Exhibit No (WEA-4)
BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION
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## EXHIBIT NO.\_\_(WEA-4)

## **QUANTITATIVE ANALYSES**

- Q. What is the purpose of this exhibit?
- A. This exhibit presents capital market estimates of the cost of equity. First, I examine the concept of the cost of equity, along with the risk-return tradeoff principle fundamental to capital markets. Next, I describe DCF, CAPM, and comparable earnings analyses conducted to estimate the cost of equity for reference groups of comparable risk firms. Finally, I examine other factors (*i.e.*, flotation costs) properly considered in evaluating a fair rate of return on equity.

## A. Overview

- Q. What role does the rate of return on common equity play in a utility's rates?
- A. The return on common equity is the cost of inducing and retaining investment in the utility's physical plant and assets. This investment is necessary to finance the asset base needed to provide utility service. Investors will commit money to a particular investment only if they expect it to produce a return commensurate with those from other investments with comparable risks. Moreover, the return on common equity is integral in achieving the sound regulatory objectives of rates that are sufficient to: 1) fairly compensate capital investment in the utility, 2) enable the utility to offer a return adequate to attract

new capital on reasonable terms, and 3) maintain the utility's financial integrity.

Meeting these objectives allows the utility to fulfill its obligation to provide
reliable service while meeting the needs of customers through necessary system
expansion.

Q. What fundamental economic principle underlies any evaluation of investors' required return on equity?

A. Underlying the concept of the cost of equity is the fundamental notion that investors are risk averse, and will willingly bear additional risk only if they expect compensation for doing so. The required rate of return for a particular asset at any point in time is a function of: 1) the yield on risk-free assets, and 2) its relative risk, with investors demanding correspondingly larger risk premiums for assets bearing greater risk. Given this risk-return tradeoff, the required rate of return (k) from an asset (i) can be generally expressed as:

$$k_i = R_f + RP_i$$

where:

 $R_f$  = Risk-free rate of return; and

RP<sub>i</sub> = Risk premium required to hold risky asset i.

Thus, the required rate of return for a particular asset at any point in time is a function of: 1) the yield on risk-free assets, and 2) its relative risk, with investors demanding correspondingly larger risk premiums for assets bearing greater risk.

Because common shareholders have the lowest priority claim on a firm's cash flows, they receive only the residual that remains after all other claimants – employees, suppliers, governments, lenders, have been paid. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, is considerably higher than the yield on the utility's long-term debt.

## Q. Is the cost of equity observable in the capital markets?

A. No. Unlike debt capital, there is no contractually guaranteed return on common equity capital since shareholders are the residual owners of the utility. Because it is unobservable, the cost of equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the company specifically, and employing various quantitative methods that focus on investors' current required rates of return. These various quantitative methods typically attempt to infer investors' required rates of return from stock prices, interest rates, or other capital market data.

## A. <u>Discounted Cash Flow Analyses</u>

- Q. How are DCF models used to estimate the cost of equity?
- A. DCF models attempt to replicate the market valuation process that sets the price investors are willing to pay for a share of a company's stock. The model rests on the assumption that investors evaluate the risks and expected

rates of return from all securities in the capital markets. Given these expectations, the price of each stock is adjusted by the market until investors are adequately compensated for the risks they bear. Therefore, we can look to the market to determine what investors believe a share of common stock is worth. By estimating the cash flows investors expect to receive from the stock in the way of future dividends and capital gains, we can calculate their required rate of return. In other words, the cash flows that investors expect from a stock are estimated, and given its current market price, we can "back-into" the discount rate, or cost of equity, that investors implicitly used in bidding the stock to that price.

## Q. What market valuation process underlies DCF models?

A. DCF models assume that the price of a share of common stock is equal to the present value of the expected cash flows (i.e., future dividends and stock price) that will be received while holding the stock, discounted at investors' required rate of return. In other words, the cost of equity is the discount rate that equates the current price of a share of stock with the present value of all expected cash flows from the stock.

- Q. What form of the DCF model is customarily used to estimate the cost of equity in rate cases?
- A. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a "constant growth" form:

$$P_0 = \frac{D_1}{k_a - g}$$

where:

 $P_0$  = Current price per share;

D<sub>1</sub> = Expected dividend per share in the coming year;

ke = Cost of equity;

g = Investors' long-term growth expectations.

The cost of equity (K<sub>e</sub>) can be isolated by rearranging terms:

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

This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: 1) dividend yield (D<sub>1</sub>/P<sub>0</sub>), and 2) growth (g). In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through price appreciation.

- Q. Are the assumptions underlying the constant growth form of the DCF model met in the real world?
- A. The constant growth DCF model is dependent on a number of strict assumptions,<sup>1</sup> which in practice are never strictly met. Nevertheless, where earnings are derived from stable activities, and earnings, dividends, and book value track fairly closely, the constant growth form of the DCF model offers a reasonable working approximation of stock valuation that provides useful insight as to investors' required rate of return.
- Q. How did you define the utility proxy group you used to implement the DCF model?
- A. As discussed in Exhibit No.\_\_\_(WEA-1T), my utility proxy group was composed of those dividend-paying companies included by Value Line in its Electric Utilities Industry groups with: (1) S&P corporate credit ratings between "BBB-" and "BBB," (2) a Value Line Safety Rank of "3" or better, (3) a Value Line Financial Strength Rating of "B" to "B++", and (4) published growth estimates from Value Line, I/B/E/S International, Inc. ("IBES"), and Reuters, Inc. ("Reuters"). Also excluded from my analyses were two companies that are in the

<sup>&</sup>lt;sup>1</sup> These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (i.e., no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity.

process of being acquired by private equity groups (Duquesne Light Holdings and TXU Corporation).

- Q. Do these criteria provide objective evidence that investors would view the firms in your utility proxy group as risk-comparable?
- A. Yes. Credit ratings are assigned by independent rating agencies for the purpose of providing investors with a broad assessment of the creditworthiness of a firm. Because the rating agencies' evaluation includes virtually all of the factors normally considered important in assessing a firm's relative credit standing, corporate credit ratings provide a broad measure of overall investment risk that is readily available to investors. Widely cited in the investment community and referenced by investors as an objective measure of risk, credit ratings are also frequently used as a primary risk indicator in establishing proxy groups to estimate the cost of equity.

While credit ratings provide the most widely referenced benchmark for investment risks, other quality rankings published by investment advisory services also provide relative assessments of risk that are considered by investors in forming their expectations. Value Line's primary risk indicator is its Safety Rank, which ranges from "1" (Safest) to "5" (Riskiest). This overall risk measure is intended to capture the total risk of a stock, and incorporates elements of stock price stability and financial strength. Given that Value Line is perhaps the most

widely available source of investment advisory information, its Safety Rank provides a useful guide to the likely risk perceptions of investors.

The Financial Strength Rating is designed as a guide to overall financial strength and creditworthiness, with the key inputs including financial leverage, business volatility measures, and company size. Value Line's Financial Strength Ratings range from "A++" (strongest) down to "C" (weakest) in nine steps. Based on these criteria, which reflect objective, published indicators that incorporate consideration of a broad spectrum of risks, including financial and business position, relative size, and exposure to company specific factors, investors are likely to regard this group as having comparable risks and prospects.

- Q. Why did you exclude firms that do not pay common dividends or have below investment grade bond ratings from your utility proxy group?
- A. As discussed earlier, under the DCF approach, observable stock prices are a function of the cash flows that investors expect to receive, discounted at their required rate of return. Because dividend payments are a key parameter required to apply the DCF method, this hinders application of the DCF model to firms that do not pay common dividends. Meanwhile, the financial stress and lack of stability that accompanies below investment grade bond ratings violates the comparable-risk standard and the steady-state assumptions of the constant

growth DCF model, which greatly complicates any determination of investors' long-term expectations that form the basis for DCF applications.<sup>2</sup>

## Q. What steps are required to apply the DCF model?

A. The first step in implementing the constant growth DCF model is to determine the expected dividend yield ( $D_1/P_0$ ) for the firm in question. This is usually calculated based on an estimate of dividends to be paid in the coming year divided by the current price of the stock. The second, and more controversial, step is to estimate investors' long-term growth expectations (g) for the firm. The final step is to sum the firm's dividend yield and estimated growth rate to arrive at an estimate of its cost of equity.

## Q. How was the dividend yield for the utility proxy group determined?

A. Estimates of dividends to be paid by each of these utilities over the next twelve months, obtained from Value Line, served as D<sub>1</sub>. This annual dividend was then divided by the corresponding stock price for each utility to arrive at the expected dividend yield. The expected dividends, stock prices, and resulting dividend yields for the firms in the utility proxy group are presented

 $<sup>^2</sup>$  For example, while Value Line reported historical earnings growth for Avista over the last ten and five year periods of -4.5 percent and -3.5 percent, respectively, it is projecting earnings growth of 12.0 percent over the next three to five years. The Value Line Investment Survey (Feb. 9, 2007) at 1775.

on Schedule WEA-2. As shown there, dividend yields for the nineteen firms in the utility proxy group ranged from 2.5 percent to 5.1 percent.

- Q. What are investors most likely to consider in developing their long-term growth expectations?
- A. The only "g" that matters in applying the DCF model is the value that investors expect and have embodied in current market prices. In constant growth DCF theory, earnings, dividends, book value, and market price are all assumed to grow in lockstep, and the growth horizon of the DCF model is infinite. But implementation of the DCF model is more than just a theoretical exercise; it is an attempt to replicate the mechanism investors used to arrive at observable stock prices.
- Q. How is the growth component of the constant DCF model measured?
- A. A wide variety of techniques can be used to derive growth rates, but the only "g" that matters in applying the DCF model is the value that investors expect and have embodied in current stock prices. While the DCF model is technically concerned with growth in dividend cash flows, implementation of this DCF model is solely concerned with replicating the forward-looking evaluation of real-world investors. In the case of utilities, dividend growth rates are not likely to provide a meaningful guide to investors' current growth expectations. This is because utilities have significantly altered

their dividend policies in response to more accentuated business risks in the industry.<sup>3</sup> As a result of this trend towards a more conservative payout ratio, dividend growth in the utility industry has remained largely stagnant as utilities conserve financial resources to provide a hedge against heightened uncertainties.

## Q. What are investors most likely to consider in developing their long-term growth expectations?

A. As payout ratios for firms in the utility industry trended downward, investors' focus has increasingly shifted from dividends to earnings as a measure of long-term growth. Future trends in earnings, which provide the source for future dividends and ultimately support share prices, play a pivotal role in determining investors' long-term growth expectations.

The importance of earnings in evaluating investors' expectations and requirements is well accepted in the investment community. As noted in *Finding Reality in Reported Earnings* published by the Association for Investment Management and Research:

[E]arnings, presumably, are the basis for the investment benefits that we all seek. "Healthy earnings equal healthy investment benefits" seems a logical equation, but earnings are also a scorecard by which we compare companies, a filter through which we assess

<sup>&</sup>lt;sup>3</sup> For example, the payout ratio for electric utilities fell from approximately 80% historically to on the order of 60%. [The Value Line Investment Survey (Sep. 15, 1995 at 161, Feb. 9, 2007 at 1774)]

management, and a crystal ball in which we try to foretell future performance.<sup>4</sup>

Value Line's near-term projections and its Timeliness Rank, which is the principal investment rating assigned to each individual stock, are also based primarily on various quantitative analyses of earnings. As Value Line explained:

The future earnings rank accounts for 65% in the determination of relative price change in the future; the other two variables (current earnings rank and current price rank) explain 35%.<sup>5</sup>

The fact that investment advisory services, such as Value Line, IBES, and Reuters, focus on growth in earnings indicates that the investment community regards this as a superior indicator of future long-term growth. Indeed, "A Study of Financial Analysts: Practice and Theory," published in the *Financial Analysts Journal*, reported the results of a survey conducted to determine what analytical techniques investment analysts actually use. Respondents were asked to rank the relative importance of earnings, dividends, cash flow, and book value in analyzing securities. Of the 297 analysts that responded, only 3 ranked dividends first while 276 ranked it last. The article concluded:

Earnings and cash flow are considered far more important than book value and dividends.<sup>7</sup>

<sup>&</sup>lt;sup>4</sup> Association for Investment Management and Research, "Finding Reality in Reported Earnings: An Overview", p. 1 (Dec. 4, 1996).

<sup>&</sup>lt;sup>5</sup> The Value Line Investment Survey, Subscriber's Guide, p. 53.

<sup>&</sup>lt;sup>6</sup> Block, Stanley B., "A Study of Financial Analysts: Practice and Theory", Financial Analysts Journal (July/August 1999).

<sup>7</sup> Id. at 88.

- Q. What are security analysts currently projecting in the way of growth for the firms in the utility proxy group?
- A. The earnings growth projections for each of the firms in the utility proxy group reported by IBES and published in S&P's Earnings Guide are displayed on Schedule WEA-2. Also presented are the earnings per share ("EPS") growth projections reported by Value Line and Reuters.
- Q. How else are investors' expectations of future long-term growth prospects often estimated for use in the constant growth DCF model?
- A. Based on the assumptions underlying constant growth theory, conventional applications of the constant growth DCF model often examine the relationship between retained earnings and earned rates of return as an indication of the sustainable growth investors might expect from the reinvestment of earnings within a firm. The sustainable growth rate is calculated by the formula, g = br + sv, where "b" is the expected retention ratio, "r" is the expected earned return on equity, "s" is the percent of common equity expected to be issued annually as new common stock, and "v" is the equity accretion rate.
  - Q. What is the purpose of the "sv" term?
- A. Under DCF theory, the "sv" factor is a component of the growth rate designed to capture the impact of issuing new common stock at a price above, or below, book value. When a company's stock price is greater than its book value per share, the per-share contribution in excess of book value

associated with new stock issues will accrue to the current shareholders. This increase to the book value of existing shareholders leads to higher expected earnings and dividends, with the "sv" factor incorporating this additional growth component.

- Q. How did you apply the earnings retention method for the proxy group of utilities?
- The sustainable, "br+sv" growth rates for each firm in the proxy A. group are summarized on Schedule WEA-2, with the underlying details being presented on Schedule WEA-3. For each firm, the expected retention ratio (b) was calculated based on Value Line's projected dividends and earnings per share. Likewise, each firm's expected earned rate of return (r) was computed by dividing projected earnings per share by projected net book value. Because Value Line reports end-of-year book values, an adjustment was incorporated to compute an average rate of return over the year, consistent with the theory underlying this approach to estimating investors' growth expectations. Meanwhile, the percent of common equity expected to be issued annually as new common stock (s) was equal to the product of the projected market-to-book ratio and growth in common shares outstanding, while the equity accretion rate (v) was computed as 1 minus the inverse of the projected market-to-book ratio.

- Q. What cost of equity estimates were implied for the utility proxy group using the DCF model?
- A. After combining the dividend yields and respective growth projections for each utility, the resulting cost of equity estimates are shown on Schedule WEA-2.
- Q. In evaluating the results of the constant growth DCF model, is it appropriate to eliminate cost of equity estimates that fail to meet threshold tests of economic logic?
- A. Yes. It is a basic economic principle that investors can be induced to hold more risky assets only if they expect to earn a return to compensate them for their risk bearing. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by senior, long-term debt. Consistent with this principle, the DCF range for the proxy group of electric utilities must be adjusted to eliminate cost of equity estimates that fail fundamental tests of economic logic.

The average bond rating associated with the firms in the proxy group is triple-B, with Moody's monthly yields on triple-B bonds averaging approximately 6.2 percent over the six-month period ending January 2007.8 In the present instance, nine of the individual cost of equity estimates exceeded this

<sup>&</sup>lt;sup>8</sup> Based on data from Moody's Credit Perspectives (Oct. 16, 2006, Dec. 4, 2006, & Feb 5, 2007).

threshold by 100 basis points or less.<sup>9</sup> In light of the risk-return tradeoff principle, it is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock, which is the riskiest of a utility's securities. As a result, these values provide little guidance as to the returns investors require from the common stock of an electric utility.

## Q. Have similar tests been applied by regulators?

A. Yes. The FERC has noted that adjustments are justified where applications of the DCF approach produce illogical results:

An adjustment to this data is appropriate in the case of PG&E's low-end return of 8.42 percent, which is comparable to the average Moody's "A" grade public utility bond yield of 8.06 percent, for October 1999. Because investors cannot be expected to purchase stock if debt, which has less risk than stock, yields essentially the same return, this low-end return cannot be considered reliable in this case.<sup>10</sup>

More recently, in its October 2006 decision in *Kern River Gas Transmission*Company, FERC noted that:

[T]he 7.31 and 7.32 percent costs of equity for El Paso and Williams found by the ALJ are only 110 and 122 basis points above that average yield for public utility debt. 11

<sup>9</sup> As highlighted on Schedule WEA-2, nine DCF estimates ranged from 4.9 percent to 7.2 percent.

<sup>10</sup> Southern California Edison Company, 92 FERC ¶ 61,070 (2000) at 22.

<sup>&</sup>lt;sup>11</sup> Kern River Gas Transmission Company, Opinion No. 486, 117 FERC ¶ 61,077 (2006) at P. 140 & fn. 227.

FERC upheld the opinion of Staff and the Administrative Law Judge that cost of equity estimates for these two proxy group companies "were too low to be credible." <sup>12</sup>

Q. What other objective evidence demonstrates that cost of equity estimates of 7.2 percent or less are not logical?

Expectations for a continued upward trend in long-term capital Α. costs further supports a finding that these estimates are illogical and should be disregarded. Widely referenced projections continue to anticipate that long-term interest rates will increase. The most recent forecast of Global Insight, a widely referenced forecasting service, calls for double-A public utility bond yields to reach 6.98 percent in 2008 and average 7.22 percent over the five years ended 2012.13 Meanwhile, the Energy Information Administration ("EIA"), a statistical agency of the U.S. Department of Energy, anticipates that the double-A public utility bond yield will reach 6.85 percent in 2008, or an average of 7.30 percent for the period 2008-2012.14 As shown in Table 1 below, with the average yield spread between double-A and triple-B utility bonds over the six months ended January 2007 being 43 basis points, these forecasts imply an average triple-B bond yield of 7.35 percent for 2008, or 7.69 percent over the 5-year period 2008-2012:

<sup>12</sup> Id.

<sup>&</sup>lt;sup>13</sup> Global<u>Insight</u>, "The U.S. Economy: The 30-Year Focus" (Third-Quarter 2006) at Table 34. This is the only series of projections for public utility bond yields reported by Global<u>Insight</u>.

<sup>&</sup>lt;sup>14</sup> Energy Information Administration, "Annual Energy Outlook 2007," (Feb. 2007) at Table 19. This is the only series of projections for public utility bond yields reported by EIA.

TABLE 1 IMPLIED BBB BOND YIELD

Line No.		2008	2008-12
1	Projected AA Utility Yield		
2	GlobalInsight (a)	6.98%	7.22%
2	EIA (b)	6.85%	7.30%
4	Average	6.92%	7.26%
5	BBB - AA Yield Spread (c)	0.43%	0.43%
6	Implied BBB Utility Yield	7.35%	7.69%

<sup>(</sup>a) Global<u>Insight</u>, "The U.S. Economy: The 30-Year Focus" (Third-Quarter 2006) at Table 34.

Expectations for an increase in long-term debt yields is also supported by the widely-referenced Blue Chip forecast, which projects that yields on corporate bonds will climb on the order of 50 basis points through the second quarter of 2008.<sup>15</sup> Given that low-end cost of equity estimates of 7.2 percent or less are below investors' expectations for comparable utility bond yields, these cannot be considered credible estimates of investors' required return on common stocks.

## Q. Is there any basis to exclude cost of equity estimates at the high end of the range of DCF results?

A. Yes. The upper end of the cost of equity range produced by the DCF analysis presented in Schedule WEA-2 was set by a cost of equity estimate of 18.3 percent for Dominion Resources. Compared with the balance of the

<sup>(</sup>b) Energy Information Administration, "Annual Energy Outlook 2007," (Feb. 2007) at Table 19.

<sup>(</sup>c) Based on monthly average bond yields for the six months Aug. 2006 – Jan. 2007 reported in Moody's Credit Perspectives.

<sup>&</sup>lt;sup>15</sup> Blue Chip Financial Forecasts (Jan. 1, 2007) at 2.

remaining estimates, this 18.3 percent estimate is an extreme outlier and should also be excluded in evaluating the results of the DCF model for the utility proxy group.

- Q. What cost of equity is implied by your DCF results for the utility proxy group?
- A. As shown on Schedule WEA-2 and summarized in Table 2, below, after eliminating illogical low- and high-end values, application of the constant growth DCF model resulted in the following cost of equity estimates:

TABLE 2
DCF RESULTS – UTILITY PROXY GROUP

<b>Growth Rate</b>	<b>Average Cost of Equity</b>
I/B/E/S	10.7%
Value Line	10.3%
Reuters	10.9%
br+sv	9.5%

- Q. What considerations are relevant in evaluating these DCF results for utilities?
- A. The short-term projected growth rates used to apply the DCF model may be colored by lingering economic uncertainties and the numerous challenges faced in the utility industry. The impact of this short-term focus is exemplified by Value Line, which has assigned its Utilities sector the lowest ranking of all 10 sectors it covers for year-ahead stock price performance, while noting that "we don't totally discount the possibility that the industry will be

<sup>&</sup>lt;sup>16</sup> The Value Line Investment Survey, Selection & Opinion (Jan. 26, 2007) at 4910.

accorded higher sustainable valuations going forward."<sup>17</sup> While a cautious short-term outlook may be indicative of relatively low near-term growth projections, it does not necessarily reflect investors' long-term expectations for the industry. As a result, DCF growth rates do not necessarily capture investors' long-term expectations for the industry, and the resulting cost of equity estimates will be downward-biased.

- Q. How else can the DCF model be applied to estimate the ROE for Avista?
- A. Under the regulatory standards established by *Hope* and *Bluefield*, the salient criteria in establishing a meaningful benchmark to evaluate a fair rate of return is relative risk, not the particular business activity or degree of regulation. Utilities must compete for capital, not just against firms in their own industry, but with other investment opportunities of comparable risk. With regulation taking the place of competitive market forces, required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition. Consistent with this accepted regulatory standard, I also applied the DCF model to a reference group of comparable risk companies in the non-utility sectors of the economy.

 $<sup>^{\</sup>rm 17}$  The Value Line Investment Survey (Mar. 2, 2007) at 153.

- Q. What criteria did you apply to evaluate investors' risk perceptions?
- A. As discussed in Exhibit No.\_\_\_(WEA-1T), my assessment of comparable risk relied on three objective benchmarks for the risks associated with common stocks Value Line's Safety Rank, Financial Strength rating, and beta. My comparable risk proxy group was composed of those U.S. companies followed by Value Line that 1) pay common dividends, 2) have a Safety Rank of "1", 2) have a Financial Strength Rating of "A" or above, and 3) have beta values of 0.99 or less. Consistent with the development of my utility proxy group, I also eliminated firms with below-investment grade credit ratings.
- Q. What were the results of your DCF analysis for the non-utility reference group?
- A. As shown on Schedule WEA-4, I applied the DCF model to the non-utility companies in exactly the same manner described earlier for the utility proxy group. As summarized in Table 4, below, after eliminating illogical lowand high-end values, application of the constant growth DCF model resulted in the following cost of equity estimates:

<sup>&</sup>lt;sup>18</sup> Schedule WEA-5 contains the details underlying the calculation of the br+sv growth rates for the non-utility group.

TABLE 4 DCF RESULTS - NON-UTILITY GROUP

<b>Growth Rate</b>	<b>Average Cost of Equity</b>
I/B/E/S	12.5%
Value Line	11.8%
Reuters	12.4%
br+sv	12.9%

### Capital Asset Pricing Model B.

### Please describe the CAPM. 0

The CAPM is a theory of market equilibrium that measures risk A. using the beta coefficient. Under the CAPM, investors are assumed to be fully diversified, so the relevant risk of an individual asset (e.g., common stock) is its volatility relative to the market as a whole. Beta reflects the tendency of a stock's price to follow changes in the market. A stock that tends to respond relatively less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. The CAPM is mathematically expressed as:

$$R_j = R_f + \beta_j (R_m - R_f)$$

where:

 $R_j$  = required rate of return for stock j;

 $R_f$  = risk-free rate;  $R_m$  = expected return on the market portfolio; and,  $\beta_j$  = beta, or systematic risk, for stock j.

Like the DCF model, the CAPM is an ex-ante, or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the CAPM must be

applied using estimates that reflect the expectations of actual investors in the market, not with backward-looking, historical data.

- Q. How did you apply the CAPM to estimate the cost of equity?
- A. Application of the CAPM to the utility proxy group based on a forward-looking estimate for investors' required rate of return from common stocks is presented on Schedule WEA-6. In order to capture the expectations of today's investors in current capital markets, the expected market rate of return was estimated by conducting a DCF analysis on the dividend paying firms in the S&P 500.

The dividend yield for each firm was obtained from Value Line, with the growth rate being equal to the average of the earnings growth projections for each firm published by IBES and Value Line, with each firm's dividend yield and growth rate being weighted by its proportionate share of total market value.

Based on the weighted average of the projections for the 361 individual firms, current estimates imply an average growth rate over the next five years of 11.2 percent. Combining this average growth rate with a dividend yield of 2.1 percent results in a current cost of equity estimate for the market as a whole of approximately 13.3 percent. Subtracting a 5.0 percent risk-free rate based on the average yield on 20-year Treasury bonds for January 2007 produced a market equity risk premium of 8.3 percent. Multiplying this risk premium by the

average Value Line beta of 0.99 for the utilities in the proxy group, and then adding the resulting 8.2 percent risk premium to the average long-term Treasury bond yield, indicated an ROE of approximately 13.2. percent.

- Q. What other CAPM analyses did you conduct to estimate the cost of equity?
- A. I also applied the CAPM using risk premiums based on historical realized rates of return. This approach to estimating investors' equity risk premiums is premised on the assumption that, given a sufficiently large number of observations over long, historical periods, the average realized market rate of return will converge to investors' required rate of return. Put another way, because future expectations are unobservable, historical returns are often extrapolated into the future on the presumption that past experience heavily conditions future expectations.

While reference to historical data represents one way to apply the CAPM, these realized rates of return reflect, at best, an indirect estimate of investors' current requirements. The primacy of current expectations was recognized by Ibbotson Associates:

The cost of capital is always an expectational or forward-looking concept. While the past performance of an investment and other historical information can be good guides and are often used to estimate the required rate of return on capital, the expectations of

future events are the only factors that actually determine cost of capital.<sup>19</sup>

As a result, forward-looking applications of the CAPM that look directly at investors' expectations in the capital markets are apt to provide a more meaningful guide to investors' required rate of return.

- Q. What CAPM cost of equity is produced based on historical realized rates of return for stocks and long-term government bonds?
- A. I applied the CAPM using data published by Ibbotson Associates, which is perhaps the most exhaustive and widely referenced annual study of realized rates of return. Application of the CAPM based on historical realized rates of return is presented in Schedule WEA-7. In their 2006 Yearbook, Valuation Edition, Ibbotson Associates reported that, over the period from 1926 through 2005, the arithmetic mean realized rate of return on the S&P 500 exceeded that on long-term government bonds by 7.1 percent.<sup>20</sup> Multiplying this historical market risk premium by the average Value Line beta of 0.99 produced an equity risk premium of 7.0 percent for the utility proxy group. As shown on Schedule WEA-7, adding this equity risk premium to the January 2007 average yield on 20-year Treasury bonds of 5.0 percent resulted in an implied cost of equity of 12.0 percent.

<sup>&</sup>lt;sup>19</sup> Ibbotson Associates, Stocks, Bonds, Bills and Inflation, 2005 Yearbook, Valuation Edition at 23.

 $<sup>^{20}</sup>$  Ibbotson Associates computes the equity risk premium by subtracting the income return (not the total return) on long-term Treasury bonds from the return on common stocks.

## C. <u>Comparable Earnings Method</u>

Q. What other analyses did you conduct to estimate the cost of equity?

A. As I noted earlier, I also evaluated the cost of equity using the comparable earnings method. Reference to rates of return available from alternative investments of comparable risk can provide an important benchmark in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. This comparable earnings approach is consistent with the economic underpinnings for a fair rate of return established by the Supreme Court. Moreover, it avoids the complexities and limitations of capital market methods and instead focuses on the returns earned on book equity, which are readily available to investors.

Q. What rates of return on equity are indicated for utilities based on this approach?

A. With respect to expectations for electric utilities generally, Value

Line reports that its analysts anticipate an average rate of return on common

equity for the electric utility industry of 11.5 percent in 2007 and over its three-to
five year forecast horizon.<sup>21</sup> Meanwhile, Value Line expects that natural gas

 $<sup>^{\</sup>rm 21}$  The Value Line Investment Survey (Feb. 9, 2007) at 1774.

distribution utilities will earn an average rate of return on common equity of 11.5 percent in 2007, and 12.0 percent over the years 2009 through 2011.<sup>22</sup>

For the utility proxy group specifically, the returns on common equity for these nineteen firms projected by Value Line over its three-to-five year forecast horizon are shown on Schedule WEA-8. Consistent with the rational underlying the development of the br+sv growth rates discussed earlier, these year-end values were converted to average returns using the same adjustment factor developed in Schedule WEA-3. As shown on Schedule WEA-8, after eliminating two potential high-end outliers, Value Line's projections suggested an average ROE of 10.8 percent.

- Q. What return on equity is indicated by the results of the comparable earnings approach?
- A. Based on the results discussed above, I concluded that the comparable earnings approach implies a fair rate of return on equity of at least 11.0 percent.

## D. <u>Summary of Quantitative Results</u>

- Q. Please summarize the results of your quantitative analyses.
- A. The cost of equity estimates implied by my quantitative analyses are summarized in Table 5 below:

<sup>&</sup>lt;sup>22</sup> The Value Line Investment Survey (Dec. 15, 2006) at 459.

## TABLE 5 SUMMARY OF QUANTITATIVE RESULTS

	<b>Cost of Equity</b>
Method	<b>Estimate</b>
DCF	10.3% 12.3%
CAPM	
Forward-looking	13.2%
Historical	12.0%
Comparable Earnings	11.0%

## WILLIAM E. AVERA

## SCHEDULES:

Schedule WEA-1 – Capital Structure

Schedule WEA-2 – Constant Growth DCF Model – Utility Proxy Group

Schedule WEA-3 – Sustainable Growth Rate – Utility Proxy Group

Schedule WEA-4 – Constant Growth DCF Model – Non-Utility Proxy Group

Schedule WEA-5 – Sustainable Growth Rate – Non-Utility Proxy Group

Schedule WEA-6 – CAPM – Forward-looking Risk Premium

Schedule WEA-7 – CAPM – Historical Risk Premium

Schedule WEA-8 – Comparable Earnings Approach

Schedule WEA-1 Page 1 of 1

## CAPITAL STRUCTURE

	At Dec	At December 31, 2006 (a)	.006 (a)	Value l	Value Line Proje	ected (b)
	Long-term		Common	Long-term		Common
Company	Debt	Preferred	Equity	Debt	Other	Equity
American Elec Pwr	59.1%	0.3%	40.6%	58.0%	0.5%	41.5%
Black Hills Corp.	44.8%	0.0%	55.2%	47.0%	0.0%	53.0%
Cleco Corp.	42.8%	1.3%	56.0%	54.0%	0.5%	45.5%
Dominion Resources	53.7%	0.9%	45.4%	44.0%	1.0%	55.0%
DPL, Inc.	70.7%	0.9%	28.3%	58.5%	0.5%	41.0%
DTE Energy	57.1%	0.0%	42.9%	57.0%	0.0%	43.0%
Edison International	51.9%	5.0%	43.2%	46.5%	4.5%	49.0%
Empire District Elec.	49.7%	0.0%	50.3%	51.0%	0.0%	49.0%
NiSource Inc.	51.1%	0.0%	48.9%	48.5%	0.0%	51.5%
Northeast Utilities	50.4%	2.0%	47.6%	49.5%	1.5%	49.0%
Pepco Holdings	56.0%	0.0%	44.0%	50.0%	0.5%	49.5%
PG&E Corp.	46.4%	1.7%	51.9%	46.5%	1.5%	52.0%
PNM Resources	50.9%	0.3%	48.8%	51.5%	0.5%	48.0%
PPL Corp.	58.6%	2.3%	39.2%	49.5%	2.0%	48.5%
Progress Energy	52.2%	0.5%	47.3%	50.0%	0.5%	49.5%
PS Enterprise Group	57.1%	1.6%	41.3%	49.0%	0.5%	50.5%
Puget Energy	55.9%	0.8%	43.3%	52.0%	0.0%	48.0%
Westar Energy	50.0%	0.7%	49.3%	49.0%	0.5%	50.5%
Xcel Energy, Inc.	53.4%	0.8%	45.8%	49.5%	0.5%	50.0%
Average	53.2%	1.0%	45.7%	50.6%	0.8%	48.6%

<sup>(</sup>a) Company Form 10-K and Annual Reports.(b) The Value Line Investment Survey (Dec. 29, 2006, Feb. 9 & Mar. 2, 2007).

Average (g)	Xcel Energy	Westar Energy	Puget Energy	PS Enterprise Group	Progress Energy	PPL Corp.	PNM Resources	PG&E Corp.	Pepco Holdings	Northeast Utilities	NiSource Inc.	Empire District Elec.	<b>Edison International</b>	DTE Energy	DPL, Inc.	Dominion Resources	Cleco Corp.	Black Hills Corp.	American Elec Pwr	Company			
	\$ 24.35	\$ 27.86	\$ 25.29	\$74.46	\$50.01	\$ 37.22	\$30.64	\$ 48.00	\$ 26.88	\$29.24	\$ 24.58	\$24.99	\$ 46.70	\$ 47.99	\$30.69	\$86.30	\$ 26.70	\$37.89	\$ 45.95	Price	Recent	_	(a)
	\$ 0.93	\$1.08	\$1.00	\$ 2.34	\$ 2.45	\$1.20	\$ 0.94	\$1.42	\$1.04	\$ 0.77	\$ 0.92	\$1.28	\$1.18	\$2.14	\$1.05	\$ 2.87	\$ 0.90	\$1.36	\$1.59	Dividends		Dividend Yield	(a)
	3.8%	3.9%	4.0%	3.1%	4.9%	3.2%	3.1%	3.0%	3.9%	2.6%	3.7%	5.1%	2.5%	4.5%	3.4%	3.3%	3.4%	3.6%	3.5%	<u>Yield</u>		Id	
	7.0%	4.0%	5.0%	5.0%	4.0%	11.0%	11.0%	8.0%	7.0%	11.0%	3.0%	3.0%	7.0%	7.0%	7.0%	10.0%	11.0%	5.0%	4.0%	IBES			(b)
	6.0%	5.0%	7.0%	6.0%	0.0%	10.5%	6.0%	5.5%	8.0%	7.5%	3.5%	9.5%	8.0%	3.0%	3.5%	15.0%	7.0%	6.5%	6.5%	EPS	VL	Grow	(c)
	6.1%	4.2%	4.9%	8.8%	4.8%	10.6%	10.2%	7.9%	7.4%	8.4%	3.3%	3.0%	8.0%	5.8%	9.0%	9.3%	12.0%	6.0%	4.7%	Reuters		<b>Growth Rates</b>	(d)
	4.6%	3.5%	4.2%	8.0%	2.2%	9.0%	4.9%	5.9%	6.0%	4.1%	3.6%	3.9%	6.9%	2.8%	2.5%	11.1%	6.7%	4.9%	6.2%	br+sv			(e)
10.7%											_									IBES		င့	(f)
10.3%	9.8%	8.9%	11.0%	9.1%	4.9%	13.7%	9.1%	8.5%	11.9%	10.1%	7.2%	14.6%	10.5%	7.5%	6.9%	18.3%	10.4%	10.1%	10.0%	EPS	VΙ	st of Equi	Œ
10.9%																				Reuters		ty Estimat	(f) (f)
9.5%	8.4%																				br+sv	es	<b>(f)</b>

<sup>(</sup>a) The Value Line Investment Survey, Summary and Index (Mar. 2, 2007).
(b) I/B/E/S International growth rates from Standard & Poor's Earnings Guide, (March 2007).
(c) The Value Line Investment Survey (Dec. 29, 2006, Feb. 9 & Mar. 2, 2007).
(d) http://stocks.us.reuters.com (retrieved Mar. 2, 2007).
(e) See Exibit WEA-1, page 2 of 2.
(f) Sum of dividend yield and respective growth rate.
(g) Excludes highlighted figures.

## SUSTAINABLE GROWTH RATE

(a)

(a)

(a)

(a)

**(b)** 

3

(d)

(e)

B

8

E

		Projections	ons	Historical		Mid-Year					
			Net Book	Net Book	Annual	Adjustment	5400×	Adjusted "b×r"	"b x r"	"sv"	Sustainable
Company	EPS	DPS	Value	Value	Change	Factor	.р. П	Ψ,	growth		
American Elec Pwr	\$3.75	\$2.00	\$30.25	\$23.08	5.6%	1.0270	46.7%	12.7%	5.9%	0.25%	6.2%
Black Hills Corp.	\$2.75	\$1.48	\$28.00	\$22.29	4.7%	1.0228	46.2%	10.0%	4.6%		
Cleco Corp.	\$2.00	\$1.20	\$18.25	\$13.69	5.9%	1.0287	40.0%	11.3%	4.5%		
Dominion Resources	\$10.00	\$3.30	\$63.50	\$37.00	11.4%	1.0540	67.0%	16.6%	11.1%		
DPL, Inc.	\$1.60	\$1.16	\$9.00	\$8.14	2.0%	1.0100	27.5%	18.0%	4.9%		
DTE Energy	\$3.50	\$2.32	\$36.25	\$32.44	2.2%	1.0111	33.7%	9.8%	3.3%		
Edison International	\$3.45	\$1.42	\$30.75	\$20.30	8.7%	1.0415	58.8%	11.7%	6.9%		
Empire District Elec.	\$1.75	\$1.28	\$17.00	\$15.08	2.4%	1.0120	26.9%	10.4%	2.8%		
NiSource Inc.	\$1.75	\$1.00	\$21.00	\$18.09	3.0%	1.0149	42.9%	8.5%	3.6%		
Northeast Utilities	\$1.75	\$0.98	\$20.45	\$16.70	4.1%	1.0203	44.0%	8.7%	3.8%		
Pepco Holdings	\$2.45	\$1.20	\$21.55	\$18.75	2.8%	1.0139	51.0%		5.9%		
PG&E Corp.	\$3.00	\$1.66	\$26.95	\$19.60	6.6%	1.0318	44.7%	11.5%	5.1%		
PNM Resources	\$2.00	\$1.10	\$24.70	\$18.70	5.7%	1.0278	45.0%	8.3%	3.7%		
PPL Corp.	\$3.75	\$2.00	\$18.00	\$13.30	6.2%	1.0303	46.7%	21.5%	10.0%		
Progress Energy	\$3.20	\$2.54	\$34.45	\$32.15	1.4%	1.0069	20.6%	9.4%	1.9%		
PS Enterprise Group	\$5.20	\$2.58	\$38.20	\$25.50	8.4%	1.0404	50.4%	14.2%	7.1%		
Puget Energy	\$2.00	\$1.15	\$21.50	\$17.52	4.2%	1.0205	42.5%	9.5%	4.0%		
Westar Energy	\$1.85	\$1.24	\$19.95	\$16.31	4.1%	1.0201	33.0%	9.5%	3.1%		
Xcel Energy	\$1.75	\$1.10	\$16.25	\$13.37	4.0%	1.0195	37.1%	11.0%	4.1%		

<sup>(</sup>a) The Value Line Investment Survey (Dec. 29, 2006, Feb. 9 & Mar. 2, 2007).
(b) Annual growth in book value per share from historical to projected period.
(c) Equal to 2(1+b)/(2+b), where b = annual change in net book value.
(d) (EPS-DPS)/EPS.
(e) (Projected EPS/Projected Net Book Value) x Mid-Year Adjustment Factor.
(f) (d) x (e).
(g) "s" equals projected market-to-book ratio x growth in common shares. "v" equals (1- 1/projected market-to-book ratio).
(h) (f) + (g).

## Schedule WEA-4 Page 1 of 3

# NON-UTILITY PROXY GROUP

Johnson & Johnson	ITT Corp.	Illinois Tool Works	Hormel Foods	Hershey Co.	Heinz (H.J.)	Harte-Hanks	Genuine Parts	Gen'l Mills	Gen'l Dynamics	Gannett Co.	Fortune Brands	Fifth Third Bancorp	Exxon Mobil Corp.	Ecolab Inc.	Du Pont	Commerce Bancshs.	Colgate-Palmolive	Coca-Cola	Chevron Corp.	Brown-Forman 'B'	Bemis Co.	Becton, Dickinson	BB&T Corp.	Bard (C.R.)	Automatic Data Proc.	Anheuser-Busch	Allstate Corp.	Abbott Labs.	3M Company	Company			
2.32%	0.92%	1.59%	1.61%	2.03%	2.94%	1.01%	2.90%	2.56%	1.16%	1.97%	1.89%	3.93%	1.71%	1.04%	2.81%	1.97%	1.87%	2.88%	2.94%	1.80%	2.44%	1.27%	3.82%	0.68%	1.81%	2.34%	2.26%	2.42%	2.52%	<u>Yield</u>	Dividend		(a)
8%	12%	13%	10%	9%	7%	11%	12%	8%	10%	8%	11%	10%	10%	18%	10%	7%	10%	8%	8%	10%	11%	13%	9%	15%	12%	9%	10%	10%	11%	I/B/E/S			(b)
7.5%	14.0%	12.5%	12.0%	9.0%	6.0%	11.0%	9.5%	7.5%	12.5%	3.0%	7.0%	2.5%	9.0%	12.0%	10.0%	5.5%	9.5%	6.5%	-0.5%	12.0%	9.0%	11.0%	7.5%	14.5%	11.0%	5.5%	9.5%	8.0%	7.0%	EPS	ΥL	Growth Rates	(a)
9.8%	12.7%	12.5%	9.4%	9.1%	7.1%	10.8%	9.0%	8.4%	10.4%	6.2%	11.4%	10.3%	6.7%	14.2%	7.6%	6.8%	10.2%	8.5%	7.1%	11.3%	10.7%	12.3%	8.3%	15.0%	12.1%	9.1%	8.8%	10.2%	10.9%	Reuters		h Rates	(c)
9.9%	17.1%	13.8%	12.0%	22.3%	10.3%	15.2%	9.3%	7.2%	12.7%	8.0%	12.8%	6.7%	11.3%	19.7%	10.6%	8.8%	29.5%	9.5%	3.4%	13.9%	9.8%	12.9%	7.3%	12.1%	10.2%	28.9%	8.4%	13.3%	13.8%	br+sv		5	(d)
10.3%	12.9%	14.6%	11.6%	11.0%	9.9%	12.0%	14.9%	10.6%	11.2%	10.0%	12.9%	13.9%	11.7%	19.0%	12.8%	9.0%	11.9%	10.9%	10.9%	11.8%	13.4%	14.3%	12.8%	15.7%	13.8%	11.3%	12.3%	12.4%	13.5%	<u>I/B/E/S</u>		0	(e)
9.8%	14.9%	14.1%	13.6%	11.0%	8.9%	12.0%	12.4%	10.1%	13.7%	5.0%	8.9%	6.4%	10.7%	13.0%	12.8%	7.5%	11.4%	9.4%	2.4%	13.8%	11.4%	12.3%	11.3%	15.2%	12.8%	7.8%	11.8%	10.4%	9.5%	EPS	VL	Cost of Equity Estimates	(e)
12.1%	13.6%	14.1%	11.0%	11.2%	10.0%	11.8%	11.9%	11.0%	11.6%	8.2%	13.3%	14.3%	8.4%	15.2%	10.4%	8.7%	12.1%	11.4%	10.1%	13.1%	13.1%	13.5%	12.1%	15.6%	13.9%	11.4%	11.1%	12.7%	13.5%	Reuters		y Estimates	(e)
12.3%	18.0%	15.4%	13.7%	24.4%	13.3%	16.2%	12.2%	9.8%	13.9%	10.0%	14.7%	10.6%	13.0%	20.7%	13.4%	10.7%	31.4%	12.4%	6.3%	15.7%	12.3%	14.2%	11.1%	12.8%	12.0%	31.2%	10.7%	15.7%	16.3%	br+sv			(e)

Wells Fargo	Washington Post	<b>Washington Federal</b>	Walgreen Co.	Wal-Mart Stores	UnitedHealth Group	United Parcel Serv.	Union Pacific	Sysco Corp.	SLM Corporation	Sigma-Aldrich	Sara Lee Corp.	Procter & Gamble	Pitney Bowes	Pfizer, Inc.	PepsiCo, Inc.	NIKE, Inc. 'B'	<b>New York Times</b>	National City Corp.	Moody's Corp.	Meredith Corp.	Medtronic, Inc.	McGraw-Hill	McClatchy Co.	Manulife Fin'l	Lockheed Martin	Liz Claiborne	Lilly (Eli)	Kraft Foods	Kimberly-Clark	Company			
3.09%	1.04%	3.47%	0.68%	1.35%	0.06%	2.29%	1.35%	2.25%	2.27%	1.08%	2.32%	1.92%	2.76%	4.48%	1.86%	1.37%	2.71%	4.07%	0.47%	1.24%	0.86%	1.21%	1.90%	2.32%	1.38%	0.49%	3.14%	3.01%	2.82%	<u>Yield</u>	Dividend		(a)
13%	10%	7%	15%	13%	16%	12%	17%	14%	16%	9%	7%	11%	9%	5%	11%	14%	8%	7%	14%	12%	14%	12%	8%	14%	11%	13%	8%	7%	7%	I/B/E/S			(b)
10.5%	11.0%	9.0%	16.0%	10.5%	18.0%	10.0%	15.5%	12.5%	14.0%	7.5%	-5.0%	10.0%	7.5%	4.0%	10.5%	10.5%	-3.5%	2.5%	14.0%	14.0%	11.5%	10.5%	-1.0%	10.0%	17.5%	7.5%	7.5%	5.0%	6.0%	EPS	VL	Growt	(a)
11.3%	9.8%	7.9%	15.3%	12.6%	16.3%	11.5%	12.8%	13.6%	15.5%	10.4%	6.8%	11.4%	10.0%	7.2%	11.1%	14.1%	7.5%	7.9%	14.1%	11.9%	14.4%	11.4%	7.3%	13.0%	10.1%	12.1%	8.4%	7.2%	7.3%	Reuters		<b>Growth Rates</b>	(c)
11.2%	10.4%	9.7%	14.6%	13.8%	14.8%	10.4%	8.8%	11.3%	14.5%	13.9%	7.9%	18.9%	20.3%	4.6%	14.3%	11.0%	5.2%	6.5%	31.4%	12.2%	13.6%	12.7%	5.3%	8.6%	14.1%	11.6%	11.7%	4.7%	7.6%	br+sv			(b)
16.1%	11.0%	10.5%	15.7%	14.4%	16.1%	14.3%	18.4%	16.3%	18.3%	10.1%	9.3%	12.9%	11.8%	9.5%	12.9%	15.4%	10.7%	11.1%	14.5%	13.2%	14.9%	13.2%	9.9%	16.3%	12.4%	13.5%	11.1%	10.0%	9.8%	I/B/E/S		0	(e)
13.6%	12.0%	12.5%	16.7%	11.9%	18.1%	12.3%	16.9%	14.8%	16.3%	8.6%	-2.7%	11.9%	10.3%	8.5%	12.4%	11.9%	-0.8%	6.6%	14.5%	15.2%	12.4%	11.7%	0.9%	12.3%	18.9%	8.0%	10.6%	8.0%	8.8%	EPS	VL	ost of Equi	(e)
14.4%	10.8%	11.4%	16.0%	14.0%	16.4%	13.8%	14.1%	15.8%	17.8%	11.5%	9.2%	13.3%	12.8%	11.7%	13.0%	15.5%	10.2%	11.9%	14.5%	13.1%	15.3%	12.6%	9.2%	15.3%	11.5%	12.6%	11.5%	10.2%	10.1%	Reuters		Cost of Equity Estimates	(e)
14.3%	11.4%	13.1%	15.2%	15.2%	14.8%	12.7%	10.1%	13.6%	16.8%	15.0%	10.3%	20.8%	23.0%	9.1%	16.2%	12.4%	7.9%	10.6%	31.9%	13.4%	14.5%	13.9%	7.2%	10.9%	15.5%	12.1%	14.8%	7.7%	10.4%	br+sv		5	(e)

Average (f)	Wrigley (Wm.) Jr.	Wilmington Trust	Company			
	2.30%	2.85%	<u>Yield</u>	Dividend		(a)
	10%	9%	I/B/E/S			(b)
	8.5%	9.5%	<b>EPS</b>	VL	Growt	(a)
	10.4%	8.7%	Reuters		Growth Rates	(c)
	10.5%	11.5%	<u>br+sv</u>			(d)
12.5%	12.3%	11.9%	I/B/E/S		0	(e)
11.8%	10.8%	12.4%	<b>EPS</b>	VL	ost of Equi	(e)
12.4%	12.7%	11.5%	Reuters		ty Estimates	(e)
12.9%	12.8%	14.4%	br+sv			(e)

- (a) www.valueline.com (retrieved Mar. 2, 2007).
  (b) I/B/E/S International growth rates from Standard & Pool
  (c) http://stocks.us.reuters.com (retrieved Mar. 2, 2007).
  (d) See Exibit WEA-2, page 2 of 2.
  (e) Sum of dividend yield and respective growth rate.
  (f) Excludes highlighted figures. I/B/E/S International growth rates from Standard & Poor's Earnings Guide, (March 2007).

# SUSTAINABLE GROWTH RATE

Schedule WEA-5 Page 1 of 3

	(a)	(a)	(a)	(a)	(ъ)	(c)	(b)	(e)	( <del>f</del> )	(g)	(h)
		Projections	ons	Historical		Mid-Year					
			Net Book	Net Book	Annual	Adjustment	1	Adjusted "b x r"	"b x r"	"sv"	Sustainable
Company	EPS	DPS	Value	Value	Change	Factor	"b"	"r"	growth	Factor	Growth
3M Company	\$5.50	\$2.18	\$21.70	\$13.39	10.1%	1.0482	60.4%	26.6%	16.0%	-2.24%	13.8%
Abbott Labs.	\$4.00	\$1.60	\$19.25	\$10.15	13.7%	1.0639	60.0%	22.1%	13.3%	0.00%	13.3%
Allstate Corp.	\$6.25	\$1.90	\$53.60	\$31.25	11.4%	1.0539	69.6%	12.3%	8.6%	-0.16%	8.4%
Anheuser-Busch	\$3.55	\$1.18	\$6.60	\$4.31	8.9%	1.0426	66.8%	56.1%	37.4%	-8.55%	28.9%
Automatic Data Proc.	\$2.90	\$1.00	\$18.40	\$9.97	13.0%	1.0612	65.5%	16.7%	11.0%	-0.79%	10.2%
Bard (C.R.)	\$6.35	\$1.00	\$32.50	\$16.55	14.5%	1.0674	84.3%	20.9%	17.6%	-5.42%	12.1%
BB&T Corp.	\$4.00	\$1.94	\$25.80	\$20.49	4.7%	1.0230	51.5%	15.9%	8.2%	-0.86%	7.3%
Becton, Dickinson	\$5.40	\$1.60	\$29.00	\$15.63	13.2%	1.0617	70.4%	19.8%	13.9%	-1.01%	12.9%
Bemis Co.	\$2.60	\$0.84	\$18.15	\$12.87	7.1%	1.0344	67.7%	14.8%	10.0%	-0.19%	9.8%
Brown-Forman 'B'	\$5.00	\$1.40	\$22.40	\$12.76	11.9%	1.0562	72.0%	23.6%	17.0%	-3.11%	13.9%
Chevron Corp.	\$5.35	\$2.60	\$31.45	\$28.07	2.3%	1.0114	51.4%	17.2%	8.8%	-5.44%	3.4%
Coca-Cola	\$3.00	\$1.56	\$11.55	\$6.90	10.9%	1.0515	48.0%	27.3%	13.1%	-3.61%	9.5%
Colgate-Palmolive	\$4.30	\$1.80	\$5.65	\$2.12	21.7%	1.0977	58.1%	83.5%	48.6%	-19.03%	29.5%
Commerce Bancshs.	\$3.80	\$1.15	\$29.40	\$18.82	9.3%	1.0446	69.7%	13.5%	9.4%	-0.64%	8.8%
Du Pont	\$3.80	\$1.68	\$17.25	\$9.43	12.8%	1.0603	55.8%	23.4%	13.0%	-2.40%	10.6%
Ecolab Inc.	\$2.30	\$0.60	\$9.34	\$6.49	7.6%	1.0364	73.9%	25.5%	18.9%	0.81%	19.7%
Exxon Mobil Corp.	\$6.60	\$1.60	\$30.30	\$18.13	10.8%	1.0513	75.8%	22.9%	17.3%	-6.04%	11.3%
Fifth Third Bancorp	\$3.30	\$1.80	\$22.35	\$16.98	5.6%	1.0275	45.5%	15.2%	6.9%	-0.21%	6.7%
Fortune Brands	\$6.80	\$1.75	\$44.50	\$24.87	12.3%	1.0581	74.3%	16.2%	12.0%	0.79%	12.8%
Gannett Co.	\$5.75	\$1.56	\$50.00	\$31.80	9.5%	1.0452	72.9%	12.0%	8.8%	-0.72%	8.0%
Gen'l Dynamics	\$6.25	\$1.35	\$41.25	\$20.34	15.2%	1.0706	78.4%	16.2%	12.7%	-0.02%	12.7%
Gen'l Mills	\$4.10	\$1.70	\$19.25	\$15.38	4.6%	1.0224	58.5%	21.8%	12.7%	-5.52%	7.2%
Genuine Parts	\$3.85	\$1.60	\$23.05	\$15.57	8.2%	1.0392	58.4%	17.4%	10.1%	-0.88%	9.3%
Harte-Hanks	\$2.15	\$0.40	\$9.30	\$6.92	6.1%	1.0296	81.4%	23.8%	19.4%	-4.17%	15.2%
Heinz (H.J.)	\$3.20	\$1.68	\$9.10	\$6.18	8.0%	1.0387	47.5%	36.5%	17.3%	-7.00%	10.3%

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# SUSTAINABLE GROWTH RATE

	(a)	(a)	(a)	(a)	(b)	(c)	(d)	(e)	Э	(8)	(h)
		Projections	ons	Historical		Mid-Year					
			Net Book	Net Book	Annual	Adjustment	1	Adjusted "bxr"	"b x r"	"sv"	Sustainable
Company	EPS	DPS	Value	Value	Change	Factor	"b"	" <b>r</b> "	growth	Factor	Growth
Hershey Co.	\$3.45	\$1.45	\$5.65	\$4.25	5.9%	1.0285	58.0%	62.8%	36.4%	-14.06%	22.3%
Hormel Foods	\$3.20	\$0.80	\$20.80	\$11.42	12.7%	1.0599	75.0%	16.3%	12.2%	-0.18%	12.0%
Illinois Tool Works	\$4.40	\$0.96	\$22.35	\$13.44	10.7%	1.0508	78.2%	20.7%	16.2%	-2.37%	13.8%
IIT Corp.	\$5.00	\$0.60	\$28.95	\$14.75	14.4%	1.0673	88.0%	18.4%	16.2%	0.84%	17.1%
Johnson & Johnson	\$5.20	\$2.04	\$25.45	\$13.75	13.1%	1.0615	60.8%	21.7%	13.2%	-3.24%	9.9%
Kimberly-Clark	\$5.15	\$2.60	\$16.20	\$12.04	6.1%	1.0297	49.5%	32.7%	16.2%	-8.59%	7.6%
Kraft Foods	\$2.60	\$1.00	\$23.00	\$17.72	5.4%	1.0261	61.5%	11.6%	7.1%	-2.47%	4.7%
Lilly (Eli)	\$4.30	\$2.10	\$15.85	\$9.55	10.7%	1.0506	51.2%	28.5%	14.6%	-2.93%	11.7%
Liz Claiborne	\$4.35	\$0.23	\$35.45	\$19.08	13.2%	1.0619	94.7%	13.0%	12.3%	-0.71%	11.6%
Lockheed Martin	\$7.90	\$2.00	\$37.70	\$18.21	15.7%	1.0726	74.7%	22.5%	16.8%	-2.70%	14.1%
Manulife Fin'l	\$2.65	\$0.90	\$19.00	\$12.73	8.3%	1.0400	66.0%	14.5%	9.6%	-0.99%	8.6%
McClatchy Co.	\$3.10	\$0.96	\$46.95	\$33.49	7.0%	1.0338	69.0%	6.8%	4.7%	0.64%	5.3%
McGraw-Hill	\$3.50	\$0.82	\$17.70	\$8.80	15.0%	1.0698	76.6%	21.2%	16.2%	-3.54%	12.7%
Medtronic, Inc.	\$4.35	\$0.83	\$18.00	\$10.00	12.5%	1.0587	80.9%	25.6%	20.7%	-7.11%	13.6%
Meredith Corp.	\$4.85	\$0.90	\$24.45	\$13.22	13.1%	1.0614	81.4%	21.1%	17.1%	-4.97%	12.2%
Moody's Corp.	\$3.25	\$0.38	\$7.25	\$1.07	46.6%	1.1890	88.3%	53.3%	47.1%	-15.65%	31.4%
National City Corp.	\$3.80	\$1.85	\$28.00	\$20.51	6.4%	1.0311	51.3%	14.0%	7.2%	-0.68%	6.5%
New York Times	\$1.50	\$0.85	\$11.60	\$10.44	2.1%	1.0105	43.3%	13.1%	5.7%	-0.49%	5.2%
NIKE, Inc. 'B'	\$7.20	\$1.78	\$44.20	\$21.49	15.5%	1.0720	75.3%	17.5%	13.1%	-2.16%	11.0%
PepsiCo, Inc.	\$4.25	\$1.56	\$13.50	\$8.58	9.5%	1.0453	63.3%	32.9%	20.8%	-6.51%	14.3%
Pfizer, Inc.	\$2.50	\$1.32	\$11.65	\$8.88	5.6%	1.0271	47.2%	22.0%	10.4%	-5.83%	4.6%
Pitney Bowes	\$3.90	\$1.40	\$9.15	\$5.74	9.8%	1.0466	64.1%	44.6%	28.6%	-8.31%	20.3%
Procter & Gamble	\$4.05	\$1.63	\$24.50	\$19.33	4.9%	1.0237	59.8%	16.9%	10.1%	8.75%	18.9%
Sara Lee Corp.	\$1.00	\$0.40	\$2.95	\$3.74	-4.6%	0.9763	60.0%	33.1%	19.9%	-11.92%	7.9%
Sigma-Aldrich	\$5.00	\$1.04	\$27.10	\$18.08	8.4%	1.0405	79.2%	19.2%	15.2%	-1.26%	13.9%
SLM Corporation	\$4.75	\$1.45	\$22.50	\$7.81	23.6%	1.1054	69.5%	23.3%	16.2%	-1.73%	14.5%
Sysco Corp.	\$2.50	\$1.10	\$6.55	\$4.39	8.3%	1.0400	56.0%	39.7%	22.2%	-10.90%	11.3%
Union Pacific	\$8.10	\$1.45	\$77.50	\$49.70	9.3%	1.0444	82.1%	10.9%	9.0%	-0.21%	8.8%
United Parcel Serv.	\$5.25	\$1.90	\$27.60	\$15.39	12.4%	1.0583	63.8%	20.1%	12.8%	-2.46%	10.4%

# SUSTAINABLE GROWTH RATE

	(a)	(a)	(a)	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
	_	Projections	ns	Historical		Mid-Year					
			Net Book	Net Book	Annual	Adjustment		Adjusted	"b x r"	"sv"	Sustainable
Company	EPS	DPS	Value	Value	Change	Factor	<b>"</b> b"	"r"	"r" growth	Factor	Growth
UnitedHealth Group	\$5.30	\$0.05	\$22.20	\$13.06	11.2%	1.0530	99.1%	25.1%	24.9%	-10.15%	14.8%
Wal-Mart Stores	\$4.25	\$0.90	\$23.20	\$12.77	12.7%	1.0596	78.8%	19.4%	15.3%	-1.48%	13.8%
Walgreen Co.	\$3.20	\$0.42	\$18.65	\$8.67	16.6%	1.0764	86.9%	18.5%	16.0%	-1.48%	14.6%
Washington Federal	\$2.75	\$0.96	\$18.80	\$13.66	6.6%	1.0319	65.1%	15.1%	9.8%	-0.17%	9.7%
Washington Post	\$54.45	\$9.40	\$456.50	\$274.74	10.7%	1.0507	82.7%	12.5%	10.4%	0.00%	10.4%
Wells Fargo	\$3.75	\$1.28	\$21.90	\$11.61	13.5%	1.0634	65.9%	18.2%	12.0%	-0.83%	11.2%
Wilmington Trust	\$3.80	\$1.60	\$21.40	\$14.92	7.5%	1.0361	57.9%	18.4%	10.7%	0.86%	11.5%
Wrigley (Wm.) Jr.	\$2.90	\$1.25	\$13.70	\$7.99	11.4%	1.0539	56.9%	22.3%	12.7%	-2.22%	10.5%

<sup>(</sup>a) www.valueline.com (retrieved Mar. 2, 2007).(b) Annual growth in book value per share from historical to projected period.

<sup>(</sup>c) Equal to 2(1+b)/(2+b), where b = annual change in net book value.
(d) (EPS-DPS)/EPS.
(e) (Projected EPS/Projected Net Book Value) x Mid-Year Adjustment Factor.
(f) (d) x (e).
(g) "s" equals projected market-to-book ratio x growth in common shares. "v" equals (1-1/projected market-to-book ratio).
(h) (f) + (g).

## FORWARD-LOOKING RISK PREMIUM

Market Rate of Return		
Dividend Yield (a)	2.1%	
Growth Rate (b)	11.2%	
Market Return (c)		13.3%
Less: Risk-Free Rate (d)  Long-term Treasury Bond Yield		5.0%
Long-term Treasury Bond Tield		3.076
Market Risk Premium (e)		8.3%
Utility Proxy Group Beta (f)		0.99
Utility Proxy Group Risk Premium (g)		8.2%
Plus: Risk-free Rate (d) Long-term Treasury Bond Yield		5.0%
Implied Cost of Equity (h)		13.2%

- (a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (Retreived Feb. 9, 2007).
- (b) Weighted average of IBES and Value Line growth rates for the dividend paying firms in the S&P 500 based on data from Standard & Poor's Earnings Guide (Jan. 2007) and www.valueline.com (Retreived Feb. 9, 2007).
- (c) (a) + (b)
- (d) Average yield on 20-year Treasury bonds for Jan. 2007 from the Federal Reserve Board at http://www.federalreserve.gov/releases/h15/data.htm.
- (e) (c) (d).
- (f) The Value Line Investment Survey (Dec. 29, 2006, Feb. 9 & Mar 2, 2007)
- (g) (e) x (f).
- (h) (d) + (g).

## HISTORICAL RISK PREMIUM

Market Risk Premium	
Long-Horizon Equity Risk Premium (a)	7.1%
Utility Proxy Group Beta (b)	0.99
Utility Proxy Group Risk Premium (c)	7.0%
Plus: Risk-free Rate (d)	
Long-term Treasury Bond Yield	5.0%
Implied Cost of Equity (e)	12.0%

- (a) Arithmetic mean risk premium on Large Company Stocks from 1926-2005 reported by Ibbotson Associates, *Stocks, Bonds, Bills, and Inflation, Valuation Edition, 2006 Yearbook*, at Appendix C, Table C-1, p. 262.
- (b) The Value Line Investment Survey (Dec. 29, 2006, Feb. 9 & Mar 2, 2007)
- (c) (a) x (b).
- (d) Average yield on 20-year Treasury bonds for Jan. 2007 from the Federal Reserve Board at http://www.federalreserve.gov/releases/h15/data.htm.
- (e) (c) + (d).

	(a)	(b)	(c)
	<b>Expected Return</b>	Adjustment	<b>Adjusted Return</b>
Company	on Common Equity	<b>Factor</b>	on Common Equity
American Elec Pwr	12.5%	1.0270	12.8%
Black Hills Corp.	10.0%	1.0228	10.2%
Cleco Corp.	10.5%	1.0287	10.8%
Dominion Resources	16.0%	1.0540	16.9%
DPL, Inc.	17.5%	1.0100	17.7%
DTE Energy	9.5%	1.0111	9.6%
Edison International	11.0%	1.0415	11.5%
Empire District Elec.	10.5%	1.0120	10.6%
NiSource Inc.	8.5%	1.0149	8.6%
Northeast Utilities	8.5%	1.0203	8.7%
Pepco Holdings	11.0%	1.0139	11.2%
PG&E Corp.	11.0%	1.0318	11.4%
PNM Resources	8.0%	1.0278	8.2%
PPL Corp.	21.5%	1.0303	22.2%
Progress Energy	9.0%	1.0069	9.1%
PS Enterprise Group	13.5%	1.0404	14.0%
Puget Energy	9.0%	1.0205	9.2%
Westar Energy	9.0%	1.0201	9.2%
Xcel Energy	11.0%	1.0195	11.2%
Average (d)			10.8%

<sup>(</sup>a) 3-5 year projections from The Value Line Investment Survey (Dec. 29, 2006, Feb. 9 & Mar. 2, 2007)

<sup>(</sup>b) See Exhibit WEA-2. An adjustment is necessary to reflect Value Line's use of year-end capital balances

<sup>(</sup>c) (a) x (b).

<sup>(</sup>d) Excludes highlighted figures.