EXHIBIT NO. ___(RAM-1T)
DOCKET NO. UE-07___/UG-07___
2007 PSE GENERAL RATE CASE
WITNESS: DR. ROGER A. MORIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY, INC.,** **Respondent.**	**Docket No. UE-07____** **Docket No. UG-07____**

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF DR. ROGER A. MORIN ON BEHALF OF PUGET SOUND ENERGY, INC.

DECEMBER 3, 2007

PUGET SOUND ENERGY, INC.

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF DR. ROGER A. MORIN

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In short, caution and judgment are required in interpreting the results of the standard DCF model because of (i) the effect of changes in risk and growth on electric utilities, (ii) the disconnect between the tenets of the DCF model and the characteristics of utility stocks in the current capital market environment, and (iii) the practical difficulties associated with the growth component of the DCF model. Hence, there is a clear need to go beyond the DCF results and take into account the results produced by alternate methodologies in arriving at an ROE recommendation.

3. Caution Regarding the CAPM

Q. Do the assumptions underlying the CAPM require that the model be treated with caution?

A. Yes, as was the case with the DCF model, the assumptions underlying the CAPM are stringent. Moreover, the empirical validity of the CAPM has been the subject of intense research in recent years. Although the CAPM provides useful evidence, it must be complemented by other methodologies.

B. CAPM Estimates

1. Background

Q. Please describe your application of the CAPM risk premium approach.

A. My first two risk premium estimates are based on the CAPM and on an empirical approximation to the CAPM ("ECAPM"). The CAPM is a fundamental paradigm

of finance. The fundamental idea underlying the CAPM is that risk-averse investors demand higher returns for assuming additional risk, and higher-risk securities are priced to yield higher expected returns than lower-risk securities. The CAPM quantifies the additional return, or risk premium, required for bearing incremental risk. It provides a formal risk-return relationship anchored on the basic idea that only market risk matters, as measured by beta.

According to the CAPM, securities are priced such that:

Expected Return = Risk-Free Rate + Risk Premium

Denoting the risk-free rate by R_F and the return on the market as a whole by R_M, the CAPM is stated as follows:

$$K = R_F + \beta(R_M - R_F)$$

This is the seminal CAPM expression, which states that the return required by investors is made up of a risk-free component, R_F, plus a risk premium given by β times $(R_M - R_F)$. To derive the CAPM risk premium estimate, three quantities are required: the risk-free rate (R_F), beta (β), and the market risk premium, $(R_M - R_F)$. For the risk-free rate, I used 5.0%, based on current long-term U.S. Treasury bond yields. For beta, I used 0.92. For the market risk premium, I used 7.1%. These inputs to the CAPM are explained below.

2. Risk-Free Rate

Q. What risk free rate did you use in your CAPM and risk premium analyses?

A. To implement the CAPM and Risk Premium methods, an estimate of the risk-free return is required as a benchmark. As a proxy for the risk-free rate, I have relied on the current and prospective level of yields on 30-year Treasury bonds.

The appropriate proxy for the risk-free rate in the CAPM is the return on the longest term Treasury bond possible. This is because common stocks are very long-term instruments more akin to very long-term bonds rather than to short-term or intermediate-term Treasury notes, for example, 10-year Treasury notes. In a risk premium model, the ideal estimate for the risk-free rate has a term to maturity equal to the security being analyzed. Since common stock is a very long-term investment because the cash flows to investors in the form of dividends last indefinitely, the yield on the longest-term possible government bonds, (i.e., yield on 30-year Treasury bonds) is the best measure of the risk-free rate for use in the CAPM. The expected common stock return is based on very long-term cash flows, regardless of an individual's holding time period. Moreover, utility asset investments generally have very long-term useful lives and should correspondingly be matched with very long-term maturity financing instruments.

While long-term Treasury bonds are potentially subject to interest rate risk, this is only true if the bonds are sold prior to maturity. A substantial fraction of bond market participants, usually institutional investors with long-term liabilities (e.g., pension funds, insurance companies), in fact hold bonds until they mature, and therefore are not subject to interest rate risk. Moreover, institutional bondholders neutralize the impact of interest rate changes by matching the maturity of a bond

portfolio with the investment planning period, or by engaging in hedging transactions in the financial futures markets. The merits and mechanics of such immunization strategies are well documented by both academicians and practitioners.

Another reason for utilizing the longest maturity Treasury bond possible is that common equity has an infinite life span, and the inflation expectations embodied in its market-required rate of return will therefore be equal to the inflation rate anticipated to prevail over the very long-term. The same expectation should be embodied in the risk free rate used in applying the CAPM model. It stands to reason that the yields on 30-year Treasury bonds will more closely incorporate within their yields the inflation expectations that influence the prices of common stocks than do short-term or intermediate-term U.S. Treasury notes.

Among U.S. Treasury securities, 30-year Treasury bonds have the longest term to maturity and the yield on such securities should be used as proxies for the risk-free rate in applying the CAPM, provided there are no anomalous conditions existing in the 30-year Treasury market. In the absence of such conditions, I have relied on the yield on 30-year Treasury bonds in implementing the CAPM and risk premium methods.

Q. Dr. Morin, why did you reject short-term interest rates as proxies for the risk-free rate in implementing the CAPM?

A. Short-term rates are volatile, fluctuate widely, and are subject to more random

disturbances than are long-term rates. Short-term rates are largely administered rates. For example, Treasury bills are used by the Federal Reserve Board as a policy vehicle to stimulate the economy and to control the money supply, and are used by foreign governments, companies, and individuals as a temporary safe-house for money.

As a practical matter, it makes little sense to match the return on common stock to the yield on 90-day Treasury Bills. This is because short-term rates, such as the yield on 90-day Treasury Bills, fluctuate widely, leading to volatile and unreliable equity return estimates. Moreover, yields on 90-day Treasury Bills typically do not match the equity investor's planning horizon. Equity investors generally have an investment horizon far in excess of 90 days.

As a conceptual matter, short-term Treasury Bill yields reflect the impact of factors different from those influencing the yields on long-term securities such as common stock. For example, the premium for expected inflation embedded into 90-day Treasury Bills is likely to be far different than the inflationary premium embedded into long-term securities yields. On grounds of stability and consistency, the yields on long-term Treasury bonds match more closely with common stock returns.

Q. What is your estimate of the risk-free rate in applying the CAPM?

A. The level of U.S. Treasury 30-year long-term bond yields has fluctuated narrowly around 5% in the past few years and is currently 4.9% as reported by the Value

Line Investment Analyzer in September 2007. Value Line forecasts a slight increase in long-term yields over the next year. Accordingly, I use 5.0% as my estimate of the risk-free rate component of the CAPM.

3. Beta

Q. How did you select the beta for your CAPM analysis?

A. A major thrust of modern financial theory as embodied in the CAPM is that perfectly diversified investors can eliminate the company-specific component of risk, and that only market risk remains. The latter is technically known as "beta", or "systematic risk". The beta coefficient measures change in a security's return relative to that of the market. The beta coefficient states the extent and direction of movement in the rate of return on a stock relative to the movement in the rate of return on the market as a whole. The beta coefficient indicates the change in the rate of return on a stock associated with a one percentage point change in the rate of return on the market, and thus measures the degree to which a particular stock shares the risk of the market as a whole. Modern financial theory has established that beta incorporates several economic characteristics of a corporation which are reflected in investors' return requirements.

As a wholly-owned subsidiary of Puget Energy, PSE is not publicly traded, and therefore, proxies must be used. In the discussion of DCF estimates of the cost of common equity below, I examine a sample of widely-traded investment-grade vertically integrated electric utilities that have (i) at least 50% of their revenues

from regulated utility operations and (ii) market capitalization was less than $500 million. The average beta for this group is currently 0.92. Please see Exhibit No. ___(RAM-3) for the betas of this sample of widely-traded investment-grade vertically integrated electric utilities.

I also examined the average beta of the companies that make up Moody's Electric Utility Index as a second proxy. The average beta for the group is 0.92, the same as the previous estimate. Please see Exhibit No. ___(RAM-4) for the betas of the companies in the Moody's Electric Utility Index.

Finally, as a check on the two previous estimates, I examined the betas of investment-grade dividend-paying Western electric utilities as reported in Value Line. The average beta for the Western electric utility group is 0.94, which is very close to the two previous estimates. Please see Exhibit No. ___(RAM-5) for the betas of investment-grade dividend-paying Western electric utilities as reported in Value Line.

Based on these results, I use 0.92 as a reasonable estimate for the beta applicable to PSE's utility business.

4. Market Risk Premium

Q. What market risk premium estimate did you use in your CAPM analysis?

A. For the market risk premium, I used 7.1%. This estimate was based on the results of both historical and forward-looking studies of long-term risk premiums. First, the Ibbotson Associates (now Morningstar) study, *Stocks, Bonds, Bills, and*

Inflation, 2007 Yearbook, compiling historical returns from 1926 to 2006, shows that a broad market sample of common stocks outperformed long-term U. S. Treasury bonds by 6.5%. The historical market risk premium over the income component of long-term Treasury bonds rather than over the total return is 7.1%. Ibbotson Associates recommend the use of the latter as a more reliable estimate of the historical market risk premium, and I concur with this viewpoint. This is because the income component of total bond returns (i.e. the coupon rate) is a far better estimate of expected return than the total return (i.e., the coupon rate + capital gain), as realized capital gains/losses are largely unanticipated by bond investors. The long-horizon (1926-2005) market risk premium (based on income returns, as required) is specifically calculated to be 7.1% rather than 6.5%.

Second, a DCF analysis applied to the aggregate equity market also indicates a prospective market risk premium of 7.1%. Therefore, I employ 7.1% as a reasonable estimate of the market risk premium.

Q. On what maturity bond does the Ibbotson historical risk premium data rely?

A. Because 30-year bonds were not always traded or even available throughout the entire 1926-2006 period covered in the Ibbotson Associate Study of historical returns, the latter study relied on bond return data based on 20-year Treasury bonds. To the extent that the normal yield curve is virtually flat above maturities of 20 years over most of the period covered in the Ibbotson study, the difference in yield is not material. In fact, the difference in yield between 30-year and 20-year bonds is actually negative. The average difference in yield over the 1977-

2006 period is 13 basis points, that is, the yield on 20-year bonds is slightly higher than the yield on 30-year bonds.

Q. Why did you use long time periods in arriving at your historical market risk premium estimate?

A. Because realized returns can be substantially different from prospective returns anticipated by investors when measured over short time periods, it is important to employ returns realized over long time periods rather than returns realized over more recent time periods when estimating the market risk premium with historical returns. Therefore, a risk premium study should consider the longest possible period for which data are available. Short-run periods during which investors earned a lower risk premium than they expected are offset by short-run periods during which investors earned a higher risk premium than they expected. Only over long time periods will investor return expectations and realizations converge.

I have therefore ignored realized risk premiums measured over short time periods, since they are heavily dependent on short-term market movements. Instead, I relied on results over periods of enough length to smooth out short-term aberrations, and to encompass several business and interest rate cycles. The use of the entire study period in estimating the appropriate market risk premium minimizes subjective judgment and encompasses many diverse regimes of inflation, interest rate cycles, and economic cycles.

To the extent that the estimated historical equity risk premium follows what is

known in statistics as a random walk, one should expect the equity risk premium to remain at its historical mean. Since I found no evidence that the market risk premium in common stocks has changed over time, that is, no significant serial correlation in the Ibbotson study, it is reasonable to assume that these quantities will remain stable in the future.

Q. Please describe your prospective approach in deriving the market risk premium in the CAPM analysis.

A. For my prospective estimate of the market risk premium, I applied a DCF analysis to the aggregate equity market using Value Line's Investment Analyzer software. The September 2007 edition of the Value Line Investment Analyzer reports that the dividend yield on the S&P 500 Index is currently 1.62% and the average projected long-term growth rate in dividends is 10.19%. Adding the spot dividend yield to the growth component produces an expected return on the aggregate equity market of 11.81%.

Following the tenets of the DCF model, the spot dividend yield must be converted into an expected dividend yield by multiplying it by one plus the growth rate. This brings the expected return on the aggregate equity market to 11.98%. Recognition of the quarterly timing of dividend payments rather than the annual timing of dividends assumed in the annual DCF model brings the market risk premium estimate to approximately 12.18%. Subtracting the risk-free rate of 5.0% from the latter, the implied risk premium is 7.18% over long-term U.S. Treasury bonds, virtually the same number as the historical estimate.

As a check on the market risk premium estimate, I examined a 2003 comprehensive article published in Financial Management by Harris, Marston, Mishra, and O'Brien ("HMMO") that provides estimates of the prospective expected returns for S&P 500 companies over the period 1983-1998[1]. HMMO measure the expected rate of return (cost of equity) of each dividend-paying stock in the S&P 500 for each month from January 1983 to August 1998 by using the constant growth DCF model. The prevailing risk-free rate for each year was then subtracted from the expected rate of return for the overall market to arrive at the market risk premium for that year. The table below, drawn from HMMO Table 2, displays the average prospective risk premium estimate (Column 2) for each year from 1983 to 1998. The average market risk premium estimate for the overall period is 7.20%, which is almost identical to my own estimate of 7.18%.

DCF Market

[1] R.S. Harris, *et al.*, "*Ex Ante* Cost of Equity Estimates of S&P 500 Firms: The Choice Between Global and Domestic CAPM," Financial Management, Autumn 2003, at 51-66.

Year	Risk Premium
1983	6.6%
1984	5.3%
1985	5.7%
1986	7.4%
1987	6.1%
1988	6.4%
1989	6.6%
1990	7.1%
1991	7.5%
1992	7.8%
1993	8.2%
1994	7.3%
1995	7.7%
1996	7.8%
1997	8.2%
1998	9.2%
MEAN	**7.2%**

Q. What is your risk premium estimate of the Company's cost of equity using the CAPM approach?

A. Inserting those input values in the CAPM equation, namely a risk-free rate of 5.0%, a beta of 0.94, and a market risk premium of 7.1%, the CAPM estimate of the cost of common equity is: 5.0% + 0.92 x 7.1% = 11.5%. This estimate becomes 11.8% with flotation costs, discussed later in my testimony.

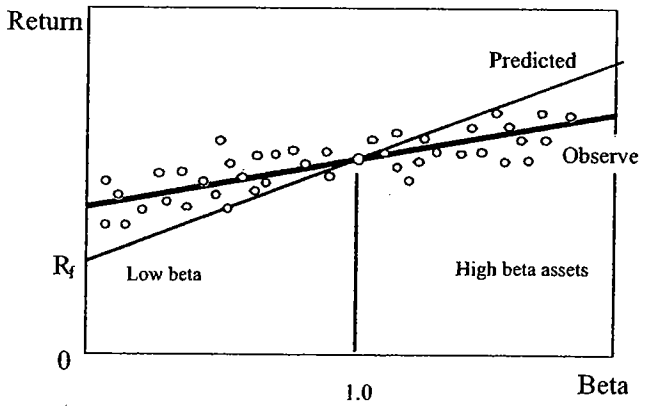
Q. What is your risk premium estimate using the empirical version of the CAPM?

A. With respect to the empirical validity of the plain vanilla CAPM, there have been countless empirical tests of the CAPM to determine to what extent security returns and betas are related in the manner predicted by the CAPM. This literature is summarized in Chapter 6 of my latest book, The New Regulatory

Finance, published by Public Utilities Report Inc. The results of the tests support the idea that beta is related to security returns, that the risk-return tradeoff is positive, and that the relationship is linear. The contradictory finding is that the risk-return tradeoff is not as steeply sloped as the predicted CAPM. That is, empirical research has long shown that low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.

A CAPM-based estimate of cost of capital underestimates the return required from low-beta securities and overstates the return required from high-beta securities, based on the empirical evidence. This is one of the most well-known results in finance, and it is displayed graphically below.

CAPM: vs Observed



A number of variations on the original CAPM theory have been proposed to explain this finding. The ECAPM makes use of these empirical findings. The

ECAPM estimates the cost of capital with the equation:

$$K = R_F \quad \acute{\alpha} + \beta \times (MRP - \acute{\alpha})$$

where the symbol alpha, $\acute{\alpha}$, represents the "constant" of the risk-return line, MRP is the market risk premium ($R_M - R_F$), and the other symbols are defined as usual.

Inserting the long-term risk-free rate as a proxy for the risk-free rate, an alpha in the range of 1% - 2%, and reasonable values of beta and the MRP in the above equation produces results that are indistinguishable from the following more tractable ECAPM expression:

$$K = R_F + 0.25(R_M - R_F) + 0.75\beta(R_M - R_F)$$

An alpha range of 1% - 2% is somewhat lower than that estimated empirically. The use of a lower value for alpha leads to a lower estimate of the cost of capital for low-beta stocks such as regulated utilities. This is because the use of a long-term risk-free rate rather than a short-term risk-free rate already incorporates some of the desired effect of using the ECAPM. In other words, the long-term risk-free rate version of the CAPM has a higher intercept and a flatter slope than the short-term risk-free version which has been tested. This is also because the use of adjusted betas rather than the use of raw betas also incorporates some of the desired effect of using the ECAPM. Thus, it is reasonable to apply a conservative alpha adjustment.

Exhibit No. ___(RAM-6) contains a full discussion of the ECAPM, including its theoretical and empirical underpinnings. In short, the following equation

provides a viable approximation to the observed relationship between risk and return, and provides the following cost of equity capital estimate:

$$K = R_F + 0.25(R_M - R_F) + 0.75\beta(R_M - R_F)$$

Inserting 5.0% for the risk-free rate R_F, a MRP of 7.1% for $(R_M - R_F)$ and a beta of 0.94 in the above equation, the return on common equity is 11.67%. This estimate becomes 11.97% with flotation costs, discussed later in my testimony.

Q. Is the use of the ECAPM consistent with the use of adjusted betas?

A. Yes, it is. Some have argued that the use of the ECAPM is inconsistent with the use of adjusted betas, such as those supplied by Value Line, Bloomberg, and Ibbotson Associates. This is because the reason for using the ECAPM is to allow for the tendency of betas to regress toward the mean value of 1.00 over time, and, since Value Line betas are already adjusted for such trend, an ECAPM analysis results in double-counting. This argument is erroneous. Fundamentally, the ECAPM is not an adjustment, increase or decrease, in beta. The observed return on high beta securities is actually lower than that produced by the CAPM estimate. The ECAPM is a formal recognition that the observed risk-return tradeoff is flatter than predicted by the CAPM based on myriad empirical evidence. The ECAPM and the use of adjusted betas comprised two separate features of asset pricing. Even if a company's beta is estimated accurately, the CAPM still understates the return for low-beta stocks. Even if the ECAPM is used, the return for low-beta securities is understated if the betas are understated.

Referring back to the previous graph, the ECAPM is a return (vertical axis) adjustment and not a beta (horizontal axis) adjustment. Both adjustments are necessary. Moreover, the use of adjusted betas compensates for the interest rate sensitivity of utility stocks not captured by unadjusted betas.

5. CAPM Estimates

Q. Please summarize your CAPM estimates.

A. The table below summarizes the common equity estimates obtained from my CAPM studies. The average CAPM result is 11.9%.

CAPM Method	ROE
Traditional CAPM	11.83%
Empirical CAPM	11.97%
AVERAGE	**11.90%**

C. Risk Premium Analyses

1. Historical Risk Premium Analysis of the Electric Utility Industry

Q. Please describe your historical risk premium analysis of the electric utility industry?

A. An historical risk premium for the electric utility industry was estimated with an annual time series analysis applied to the industry as a whole, using Moody's Electric Utility Index as an industry proxy. Please see Exhibit No. ___(RAM-7) for the historical risk premium for the electric utility industry, using Moody's Electric Utility Index as an industry proxy. The risk premium was estimated by

computing the actual realized return on equity capital for Moody's Index for each year, using the actual stock prices and dividends of the index, and then subtracting the long-term government bond return for that year. Data for this particular index was unavailable beyond 2002 following the acquisition of Moody's by Mergent.

The average risk premium over the period was 5.5% over historical long-term Treasury bond returns and 5.6% over long-term Treasury bond yields. Given that the risk-free rate is 5.0%, the implied cost of equity for the average electric utility from this particular method is 5.0% + 5.6% = 10.6% without flotation costs and 10.9% with flotation costs. The need for a flotation cost allowance is discussed at length later in my testimony.

Q. How does the inclusion of recent risk premium data alter these results?

A. The historical risk premium analysis for the electric utility industry stops in 2002 because the market data on the Moody's Electric Utility Index were discontinued following the acquisition of Moody's by Mergent in 2002. I did examine more recent historical bond return and equity return data based on the S&P Electric Utility Index instead of Moody's Electric Utility Index. The addition of 2002-2005 data does not alter the historical risk premium appreciably. This result is not surprising in view of the rising equity market and low interest rate environment in the 2003-2005 period.

Q. Dr. Morin, are risk premium studies widely used?

A. Yes, they are. Risk Premium analyses are widely used by analysts, investors, and expert witnesses. Most college-level corporate finance and/or investment management texts including Investments by Bodie, Kane, and Marcus, McGraw-Hill Irwin, 2002, which is a recommended textbook for CFA (Chartered Financial Analyst) certification and examination, contain detailed conceptual and empirical discussion of the risk premium approach. The latter is typically recommended as one of the three leading methods of estimating the cost of capital. Professor Brigham's best-selling corporate finance textbook (Financial Management: Theory and Practice, 11th ed., South-Western, 2005), recommends the use of risk premium studies, among others. Techniques of risk premium analysis are widespread in investment community reports. Professional certified financial analysts are certainly well versed in the use of this method.

Q. Are you concerned about the realism of the assumptions that underlie the historical risk premium method?

A. No, I am not, for they are no more restrictive than the assumptions that underlie the DCF model or the CAPM. While it is true that the method looks backward in time and assumes that the risk premium is constant over time, these assumptions are not necessarily restrictive. By employing returns realized over long time periods rather than returns realized over more recent time periods, investor return expectations and realizations converge. Realized returns can be substantially different from prospective returns anticipated by investors, especially when measured over short time periods. By ensuring that the risk premium study

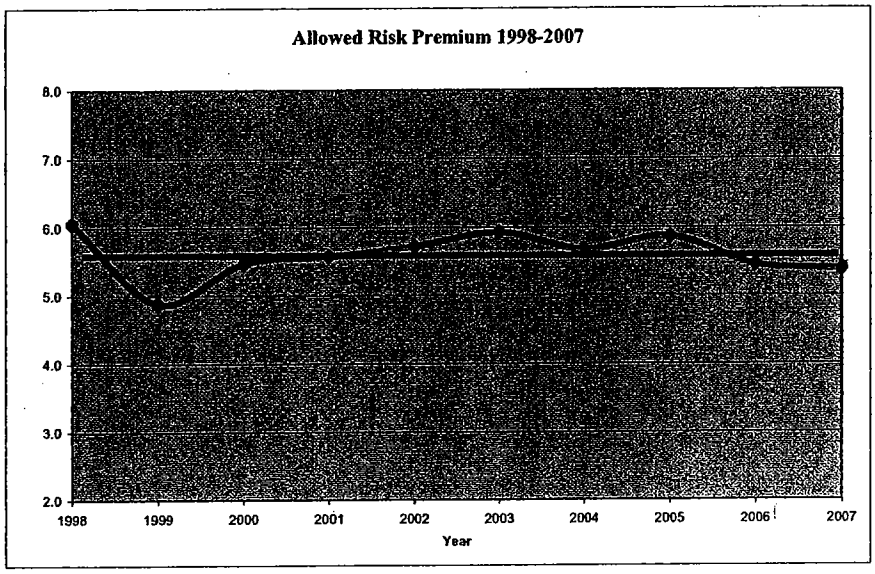
encompasses the longest possible period for which data are available, short-run periods during which investors earned a lower risk premium than they expected are offset by short-run periods during which investors earned a higher risk premium than they expected. Only over long time periods will investor return expectations and realizations converge, or else, investors would never invest any money.

2. Allowed Risk Premiums in the Electric Utility Industry (1998-2007)

Q. Please describe your analysis of allowed risk premiums in the electric utility industry?

A. To estimate the Company's cost of common equity, I also examined the historical risk premiums implied in the ROEs allowed by regulatory commissions for electric utilities over the last decade relative to the contemporaneous level of the long-term Treasury bond yield. This variation of the risk premium approach is reasonable because allowed risk premiums are presumably based on the results of market-based methodologies (DCF, Risk Premium, CAPM, *etc.*) presented to regulators in rate hearings and on the actions of objective unbiased investors in a competitive marketplace. Historical allowed ROE data are readily available over long periods on a quarterly basis from Regulatory Research Associates ("RRA") and easily verifiable from RRA publications and past commission decision archives. The average ROE spread over long-term Treasury yields was 5.6% for the 1998-2007 time period, as shown in the graph below. I note that this estimate

is identical to the one obtained from the historical risk premium study of the electric utility industry.



Given the current long-term Treasury bond yield of 5.0% and a risk premium of 5.6%, the implied allowed ROE for the average risk electric utility is 10.6%. No flotation cost adjustment is required here since the return figures are allowed book returns on common equity capital.

Q. Why did you rely on the last decade to conduct your allowed risk premium analysis?

A. Because allowed returns already reflect investor expectations, that is, are forward-looking in nature, the need for relying on long historical periods is minimized. The last decade is a reasonable period of analysis in the case of allowed returns in view of the stability of the inflation rate experienced over the last decade.

Q. Do investors take into account allowed returns in formulating their return expectations?

A. Yes, they do. Investors do take into account returns granted by various regulators in formulating their risk and return expectations, as evidenced by the availability of commercial publications disseminating such data, including Value Line and RRA. Allowed returns, while certainly not a precise indication of a particular company's cost of equity capital, are nevertheless an important determinant of investor growth perceptions and investor expected returns.

3. Risk Premium Estimates

Q. Please summarize your risk premium estimates.

A. The following table summarizes the ROE estimates obtained from the three risk premium studies and the average risk premium result is 10.8%.

Risk Premium Method	ROE
Historical Risk Premium Electric	10.9%
Allowed Risk Premium	10.6%
AVERAGE	**10.8%**

D. DCF Estimates

1. Background

Q. Please describe the DCF approach to estimating the cost of equity capital.

A. According to DCF theory, the value of any security to an investor is the expected discounted value of the future stream of dividends or other benefits. One widely

the historical mix of sources of equity. The allowance factor is a build-up of historical flotation cost adjustments associated and traceable to each component of equity at its source. It is impractical and prohibitively costly to start from the inception of a company and determine the source of all present equity. A practical solution is to identify general categories and assign one factor to each category. My recommended flotation cost allowance is a weighted average cost factor designed to capture the average cost of various equity vintages and types of equity capital raised by the Company.

Q. Is a flotation cost adjustment required for an operating subsidiary like PSE that does not trade publicly?

A. Yes, it is. It is sometimes alleged that a flotation cost allowance is inappropriate if the utility is a subsidiary whose equity capital is obtained from its ultimate parent, in this case, Puget Energy. This objection is unfounded because the parent-subsidiary relationship does not eliminate the costs of a new issue, but merely transfers them to the parent. It would be unfair and discriminatory to subject parent shareholders to dilution while individual shareholders are absolved from such dilution. Fair treatment must consider that, if the utility-subsidiary had gone to the capital markets directly, flotation costs would have been incurred.

F. Summary of Cost of Equity Capital Estimates

Q. Please summarize your results and recommendation.

A. To arrive at my final recommendation, I performed four risk premium analyses.

For the first two risk premium studies, I applied the CAPM and an empirical approximation of the CAPM using current market data. The other two risk premium analyses were performed on historical and allowed risk premium data from electric utility industry aggregate data, using the current yield on long-term Treasury bonds. I also performed DCF analyses on three surrogates for PSE: the parent company, a group of investment-grade vertically integrated electric utilities, and a group of companies that make up Moody's Electric Utility Index. The results are summarized in the table below.

STUDY	ROE
CAPM	11.8%
Empirical CAPM	12.0%
Risk Premium Electric	10.9%
Allowed Risk Premium	10.7%
DCF Parent Company Value Line Growth	10.7%
DCF Parent Company Zacks Growth	10.2%
DCF Vert. Integrated Electric Utilities Value Line Growth	10.1%
DCF Vert. Integrated Electric Utilities Zacks Growth	11.5%
DCF Moody's Elec Utilities Value Line Growth	10.8%
DCF Moody's Elec Utilities Zacks Growth	11.3%

The central tendency of the results is 11.0% for the average risk utility, as indicated by the mean (11.0%), truncated mean (11.0%), and midpoint (11.0%) results, and the various results are closely clustered around 11%. From a broad methodological perspective, the average result from the three principal methodologies is 11.2%:

Methodology	ROE
CAPM	11.9%
Risk Premium	10.8%
DCF	10.8%

AVERAGE	**11.2%**

I stress that no one individual method provides an exclusive foolproof formula for determining a fair return, but each method provides useful evidence so as to facilitate the exercise of an informed judgment. Reliance on any single method or preset formula is hazardous when dealing with investor expectations. Moreover, the advantage of using several different approaches is that the results of each one can be used to check the others. Thus, the results shown in the above table must be viewed as a whole rather than each as a stand-alone. It would be inappropriate to select any particular number from the summary table and infer the cost of common equity from that number alone.

IV. ADJUSTMENT TO THE ESTIMATED ROE TO ACCOUNT FOR THE FACT THAT PSE IS RISKIER THAN THE AVERAGE ELECTRIC UTILITY

Q. Have you adjusted the cost of equity estimates to account for the fact that PSE is riskier than the average electric utility?

A. Yes, I have. The cost of equity estimates derived from the various comparable groups reflect the risk of the average electric utility. To the extent that these estimates are drawn from a less risky group of companies, the expected equity return applicable to the riskier PSE is downward-biased. As explained in detail below, PSE's distinguishing risk features relative to its peers is related mainly, but not exclusively, to PSE's gargantuan capital spending program for the next several years and the various risks associated with such an ambitious construction

EXHIBIT NO. ___(RAM-7)
DOCKET NO. UE-07___/UG-07___
2007 PSE GENERAL RATE CASE
WITNESS: DR. ROGER A. MORIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY, INC.,** **Respondent.**	**Docket No. UE-07____** **Docket No. UG-07____**

SIXTH EXHIBIT (NONCONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF DR. ROGER A. MORIN ON BEHALF OF PUGET SOUND ENERGY, INC.

DECEMBER 3, 2007

Historical Risk Premium for the Electric Utility Industry, Using Moody's Electric Utility Index as an Industry Proxy

Line No.	Year	(1) Long-Term Government Bond Yield	(2) 20 year Maturity Bond Value	(3) Gain/Loss	(4) Interest	(5) Bond Total Return	(6) Moody's Electric Utility Stock Index	(7) Dividend	(8) Capital Gain/(Loss) % Growth	(9) Yield	(10) Stock Total Return	11) Equity Risk Premium Over Bond Returns	(12) Equity Risk Premium Over Bond Yields
1	1931	4.07%	1,000.00				43.23						
2	1932	3.15%	1,135.75	135.75	40.70	17.64%	39.42	2.22	-8.81%	5.14%	-3.68%	-21.32%	-6.83%
3	1933	3.36%	969.60	-30.40	31.50	0.11%	28.73	1.75	-27.12%	4.44%	-22.68%	-22.79%	-26.04%
4	1934	2.93%	1,064.73	64.73	33.60	9.83%	21.06	1.42	-26.70%	4.94%	-21.75%	-31.59%	-24.68%
5	1935	2.76%	1,025.99	25.99	29.30	5.53%	36.06	1.33	71.23%	6.32%	77.54%	72.01%	74.78%
6	1936	2.55%	1,032.74	32.74	27.60	6.03%	41.60	1.78	15.36%	4.94%	20.30%	14.27%	17.75%
7	1937	2.73%	972.40	-27.60	25.50	-0.21%	24.24	1.68	-41.73%	4.04%	-37.69%	-37.48%	-40.42%
8	1938	2.52%	1,032.83	32.83	27.30	6.01%	27.55	1.45	13.66%	5.98%	19.64%	13.62%	17.12%
9	1939	2.26%	1,041.65	41.65	25.20	6.68%	28.85	1.51	4.72%	5.48%	10.20%	3.51%	7.94%
10	1940	1.94%	1,052.84	52.84	22.60	7.54%	22.22	1.57	-22.98%	5.44%	-17.54%	-25.08%	-19.48%
11	1941	2.04%	983.64	-16.36	19.40	0.30%	13.45	1.27	-39.47%	5.72%	-33.75%	-34.06%	-35.79%
12	1942	2.46%	933.97	-66.03	20.40	-4.56%	14.29	1.28	6.25%	9.52%	15.76%	20.33%	13.30%
13	1943	2.48%	996.86	-3.14	24.60	2.15%	21.01	1.46	47.03%	10.22%	57.24%	55.10%	54.76%
14	1944	2.46%	1,003.14	3.14	24.80	2.79%	21.09	1.35	0.38%	6.43%	6.81%	4.01%	4.35%
15	1945	1.99%	1,077.23	77.23	24.60	10.18%	31.14	1.37	47.65%	6.50%	54.15%	43.97%	52.16%
16	1946	2.12%	978.90	-21.10	19.90	-0.12%	32.71	1.48	5.04%	4.75%	9.79%	9.91%	7.67%
17	1947	2.43%	951.13	-48.87	21.20	-2.77%	25.60	1.58	-21.74%	4.83%	-16.91%	-14.14%	-19.34%
18	1948	2.37%	1,009.51	9.51	24.30	3.38%	26.20	1.63	2.34%	6.37%	8.71%	5.33%	6.34%
19	1949	2.09%	1,045.58	45.58	23.70	6.93%	30.57	1.68	16.68%	6.41%	23.09%	16.16%	21.00%
20	1950	2.24%	975.93	-24.07	20.90	-0.32%	30.81	1.85	0.79%	6.05%	6.84%	7.15%	4.60%
21	1951	2.69%	930.75	-69.25	22.40	-4.69%	33.85	1.90	9.87%	6.17%	16.03%	20.72%	13.34%
22	1952	2.79%	984.75	-15.25	26.90	1.17%	37.85	1.92	11.82%	5.67%	17.49%	16.32%	14.70%

Historical Risk Premium for the Electric Utility Industry, Using Moody's Electric Utility Index as an Industry Proxy

Line No.	Year	(1) Long-Term Government Bond Yield	(2) 20 year Maturity Bond Value	(3) Gain/Loss	(4) Interest	(5) Bond Total Return	(6) Moody's Electric Utility Stock Index	(7) Dividend	(8) Capital Gain/(Loss) % Growth	(9) Yield	(10) Stock Total Return	11) Equity Risk Premium Over Bond Returns	(12) Equity Risk Premium Over Bond Yields
23	1953	2.74%	1,007.66	7.66	27.90	3.56%	39.61	2.09	4.65%	5.52%	10.17%	6.62%	7.43%
24	1954	2.72%	1,003.07	3.07	27.40	3.05%	47.56	2.14	20.07%	5.40%	25.47%	22.43%	22.75%
25	1955	2.95%	965.44	-34.56	27.20	-0.74%	49.35	2.27	3.76%	4.77%	8.54%	9.27%	5.59%
26	1956	3.45%	928.19	-71.81	29.50	-4.23%	48.96	2.37	-0.79%	4.80%	4.01%	8.24%	0.56%
27	1957	3.23%	1,032.23	32.23	34.50	6.67%	50.30	2.46	2.74%	5.02%	7.76%	1.09%	4.53%
28	1958	3.82%	918.01	-81.99	32.30	-4.97%	66.37	2.57	31.95%	5.11%	37.06%	42.03%	33.24%
29	1959	4.47%	914.65	-85.35	38.20	-4.71%	65.77	2.64	-0.90%	3.98%	3.07%	7.79%	-1.40%
30	1960	3.80%	1,093.27	93.27	44.70	13.80%	76.82	2.74	16.80%	4.17%	20.97%	7.17%	17.17%
31	1961	4.15%	952.75	-47.25	38.00	-0.92%	99.32	2.86	29.29%	3.72%	33.01%	33.94%	28.86%
32	1962	3.95%	1,027.48	27.48	41.50	6.90%	96.49	3.07	-2.85%	3.09%	0.24%	-6.66%	-3.71%
33	1963	4.17%	970.35	-29.65	39.50	0.99%	102.31	3.33	6.03%	3.45%	9.48%	8.50%	5.31%
34	1964	4.23%	991.96	-8.04	41.70	3.37%	115.54	3.68	12.93%	3.60%	16.53%	13.16%	12.30%
35	1965	4.50%	964.64	-35.36	42.30	0.69%	114.86	4.02	-0.59%	3.48%	2.89%	2.20%	-1.61%
36	1966	4.55%	993.48	-6.52	45.00	3.85%	105.99	4.18	-7.72%	3.64%	-4.08%	-7.93%	-8.63%
37	1967	5.56%	879.01	-120.99	45.50	-7.55%	98.19	4.44	-7.36%	4.19%	-3.17%	4.38%	-8.73%
38	1968	5.98%	951.38	-48.62	55.60	0.70%	104.04	4.58	5.96%	4.66%	10.62%	9.92%	4.64%
39	1969	6.87%	904.00	-96.00	59.80	-3.62%	84.62	4.63	-18.67%	4.45%	-14.22%	-10.60%	-21.09%
40	1970	6.48%	1,043.38	43.38	68.70	11.21%	88.59	4.73	4.69%	5.59%	10.28%	-0.93%	3.80%
41	1971	5.97%	1,059.09	59.09	64.80	12.39%	85.56	4.81	-3.42%	5.43%	2.01%	-10.38%	-3.96%
42	1972	5.99%	997.69	-2.31	59.70	5.74%	83.61	4.92	-2.28%	5.75%	3.47%	-2.27%	-2.52%
43	1973	7.26%	867.09	-132.91	59.90	-7.30%	60.87	5.04	-27.20%	6.03%	-21.17%	-13.87%	-28.43%
44	1974	7.60%	965.33	-34.67	72.60	3.79%	41.17	4.83	-32.36%	7.93%	-24.43%	-28.22%	-32.03%

Historical Risk Premium for the Electric Utility Industry, Using Moody's Electric Utility Index as an Industry Proxy

Line No.	Year	(1) Long-Term Government Bond Yield	(2) 20 year Maturity Bond Value	(3) Gain/Loss	(4) Interest	(5) Bond Total Return	(6) Moody's Electric Utility Stock Index	(7) Dividend	(8) Capital Gain/(Loss) % Growth	(9) Yield	(10) Stock Total Return	11) Equity Risk Premium Over Bond Returns	(12) Equity Risk Premium Over Bond Yields
45	1975	8.05%	955.63	-44.37	76.00	3.16%	55.66	4.99	35.20%	12.12%	47.32%	44.15%	39.27%
46	1976	7.21%	1,088.25	88.25	80.50	16.87%	66.29	5.25	19.10%	9.43%	28.53%	11.66%	21.32%
47	1977	8.03%	919.03	-80.97	72.10	-0.89%	68.19	5.68	2.87%	8.57%	11.43%	12.32%	3.40%
48	1978	8.98%	912.47	-87.53	80.30	-0.72%	59.75	5.98	-12.38%	8.77%	-3.61%	-2.88%	-12.59%
49	1979	10.12%	902.99	-97.01	89.80	-0.72%	56.41	6.34	-5.59%	10.61%	5.02%	5.74%	-5.10%
50	1980	11.99%	859.23	-140.77	101.20	-3.96%	54.42	6.67	-3.53%	11.82%	8.30%	12.25%	-3.69%
51	1981	13.34%	906.45	-93.55	119.90	2.63%	57.20	7.16	5.11%	13.16%	18.27%	15.63%	4.93%
52	1982	10.95%	1,192.38	192.38	133.40	32.58%	70.26	7.64	22.83%	13.36%	36.19%	3.61%	25.24%
53	1983	11.97%	923.12	-76.88	109.50	3.26%	72.03	8.00	2.52%	11.39%	13.91%	10.64%	1.94%
54	1984	11.70%	1,020.70	20.70	119.70	14.04%	80.16	8.37	11.29%	11.62%	22.91%	8.87%	11.21%
55	1985	9.56%	1,189.27	189.27	117.00	30.63%	94.98	8.71	18.49%	10.87%	29.35%	-1.27%	19.79%
56	1986	7.89%	1,166.63	166.63	95.60	26.22%	113.66	8.97	19.67%	9.44%	29.11%	2.89%	21.22%
57	1987	9.20%	881.17	-118.83	78.90	-3.99%	94.24	9.12	-17.09%	8.02%	-9.06%	-5.07%	-18.26%
58	1988	9.18%	1,001.82	1.82	92.00	9.38%	100.94	8.71	7.11%	9.24%	16.35%	6.97%	7.17%
59	1989	8.16%	1,099.75	99.75	91.80	19.16%	122.52	8.85	21.38%	8.77%	30.15%	10.99%	21.99%
60	1990	8.44%	973.17	-26.83	81.60	5.48%	117.77	8.76	-3.88%	7.15%	3.27%	-2.20%	-5.17%
61	1991	7.30%	1,118.94	118.94	84.40	20.33%	144.02	9.02	22.29%	7.66%	29.95%	9.61%	22.65%
62	1992	7.26%	1,004.19	4.19	73.00	7.72%	141.06	8.82	-2.06%	6.12%	4.07%	-3.65%	-3.19%
63	1993	6.54%	1,079.70	79.70	72.60	15.23%	146.70	9.04	4.00%	6.41%	10.41%	-4.82%	3.87%
64	1994	7.99%	856.40	-143.60	65.40	-7.82%	115.50	9.01	-21.27%	6.14%	-15.13%	-7.31%	-23.12%
65	1995	6.03%	1,225.98	225.98	79.90	30.59%	142.90	9.06	23.72%	7.84%	31.57%	0.98%	25.54%
66	1996	6.73%	923.67	-76.33	60.30	-1.60%	136.00	9.06	-4.83%	6.34%	1.51%	3.11%	-5.22%

Historical Risk Premium for the Electric Utility Industry, Using Moody's Electric Utility Index as an Industry Proxy

Line No.	Year	(1) Long-Term Government Bond Yield	(2) 20 year Maturity Bond Value	(3) Gain/Loss	(4) Interest	(5) Bond Total Return	(6) Moody's Electric Utility Stock Index	(7) Dividend	(8) Capital Gain/(Loss) % Growth	(9) Yield	(10) Stock Total Return	11) Equity Risk Premium Over Bond Returns	(12) Equity Risk Premium Over Bond Yields
67	1997	6.02%	1,081.92	81.92	67.30	14.92%	155.73	9.06	14.51%	6.66%	21.17%	6.25%	15.15%
68	1998	5.42%	1,072.71	72.71	60.20	13.29%	181.84	8.01	16.77%	5.14%	21.91%	8.62%	16.49%
69	1999	6.82%	848.41	-151.59	54.20	-9.74%	137.30	8.06	-24.49%	4.43%	-20.06%	-10.32%	-26.88%
70	2000	5.58%	1,148.30	148.30	68.20	21.65%	227.09	8.71	65.40%	6.34%	71.74%	50.09%	66.16%
71	2001	5.75%	979.95	-20.05	55.80	3.57%	200.50	8.95	-11.71%	3.94%	-7.77%	-11.34%	-13.52%
72	2002	4.84%	1,115.77	115.77	57.50	17.33%	169.50	8.83	-15.46%	4.40%	-11.06%	-28.38%	-15.90%
73	2003	5.11%	966.42	-33.58	48.40	1.48%			18.99%	3.79%	22.78%	21.30%	17.67%
74	2004	4.84%	1,034.35	34.35	51.10	8.54%			21.79%	3.39%	25.18%	16.64%	20.34%
75	2005	4.61%	1,029.84	29.84	48.40	7.82%			13.51%	3.31%	16.82%	9.00%	12.21%
76	**Mean**											**5.5%**	**5.6%**

Source: Mergent Public Utility Manual December stock prices and dividends

Dec. Bond yields from Ibbotson Associates 2006 Valuation Yearbook Table B-9 Long-Term Government Bonds Yields
2003-2005 data from S&P Elec Utility Index, S&P Analyst Handbook 2006 and monthly suppements