2004

[N.H.] Cost of equity -- Estimation methodology -- Primary reliance on discounted cash flow model -- Application to proxy group -- Sample of two regional Bell operating companies -- Incumbent telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

13.

RETURN

s26.4

NH.P.U.C. 2004

[N.H.] Cost of equity -- Method of determination -- Application of commission's expertise -- Incumbent telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

14.

RETURN

s26.4

NH.P.U.C. 2004

[N.H.] Cost of equity -- Estimation methodology -- Discounted cash flow model -- Growth factor -- Inclusion of dividends -- Incumbent telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

15.

RETURN

s26.4

NH.P.U.C. 2004

[N.H.] Cost of equity -- Estimation methodology -- Discounted cash flow model -- Three-stage version -- Incumbent telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

16.

RETURN

s26.4

NH.P.U.C. 2004

[N.H.] Cost of equity -- Estimation methodology -- Exclusion of flotation costs - - Incumbent telecommunications local exchange carrier.

Re Verizon New Hampshire

P.U.R. Headnote and Classification

17.

RETURN

s111

NH.P.U.C. 2004

[N.H.] Telecommunications carrier -- Cost of equity of 9.82% -- Overall weighted cost of capital of 8.2% -- No differentiation between retail and wholesale lines of business -- Local exchange carrier.

Re Verizon New Hampshire

APPEARANCES: Victor D. Del Vecchio, Esq. for Verizon New Hampshire; Swidler Berlin Shereff Friedman, LLP by Philip J. Macres, Esq. and Eric J. Branfman, Esq. on behalf of Freedom Ring Communications, LLC d/b/a BayRing Communications; Laura Gallo, Esq., Kenneth W. Salinger, Esq., and Katherine A. Davenport, Esq. for WorldCom, Inc. (now MCI Communications, Inc.); F. Anne Ross, Esq. for the Office of the Consumer Advocate on behalf of residential ratepayers, E. Barclay Jackson, Esq. for the Staff of the New Hampshire Public Utilities Commission.

BY THE COMMISSION:

ORDER

I. PROCEDURAL HISTORY

The New Hampshire Public Utilities Commission (Commission) initiated this docket, by Order of Notice dated June 28, 2002, to determine the appropriate cost of capital for Verizon New Hampshire (Verizon) and to examine whether recurring TELRIC [FN1] rates should be modified to take into account a revised cost of capital. Motions to intervene in the matter were filed by Otel Telekom, Inc. (Otel); Global NAPS, Inc. (Global NAPS); Conversent Communications of New Hampshire, LLC (Conversent); CTC Communications Corporation (CTC), Dieca Communications Inc. d/b/a Covad Communications Company (Covad); Freedom Ring Communications, LLC d/b/a BayRing Communications (BayRing), and WorldCom, Inc. (now MCI Communications, Inc. and herein referred to as MCI). In addition, the Office of Consumer Advocate (OCA) filed its intent to participate on behalf of residential utility consumers pursuant to RSA 363: 28, II.

The Commission granted all motions to intervene at the Prehearing Conference held on July 12, 2002. Subsequent to the Prehearing Conference, the parties and Staff met in technical discussions on July 12 and July 18, 2002 regarding the scope of the proceeding. Verizon filed testimony on August 30, 2002, pursuant to the initial procedural schedule.

By Order No. 24,053, on September 16, 2002, the Commission approved the parties' joint proposal for a procedural schedule. As a result of several motions to compel responses to discovery, change filing dates for rebuttal testimony, and clarify the scope of the proceeding, on November 27, 2002, the Commission issued Order No. 24,089 clarifying that this cost of capital investigation pertains both to retail and wholesale rates, addressing the discovery issues, and revising the procedural schedule.

Verizon filed supplemental direct testimony on December 13, 2002. The OCA, BayRing and Conversent (BR/C), and Staff filed direct testimony on January 27, 2003. On March 7, 2003, Verizon filed a Motion to Suspend the Deadline for filing Rebuttal Testimony, on the basis of the Federal Communications Commission's (FCC) announcement of its forthcoming Triennial Review Order (TRO). The Commission denied Verizon's motion, finding that the parties and Staff could request leave to file supplemental testimony on the effect of the FCC order if the order were to issue prior to the hearings in this docket.

The Commission heard this case on April 22 and 23, 2003, at which time the FCC had not issued the anticipated TRO decision. The parties and Staff filed briefs on May 31, 2003. By secretarial letter dated June 9, 2003, the Commission requested that Verizon respond to several post-hearing record requests. Verizon filed its responses on June 19, 2003. By letter dated July 9, 2003, the OCA clarified that its Brief supports the application of a single cost of capital to Verizon as a whole but, in the alternative, recommends a separate cost of capital applicable to the wholesale portion of Verizon's business.

By letter dated September 15, 2003, Verizon requested that the Commission re-open the record, permit the parties and Staff to file supplemental testimony explaining how the FCC's TRO (issued August 21, 2003) applies, and schedule hearings on the supplemental testimony. On September 17, 2003, the OCA filed an objection to

Verizon's motion; on September 25, 2003, MCI filed an objection to Verizon's motion. The Commission issued Order No. 24,237 on November 7, 2003 denying Verizon's request and taking administrative notice of the TRO and of the FCC's Wireline Competition Bureau's subsequent application of the TRO to its Virginia Arbitration Order.

II. COST OF CAPITAL METHODOLOGY AND THRESHOLD ISSUE OF WHETHER UNE RATES AND RETAIL RATES SHOULD HAVE SEPARATE COSTS OF CAPITAL

The parties and Staff have all identified values for Verizon's cost of equity and cost of debt, and capital structure. The weighted average cost of capital (WACC) is determined by multiplying the cost of equity by the percentage of equity in the company's capital structure, and adding that number to the cost of debt, similarly multiplied by the percentage of debt in the capital structure.

For determining a cost of equity, the parties and Staff all follow Commission practice in utilizing the Discounted Cash Flow (DCF) method. The DCF formula states that the cost of equity can be expressed as

$$k = \frac{D0 (1 + g)}{P0} + g,$$

where k is the cost of equity, $D0$ is the current annual dividend on one share of common stock, $P0$ is the current stock price, and g is the anticipated growth rate. The parties and Staff each applied the DCF methodology differently, choosing different values for g based on varying theories. They therefore obtained different results. The parties and Staff ascertained different values for the cost of debt and for a capital structure, as well, based upon different assumptions. The differing values for each of these three components resulted in significantly different overall costs of capital. The parties and Staff also differ in the general approach to this particular cost of capital determination, raising an important threshold issue, i.e., whether unbundled network elements (UNEs) and retail rates should have separate costs of capital.

Verizon argues that the increased competitive and regulatory risks it faces in New Hampshire requires a cost of capital that is significantly above the cost of capital required during the company's tenure as a state-sanctioned exclusive monopoly. According to Verizon, the Commission must apply two different standards in order to properly consider the different regulatory contexts in which the cost of capital will be applied. Specifically, Verizon argues, the Commission must apply the FCC's forward-looking TELRIC standard to set a separate cost of capital for wholesale services (i.e., UNEs) and the traditional rate of return standard to set a cost of capital for retail services. Verizon presented evidence in support of a cost of capital of 12.45% for retail ratemaking and a cost of capital of 17.93% for wholesale services.

MCI urges the Commission to set one WACC for Verizon. MCI claims that Verizon's cost of capital should be decreased, based on the record before the Commission that the market cost of capital has declined and interest rates are at near-record lows. According to MCI, Verizon's policy claims that increasing its cost of capital will foster facilities-based competition is unsupported conjecture that does not hold up under scrutiny. MCI argues as follows: First, the FCC determined that CLECs are not

required to provide facilities-based services; facilities-based competition is a long term goal but UNE-based competition must precede that goal. Second, the Telecommunications Act of 1996 (TAct) recognizes that Verizon and other Regional Bell Operating Companies (RBOCs) today enjoy benefits gained as a result of monopoly-based economies of scale that will take CLECs time to establish. MCI therefore argues that the Commission should not allow Verizon to utilize this cost of capital docket to collaterally attack the federal plan to foster local competition.

According to MCI, Verizon's entire case is based upon an overstatement of risk in the UNE market. Verizon's assumptions about networks that will be rebuilt and abandoned under TELRIC have no rational basis, MCI claims and, in fact, Verizon provides UNEs from existing facilities that have been at least partially depreciated and paid for. MCI urges the Commission to disregard that claim and utilize the capital structure, cost of debt and cost of equity recommended by BayRing and Conversent, which produce an overall cost of capital of 7.20%.

BayRing/Conversent claim that adopting Verizon's proposed cost of capital recommendation would create over-earnings for Verizon and create an environment hostile to competition in the New Hampshire local services market.

The OCA contends that the Commission must determine whether Verizon should be regulated based upon total jurisdictional plant as determined by actual historic investment or based upon a new standard that separates assets depending upon whether the assets support UNE or retail services. The first standard is the more traditional, which the OCA suggests could be either a straight retail rate of return or a blended retail-UNE rate of return based on a weighted average of the retail and UNE rates of return, corresponding to the percentage of intrastate assets supporting UNE service and the percentage of intrastate assets supporting retail service. This traditional standard would insure that Verizon would receive all actual costs involved in UNE provisioning, according to the OCA, and would overcome the problem of under-recovery that Verizon raised in this docket, albeit by a subsidy from retail consumers. OCA claims that the second, newer, standard would require the Commission to conduct a rate case to determine the appropriate rate bases for retail and UNE ratemaking. The OCA points out that, under this second standard, Verizon would run the risk of under-recovering the costs of providing UNEs and that shareholders would bear any investment recovery shortfall.

The OCA concludes that the Commission should follow the first, more traditional standard with a straight retail rate of return of 8.14% applied to the total rate base. The OCA argues that a blended rate should not be applied because that would result in a windfall for Verizon. On the theory that the assets supporting UNEs are minimal compared to total rate base, the OCA contends that any subsidy from retail ratepayers will be insignificant and is far outweighed by the costs involved to separate Verizon assets.

In the alternative, should the Commission decide that a different cost of capital should be applied to UNE rates, the OCA argues that a more realistic debt-to-equity ratio of 35:65 should be recognized and a forward-looking cost of debt of 6.79% should be applied. The resulting separate cost of capital for UNEs would then be 9.45%, capturing, according to the OCA, the total risk of UNE service.

Staff recommends an overall cost of capital of 8.184% based on its recommended

capital structure, cost of debt, and cost of equity. This amount is based upon Staff's conclusion that current market conditions signal an unambiguously low opportunity cost of funds.

Staff's approach to the docket rejects Verizon's arguments that TELRIC principles apply to this case, except possibly with regard to the small portion of Verizon's business that provides wholesale services at TELRIC prices. The traditional rate of return regulation to obtain just and reasonable rates as set out in *Federal Power Commission v. Hope Natural Gas*, 320 U. S. 591, 88 L. Ed. 333, 64 S. Ct. 281 (1944) and *Bluefield Water Works v. West Virginia Pub. Serv. Comm.* 262 U. S. 679, 67 L. Ed. 1176, 43 S. Ct. 675 (1923), (*Hope* and *Bluefield*, respectively), including reliance on book values, will best serve the interest of the New Hampshire public, Staff maintains. Nonetheless, Staff also argues that its cost of capital calculation complies with TELRIC principles to the extent necessary, since the cost of capital is intrinsically forward-looking.

III. POSITIONS OF THE PARTIES AND STAFF

A. CAPITAL STRUCTURE

1. Verizon

Verizon's witness, Dr. Vander Weide, reasons that economic theory and TELRIC principles require the Commission to estimate Verizon's capital structure by using 'market value' rather than book value. Verizon recommends the Commission determine a capital structure for the company based upon the average market value capital structure of a proxy group of competitive industrial companies and a group of telecommunications companies with Incumbent Local Exchange Carrier (ILEC) subsidiaries. (Ex. 1 p. 49) Since the average market value capital structure computed by Verizon for the proxy group was no more than 25% debt and 75% equity during the last five years (Ex. 1, Table 2, p. 50), Verizon recommends 25% debt and 75% equity for its capital structure.

In support of this contention, Verizon argues that economists measure the percentages of debt and equity in the capital structure by first calculating the market values of the firm's debt and the firm's equity, then calculating the ratio of those values. (Ex. 1, p. 18.) According to Verizon, managers analyzing capital structure in this way can best choose a financing strategy to maximize the value of the firm. (Ex. 1, p. 19.) Verizon also asserts this definition is widely accepted in other contexts such as real estate. Further, Verizon's witness argues that rational managers would not commit resources to investments in new markets unless the expected return on the market value is expected to be greater than or equal to the firm's cost of capital, measured on a market value basis. (Ex. 1, p. 20.) Finally, Verizon cites the FCC's Local Competition Order for the proposition that UNE costs must be determined by TELRIC analysis that excludes embedded or historical costs. LCO at ¶ 673.

The effect of using a capital structure based upon book value rather than market value, Verizon argues, would increase a company's risk of falling into bankruptcy, and therefore raise its cost of capital. Highly leveraged start-up companies, Verizon points out, have experienced high failure rates in the telecommunications industry.

Verizon states that other parties incorrectly include a short term debt component to determine capital structure. Because it characterizes short term debt as working capital, Verizon avers such debt should not be included in the investment component of UNE costs.

2. MCI

MCI recommends the Commission adopt the capital structure put forth by BayRing/Conversent, one that reflects the book value capital structure of the consolidated Verizon company, Verizon Communications Inc. According to MCI, the consolidated capital structure is a suitable proxy for what Verizon would use if it were to seek financing for all of its investments and operations now.

MCI opposes Verizon's proposed market value capital structure as neither representative of how management actually raises capital and manages capital structure, nor how investors make investment decisions. MCI argues that book value is what Verizon reports to the Securities and Exchange Commission, not market value structure. Further, MCI claims that, as of September 30, 2002, Verizon Communication's market value capital structure was 58% equity and 42% debt, markedly different than the 75%-25% structure Verizon wishes to adopt here.

MCI objects to Verizon's characterization of a book valued capital structure as not forward looking and contrary to TELRIC principles. MCI avers that such a characterization is misleading, because the book value itself is to be used to predict the future capital structure that Verizon would use to finance future investment and operations. MCI argues the capital structure proposed by BayRing/Conversent is forward-looking.

MCI also opposes Staff's proposal to use Verizon New England's book value capital structure. MCI points out that Verizon New England, as a wholly owned subsidiary of another wholly owned subsidiary of Verizon Communications Inc., can report a book value that does not reflect the actual sources of financing. Therefore, MCI recommends using the capital structure of the ultimate corporate level where financing decisions are accurately reflected.

MCI agrees with BayRing/Conversent that short term debt should be accounted for in the cost of capital calculation. In support, MCI argues that Verizon itself concedes that short term debt is present in the capital structures of the S&P industrials that Verizon claims are comparable.

3. BayRing/Conversent

BayRing/Conversent recommend using the capital structure actually implemented by the management of Verizon Communications, Inc., the ultimate parent of Verizon NH. Verizon Communications' capital structure is appropriate, according to BayRing/Conversent because: (1) Verizon NH is not publicly traded; (2) the parent has a vested interest in the subsidiary's debt level; (3) the parent can issue debt that will be reflected as equity by the subsidiary's internal books and, similarly, the sum of the subsidiaries' booked equity may exceed the total consolidated equity of the parent; (4) the parent uses buyback transactions to reduce its own level of equity without impacting the books of its subsidiaries; (5) the higher risk level

of other Verizon subsidiaries puts upward pressure on the level of common equity in the capital structure; (6) other states have used the capital structure of Verizon Communications to determine UNE rates; and (7) Standard and Poor's uses the parent company's capital structure to determine creditworthiness in order to avoid accounting and bookkeeping manipulations. According to BayRing/Conversent, the capital structure reported by Verizon Communications, Inc. is 37.60% equity, 51.70% long term debt, and 10.70% short term debt.

Use of the parent's capital structure, BayRing/Conversent argue, will produce the lowest overall cost of capital in the long-run for both UNE and retail operations of Verizon. They further argue that use of this structure is TELRIC compliant (Exh. 3, at 12-13) because it recognizes that a carrier attempting to replicate the Verizon network would strive to obtain the most favorable financial picture. BayRing/Conversent posit that since equity costs more than debt, and its return is subject to income taxation, the most favorable financial picture means using the smallest amount of common equity that is reasonable, i.e., the smallest amount that can be carried without jeopardizing the company's ability to attract bond investors or increasing the cost of debt.

BayRing/Conversent contest Verizon's assertions that Verizon NH's operations are financed by retained earnings and the debt of Verizon New England. BayRing/Conversent claim that this is the kind of accounting manipulation that Standard and Poor's avoids by looking to the parent's capital structure. For the same reason, BayRing/Conversent also argue that Staff's use of the capital structure of Verizon New England is not justified.

BayRing/Conversent support the use of a book value capital structure. They contend that book value, being the actual investment made by equity investors in a company, reflects the way management raises capital for current and future investments: by demonstrating it provides safe and adequate service at prices that attract customers.

Market value capital structure, they point out, is not used by rating agencies and is not the forward-looking capital structure responsible management uses to decide how to fund new investments. Book value is the standard practice used by state regulators, whereas, market value is not used, according to BayRing/Conversent. BayRing/Conversent declare that states are wise not to use market value capital structure because its use would be inconsistent with the United States Supreme Court's findings in *Hope*. BayRing/Conversent argue that, contrary to *Hope*, market value capital structure would result in an upward spiral where higher stock prices would produce higher income requirements and vice versa. They further contend that TELRIC compels only that telecommunications equipment must reflect market costs for rate setting purposes. They argue that TELRIC does not compel a capital structure that reflects market value.

Reflecting the fact that a company can incur both long term and short term costs of debt, BayRing/Conversent maintain that both should be accounted for in determining a weighted average cost of capital.

4. OCA

The OCA recommends the Commission adopt a capital structure for Verizon in which the debt to equity ratio is 55:45. This represents an average of the reported

capital structure of Verizon New England at year end 2000, year end 2001 and as of June 30, and September 30, 2002. The OCA claims that this average is close to Verizon New Hampshire's capitalization. This use of a longer-term historical average rather than a more recent value, in the opinion of the OCA witness, is more appropriate.

5. Staff

Because Verizon is not required to report the capital structure for the State of New Hampshire affiliate, Staff recommends the Commission use the capital structure reported by Verizon New England. Staff's testimony recommends using the reported book value of equity and debt as of June 30, 2002: 44.784% equity and 55.216% debt. Staff posits that this capital structure is a conservative estimate of the current book value given that Verizon has since continued to carry short term debt and increased its long term debt amount to above 59%.

Staff argues that book value of debt and equity is appropriate for determining the capital structure rather than the use of market value as Verizon proposes. According to Staff, importing TELRIC methodology for setting UNE rates, which Verizon raises as the justification for applying market value, to determine all regulated rates of a company, would not be rational. Staff points out that TELRIC methodology does not apply to the S&P companies that Verizon chooses for its sample companies in determining a cost of capital and, furthermore, only a small fraction of Verizon's business deals with UNES.

Staff argues that because CLECs are currently making new investments in network elements in order to commence business, CLECs have incentive to build their networks as the TELRIC methodology suggests, by choosing the most efficient technology and by taking wire centers as given. Staff asserts that CLECs minimize their weighted average cost of capital by utilizing more low cost debt than equity in their capital structures. CLECs' current costs of capital are very different from that proposed by Verizon and, Staff argues, that a forward looking capital structure would look more like that of the CLECs, (e.g., companies who have operational characteristics similar to the assumptions required by TELRIC) than Verizon's market based capital structure.

Staff also argues that the market value capital structure that Verizon proposed is not a calculation that management uses when deciding whether to seek capital to finance assets. Investors do not rely on market-value information either, Staff states, since that information is rarely published.

B. Cost of Debt

1. Verizon

Again declaring that the TELRIC standard requires UNE rates to reflect the cost of reconstructing its network using the most efficient technology at the time rates are set, Verizon recommends a cost of debt of 7.40%. The recommendation is the average yield to maturity on Moody's A-rated industrial bonds for April 2002, as reported in the Mergent Bond Record. According to Verizon, 7.40% is a conservative estimate as it does not include flotation costs, i.e. financing costs, that the company would incur if it were to issue new debt to reconstruct its network.

2. MCI

MCI maintains that Verizon's arguments in support of using market rates should apply to the cost of debt. The record evidence, according to MCI, shows that the market interest rate for Verizon's long term debt as of January 17, 2003 was 6.315%. MCI avers that this figure is lower than the figure put forth by Verizon and lower than the figure put forth by the OCA because it is more current than the April 2002 and October 2002 rates that Verizon and the OCA reported. According to MCI, interest rates have fallen since that time and MCI's rate is the most current rate in this record.

MCI recommends the Commission adopt 6.315% as the rate for long term debt and 2%, which is undisputed in this docket, for short term debt.

3. BayRing/Conversent

BayRing/Conversent recommend the Commission set cost of debt based on what it would cost Verizon to issue debt today. BayRing/Conversent contend that the current cost of long term debt is 6.43% and the current cost of short term debt is 2%. The 2% short term cost of debt that BayRing/Conversent recommend was not contested in this docket.

BayRing/Conversent arrived at the long term cost of debt by adding the 0.45% interest rate spread from the BondsOnline website to the 5.98% cost of Aaa-rated corporate debt as reported on the same website. BayRing/Conversent conducted a reasonableness check on that resulting rate of 6.43% by comparing it to the yield to maturity, 6.325%, on Verizon New York non-callable bonds that mature on April 1, 2032.

4. OCA

The OCA recommends applying different costs of debt to the retail portion and the UNE or wholesale portion of Verizon's business. For the retail portion, the OCA recommends using an embedded cost of debt of 7.051% and for the wholesale portion, the OCA recommends using the marginal cost of debt of 6.79%, which is the average of A-rated utility bond yields for the period of September 20, 2002 through October 25, 2002.

5. Staff

Staff utilizes the cost of debt that Verizon New England carries on its books, 7.051%, which is the cost of debt reported on June 30, 2002. Staff argues this value is directly observable and can therefore be used without further estimation. Staff also points out that using the embedded cost of debt is consistent with the regulatory practice of calculating a cost of capital based on the regulated company's cost of debt rather than that of a proxy group, as Verizon recommends.

C. Cost of Equity

1. Verizon

Verizon proposes a Cost of Equity of 14.13%. For its application of the DCF model, Verizon chooses 108 Standard and Poor (S&P) industrial companies as a proxy group. Verizon argues that this proxy group is appropriate because a forward-looking cost determination must assume a competitive market. Verizon submits that the S&P Industrials are a comparable proxy group because there are no publicly traded companies that have built a network solely to provide wholesale services, and because the S&P Industrials face risks similar to those faced by Incumbent Local Exchange Carriers (ILECs). Verizon avers that the S&P sample is a conservative proxy because those companies actually face less risk than Verizon. In support of this claim, Verizon argues that local competition in New Hampshire is widespread and there is a daily increasing risk from local wireline and wireless competitors. Verizon also argues that the proxy companies relied on by Staff and the intervenors in this docket are inappropriate. According to Verizon, Staff's sample of telecommunications holding companies is 'too small to provide a broad set of telecommunications services over a wide geographic area' (Verizon Brief p. 22) and the Intervenor's sample of regulated utilities do not face the same risks encountered by Verizon in New Hampshire.

Verizon employs a one-stage DCF calculation to determine the cost of equity. Verizon attacks Staff's use of the three-stage version, claiming that it failed tests conducted by Verizon's witness to check its reasonableness. Verizon's witness applied the three-stage version to the S&P Industrials and the S&P 500 and compared the resulting costs of equity. Verizon's witness claims that he obtained lower costs of equity for companies that should be considered higher risk investments, contrary to reason and expectation. The Verizon witness also compared his three-stage DCF results with reported ValueLine betas, a publicly available measure of risk. The Verizon witness's application of the model also produced costs of equity less than the yield on A-rated utility bonds and, in a comparison of the average growth rates in the three-stage version to price/earnings ratios, Verizon's witness obtained growth rates he stated were unrelated to stock prices as reflected in the price/earnings ratio.

For the dividend component, Verizon's DCF recognizes that 'dividends are paid quarterly and that Verizon would have to pay flotation costs to finance a reconstruction of its network as assumed by TELRIC standards.' Verizon Brief, p. 26. Verizon argues that the Intervenor's fail to account for these two considerations.

For growth rate, Verizon uses the I/B/Econsensus analysts' growth estimates for the S&P Industrials. Verizon's rationale is that investors rely on analysts' forecasts and investors are the relevant standard.

2. MCI

According to MCI, the accuracy of the DCF model depends on accurate identification of the growth rate assumed by investors. MCI argues that the earnings growth rate must be sustainable. In MCI's view, Verizon's assumption of 12.22% annual growth, forever, is unsustainable and unreasonable. MCI points out that the record shows that the highest long-run growth forecast for real gross national product is approximately 2.5% annually. Furthermore, MCI claims that Verizon provides no defense of its prediction other than to state it is based upon analysts' growth forecasts published by I/B/E. Since investors are well aware that analysts'

earnings projections may be biased upwards, MCI declares, Verizon is unreasonable to assume that those investors will give the projections full credence. MCI therefore pronounces that Verizon fails to meet its burden of proving the reasonableness of its estimate of the cost of equity.

MCI believes that both Staff and BayRing/ Conversent witnesses demonstrated the reasonableness of their estimated cost of equity. MCI recommends that the Commission adopt a cost of equity between 9.581% and 9.75%, the respective estimates of those witnesses. MCI supports Staff's three-stage DCF version, concluding that it estimates a sustainable long-run growth rate by combining and weighting different growth rates, based upon forecasted and historical earnings and dividends for three periods.

MCI also approves BayRing/Conversent's DCF methodology because it conforms to MCI's premise that analysts' forecasts are not an accurate statement of the sustainable long-run growth expected by investors.

3. BayRing/Conversent

To calculate Verizon's cost of equity, BayRing/Conversent used both a single-stage and a multi-stage version of the DCF methodology and both an inflation-based approach and an historical approach to the risk premium/CAPM methodology. The cost of equity BayRing/Conversent recommend as a result of these calculations is 9.75%.

For the DCF methodology, BayRing/Conversent chose comparison groups of companies: a group of three large publicly traded telephone holding companies, a group of electric companies, gas companies, and water companies. The inclusion of higher risk telecommunications companies that contain unregulated service providers balances the inclusion of the lower risk regulated utility companies, BayRing/Conversent profess, and produce an outcome neither too high nor too low. BayRing/Conversent point out that their cost of equity was, until making a capital structure adjustment, virtually the same as found by Staff.

In applying the constant growth form of the DCF formula, BayRing/Conversent argue that growth should be quantified in a manner that ensures that the retention rate used to compute the dividend yield is the same as the retention rate used to compute growth. Therefore, they argue, the total amount of future expected earnings allocated in aggregate to dividends and growth will be something other than 100% earnings, thus validating the results. (BayRing/ Conversent Brief, p. 31.) The multi-stage form of the DCF formula used by BayRing/Conversent uses ValueLine projections for the early years. For the later years, going out to 40 years, BayRing/Conversent use a formula multiplying the future book value per share by the future expected earned return on book equity.

BayRing/Conversent conducted a risk premium/CAPM examination of the relationship between earned returns on common stocks and earned returns on bonds since 1926 by looking at a comparison of the '30 Year Moving Average of Return on Large Common Stocks' versus Corporate and Treasury bonds. The risk premium/CAPM model demonstrates a clear downtrend in risk premiums, according to BayRing/Conversent.

In rebuttal to Verizon's claims, BayRing/ Conversent assert that Verizon's witness's implementation of the DCF method contains at least five significant

flaws. First, relying only on earnings per share growth forecasted for the five years from 2001-2006 as a proxy for long term growth makes the mathematically impermissible assumption that such growth forecasts will continue forever. According to BayRing/Conversent, this is incorrect in a DCF formula that requires a long term sustainable growth rate. More sophisticated models, BayRing/Conversent claim, compare the sustainable growth rate using the future expected value of 'r' in a 'b X r' computation (retention rate multiplied by future expected return on book equity). Furthermore, BayRing/Conversent argue that such forecasts have been shown to have an habitually upward bias and therefore using analysts' five year earnings for shared growth rates in the DCF formula will overstate the growth rate and the cost of equity.

Second, BayRing/Conversent claim that Verizon uses a group of the S&P Industrials that is not comparable. They cite the Supreme Court's decision in Verizon v. FCC, 122 S. Ct. 1646, 1662 (May 13, 2002) for their belief that ILECs have a tremendous competitive advantage that would preclude competition in an unregulated world. BayRing/Conversent conclude that the regulated retail portion of Verizon Communications faces relatively low risk. For that reason, BayRing/Conversent argue Verizon's sample group is not reasonable. BayRing/Conversent also argue that Verizon's UNE business is low risk. In support, BayRing/Conversent point out that Verizon has no obligation to provide the facilities if the elements are not already available, thus removing any investment capital risk.

Third, BayRing/Conversent claim that Verizon incorrectly adjusts dividend yield upward by compounding quarterly. While it is true that companies typically pay dividends quarterly, BayRing/Conversent deny that the effect is to increase growth. They assert that growth is suppressed when a company disperses cash to shareholders. If the effect of dividends is to be compounded quarterly, BayRing/Conversent argue, the return on equity that a company receives should be compounded daily. They contend that this would result in obtaining a higher return on equity than that authorized and therefore a lower authorized return would be appropriate.

Fourth, BayRing/Conversent claim that Verizon improperly eliminates companies from the DCF analysis if the indicated cost of equity was outside a particular range. BayRing/Conversent argue that this action predetermines the DCF result as mid-way between the A-rated bond rate and 20%, an upward skewing that automatically invalidates Verizon's results.

Fifth, BayRing/Conversent claim that Verizon improperly includes a 9 basis point financing cost (flotation) allowance. BayRing/Conversent argue that Verizon has not issued new common equity for years, and that such small costs are eliminated in rounding error, and that Verizon has a market-to-book ratio in excess of 2. This last factor means that external financing is profitable rather than an expense, BayRing/ Conversent contend.

4. OCA

The OCA contends that Verizon's proposed cost of equity should be rejected by the Commission. The OCA argues that Verizon made an incorrect choice of S&P industrials as its sample group because those companies face higher risks than the local exchange operations of telephone companies. In addition, the OCA argues that Verizon has not adequately supported its decision to exclude dividends from the

growth component of the DCF model. According to the OCA, there is no significance to the fact that projected earnings growth alone determines price/earnings ratios more accurately than historical growth averages do alone, at least for cost of capital determination. The OCA points out that no participant in the docket relies solely on historical growth averages. Therefore, the OCA contends, Verizon's calculation produces an incorrect result.

For its own determination of a cost of equity for Verizon utilizing the DCF model, the OCA chose to analyze three sample groups. The first group is the telecommunications holding companies like Verizon Communications. The OCA considers them more risky than local exchange operations and performs the analysis to establish an upper boundary for a range of reasonable rates. Because that group is small, the OCA also performs an analysis of regulated insurance companies. Lastly, to establish a lower boundary of reasonableness, the OCA analyzed the cost of equity for lower risk gas distribution utilities.

The OCA contends that establishing a range of reasonable cost of equity percentages meets the latest and most comprehensive review of the law applicable to ratemaking in New Hampshire, Appeal of Conservation Law Foundation, 127 N.H. 606 (1986). In that case, the Supreme Court recognized that a rate of return must fall 'within the zone of reasonableness, neither so low as to result in a confiscation of company property, nor so high as to result in extortionate charges to customers.' Id. at 635. Appeal of Conservation Law Foundation also reiterates the 'comparable earnings' test set out in Bluefield, which the OCA notes must exclude returns that are comparable to those of especially profitable or speculative business enterprises. The OCA posits that, given the telecommunications market, CLECs may fall into the category of highly speculative business enterprises but that Verizon does not.

The OCA established a range of equity cost estimates between 10.50% and 11.75%. The 10.50% figure is the upper boundary of the range for gas distribution companies; the 11.75% is the lower boundary of the range for telecommunications holding companies. The OCA then testified that, in its judgment, 10.875% would be the correct allowable cost of equity for Verizon. However, in its post hearing brief, the OCA recommended a lower rate. The OCA applied the principles set forth in Appeal of Conservation Law Foundation to make a recommendation that the Commission set the cost of equity for retail rates by averaging the results of the four methodologies employed by the OCA witness to obtain a cost of equity for gas distribution companies. According to the OCA, the outcome using the average of a CAPM, a Modified Earnings/PE analysis, a market to book ratio analysis and a DCF produces an appropriate cost of equity for Verizon of 9.48%.

The OCA reasons that the cost of equity should be set at this lower rate because of the following: (1) gas distribution companies represent the proper comparable sample, (2) ratemaking case law does not hold that increased risk is followed by an automatic increase in rate of return to investors, see, Appeal of Public Serv. Co. of N.H. 130 N.H. 748 (1988); (3) Verizon management's behavior, as indicated in Exhibit 48 resulted in the acquisition of additional debt and equity, when all could have been avoided by distributing fewer dividends to shareholders, while at the same time capital expenditures were reduced; and (4) Verizon's lack of any need to attract capital. In a rate case, the OCA argues, the Commission may look at the actual circumstances of the utility when establishing the rate of return within the range of reasonableness.

The OCA also raises an argument against raising Verizon's cost of equity based upon *Market Street R. Co. v. Comm'n*, 324 U. S. 548 (1945). The New Hampshire Supreme Court referred to *Market Street* approvingly in *Petition of PSNH*, 130 N.H. 265, 277, 539 A. 2d 263, 275 (1988), when holding that the Hope line of cases does not guarantee net revenues that will preserve a company's financial integrity. In *Market Street R. Co.*, the U. S. Supreme Court dealt with a regulated streetcar company threatened by competition from an unregulated company. The Court found it had no obligation to revive the value of a company whose "'zenith of opportunity' has been eclipsed by the operation of economic forces." *Market Street*, 324 U. S. at 554. The OCA implies that the same situation pertains in this docket.

5. Staff

Staff recommends the Commission adopt a cost of equity of 9.581% for purposes of this docket. In applying a three-stage version of the DCF model to Verizon, Staff chose a sample of three telecommunications firms from the Valueline financial database with comparable risk profiles, positive dividend and earnings growth on average over the last five years, and other similarities to Verizon. The sample is small but, Staff avers, sufficient to create reliability based on the systematic selection process. Because the sample possesses levels of risk and operating and investment profiles that are similar to Verizon, according to Staff they can confidently be said to be subject to similar risk exposures in the future.

The same cannot be said of the sample of firms Verizon chose for its calculation, the S&P Industrials, Staff claims. Staff argues that Verizon's sample is based only on the wholesale portion of its business, a very small portion that is not representative of Verizon as a whole.

Staff rebuts Verizon's contention that the beta value of S&P Industrials are comparable to the beta value of Verizon, beta being a risk measurement often relied upon by state commissions. According to Staff, Verizon based its claim on data that was incorrectly derived from an abbreviated summary of ValueLine betas, as reported in Exhibit 58. The data that should be consulted, Staff argues, is the underlying ValueLine data which shows that Verizon and other RBOCs have a significantly lower beta and therefore a lower risk than the S& P Industrials.

Staff chose to apply a three-stage version of the DCF model rather than the one-stage version relied upon by the Commission Staff in the past. The one-stage version is premised upon a single growth rate that is assumed to continue ad infinitum. Staff argues that a cost of equity calculated by the one-stage version will produce growth rates of dividends and earnings that consistently either under- or over-perform compared to the growth capacity of the economy as a whole. To protect against that unreasonable overly positive or overly negative forecast, the three-stage version produces a growth rate that converges to the long run growth rate of the economy for time periods beyond the ValueLine forecast. Staff cites Ibbotson's 2002 Valuation Edition Yearbook for the proposition that the expected long run growth rate of the economy is an indefinitely sustainable growth rate. Accordingly, Staff argues that the three-stage version is a better model for the Commission to rely on for calculating cost of capital.

Staff's application of the DCF model includes dividends as well as earnings forecasts in the growth component, as directed in the Commission's prior decisions.

Staff recommends an equal weighting (50-50) of dividend growth and earnings growth. Staff points out that, according to the Commission's decision in EnergyNorth Natural Gas, Inc., 78 NH PUC 117 (1993), a growth rate that does not include dividends and relies only on earnings forecasts will not provide an accurate return on equity. The EnergyNorth decision, Staff contends, is supported by well-respected economic literature. For example, Staff points to Morin, Utilities' Cost of Capital (1984), at pp. 123-133. According to Morin, Staff says, using earnings growth alone is inadequate because earnings per share are apt to be more volatile than dividends per share.

In addition to rejecting Verizon's proposed growth rate because it is based solely on analysts' earnings forecasts, Staff opposes Verizon's 12.2% growth rate as being unsustainable over time. Since the annual nominal long run sustainable growth rate of the economy has been identified by Staff as 5.5%, Staff contends Verizon's proposed growth rate is too high for use in the DCF calculation.

D. Risk Premium

1. Verizon

Verizon estimates an overall weighted average cost of capital of 12.45% for use in calculating retail rates. In addition, on the basis of an article by Copeland and Weston [FN2] for describing a methodology for valuing cancelable operating leases, Verizon recommends the Commission supplement that overall weighted average, to calculate UNE rates, with a risk premium of 5.48%. [FN3]

The risk premium is necessary, according to Verizon, because of the additional risk of setting UNE rates assuming construction of a telecommunications network using the most efficient current technology while at the same time offering CLECs the option of canceling UNE leasing contracts. Verizon posits that recent telecommunications industry history proves that companies and investors recognize the enormous risk of such investments, a risk that is not reflected in stock prices. The companies whose stocks are publicly traded, unlike Verizon New Hampshire, [FN4] dedicate only a small portion of their business to cancelable leases; therefore, their stock prices do not reflect the amount of risk involved in a UNE company, that is, one devoted entirely to providing cancelable leases. Further, according to Verizon, the proxy companies are not regulated and therefore are not subject to the TELRIC standard. Verizon argues that failure to include regulatory risk will send incorrect economic signals to both competitors and to incumbent carriers.

2. MCI

MCI disputes Verizon's assertion of additional risk attributable to TELRIC regulation, as explained at the beginning of this section. MCI also disputes Verizon's assertion of actual risk in the New Hampshire market. According to MCI, the Commission has concluded in past litigation that such risk is analyzed and accounted for by investors and is therefore manifest in the market price of common stock. MCI contests Verizon's statement of a financial truism that 'the higher the risk, the higher the cost of capital.' The correct formulation, MCI maintains, is 'the higher the non-diversifiable risk, the higher the cost of capital.' In this case, investors can themselves diversify risk and Verizon need not do so.

MCI also challenges Verizon's assertion that it faces a strong threat to its profitability which must be addressed by increasing the cost of capital. According to MCI, the record shows that demand for both retail and wholesale access lines continues to grow, including interstate special access lines. Interstate access lines should be included in the Commission's analysis, MCI avers, because the point is that the lines are in use -- not that they are jurisdictionally interstate -- and, furthermore, a substantial portion of the traffic on such lines is actually intrastate anyway.

MCI dismisses the risk premium Verizon attaches to the weighted average cost of capital for UNEs as imaginary and irrelevant. The assumptions necessary to analogize a lease contract that is cancelled, leaving the entire network stranded, cannot be taken seriously by practical regulators, according to MCI. MCI reasons that retail customers, like CLECs, can cancel their Verizon service but such cancellation does not result in stranded investment: UNE facilities will be used by future wholesale customers or by Verizon itself and therefore will not be stranded. MCI argues that TELRIC principles recognize that local network investment will be recovered by incumbents through retail and wholesale usage combined. In sum, MCI claims that no lease termination premium is necessary or reasonable, and that it would only inflate UNE rates.

3. BayRing/Conversent

BayRing/Conversent object to the addition of any risk premium attributable to the cancelability of UNE lease arrangements. They argue that the monthly lease for UNEs was a Verizon business decision. Further, they argue, Verizon is exposed to little actual risk since its facilities will be used whether a customer uses a CLEC's leased facility or Verizon's underlying facility. In addition, they assert that Verizon provided no proof that CLECs are abandoning UNE entry, that Verizon makes no incremental investment in UNE facilities in the first place, and that loop facilities in New Hampshire have been priced based on a utilization factor of 37.2%, thus adequately compensating Verizon for over-capacity.

Finally, BayRing/Conversent reject Verizon's claim that TELRIC precludes Verizon from recovering its investments in its network.

BayRing/Conversent argue that Verizon's cite to a recent U. S. District Court ruling on a New Jersey Board of Public Utilities decision is unavailing. The New Jersey District court did not lower UNE rates by 40%, they assert, it merely remanded the case to the BPU for further calculation. BayRing/Conversent maintain that Verizon should seek changes to its rate of depreciation in the next TELRIC proceeding, rather than attacking the problem indirectly via cost of capital.

4. OCA

The OCA argues against awarding any risk premium for Verizon's UNE services, since the regulatory context in which Verizon operates already accounts for the risks it encounters. Assets that support UNE services are either leased to a CLEC or returned to regulated rate base, providing regulatory protection according to the OCA. Only an extreme excess capacity situation could trigger the risk Verizon claims and the OCA argues that extreme excess capacity is highly unlikely as

Verizon does not make capital investments for CLECs. The OCA dismisses Verizon's lease option theory as a reason to impose a risk premium; the theory is unorthodox and produces absurd results when applied to Verizon's actual capital structure. Finally, the OCA argues that the record contains no quantification of Verizon's alleged TELRIC shortfall and therefore it should not be seriously considered.

5. Staff

Staff disagrees with Verizon's definition of risk. According to Staff, risk encompasses both good and bad outcomes and the variability of both good and bad outcomes must therefore be factored into risk measurement. Verizon's definition of risk, Staff contends, results in an artificially high cost of capital, focusing on a small part of the corporation and requiring, further, a finding that the FCC's TELRIC standard is a guarantee that the RBOC can never ever earn its assigned cost of capital. Even if the Commission were to accept Verizon's definition of risk, Staff argues, it should not apply that definition to 100% of the company.

Staff also contends that the 5.48% risk premium that Verizon proposes the Commission apply to the overall weighted cost of capital should be rejected. One cannot compare UNE provisioning to an operating lease of a newly built network for the lessor's purposes, and, as Staff further argues, it is inappropriate to apply an increment to the average cost of capital that already compensates investors for assuming the risks the company faces as a whole.

IV. COMMISSION ANALYSIS

[1, 2] The purpose of this docket is to determine the cost of capital required by Verizon NH for its regulated telecommunications business. The parties differ over whether distinct rates of return must be set for Verizon's UNE (wholesale) business as opposed to its retail business and, if so, how to estimate such differentiated rates. They also differ on what capital structure should be employed, how to determine the cost of equity, and the proper estimation of the cost of debt.

The parties do agree on the overall legal framework that should guide our decision. It is well expressed in the OCA's brief, which we liberally paraphrase here. The most comprehensive review of the New Hampshire law on cost of capital may be found in Appeal of Conservation Law Foundation, 127 N. H. 606, 633 et seq. (1986). There, the Court articulated the standard of reasonable rates and the Commission's duties in light of the standard:

The Commission is bound to set a rate of return that falls within the zone of reasonableness, neither so low as to result in a confiscation of company property, nor so high as to result in extortionate charges to customers. *Id.* at 635, citing Legislative Utilities Consumers' Council v. Public Serv. Co. of NH, 119 N.H. 332, 341-42 (1979).

The Court further noted that the lower boundary of the zone of reasonableness should be a rate that, at a minimum, is sufficient to 'yield the cost of the debt and equity capital necessary to provide the assets required for the company's responsibility.' *Id.* Subject to exceptions permitting the Commission to assume a hypothetical capital structure and to make allowances for the relative efficiency of management, see *id.* at 635-636, the upper boundary is a rate 'sufficient to

yield a return 'comparable to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties.' Id. at 635 (citing *Bluefield*, 262 U. S. at 692, *New England Tel. & Tel. Co. v. State*, 113 N.H. 92, 95 (1973) and other authorities). The Court has found that this zone of reasonableness does not include 'returns commensurate with 'highly profitable enterprises or speculative ventures.'" *Appeal of Public Service Co.*, 130 N.H. 748, 756 (1988).

A. Retail vs. UNE Cost of Capital

[3, 4] We address at the outset whether to set different costs of capital for Verizon's retail and wholesale (UNE) lines of business in New Hampshire. Verizon points to our order of notice, in which we stated that one of the purposes of this docket was to determine if TELRIC rates should be modified to take into account a revised cost of capital. Verizon asks that we establish a separate cost of capital for the retail and UNE parts of its operations, based upon different asserted risks associated with each line of business. Verizon claims that its wholesale provisioning business is entirely different from its retail business, facing risks so disproportionately large as to justify a 5.48 percent risk premium applicable to the overall cost of capital for that separate and distinct portion of its jurisdictional enterprise.

Essentially, Verizon is asking for a cost of capital differentiated by rate class, in this case, retail versus wholesale. Such a segregated approach is not supported by the specific facts of this case. For example, Verizon argues that CLECs can discontinue use of UNEs, and that Verizon is thus at risk of losing revenues associated with UNE facilities. The CLECs reply that it is unlikely that a CLEC, having chosen to pursue UNE provisioning, will withdraw from such a business. We need not decide which view is the correct one. Whatever the case may be with respect to CLEC business models, the risk of demand reductions is not unique to Verizon's UNE line of business given that retail customers who have not signed special contracts are free to take their business to competitive carriers.

It is also unclear on this record to what extent Verizon faces the risk of stranded investment as the result of the departure of any group of customers. Both UNE and retail facilities typically can be re-used by Verizon to serve other customers in the same line of business or to serve customers in the other line of business. This substantially reduces the extent of risk faced by Verizon. Investments made to serve retail customers can ordinarily be recovered under rate of return regulation, so long as the expenditures are prudent. In the case of UNEs, Verizon's lack of legal obligation to build out its network with new facilities merely to serve CLEC demand minimizes the risk it faces with respect to loss of wholesale customers. Thus, practically speaking, all Verizon investment for which it claims it is at risk is actually subject to the protections afforded by regulation.

There are also difficulties in determining the separate cost of capital for any given line of business. We note that RSA 378: 17-b, IV precludes the Commission from mandating separation or divestiture of Verizon into separate wholesale and retail firms absent legislative approval. We find it inappropriate to embark on an exercise that would effectively require us to examine the wholesale and retail functions separately for cost of capital purposes. Further, even if we elected to engage in such a separation exercise for rate design purposes, on the record before

us we cannot quantify the risk differentials or allocate those asserted risks to particular revenue or asset amounts as Verizon does not report those revenues or assets in accounts separated into wholesale and retail activities. In addition, we note that neither the TELRIC method nor the TRO requires the specification of a separate cost of capital. There is no requirement under FCC rules or the TAct that a separate cost of capital be specified for UNE rates.

We conclude that it is reasonable to view the company as a whole to arrive at a weighted average cost of capital. This overall cost of capital will be utilized by Verizon for jurisdictional filings that require cost studies that call for an estimate of the cost of capital. More specifically, we will use this overall weighted average cost of capital to modify TELRIC rates; we will also use this overall weighted cost of capital in any future retail rate case and in examining Verizon's earnings going forward.

B. UNE Risk Premium

[5, 6] There are several infirmities with regard to the 5.48 percent risk premium Verizon proposes to add to its overall cost of capital which prevent us from adopting it. In particular, the method advanced by Verizon's witness Dr. Vander Weide to derive the risk premium is inapplicable to the UNE situation.

In the article cited by Dr. Vander Weide to support his UNE risk premium (Copeland and Weston), the authors developed a method to estimate the appropriate cost (and associated internal rate of return) for a cancelable equipment lease, as opposed to a non-cancelable equipment lease. According to Copeland and Weston, if a lessee can cancel an equipment lease, the lessor must adjust the lease fee upwards from a non-cancelable lease fee to reflect any uncertainty as to the likely economic value of the property at the times when the lessee may exercise this option. The risk is on the lessor, and the required lease payments and internal rate of return must reflect this assumed risk. The authors point out that from the lessor's point of view, a cancelable lease is equivalent in value to a pure financial lease (which cannot be cancelled and which, according to the authors, has a cost equal to the cost of debt), minus an American put option with a declining exercise price. *Id.*, at 60.

Dr. Vander Weide calculated his 5.48% risk premium drawing on the arguments developed in the paper, and added it to his estimate of 12.45% weighted average retail cost of capital, to arrive at his recommended 17.93% weighted average UNE cost of capital. Whatever the merits of the cancelable lease analogy to the UNE line of business, we find that it is not appropriate to use the Copeland/Weston formulas to develop a UNE risk premium, and add the resulting premium to an overall cost of capital to develop a separate rate of return for UNE leasing.

Second, use of the Copeland/Weston theory in the UNE context implicitly assumes that it is only the action of the lessee in demanding cancelability that subjects Verizon to the risk of cancellation. As the CLEC parties pointed out, it is Verizon that restricts CLEC UNE leases to one-month terms, and declines to offer longer term non-cancelable UNE leases. Presumably this is a result of a judgment by Verizon that its risk is decreased, not increased, by shorter terms, notwithstanding the associated exposure to increased risk of CLEC discontinuance of service.

The analogy between Copeland/Weston and the UNE line of business breaks down further as the value of the premium depends fundamentally on the investment required to serve the lease (Version Att. A, p. 65). Copeland/Weston state that a higher investment expense produces a higher premium (*id.*, pp. 64-5). However, as we have noted above, Verizon is not required to incur investment expenses explicitly for CLEC lines of business.

In addition, as stated in footnote 6 of Copeland/Weston, the lessor must, when faced with a cancellation of a lease, either 'a) sell the asset at market value, or b) lease it again at a lower rate.' We find neither of these scenarios persuasive for the actual business of a regulated provider of UNEs. We note that the possibility of the leased asset returning to the retail side of Verizon's business and earning a higher return than the original UNE lease is inappropriately excluded from the application of Copeland/ Weston to UNEs.

Finally, no reasonable basis has been advanced in this case to apply a cancelable lease analogy to the UNE business, as opposed to the retail business. With the exception of individual long term contracts or special tariffs, none of Verizon's customers, wholesale or retail, are bound to remain with Verizon. Arguably, any premium that may apply to reflect the cancelable nature of the use of Verizon's facilities applies to retail service as well as wholesale service. However, as we note above, we have no basis on this record to differentiate the risk of retail and UNE business. In any event, the risk of revenue loss from demand reductions is captured in the overall rate of return, properly set, as is all risk facing the firm.

The Copeland/Weston argument, while perhaps sound for the purpose for which it was conceived, is not appropriate for application to the UNE business. For these reasons, it would be inappropriate to add the proposed premium to the UNE prices, and we decline to do so.

C. Capital Structure

[7-9] In *Appeal of Conservation Law Foundation of New England*, 127 N.H. 606 at 636, 507 A. 2d 652 (1986), the New Hampshire Supreme Court opined that in setting a reasonable rate of return for a regulated company, the Commission must look both at capital costs and comparable risks outside the company and also at the 'actual circumstances' of the company. *Id.* at 635. The efficiency or inefficiency of management, for instance, may be recognized. *Id.* The Supreme Court stressed the role that judgment plays in setting a rate of return. *Id.* at 636. The Court also stated that in striking a fair balance between the interests of the ratepayer and the shareholder as required by *Hope*, the Commission may impute a capital structure that it finds to be appropriate, rather than using the actual capital structure. *Id.* We note that in subsequent cases we have relied upon the Court's opinion, recognizing that 'commissions are entitled to 'make the pragmatic adjustments which may be called for by particular circumstances,' *Kearsarge Telephone Company*, 73 NH PUC 320, 326 (1988), citing *Federal Power Commission v. Natural Gas Pipeline Co.*, 315 U. S 575 at 586, 42 PUR NS 129, 86 L. Ed. 1037, 62 S. Ct. 736 (1942), and must 'exercise ...a 'fair and enlightened judgment, having regard to all relevant facts.' *Id.*, citing *NET vs. State*, 104 NH 209 at 234, 44 PUR3d 498, 183 A. 2d 237 (1962) quoting, 262 U. S. at 692,).

In our judgment, capital structure would preferably be based upon book value, not

market value. We do not accept the premise that TELRIC principles mandate construction of a market value capital structure for the company. TELRIC requires a forward-looking estimate of capital costs, but it does not require a capital structure based on the market value of the components of the company's capital exposure. A company's book value capital structure is within the company's control. Verizon has strong incentives to minimize its financing costs and, therefore, book value capital structure could be considered TELRIC compliant. Book value properly reflects the basis on which a company's management raises capital for investments, and the manner in which investors and investment rating agencies evaluate a company.

Having decided that book value is the preferred tool for determining the company's capital structure, we must exercise judgment in determining the appropriate book value capital structure. We must use a hypothetical capital structure in the case of Verizon NH, because Verizon NH does not exist as a legal entity, has no capital stock, and issues no debt. Accordingly we have looked at the various proxies proposed by the parties. As noted above, Verizon did not propose a capital structure based on book values. BayRing/Conversent and MCI recommend adoption of the capital structure of Verizon Communications, Verizon NH's ultimate parent company: 37.60% equity/51.70% long term debt/10.70% short term debt. Staff recommends adoption of the capital structure of Verizon NH's nearest reporting entity, Verizon New England: 44.78% equity/55.22% debt as of June 2002. Mr. Schlegel observed in his testimony at the hearing that it would be appropriate to include short term debt, but that when he prepared his testimony he did not have access to sufficient data to identify the short term debt portion of the Verizon New England capital structure. Tr. Day II, p. 44.

The OCA recommends using a longer term historical book value of Verizon New England for the capital structure of the retail portion of Verizon's business (45% equity/55% debt), and using a market value of the OCA's sample firms for the capital structure of the wholesale business if the Commission segregates cost of capital for the retail and wholesale lines of business.

We evaluate these recommendations from the perspective of what a reasonable and prudent manager would choose for a capital structure. It is important for Verizon, which remains the dominant provider of essential telephony services, to maintain a capital structure that adequately insulates consumers from excess debt or excess equity in the capital structure. Unduly high debt leveraging could result in liquidity difficulties that could impede the company's ability to meet its public service obligation. Excess equity creates a capital structure that is too rich, and fails to take advantage of opportunities to raise lower-cost debt funding. While we recognize that Verizon continues to have certain public service obligations, we believe that the record demonstrates that a prudent manager facing the need to raise capital in today's market would place greater emphasis on debt than perhaps would have been warranted when the Commission last set Verizon NH's cost of capital. Today, debt is a significantly lower cost source of capital in comparison to equity, albeit both components of capital are at near-record lows. A prudent manager would seek some additional debt financing. The underlying capital structures recommended by Staff and the OCA, approximately 45% equity and 55% debt, reflect this prudent approach.

We are mindful of the caution expressed by BayRing/Conversent that Verizon Communications, like any ultimate corporate parent in a holding company structure,

has the ability to manage its progenies' debt to equity ratios such that the actual capital structure of the subsidiary is an unreliable basis for ratesetting. [FN5] Indeed, the testimony of BayRing/Conversant's witness **Rothschild** reveals a basis for questioning whether the capital structure of Verizon Communication's numerous subsidiaries may have been managed by the corporation for corporate ends, thus reducing the value of looking at any subsidiaries' actual capital structure to determine what would be expected from prudent management facing the capital markets directly.

As to BayRing/Conversant's recommendation that the Commission should adopt the capital structure of Verizon Communications, we find that this would not be a good proxy for the hypothetical prudent capital structure of Verizon NH, because the ultimate corporate parent includes a substantial amount of riskier and unregulated ventures such as wireless services, which makes it too dissimilar from Verizon NH to be a reasonable proxy for setting cost of capital for the overall jurisdictional business.

We find Staff's recommendation to look to the actual book value capital structure of Verizon New England reasonable from the perspective of a prudent manager. However, we find that it is reasonable to reflect the components of the entire capital structure of Verizon New England, rather than the equity and long term debt alone. In response to record requests we initiated during our deliberations, Verizon provided, for the period of January 1, 2000 to December 31, 2002, spreadsheets containing the daily balances of short term debt held by Verizon New England. As part of its response, Verizon argues that short term debt should not be included in UNE cost studies because Verizon primarily uses short term debt to finance working capital rather than plant (i.e., UNE) investments, and because the Commission has not included short term debt in capital structure when setting an allowed rate of return.

Regulatory literature indicates two schools of thought regarding the inclusion of short term debt in the capital structure. Principles of Public Utility Rates, the 1988 Danielson and Kamerschen adaptation of the seminal work by James C. Bonbright, sets out the so-called short term debt debate, noting at p. 312 that '[S]ome commissions include short term debt in the capital structure, some do not.' According to the authors, a factor influencing whether short term debt is included is whether it is a reasonably stable percentage of total capital over time. If it is stable then it could be considered to be permanent and included. Another consideration, raised by Verizon, is whether its short term debt is raised to support cash working capital needs, or plant investment, at least in the UNE context.

In this case the level of short term debt fluctuates considerably day to day but is consistently above zero, and over time averages well above zero; in other words, Verizon New England has consistently carried some short term debt. Review of information provided in response to our record request reveals that the average daily balance for the thirteen months ending December 31, 2002 is 4.35%. Using a thirteen-month daily average smoothes out the variation in daily levels, and reflects a relatively recent and thus representative level of short term debt. We note that the corporate parent, Verizon Communications, has in recent quarters routinely carried considerably higher levels of short term debt, almost double the 10.7% point value identified by Mr. **Rothschild** in his testimony. See Exh. 37 (JAR Exh. 4).

Verizon's arguments that short term debt should be excluded from the capital structure are unpersuasive. In its Response to the Commission's Record Request 1, Verizon stated that short term debt should not be included in the calculation of the cost of capital for use in UNE cost studies because the company primarily uses short term debt to finance its investment in working capital, and Verizon's investment in working capital is not included in the investment component of UNE cost studies. In support, Verizon claimed that, with regard to retail rate setting, the Commission has not included short term debt in the company's capital structure in setting the allowed rate of return.

We find that sound principles of finance caution against any attempt to 'track' dollars raised by a company to any specific purpose. A firm raises capital in a variety of ways, trying always to achieve an overall balance of sources to minimize its costs of money. Short term capital is routinely raised not only when working capital is required, but also when financing is needed for plant investments. Short term debt raised for whatever purpose is routinely rolled over into long term debt when an economic opportunity arises.

We note also that Verizon made its working capital argument not in the context of an overall jurisdictional cost of capital, but with respect to a cost of capital estimated solely for use in UNE cost studies. See, Response to Commission Record Request 1. Even if a limitation on the recognition of short term debt were warranted in the case of a UNE-specific cost of capital, an issue we need not address, Verizon does not show that it would be appropriate where, as here, the cost of capital is being estimated for the entire jurisdictional enterprise, not UNEs alone.

The case law of this Commission, contrary to Verizon's statement, contains specific cases, including at least one relating to Verizon's predecessor in interest, in which short term debt is included in the capital structure for purposes of ratemaking. The Commission heard argument in *New England Telephone and Telegraph Company*, 71 NH PUC 285 (1985), in favor of lowering the equity ratio to 50%, and then accepted a settlement agreement that set the capital structure to include 39.03% long term debt and 2.52% short term debt. We therefore conclude that short term debt is not irrelevant to our deliberations and could be included in a reasonable capital structure. See, *In re Pennichuck Water Works, Inc.*, 83 NH PUC 197 (1998); *In re Granite State Elec. Co.*, 81 NH PUC 359 (1996); *Pease v. New England Tel. and Tel. Co.*, 162 P.U.R.4th 110, 1995 WL 389272, Me. P.U.C. (1995); *Re New England Telephone & Telegraph Co.*, 42 P.U.R.4th 182, Me. P.U.C. (1981); and *In Re Northern Utilities, Inc.*, Docket No. DG 03-080, Order No. 24,175 (May 22, 2003).

According to Verizon data as reported to the Commission, and as detailed in Staff's testimony, Verizon New England's capital structure as of June 31, 2002, consists of \$2,527,849,677 total equity and \$3,116,671,594 long term debt, with zero dollars of preferred stock outstanding. According to data responses filed by the Company in this docket on June 18, 2003, the average of daily short term debt balances of Verizon New England for the 13 months ending December 31, 2002, is \$256,908,734. The capital structure calculated based on the above dollar figures would be 42.84% equity, 52.81% long term debt and 4.35% short term debt.

The day to day volatility of the amount of short term debt, however, makes even a thirteen-month average subject to an objection that it produces a false precision

in imputing a capital structure. Nonetheless, it is evident that Verizon has consistently carried a small amount of short term debt for the past few years and that it is prudent to continue to do so. For the purposes of this docket, we conclude that a prudent manager would employ a capital structure for Verizon that includes a debt component of 55%, composed of 53% long term debt and 2% short term debt. Accordingly, applying our expertise to the evidence presented in this proceeding, we will impute a capital structure that is 45% equity, 53% long term debt and 2% short term debt.

D. Cost of Debt

[10, 11] The cost of short term debt was uncontested. We will set the cost at 2% as recommended by BayRing/Conversent and MCI. We will set the cost of long term debt for determining a forward-looking cost of capital based upon the embedded cost of debt for Verizon New England, 7.051% as of the balance sheet for June 30, 2002, as recommended by Staff and by the OCA.

Use of the embedded cost of debt was opposed by Verizon as well as the CLECs. Verizon proposed a cost of debt based upon the average yield to maturity on Moody's A-rated industrial bonds, or 7.4%, pursuant to its thesis that TELRIC requires forward-looking inputs to the cost of capital calculation. MCI argued that the Commission should use the cost of the most recent debt issuance whose cost is on the record, or 6.315% as reported as of January 2003.

Analogous to our discussion of the appropriate capital structure, the embedded cost of debt presumably demonstrates prudent, efficient management and therefore incorporates a forward-looking determination of a company's cost of debt financing. We do not accept the proposition that a proxy is necessary, whether an average of A-rated bonds as proposed by Verizon, or BayRing/Conversent's proposal based upon Aaa-rated bonds plus an additive, when the company's cost of debt is known.

In the instant case, we consider the embedded cost of long term debt as of June 30, 2002 to be a conservatively high estimate of future long term debt costs. As MCI points out, since mid-2002 interest rates have come down sharply. The Federal Reserve Board has lowered short term rates to levels not seen since the 1950s. In this climate, Verizon will continue to refinance as much of its debt as it can without uneconomic prepayment penalties, thus presumably lowering its average embedded cost of debt over time. However, this gradual lowering of the average will likely be tempered by the extent to which existing debt is not susceptible to economic refinancing, an amount that does not appear on this record.

In setting the cost of capital, an inherently forward-looking concept, the Commission typically relies on the weighted mix of actual long term debt, including as it does older issuances at then-prevailing rates, together with more recent issuances at more current rates. This is done in part to avoid a result in which the cost of capital will reflect extreme variations as they may be manifest in the capital markets. The use of the embedded cost of debt on the record in this docket, 7.051%, particularly in the context of a capital structure reflecting some amount of low-cost short term debt, provides a reasonable and conservative estimate of Verizon NH's expected cost of long term debt. We therefore adopt it.

We find that 7.051% is a reasonable estimate of the forward-looking cost of long term debt for Verizon NH, for use in this docket.

E. Cost of Equity

[12-17] In New Hampshire, the accepted primary method for estimating the expected return on equity is the DCF model. In Pennichuck Water Works, Inc., 70 NH PUC 850 (1985), the Commission found that the DCF method achieves the most reliable and consistent results. In Pennichuck Water Works, Inc., 78 NH PUC 621,627 (1993), the Commission stated that the DCF method continues to be the appropriate way to calculate the cost of common equity but encouraged the use of other methods as a test of the reasonableness of the results. In the latter case, the Commission noted that neither the DCF nor any other method is conclusive, and that judgment, based on reasonableness and fairness to ratepayers and investors, is necessary to arrive at a final decision.

The DCF calculation is sensitive to the assumptions made regarding the inputs to the formula, making judgment necessary for choosing the inputs. The first matter in dispute with regard to the application of the DCF is the selection of companies that are comparable to Verizon. Verizon's witness chose a sample of S&P Industrials, based upon his opinion that the general business market best reflects the risk Verizon NH encounters as a result of the UNE provisioning portion of its business. We are persuaded that the effect of having a small portion of Verizon's business that is associated with the provisioning of UNEs is not commensurate with the level of risk faced by the S&P Industrials. We therefore do not accept the S&P Industrials as a reasonable sample for use in the DCF for determining Verizon's cost of equity.

BayRing/Conversent chose a sample of three RBOCs and a group of electric, gas, and water companies. The OCA's sample of companies included three distinct groups: telecommunications companies, regulated insurance companies, and gas distribution utilities. These samples may be reasonable for use in the DCF, but, in our judgment, it is not necessary to look beyond telecommunications companies to find suitable proxies in this case.

Staff used the ValueLine data on twenty telecommunications companies, then deliberately reduced that number to three firms that witness Schlegel opines are comparable to Verizon NH based on clear and quantifiable distinctions. We approve the approach that Staff employed and find that Mr. Schlegel used reasonable criteria to eliminate unsuitable companies from his sample. Verizon's objection to Staff's sample, based on the small number of proxy companies, is not convincing. Rather than a statistical calculation for which a larger size sample produces results that are more statistically relevant, the DCF is an economic theory for which a more comparable sample, rather than a larger sample, produces results that are more likely to be representative of the subject utility. The size of the sample is irrelevant when, as here, the sample is not random. As a result, we are not persuaded by Verizon's argument that Staff's sample is too small to be comparable. Nevertheless, we find that Staff's process would be improved by limiting its sample to the two RBOCs and eliminating AllTel. Unlike the RBOCs, AllTel does not provide UNEs. Thus, AllTel is less likely than the RBOCs to exhibit the range of operational characteristics of Verizon and will reflect different investor perceived risks. Therefore, based on the evidence before us we find that a sample of two RBOCs is most comparable to Verizon and best suited to application of the DCF in this docket.

Our decision to revise the sample used in this application of the DCF is within our authority to evaluate the evidence before us. The Commission's task of evaluating and reconciling conflicting and complex evidence in the highly technical process of ratemaking calls for the Commission, a quasi-judicial board qualified to evaluate the issues in a specialized field, to exercise its own experience and knowledge. *Legislative Utility Consumers' Council v. PSNH*, 119 N.H. 322 at 335, 402 A. 2d 626 at 639 (1979). When doing so by evaluating evidence already in the record, it is not necessary for the Commission to give the parties notice or the opportunity to rebut the conclusion. *Petition of Grimm*, 138 N.H. 42, 53 (1993). As noted in *Appeal of City of Nashua*, 138 N.H. 261, 265, 638 A. 2d 779, 781 (1994), a board's findings often portray a variation of the positions proposed by several parties, without mirroring any party's position exactly. In doing so, a board 'merely employs its statutorily countenanced ability to utilize its experience, technical competence and specialized knowledge' in evaluating the evidence before it. *Id.* An agency may reject even uncontradicted opinion testimony if its own expertise makes the testimony unpersuasive. *Grimm*, 138 N.H. at 54. The nature of administrative hearings is such that strict, court-sanctioned rules of procedure and evidence do not apply. *NET v. State*, 113 N.H. 92, 101 (1973). Hence, in making its decisions, the Commission can apply its own expertise to the relevant testimony, exhibits, and records and reports required to be filed by the utility. *Id.* at 102.

The second matter in dispute with regard to the application of the DCF has to do with the growth factor input. Verizon's use of the I/B/E/S consensus analysts' growth estimates for S&P industrials is unacceptable for the same reason using the S&P industrials as a proxy group is not warranted in this case. In addition, the 12.22% growth rate is substantially higher than accepted long-run growth forecasts for the economy as a whole and is not justified for use in the DCF model, especially the one-stage, constant growth form of the model utilized by Verizon.

The inclusion or exclusion of dividends is also a point of debate with regard to the growth factor. Staff argues that Verizon improperly excludes dividends from the growth component of the model. We agree with Staff that Commission precedent reflects the inclusion of dividends in order to produce an accurate return on equity estimate because 'the use of any one measure of growth alone excludes information we believe investors consider in making their investment decisions.' *EnergyNorth Natural Gas, Inc.*, 78 NH PUC 117, 122 (1993). Pursuant to DCF theory as expounded by Morin, in *Utilities' Cost of Capital* (1984) at p. 124, the expected future cash flows in the form of dividends constitute investment value; dividend growth rates are a more stable measure of investment value than past growth rates of price and earnings per share.

There is no one infallible method of measuring expected growth. As we stated in *Pennichuck Water Works*, 78 NH PUC 621, 628 (1993), in support of our decision to uphold and retain the methodology used and approved in the above-mentioned *EnergyNorth* case, expected growth is 'a quantity which lies buried in the minds of investors.' We are not persuaded at this time to reconsider our prior determination. In the current economy, we find it reasonable to conclude that the minds of investors consider dividends when making choices. In an investment climate where companies can and have restated earnings, dividends continue to be a sound bellwether of asset values considered by the investment community. We will include dividends within the growth factor in this application of the DCF and accept the 50-50 weighting suggested by Staff and supported by the literature.

A material question presented for decision regarding the application of the DCF for determining Verizon's cost of equity is the form of DCF version to apply. Verizon employed a one-stage DCF version, Staff employed a three-stage version, and BayRing/Conversent employed both single and multi-stage versions. MCI supports both the Staff and BayRing/Conversent calculations. The OCA employed the one-stage version but applied it to multiple sample groups to obtain a range of what it considers to be reasonable cost of equity figures.

Staff testimony supports the view that a three-stage version of the DCF represents a valuable refinement to the DCF method of estimating the cost of capital looking forward over the long term. We agree. Given the computing power available to analysts today, it is possible to more closely match growth rate estimates to varying growth expectations over longer time horizons. Mr. Schlegel used a staged approach to reflect the likelihood that, in the longer term, Verizon's growth rate will converge on the overall growth rate of the economy as a whole. The ability of the three-stage version to represent this convergence is an improvement over the traditional single-stage version, which assumed that early-year growth rates would persist to infinity. It is reasonable to assume that no firm can stay in business over the long term while consistently performing well above or well below the growth rate of the economy as a whole.

The three-stage version may ensure that long term growth rates implicit in the single-stage approach do not exceed the productive capacity of the economy itself. At the same time, a three-stage version ensures that long term growth rates are not estimated to be so low that investors will be under-compensated relative to the market as a whole. The three-stage version could be particularly helpful in situations where there is no regular opportunity to correct an outdated growth assumption.

Verizon argued that the three-stage version produced counterintuitive results: producing a lower cost of equity for companies facing ostensibly higher risk. Staff responded that the three-stage version, as implemented by Staff with equal weight given to both dividend and earnings growth, produced a risk ranking that gave apparently riskier firms a higher cost of equity compared to apparently less risky firms. As Staff indicated at the hearing, its three-stage version produces a cost of equity that is lowest for water companies, higher for electric companies, and highest for Verizon. Tr. Day II. pp. 36-37, 55. Staff satisfactorily explained its calculation in all three instances.

Further, testimony by Staff at hearing demonstrated that Verizon's one-stage application of the DCF model could, under certain conditions, produce illogical results. Both the one-stage and the three-stage versions can produce a counterintuitive relationship between risk, as measured by beta (produced by the CAPM), and the cost of equity. We conclude that the apparent conflict occurs between the CAPM and DCF models and not in the difference between the one-stage and the three-stage versions. Put differently, whether or not the CAPM agrees with the DCF model empirically at any given point in time is irrelevant to the decision of whether the one-stage version should be refined.

Similarly, both the one-stage and the three-stage versions, under certain conditions, can produce a cost of equity below the cost of debt as demonstrated by Dr. Vander Weide in his direct testimony and his criticism of Staff's three-stage

version. (Ex. 1, JUW-1 p. 3 and Ex. 3, p. 107.) Whatever the source of these counterintuitive results, they occur in both the one-stage and the three-stage versions and are therefore not driven by the distinction between the two. As we do not question the usefulness of the DCF model in this docket, we do not reject the three-stage DCF model on the basis of these criticisms.

Evaluating the three-stage version of the DCF, we find that refining a model over time is not unreasonable. The model takes account of the fact that the expected growth rates of earnings and dividends quoted by financial publishing companies like Value Line and I/B/E/S may reflect expectations in the medium term but are, by the statements of these publishing companies, not intended to reflect expectations for the long term. The three-stage version takes account of this inherent limitation in the data and ensures that long term growth rates do not exceed the productive capacity of the economy itself. Such a scenario would imply that some companies will grow faster than the economy ad infinitum, an implication we cannot accept. At the same time, the three-stage version ensures that long term growth rates are not so low that some investors remain under-compensated. In this manner, the three-stage version strikes a balance that we find is appropriate in this proceeding.

We find the implications of the three-stage version appropriate in this docket. The cost of equity implicit in Staff's three-stage version is slightly above OCA's estimate and slightly below that proposed by BayRing/Conversent. As Staff's estimate is not plagued by the implication that the DCF growth rate can forever diverge from the economy's growth rate, we find Staff's estimate to be most reasonable and therefore adopt it.

The correction the three-stage version makes relative to the one-stage version is small if the one-stage growth rates are close to the sustainable rate to begin with. In this docket, for instance, the difference between Staff's one-stage and three-stage versions amounts to approximately 50 basis points. This shows that Staff's proposed growth rate is reasonable. However, the difference between Verizon's growth rates and the sustainable growth rate is far too great for us to conclude that its growth rate is sustainable indefinitely.

Verizon argued for the inclusion of flotation costs to the cost of equity. Verizon argued that a TELRIC compliant cost of capital should make allowance for such costs as a newly and hypothetically constructed network would require new equity issuances that would have to be financed. We reject the company's reasoning.

We have held previously that lacking any evidence of actual or planned issuances, such costs should not be compensated. Re: Pennichuck Water Works, Inc. 70 NH PUC 850, 863 (1985), 70 NH PUC 862. Asked at the hearing, the company witness noted that he did not study the Company's history or plans to issue new equity. Tr. Day 1, April 22, 2003, pp. 43-44. We reject the Company's request to increase the cost of equity to account for flotation costs for the non-UNE portion of the Company's business.

As for UNE rates, TELRIC only assumes the existence of an efficient costing standard. It does not require telephone companies to raise capital to actually go out and build this efficient network. Therefore additional flotation costs would not be incurred.

We now relate our findings thus far to the overall question of cost of equity. We find that the most reasonable method to determine the cost of equity on this record is to use the cost of equity estimated by Staff based on its mix of earnings and dividend growth estimates for the revised sample of proxy RBOCs, applied in the three-stage DCF version, with the first stage ending in year five and the third stage beginning in year eleven. This method produces a cost of equity for Verizon NH of 9.82%. We find that this estimate of the cost of equity is reasonable for Verizon NH and we adopt it.

F. Overall Weighted Average Cost of Capital

Using an imputed capital structure of 45% equity, 53% long term debt, and 2% short term debt, a long term cost of debt of 7.051%, a short term cost of debt of 2%, and a cost of equity of 9.82%, we find that the overall weighted average cost of capital for Verizon NH is 8.2%.

Based upon the foregoing, it is hereby

ORDERED, that for the purpose of calculating Verizon's cost of capital the company shall be viewed as a whole to determine an overall cost of capital that shall apply to all jurisdictional cost studies; and it is

FURTHER ORDERED, a capital structure of 45% equity, 53% long term debt and 2% short term debt shall be imputed for the purpose of calculating an overall cost of capital; and it is

FURTHER ORDERED, that a cost of long term debt of 7.051% and a cost of short term debt of 2% shall be utilized for the purpose of calculating an overall cost of capital; and it is

FURTHER ORDERED, that the cost of equity shall be 9.82%, for the purpose of calculating an overall cost of capital; and it is

FURTHER ORDERED, that the overall weighted average cost of capital for Verizon shall be 8.2%; and it is

FURTHER ORDERED, that Verizon NH shall file revised SGAT tariffs to reflect the cost of capital as found in this Order by March 16, 2004.

By order of the Public Utilities Commission of New Hampshire this sixteenth day of January, 2004.

FOOTNOTES

FN1 TELRIC, or total element long run incremental cost, has been approved by the Federal Communications Commission (FCC) as the appropriate methodology for establishing rates for unbundled network elements.

FN2 Copeland and Weston, A Note on the Evaluation of Cancelable Operating Leases, Financial Management (Summer 1982) (Exh. 1, Attachment A).

89 N.H. P.U.C. 17, 232 P.U.R.4th 24, 2004 WL 980140 (N.H.P.U.C.)

(Publication page references are not available for this document.)

FN3 The amount of the risk premium was calculated by (i) recognizing the difference between a fixed-rate, non-cancelable financial lease and a cancelable operating lease; (ii) using available data on the forward-looking investment, operating expenses and depreciation for the Commission-approved Verizon telecommunications network in New Hampshire; (iii) using a standard methodology for valuing the CLECs' option to renew their UNE lease at lower rates when rates are reset to reflect the supposedly lower cost of new technology or to cancel their leases altogether; and (iv) comparing the required rate of return on a fixed-rate, non-cancelable financial lease for Verizon NH's network to the required rate of return on a cancelable operating lease for this network.

FN4 Verizon New Hampshire is a subsidiary of Verizon New England which, in turn, is a subsidiary of Verizon Communications.

FN5 Regulatory thought has evolved since the Commission's decision in Re New England Telephone and Telegraph Company, 65 NH PUC 564 (1980) (NET Order) that rejected an argument that the consolidated capital structure of AT&T consolidated (the ultimate corporate parent) should be used for Verizon New England's predecessor. At the time the NET Order was issued, the regulatory concept of 'double leveraging,' which recognizes that part of the subsidiary's equity may consist of funds borrowed by the parent at low rates of interest, was novel. Id. at 585-587.

EDITOR'S APPENDIX

Citations in Text

[N.H.] Re Northern Utilities, Inc., DG 03-080, Order No. 24,175, 88 NH PUC 287, May 22, 2003.

[N.H.] Re Review of No-Impairment Presumption for DS-1 Switching Network Element, DT 03-174, Order No. 24,237, 88 NH PUC 569, Nov. 10, 2003.

[N.H.] Re Verizon New Hampshire, DT 02-110, Order No. 24,053, 87 NH PUC 641, Sept. 16, 2002.

[N.H.] Re Verizon New Hampshire, DT 02-110, Order No. 24,089, 87 NH PUC 817, Nov. 27, 2002.

[N.H.Sup.Ct.] Legislative Utility Consumers' Council v. Public Service Co. of New Hampshire, 119 N.H. 332, 31 PUR4th 333, 402 A.2d 626, May 17, 1979.

[N.H.Sup.Ct.] New England Teleph. & Teleg. Co. v. New Hampshire, 113 N.H. 92, 98 PUR3d 253, 302 A.2d 814 (1973).

[N.H.Sup.Ct.] Re Public Service Co. of New Hampshire, 130 N.H. 265, 92 PUR4th 546, 539 A.2d 263 (1988).

[N.H.Sup.Ct.] Public Service Co. of New Hampshire, 130 N.H. 748, 96 PUR4th 536, 547 A.2d 269 (1988).

89 N.H. P.U.C. 17, 232 P.U.R.4th 24, 2004 WL 980140 (N.H.P.U.C.)

(Publication page references are not available for this document.)

[U.S.Sup.Ct.] Bluefield Water Works & Improv. Co. v. West Virginia Pub. Service Commission, 262 U.S. 679, PUR1923D 11, 67 L.Ed. 1176, 43 S.Ct. 675 (1923).

[U.S.Sup.Ct.] Federal Power Commission v. Hope Nat. Gas Co., 320 U.S. 591, 51 PUR NS 193, 88 L.Ed. 333, 64 S.Ct. 281 (1944).

[U.S.Sup.Ct.] Market Street Railroad Co. v. California Railroad Commission, 324 U.S. 548, 58 PUR NS 18, 89 L.Ed. 1171, 65 S.Ct. 770 (1945).

END OF DOCUMENT