

**BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND	)	
TRANSPORTATION COMMISSION,	)	
	)	
Complainant,	)	Dockets UE-121697 and UG-121705
	)	<i>(Consolidated)</i>
v.	)	
	)	
PUGET SOUND ENERGY, INC.,	)	Dockets UE-130137 and UG-130138
	)	<i>(Consolidated)</i>
	)	
Respondent.	)	
_____	)	

**RESPONSE TESTIMONY OF MICHAEL P. GORMAN**

**ON BEHALF OF**

**THE INDUSTRIAL CUSTOMERS OF NORTHWEST UTILITIES**

**DECEMBER 3, 2014**

(REVISED 2/10/2015)

**TABLE OF CONTENTS TO THE  
RESPONSE TESTIMONY OF MICHAEL P. GORMAN**

	<u>Page</u>
I. SUMMARY .....	1
II. UPDATED RETURN ON EQUITY .....	5
II.A. Regulated Utility Industry Market Outlook.....	5
II.B. PSE Investment Risk .....	9
II.C. Return on Equity.....	10
II.D. Risk Proxy Group .....	11
II.E. Discounted Cash Flow Model .....	13
II.F. Sustainable Growth DCF.....	17
II.G. Multi-Stage Growth DCF Model.....	18
II.H. Risk Premium Model.....	24
II.I. Capital Asset Pricing Model (“CAPM”) .....	30
II.J. Return on Equity Summary .....	36
II.K. Financial Integrity.....	36
III. RESPONSE TO DR. MORIN.....	39
III.A. Empirical CAPM (ECAPM).....	48
III.B. Historical Risk Premium .....	50
III.C. Allowed Risk Premium .....	51
III.D. DCF Analyses.....	54
IV. DECOUPLING .....	57
Exhibit No.__(MPG-26): Rate of Return	
Exhibit No.__(MPG-27): Proxy Group	
Exhibit No.__(MPG-28): Consensus Analysts’ Growth Rates	
Exhibit No.__(MPG-29): Constant Growth DCF Model (Consensus Analysts’ Growth Rates)	
Exhibit No.__(MPG-30): Payout Ratios	
Exhibit No.__(MPG-31): Sustainable Growth Rate	
Exhibit No.__(MPG-32): Constant Growth DCF Model (Sustainable Growth Rate)	
Exhibit No.__(MPG-33): Electricity Sales Are Linked to U.S. Economic Growth	
Exhibit No.__(MPG-34): Multi-Stage Growth DCF Model	
Exhibit No.__(MPG-35): Common Stock Market/Book Ratio	
Exhibit No.__(MPG-36): Equity Risk Premium – Treasury Bond	
Exhibit No.__(MPG-37): Equity Risk Premium – Utility Bond	
Exhibit No.__(MPG-38): Bond Yield Spreads	
Exhibit No.__(MPG-39): Treasury and Utility Bond Yields	
Exhibit No.__(MPG-40): Value Line Beta	
Exhibit No.__(MPG-41): CAPM Return	
Exhibit No.__(MPG-42): Standard & Poor’s Credit Metrics	
Exhibit No.__(MPG-43): Combination Elec & Gas Utilities DCF Analysis	

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 **A.** Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140,  
3 Chesterfield, MO 63017.

4 **Q. ARE YOU THE SAME MICHAEL P. GORMAN WHO FILED RESPONSE**  
5 **TESTIMONY IN THE ORIGINAL ADMINISTRATIVE PROCEEDING IN**  
6 **THESE DOCKETS?**

7 **A.** Yes.

8 **Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

9 **A.** I am appearing on behalf of the Industrial Customers of Northwest Utilities (“ICNU”).

10 **Q. WHAT IS THE SUBJECT OF YOUR TESTIMONY?**

11 **A.** I will provide an estimate of Puget Sound Energy, Inc.’s (“PSE” or the “Company”)   
12 market cost of equity based on current market conditions. My original testimony in   
13 this proceeding estimated PSE’s market cost of equity for the first half of 2013. I will   
14 also discuss why it is appropriate to reduce PSE’s cost of equity from my estimates   
15 due to the lower risk the Company enjoys from its decoupling mechanism.

16 **I. SUMMARY**

17 **Q. DID YOU PROVIDE AN ESTIMATE OF PSE’S CURRENT MARKET COST**  
18 **OF EQUITY IN THE ORIGINAL PROCEEDING IN THIS CASE?**

19 **A.** Yes. On April 26, 2013, I filed response testimony in Dockets UE-121697, et al.   
20 (consolidated), concerning PSE’s current cost of equity at that time. At that time, I   
21 recommended a return on common equity of 9.30% based on my recommended range   
22 of 8.40% to 9.30%.

23 My recommended range, and ultimately, my recommended return on equity   
24 were the results of a comprehensive analysis consisting of three versions of the DCF   
25 model, a Risk Premium study, and a Capital Asset Pricing Model, all of which

1 incorporated current and forward looking market data available at that time. Taking  
2 into consideration all of my analyses filed in my response testimony, I estimated that  
3 PSE's authorized return on equity of 9.80% was 50 basis points above a reasonable  
4 estimate of its current market cost of equity.

5 **Q. HAVE YOU PRODUCED A RECOMMENDATION OF PSE'S COST OF**  
6 **EQUITY UNDER CURRENT MARKET CONDITIONS?**

7 **A.** Yes. Based on a study using data through November 2014, I estimate PSE's market-  
8 required cost of common equity remains at 9.30%, which is at the midpoint of my  
9 updated range of 9.00% to 9.60%. My recommended return on equity with the  
10 Company's capital structure and cost of debt produces an overall rate of return of  
11 7.53%, as shown on my Exhibit No.\_\_(MPG-26).

12 **Q. PLEASE COMPARE YOUR COMMON EQUITY RETURN FINDING FOR**  
13 **PSE IN 2013 AND CURRENTLY.**

14 **A.** My recommended return on equity was made in an environment where utility bond  
15 yields and Treasury bond yields were nearly comparable to where they are today. For  
16 example, for the 13-week period ending April 19, 2013, Treasury bond yields were  
17 3.1%, and "A" and "Baa" utility bond yields were 4.14% and 4.67%, respectively.  
18 Currently, Treasury bond yields are around 3.14%, and "A" and "Baa" utility bond  
19 yields are 4.13% and 4.71%, respectively.<sup>1/</sup> While utility bond yields are about the  
20 same today as they were in April 2013, utility dividend yields have declined  
21 somewhat. Specifically, my proxy group's adjusted dividend yield in this case is  
22 about 3.85%. This yield indicates an increase in stock price and lowering utility  
23 dividend yields relative to April 2013. At that time, my proxy group adjusted

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<sup>1/</sup> See my Exhibit No.\_\_(MPG-20) in my April 2013 testimony and Exhibit No.\_\_(MPG-39),  
page 1 described below.

1 dividend yield was 4.09%.<sup>2/</sup> This information clearly supports the same finding for a  
2 current return on equity in this case as existed in April 2013.

3 All of this information clearly indicates that the previous 9.8% return on equity  
4 used to set rates for PSE significantly exceeded its market cost of equity in early 2013  
5 and continues to exceed its current market cost of equity. This overstatement of costs  
6 ranges from at least 50 basis points in April 2013, to no fewer than 20 basis points  
7 today.

8 **Q. HAVE YOU PERFORMED ANY TESTS TO SHOW THE**  
9 **REASONABLENESS OF YOUR RETURN ON EQUITY ESTIMATE FOR**  
10 **PSE?**

11 **A.** Yes. I show that my recommended return on equity, and PSE's current cost of  
12 service, as reflected in its Expedited Rate Filing, will support credit rating metrics  
13 adequate to support PSE's investment grade bond rating.

14 **Q. WILL YOU RESPOND TO THE RETURN ON EQUITY**  
15 **RECOMMENDATIONS MADE BY PSE WITNESS DR. ROGER MORIN?**

16 **A.** Yes. As outlined below, I describe my finding that Dr. Morin's conclusion that a  
17 9.8% return on equity for PSE is without merit, and overstates its cost of equity. It  
18 would not be reasonable to set PSE's rates using a return on equity of 9.8% based on  
19 current market conditions, or those that existed in the first half of 2013. PSE's market  
20 cost of equity is much lower than this, and setting rates to reflect a 9.8% return on  
21 equity would not be just and reasonable.

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<sup>2/</sup> Exhibit No.\_\_\_\_(MPG-10) in my April 2013 testimony.

1 **Q. IN YOUR APRIL 2013 TESTIMONY, YOU STATED THAT IF THE**  
2 **COMMISSION APPROVES A DECOUPLING MECHANISM THAT PSE'S**  
3 **AUTHORIZED RETURN ON EQUITY SHOULD BE REDUCED TO**  
4 **REFLECT THE RISK REDUCTION ASPECTS OF THIS REGULATORY**  
5 **MECHANISM. DO YOU CONTINUE TO ADVOCATE FOR RECOGNIZING**  
6 **THE REGULATORY MECHANISMS IN SETTING A FAIR RETURN ON**  
7 **EQUITY FOR PSE?**

8 **A.** Yes. As outlined in my April 26, 2013 Response Testimony at 20-28, implementing  
9 regulatory mechanisms which provide greater assurance of full cost recovery reduces  
10 PSE's risk, and reduces PSE's incentive to manage costs and be efficient.  
11 Furthermore, customers' risks increase because the risk of cost fluctuations is  
12 transferred to them in an effort to provide PSE greater assurance of full cost recovery.  
13 Credit rating agencies have recognized the risk reduction aspects of regulatory  
14 mechanisms such as decoupling.

15 **Q. IS A RETURN ON EQUITY ADJUSTMENT APPROPRIATE RECOGNIZING**  
16 **REGULATORY MECHANISMS THAT LOWER PSE'S RISK SUCH AS A**  
17 **DECOUPLING MECHANISM?**

18 **A.** Yes. A 20 to 30 basis point reduction in PSE's return on equity would be appropriate.  
19 My estimated return on equity range for PSE is 9.0% to 9.6%.

20 I believe this risk reduction is observable from market evidence. Specifically,  
21 the difference between a "Baa" yield and an "A" utility bond yield over time has  
22 averaged approximately 30 basis points, and is currently about 45 basis points. The  
23 difference in credit rating is an indication of the likelihood the utility will produce  
24 cash flows adequate to meet its financial obligations. Hence, a stronger cash flow is  
25 an indication of greater assurance of full cost recovery and more stable cash flows.  
26 Decoupling mechanisms provide cash flow stability and reduce risks.

27 Approximately one-half of the current spread between an "A" and a "Baa"  
28 utility bond yield is around 20 to 25 basis points. Approximately half of the spread

1 would represent a one to two notch improvement in the overall credit rating (from  
2 “Baa1” up to an “A” rating, for example) which provides some calibration to the  
3 amount of cash flow stability and risk reduction created by implementation of a  
4 decoupling mechanism. This supports my belief that an authorized utility return on  
5 equity should be decreased in the range of 20 to 30 basis points if a decoupling  
6 mechanism is in place.

## 7 **II. UPDATED RETURN ON EQUITY**

8 **Q. CAN YOU DESCRIBE THE DIFFERENCE BETWEEN YOUR RETURN ON**  
9 **EQUITY FILED IN YOUR APRIL 2013 TESTIMONY AND THAT USED TO**  
10 **SUPPORT YOUR FINDING OF PSE’S CURRENT MARKET COST OF**  
11 **EQUITY?**

12 **A.** The methodologies used in my original filing and in this filing are largely the same.  
13 However, measuring PSE’s current market cost of equity I rely on current assessments  
14 of the general market outlooks, utility industry stock risk and market outlooks, and  
15 apply observable and current market factors available today to produce an updated  
16 cost of equity estimate for PSE.

### 17 **II.A. Regulated Utility Industry Market Outlook**

18 **Q. PLEASE DESCRIBE THIS SECTION OF YOUR TESTIMONY.**

19 **A.** I begin my estimate of a fair return on equity for PSE by reviewing the market’s  
20 assessment of the regulated utility industry investment risk, credit standing, and stock  
21 price performance. I used this information to get a sense of the market’s perception of  
22 the risk characteristics of regulated utility investments in general, which is then used  
23 to produce a refined estimate of the market’s return requirement for assuming  
24 investment risk similar to PSE’s utility operations.

1 As described below, I find the credit rating outlook of the industry to be strong,  
2 supportive of the industry’s financial integrity and access to capital. Further, regulated  
3 utilities’ stocks have exhibited strong price performance over the last several years,  
4 which is evidence of utility access to capital.

5 Based on this review of credit outlooks and stock price performance, I  
6 conclude that the market continues to embrace the regulated utility industry as a  
7 safe-haven investment, and views utility equity and debt investments as low-risk  
8 securities.

9 **Q. PLEASE DESCRIBE REGULATED UTILITIES’ CREDIT RATING**  
10 **OUTLOOK.**

11 **A.** Utilities’ credit ratings have improved over the recent past and the credit outlook is  
12 Stable to Improving. Standard & Poor’s (“S&P”) recently published a report titled  
13 “U.S. Regulated Utilities On Stable Trajectory Amid Moderate Economic Growth.”

14 In that report, S&P noted the following:

15 **Effect on ratings**

16 Rating activity since the beginning of the year was relatively quiet  
17 compared with the large number of rating changes in 2013 (42  
18 upgrades and six downgrades).

19 \* \* \*

20 **Industry Ratings Outlook**

21 The prospective rating movement for U.S. regulated utilities, as  
22 measured by outlooks and CreditWatch listings, is limited, with nearly  
23 9% of companies having positive outlooks or positive CreditWatch  
24 listings and about 6% carrying negative outlooks. One company  
25 (0.5%) has a developing outlook. (Importantly, outlooks and  
26 CreditWatch placements do not predict rating changes. Rather, they  
27 highlight the potential for rating changes and their direction.) With the  
28 remaining 85% of the industry having stable outlooks, and with a  
29 moderate influence on the sector’s business risk and financial risk  
30 profiles as a result of economic volatility, we expect few rating changes  
31 in the sector in the near-to-intermediate term.



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We have seen that investors have been responsive to regulated utility debt under all market conditions and we expect pricing and demand to remain robust. The amount of medium- to long-term debt and hybrid securities issued during the first four months of the year was about \$11 billion. Most utilities continue to proactively manage their liquidity needs by increasing the size and extending the tenor of their revolving credit facilities with maturity dates well into 2018 and beyond. And, several companies have issued common stock to partially fund construction programs, which has helped to support capital structure balance. In addition, many utilities are accessing short-term credit markets and issuing commercial paper at very low rates. The relative certainty of financial performance by utilities operating under relatively predictable regulatory frameworks, an effective monopoly position, and long-lived assets continue to make the utility sector attractive to investors. We believe that utilities will continue to tap the short-term debt markets with relative ease and, as a result, we expect liquidity to remain adequate for most utilities under our criteria. The ability of utilities to issue short-term debt and access liquidity is critical, especially in light of significant capital budgets for aging infrastructure, environmental compliance, plant improvements, and ongoing transmission and distribution investments.<sup>3/</sup>

Similarly, Fitch states:

**Rating Outlook Stable Ratings Outlook:** Fitch Ratings expects the ratings and ratings outlook for the overall U.S. Utilities, Power, and Gas (UPG) sector to remain stable in 2014. Fitch expects modest earnings growth from recent rate base additions and continued maturation of capex projects. Broad macroeconomic conditions remain favorable for the sector; Fitch expects modest economic growth, tepid inflation, low natural gas prices, and a favorable interest rate environment.

\* \* \*

**Stable Utility and Utility Parent Company Ratings**

Within the context of gradual recovery, low inflation, and stable commodity prices, Fitch expects regulated utilities to maintain their solid investment-grade credit profile. Issuer Default Ratings (IDRs) should remain on the cusp of ‘BBB+’ to ‘A-’, with more than 90% of debt issuances being rated in the ‘A’ category. Long-term debt

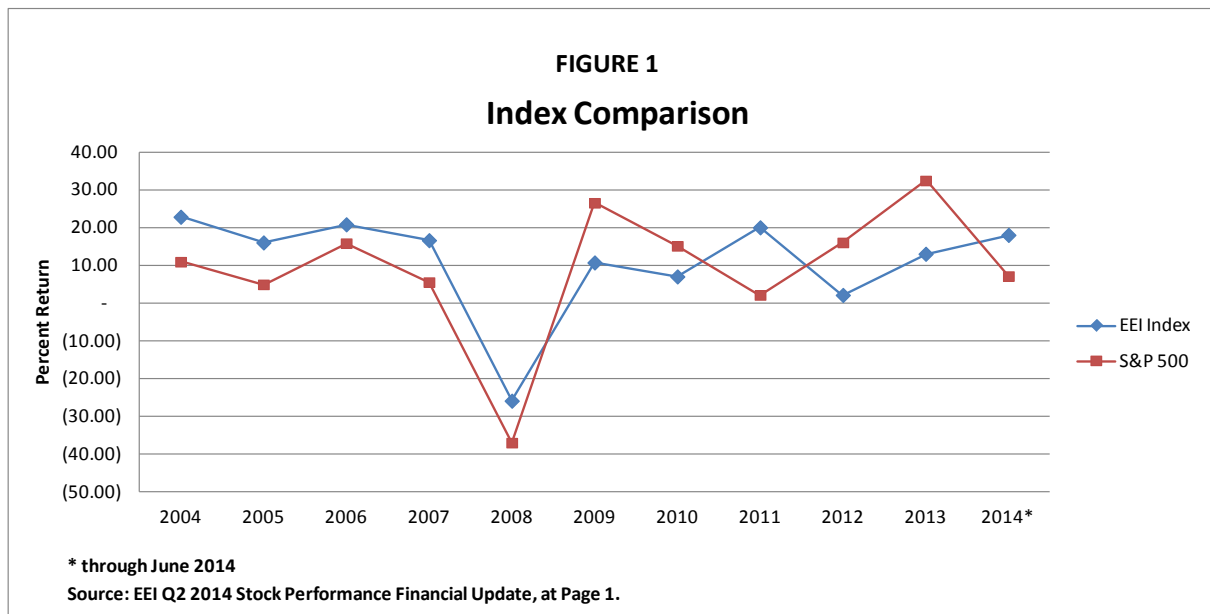
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<sup>3/</sup> *Standard & Poor’s RatingsDirect*: “Industry Economic And Ratings Outlook: U.S. Regulated Utilities On Stable Trajectory Amid Moderate Economic Growth,” May 22, 2014 at 4-5.

1 instrument ratings of Fitch’s entire universe of regulated utilities carry  
2 investment-grade ratings, a testament to the sound credit profile of the  
3 industry.<sup>4/</sup>

4 **Q. PLEASE DESCRIBE UTILITY STOCK PRICE PERFORMANCE OVER THE**  
5 **LAST SEVERAL YEARS.**

6 **A.** As shown in the graph below, the Edison Electric Institute (“EEI”) has recorded utility  
7 stock price performance compared to the market. The EEI data shows that its Utility  
8 Index has outperformed the market in downturns and trailed the market during  
9 recovery. This supports my conclusion that utility stock investments are regarded by  
10 market participants as a moderate- to low-risk investment.



11 **Q. WHAT ARE THE IMPORTANT TAKEAWAY POINTS FROM THIS**  
12 **ASSESSMENT OF UTILITY INDUSTRY CREDIT AND INVESTMENT RISK**  
13 **OUTLOOKS?**

14 **A.** Credit rating agencies consider the regulated utility industry to be stable and believe  
15 investors will continue to provide an abundance of capital to support utilities’ large

<sup>4/</sup> *FitchRatings*: “2014 Outlook: Utilities, Power, and Gas,” December 12, 2013 at 1-2.

1 capital programs at moderate capital costs. All of this supports the continued belief  
2 that utility investments are generally regarded as safe-haven or low-risk investments,  
3 and the market embraces low-risk investments, such as utility investments. The  
4 demand for low-risk investments will provide funding for regulated utilities in general.

5 **II.B. PSE Investment Risk**

6 **Q. PLEASE DESCRIBE THE MARKET’S ASSESSMENT OF THE**  
7 **INVESTMENT RISK OF PSE.**

8 **A.** The market’s assessment of PSE’s investment risk is described by credit rating  
9 analysts’ reports. PSE’s current corporate and senior secured bond ratings from S&P  
10 and Moody’s are “BBB” and “A-,” and “Baa1” and “A2,” respectively.<sup>5/</sup> Both rating  
11 agencies have a Stable outlook for PSE.

12 Specifically, S&P states the following:

13 **Business Risk: Strong**

14 Our “strong” business risk assessment on Puget Sound Energy  
15 incorporates our assessment of “very low” industry risk of the  
16 regulated utility industry and a “very low” country risk based on  
17 the company’s focus on U.S. operations and markets. Puget  
18 Sound Energy provides regulated electric and gas distribution  
19 service to about 1.1 million electric customers and 800,000 gas  
20 customers in the Puget Sound region of the state of Washington.  
21 The company generates about 12 terawatt hours of which about  
22 40% is from natural gas and 35% from coal. In addition, the  
23 company purchases an additional 10 terawatt hours through a  
24 combination of long and short-term contracts. Our designation  
25 of Puget Energy Inc.’s business risk profile as “strong”  
26 incorporates our assessment of its strategy to focus exclusively  
27 on regulated utility operations in Washington. A partially  
28 offsetting credit factor is the company’s limited regulatory  
29 diversity because the company operates in a single, challenging  
30 jurisdiction. In addition, the company faces risks related to  
31 hydroelectric power generation that are common in the  
32 Northwest. These challenges have led to greater profit volatility

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<sup>5/</sup> *SNL Financial*, November 12, 2014.

1 compared with the regulated utility industry average, which  
2 impairs the company's business risk profile.

3  
4 **Financial Risk: Significant**

5 For Puget Sound Energy, we use the medial volatility table,  
6 reflecting the company's lower-risk regulated utility business  
7 model that includes the higher operating risk of regulated  
8 generations.

9  
10 We view Puget Sound Energy's stand-alone financial risk  
11 profile as at the higher-end of the "significant" financial risk  
12 profile category.<sup>6/</sup>

13 **II.C. Return on Equity**

14 **Q. PLEASE DESCRIBE WHAT IS MEANT BY A "UTILITY'S COST OF**  
15 **COMMON EQUITY."**

16 **A.** A utility's cost of common equity is the return investors require on an investment in  
17 the utility. Investors expect to achieve their return requirement from receiving  
18 dividends and stock price appreciation.

19 **Q. PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A**  
20 **REGULATED UTILITY'S COST OF COMMON EQUITY.**

21 **A.** In general, determining a fair cost of common equity for a regulated utility has been  
22 framed by two hallmark decisions of the U.S. Supreme Court: Bluefield Water Works  
23 & Improvement Co. v. Pub. Serv. Comm'n of W. Va., 262 U.S. 679 (1923) and Fed.  
24 Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944).

25 These decisions identify the general standards to be considered in establishing  
26 the cost of common equity for a public utility. Those general standards provide that  
27 the authorized return should: (1) be sufficient to maintain financial integrity;

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<sup>6/</sup> *Standard & Poor's RatingsDirect*: "Summary: Puget Sound Energy Inc.," June 30, 2014 at 3-4.

1 (2) attract capital under reasonable terms; and (3) be commensurate with returns  
2 investors could earn by investing in other enterprises of comparable risk.

3 **Q. PLEASE DESCRIBE THE METHODS YOU HAVE USED TO ESTIMATE**  
4 **PSE'S COST OF COMMON EQUITY.**

5 **A.** I have used several models based on financial theory to estimate PSE's cost of  
6 common equity. These models are: (1) a constant growth Discounted Cash Flow  
7 ("DCF") model using consensus analysts' growth rate projections; (2) a constant  
8 growth DCF using sustainable growth rate estimates; (3) a multi-stage growth DCF  
9 model; (4) a Risk Premium model; and (5) a Capital Asset Pricing Model ("CAPM").  
10 I have applied these models to a group of publicly traded utilities that have investment  
11 risk similar to PSE's.

12 **II.D. Risk Proxy Group**

13 **Q. HOW DID YOU SELECT A UTILITY PROXY GROUP SIMILAR IN**  
14 **INVESTMENT RISK TO PSE TO ESTIMATE ITS CURRENT MARKET**  
15 **COST OF EQUITY?**

16 **A.** I relied on a Combination Gas and Electric utility proxy group that I determined to be  
17 comparable in investment risk to PSE. My recommended proxy groups are based on  
18 the same proxy groups used by PSE's witness Dr. Roger Morin to estimate PSE's  
19 return on equity in 2014. However, I excluded six companies from Dr. Morin's proxy  
20 groups which are not reasonable risk proxy companies: Duke Energy Corporation,  
21 Exelon Corp., Integrys, Pepco Holdings, UIL Holdings Corp., and Wisconsin Energy  
22 Corp. All of these companies were excluded because they are involved in merger and

1 acquisition activity,<sup>7/</sup> and therefore are not appropriate for including in my proxy  
2 groups.

3 **Q. WHY IS IT APPROPRIATE TO EXCLUDE COMPANIES WHICH ARE**  
4 **INVOLVED IN MERGER AND ACQUISITION ACTIVITY FROM THE**  
5 **PROXY GROUPS?**

6 **A.** When companies are involved in merger and acquisition activity and have announced  
7 those activities to the public, the public responds to these announcements by  
8 considering the merger and acquisition activity in valuing utility stocks, and credit  
9 rating agencies may take actions on the companies' bond ratings outlook. These  
10 merger and acquisition activities can affect the investment metrics of the companies  
11 relative to the stand-alone valuation metrics of the companies. A merger can impact  
12 earnings outlooks and risks relative to observable market prices. Therefore, financial  
13 models based on observable market data and company investment outlooks will not  
14 produce reliable estimates of the required return on equity for companies. Therefore,  
15 it is appropriate to remove companies from the proxy groups that have announced  
16 merger or acquisition activity.

17 **Q. PLEASE DESCRIBE WHY YOU BELIEVE YOUR PROXY GROUPS ARE**  
18 **REASONABLY COMPARABLE IN INVESTMENT RISK TO PSE.**

19 **A.** The proxy group is shown in Exhibit No.\_\_(MPG-27). The proxy group has an  
20 average corporate credit rating from S&P of "BBB+," which is one notch above  
21 S&P's corporate credit rating for PSE – "BBB." The proxy group's average corporate

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<sup>7/</sup> For example, Duke Energy is in the process of acquiring and divesting \$4 billion of generation assets. The acquisition transaction was announced on July 28, 2014, and the divesting transaction was announced on August 22, 2014. Cleco Corp. has been seeking a purchaser since earlier this summer, and on October 20, 2014, Cleco entered into a definitive agreement to be acquired by an investor group.

1 credit rating from Moody's of "Baa1" is identical to PSE's corporate credit rating  
2 from Moody's.

3 The proxy group has an average common equity ratio of 45.9% (including  
4 short-term debt) from SNL Financial ("SNL") and 48.9% (excluding short-term debt)  
5 from *The Value Line Investment Survey* ("*Value Line*") in 2013. The proxy group  
6 common equity ratio is reasonably comparable to PSE's 48% common equity ratio.

### 7 **II.E. Discounted Cash Flow Model**

#### 8 **Q. PLEASE DESCRIBE THE DCF MODEL.**

9 **A.** The DCF model posits that a stock price is valued by summing the present value of  
10 expected future cash flows discounted at the investor's required rate of return or cost  
11 of capital. This model is expressed mathematically as follows:

$$12 \quad P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} + \dots + \frac{D_\infty}{(1+K)^\infty} \quad (\text{Equation 1})$$

14  $P_0$  = Current stock price

15  $D$  = Dividends in periods 1 -  $\infty$

16  $K$  = Investor's required return

17 This model can be rearranged in order to estimate the discount rate or investor-  
18 required return, "K." If it is reasonable to assume that earnings and dividends will  
19 grow at a constant rate, then Equation 1 can be rearranged as follows:

$$20 \quad K = D_1/P_0 + G \quad (\text{Equation 2})$$

21  $K$  = Investor's required return

22  $D_1$  = Dividend in first year

23  $P_0$  = Current stock price

24  $G$  = Expected constant dividend growth rate

25 Equation 2 is referred to as the annual "constant growth" DCF model.

1 **Q. PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF**  
2 **MODEL.**

3 **A.** As shown in Equation 2 above, the DCF model requires a current stock price,  
4 expected dividend, and expected growth rate in dividends.

5 **Q. WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT**  
6 **GROWTH DCF MODEL?**

7 **A.** I relied on the average of the weekly high and low stock prices of the utilities in the  
8 proxy groups over a 13-week period ending on November 7, 2014. An average stock  
9 price is less susceptible to market price variations than a spot price. Therefore, an  
10 average stock price is less susceptible to aberrant market price movements, which may  
11 not reflect the stock's long-term value.

12 A 13-week average stock price reflects a period that is still short enough to  
13 contain data that reasonably reflects current market expectations, but the period is not  
14 so short as to be susceptible to market price variations that may not reflect the stock's  
15 long-term value. In my judgment, a 13-week average stock price is a reasonable  
16 balance between the need to reflect current market expectations and the need to  
17 capture sufficient data to smooth out aberrant market movements.

18 **Q. WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF**  
19 **MODEL?**

20 **A.** I used the most recently paid quarterly dividend, as reported in *Value Line*.<sup>8/</sup> This  
21 dividend was annualized (multiplied by 4) and adjusted for next year's growth to  
22 produce the  $D_1$  factor for use in Equation 2 above.

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<sup>8/</sup> *The Value Line Investment Survey*, August 22, September 19 and October 31, 2014.



1 **Q. WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR**  
2 **CONSTANT GROWTH DCF MODEL?**

3 **A.** There are several methods that can be used to estimate the expected growth in  
4 dividends. However, regardless of the method, for purposes of determining the  
5 market-required return on common equity, one must attempt to estimate investors'  
6 consensus about what the dividend or earnings growth rate will be, and not what an  
7 individual investor or analyst may use to make individual investment decisions.

8 As predictors of future returns, security analysts' growth estimates have been  
9 shown to be more accurate than growth rates derived from historical data.<sup>9/</sup> That is,  
10 assuming the market generally makes rational investment decisions, analysts' growth  
11 projections are more likely to influence investors' decisions which are captured in  
12 observable stock prices than growth rates derived only from historical data.

13 For my constant growth DCF analysis, I have relied on a consensus, or mean,  
14 of professional security analysts' earnings growth estimates as a proxy for investor  
15 consensus dividend growth rate expectations. I used the average of analysts' growth  
16 rate estimates from three sources: Zacks, SNL, and Reuters. All such projections  
17 were available on November 7, 2014, and all were reported online.

18 Each consensus growth rate projection is based on a survey of security  
19 analysts. There is no clear evidence whether a particular analyst is most influential on  
20 general market investors. Therefore, a single analyst's projection does not as reliably  
21 predict consensus investor outlooks as does a consensus of market analysts'  
22 projections. The consensus estimate is a simple arithmetic average, or mean, of  
23 surveyed analysts' earnings growth forecasts. A simple average of the growth

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<sup>9/</sup> See, e.g., David Gordon, Myron Gordon, and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, Spring 1989.

1 forecasts gives equal weight to all surveyed analysts' projections. Therefore, a simple  
2 average, or arithmetic mean, of analyst forecasts is a good proxy for market consensus  
3 expectations.

4 **Q. WHAT ARE THE GROWTH RATES YOU USED IN YOUR CONSTANT**  
5 **GROWTH DCF MODEL?**

6 **A.** The growth rates I used in my DCF analysis are shown in Exhibit No.\_\_(MPG-28).  
7 The average growth rate for my Combination Proxy Group is 5.51%.

8 **Q. WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF**  
9 **MODEL?**

10 **A.** As shown in Exhibit No.\_\_(MPG-29), the average and median constant growth DCF  
11 returns for my Combination Proxy Group are 9.36% and 9.52%, respectively.

12 **Q. DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR**  
13 **CONSTANT GROWTH DCF ANALYSIS?**

14 **A.** Yes. The constant growth DCF analysis for my Combination Proxy Group is based on  
15 a long-term sustainable growth rate of 5.5149%. These growth rates are higher than  
16 my estimate of a maximum long-term sustainable growth rate of 4.6%. Therefore, I  
17 believe the constant growth DCF analysis produces slightly overstated return  
18 estimates.

19 **Q. WHAT IS YOUR ESTIMATE OF A MAXIMUM LONG-TERM**  
20 **SUSTAINABLE GROWTH RATE?**

21 **A.** A long-term sustainable growth rate for a utility stock cannot exceed the growth rate  
22 of the economy in which it sells its goods and services. Hence, a reasonable proxy for  
23 the long-term maximum sustainable growth rate for a utility investment is best proxied  
24 by the projected long-term Gross Domestic Product ("GDP"). *Blue Chip Economic*  
25 *Indicators* projects that over the next 5 and 10 years, the U.S. nominal GDP will grow  
26 in the range of 4.8% to 4.4%. As such, the average growth rate over the next 10 years

1 is around 4.6%, which I believe is a reasonable proxy of long-term sustainable  
2 growth.<sup>10/</sup>

3 I discuss in my multi-stage growth DCF analysis academic and investment  
4 practitioner evidence that accepts the projected long-term GDP growth outlook as a  
5 maximum sustainable growth rate projection. Hence, recognizing the long-term GDP  
6 growth rate as a maximum sustainable growth is logical, and generally consistent with  
7 academic and economic practitioner accepted practices.

## 8 **II.F. Sustainable Growth DCF**

9 **Q. PLEASE DESCRIBE HOW YOU ESTIMATED A SUSTAINABLE**  
10 **LONG-TERM GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF**  
11 **MODEL.**

12 **A.** A sustainable growth rate is based on the percentage of the utility's earnings that is  
13 retained and reinvested in utility plant and equipment. These reinvested earnings  
14 increase the earnings base (rate base). Earnings grow when plant funded by reinvested  
15 earnings is put into service, and the utility is allowed to earn its authorized return on  
16 such additional rate base investment.

17 The internal growth methodology is tied to the percentage of earnings retained  
18 in the company and not paid out as dividends. The earnings retention ratio is 1 minus  
19 the dividend payout ratio. As the payout ratio declines, the earnings retention ratio  
20 increases. An increased earnings retention ratio will fuel stronger growth because the  
21 business funds more investments with retained earnings.

22 The payout ratios of the proxy groups are shown in my Exhibit  
23 No.\_\_(MPG-30). These dividend payout ratios and earnings retention ratios then can

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<sup>10/</sup> *Blue Chip Economic Indicators*, October 10, 2014, at 14.

1 be used to develop a sustainable long-term earnings retention growth rate. A  
2 sustainable long-term earnings retention ratio will help gauge whether analysts'  
3 current three- to five-year growth rate projections can be sustained over an indefinite  
4 period of time.

5 The data used to estimate the long-term sustainable growth rate is based on the  
6 Company's current market-to-book ratio and on *Value Line's* three- to five-year  
7 projections of earnings, dividends, earned returns on book equity, and stock issuances.

8 As shown in Exhibit No.\_\_(MPG-31), the average sustainable growth rates  
9 for my Combination Proxy Group using this internal growth rate model is 5.28%.

10 **Q. WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE LONG-**  
11 **TERM GROWTH RATES?**

12 **A.** A DCF estimate based on these sustainable growth rates is developed in Exhibit  
13 No.\_\_(MPG-32). As shown there, a sustainable growth DCF analysis produces  
14 proxy group average and median DCF results of 9.05% and 8.94%, respectively, for  
15 the Combination Proxy Group.

16 **II.G. Multi-Stage Growth DCF Model**

17 **Q. HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?**

18 **A.** Yes. My first constant growth DCF is based on consensus analysts' growth rate  
19 projections, so it is a reasonable reflection of rational investment expectations over the  
20 next three to five years. The limitation on the constant growth DCF model is that it  
21 cannot reflect a rational expectation that a period of high/low short-term growth can be  
22 followed by a change in growth to a rate that is more reflective of long-term  
23 sustainable growth. Hence, I performed a multi-stage growth DCF analysis to reflect  
24 this outlook of changing growth expectations.

1 **Q. WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?**

2 **A.** Analyst-projected growth rates over the next three to five years will change as utility  
3 earnings growth outlooks change. Utility companies go through cycles in making  
4 investments in their systems. When utility companies are making large investments,  
5 their rate base grows rapidly, which accelerates their earnings growth. Once a major  
6 construction cycle is completed or levels off, growth in the utility rate base slows, and  
7 its earnings growth slows from an abnormally high three- to five-year rate to a lower  
8 sustainable growth rate.

9 As major construction cycles extend over longer periods of time, even with an  
10 accelerated construction program, the growth rate of the utility will slow simply  
11 because rate base growth will slow and the utility has limited human and capital  
12 resources available to expand its construction program. Hence, the three- to five-year  
13 growth rate projection should be used as a long-term sustainable growth rate but not  
14 without making a reasonable informed judgment to determine whether it considers the  
15 current market environment, the industry, and whether the three- to five-year growth  
16 outlook is sustainable.

17 **Q. PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.**

18 **A.** The multi-stage growth DCF model reflects the possibility of non-constant growth for  
19 a company over time. The multi-stage growth DCF model reflects three growth  
20 periods: (1) a short-term growth period, which consists of the first five years; (2) a  
21 transition period, which consists of the next five years (6 through 10); and (3) a  
22 long-term growth period, starting in year 11 through perpetuity.

23 For the short-term growth period, I relied on the consensus analysts' growth  
24 projections described above in relationship to my constant growth DCF model. For

1 the transition period, the growth rates were reduced or increased by an equal factor,  
2 which reflects the difference between the analysts' growth rates and the long-term  
3 sustainable growth rate. For the long-term growth period, I assumed each company's  
4 growth would converge to the maximum sustainable long-term growth rate.

5 **Q. WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR**  
6 **THE MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?**

7 **A.** Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the  
8 economy in which they sell services. Utilities' earnings/dividend growth is created by  
9 increased utility investment or rate base. Such investment, in turn, is driven by service  
10 area economic growth and demand for utility service. In other words, utilities invest  
11 in plant to meet sales demand growth, and sales growth, in turn, is tied to economic  
12 growth in their service areas.

13 The Energy Information Administration ("EIA") has observed that utility sales  
14 growth tracks the U.S. GDP growth, albeit at a lower level, as shown in Exhibit  
15 No.\_\_(MPG-33). Utility sales growth has lagged behind GDP growth for more than  
16 a decade. As a result, nominal GDP growth is a very conservative proxy for the  
17 highest sustainable long-term utility sales growth, rate base growth, and earnings  
18 growth. Therefore, the U.S. GDP nominal growth rate is a conservative proxy for the  
19 highest sustainable long-term growth rate of a utility.

20 **Q. IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER**  
21 **THE LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT**  
22 **GROW AT A RATE GREATER THAN THE GROWTH OF THE U.S. GDP?**

23 **A.** Yes. This concept is supported in both published analyst literature and academic  
24 work. Specifically, in a textbook entitled "Fundamentals of Financial Management,"  
25 published by Eugene Brigham and Joel F. Houston, the authors state as follows:

1 The constant growth model is most appropriate for mature companies  
2 with a stable history of growth and stable future expectations.  
3 Expected growth rates vary somewhat among companies, but dividends  
4 for mature firms are often expected to grow in the future at about the  
5 same rate as nominal gross domestic product (real GDP plus  
6 inflation).<sup>11/</sup>

7 **Q. IS THERE ANY ACTUAL INVESTMENT HISTORY THAT SUPPORTS THE**  
8 **NOTION THAT THE CAPITAL APPRECIATION FOR STOCK**  
9 **INVESTMENTS WILL NOT EXCEED THE NOMINAL GROWTH OF THE**  
10 **U.S. GDP?**

11 **A.** Yes. This is evident by a comparison of the compound annual growth of the U.S.  
12 GDP compared to the geometric growth of the U.S. stock market. Morningstar  
13 measures the historical geometric growth of the U.S. stock market over the period  
14 1926-2013 to be approximately 5.8%. During this same time period, the U.S. nominal  
15 compound annual growth of the U.S. GDP was approximately 6.2%.<sup>12/</sup>

16 As such, the compound geometric growth of the U.S. nominal GDP has been  
17 higher but comparable to the nominal growth of the U.S. stock market capital  
18 appreciation. This historical relationship indicates the U.S. GDP growth outlook is a  
19 conservative estimate of the long-term sustainable growth of U.S. stock investments.

20 **Q. HOW DID YOU DETERMINE A SUSTAINABLE LONG-TERM GROWTH**  
21 **RATE THAT REFLECTS THE CURRENT CONSENSUS OUTLOOK OF THE**  
22 **MARKET?**

23 **A.** I relied on the consensus analysts' projections of long-term GDP growth. *Blue Chip*  
24 *Economic Indicators* publishes consensus economists' GDP growth projections twice  
25 a year. These consensus analysts' GDP growth outlooks are the best available  
26 measure of the market's assessment of long-term GDP growth. These analyst

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<sup>11/</sup> "Fundamentals of Financial Management," Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298.

<sup>12/</sup> *Morningstar, Inc., Ibbotson SBBI 2014 Classic Yearbook* inflation rate of 3.0%, and U.S. Bureau of Economic Analysis, April 30, 2014.

1 projections reflect all current outlooks for GDP, as reflected in analyst projections, and  
2 are likely the most influential on investors' expectations of future growth outlooks.  
3 The consensus economists' published GDP growth rate outlook is 4.75% to 4.45%  
4 over the next 10 years.<sup>13/</sup>

5 Therefore, I propose to use the consensus economists' projected 5- and 10-year  
6 average GDP consensus growth rates of 4.75% and 4.45%, respectively, as published  
7 by *Blue Chip Economic Indicators*, as an estimate of long-term sustainable growth.  
8 *Blue Chip Economic Indicators* projections provide real GDP growth projections of  
9 2.6% and 2.3%, and GDP inflation of 2.1%<sup>14/</sup> over the 5-year and 10-year projection  
10 periods, respectively. This consensus GDP growth forecast represents the most likely  
11 views of market participants because it is based on published consensus economist  
12 projections.

13 **Q. DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM**  
14 **GDP GROWTH?**

15 **A.** Yes, and these sources corroborate my consensus analysts' projections. The U.S. EIA  
16 in its *Annual Energy Outlook* projects real GDP out until 2040. In its 2014 Annual  
17 Report, the EIA projects real GDP through 2040 to be in the range of 1.9% to 2.8%,  
18 with a midpoint, or reference case, of 2.4%.<sup>15/</sup>

19 Also, the Congressional Budget Office ("CBO") makes long-term economic  
20 projections. The CBO is projecting real GDP growth of 2.8% to 2.1% during the next

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<sup>13/</sup> *Blue Chip Economic Indicators*, October 10, 2014 at 14.

<sup>14/</sup> *Id.*

<sup>15/</sup> *DOE/EIA Annual Energy Outlook 2014 With Projections to 2040*, April 2014 at MT-2.



1 5 and 10 years, respectively, with GDP price inflation of 2.0%.<sup>16/</sup> The CBO's real  
2 GDP and GDP inflation projections are slightly lower than the consensus economists.

3 The real GDP and nominal GDP growth projections made by the U.S. EIA and  
4 those made by the CBO support the use of the consensus analyst 5-year and 10-year  
5 projected GDP growth outlooks as a reasonable estimate of market participants'  
6 long-term GDP growth outlooks.

7 **Q. WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE**  
8 **IN YOUR MULTI-STAGE GROWTH DCF ANALYSIS?**

9 **A.** I relied on the same 13-week stock price and the most recent quarterly dividend  
10 payment data discussed above. For stage one growth, I used the consensus analysts'  
11 growth rate projections discussed above in my constant growth DCF model. The first  
12 stage growth covers the first five years, consistent with the term of the analyst growth  
13 rate projections. The second stage, or transition stage, begins in year 6 and extends  
14 through year 10. The second stage growth transitions the growth rate from the first  
15 stage to the third stage using a linear trend. For the third stage, or long-term  
16 sustainable growth stage, which starts in year 11, I used a 4.6% long-term sustainable  
17 growth rate, which is based on the consensus economists' long-term projected nominal  
18 GDP growth rate.

19 **Q. WHAT ARE THE RESULTS OF YOUR MULTI-STAGE GROWTH DCF**  
20 **MODEL?**

21 **A.** As shown in Exhibit No.\_\_\_\_(MPG-34), the average and median DCF returns on equity  
22 for my Combination Proxy Group are 8.64% and 8.55%.

23 **Q. PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.**

24 **A.** The results from my DCF analyses are summarized in Table 1 below:

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<sup>16/</sup> CBO: *The Budget and Economic Outlook: Fiscal Years 2014 to 2024*, February 2014 at 152.

<b>TABLE 1</b>	
<b><u>Summary of DCF Results</u></b>	
<b><u>Description</u></b>	<b><u>Proxy Group Average</u></b>
Constant Growth DCF Model (Analysts' Growth)	9.36%
Constant Growth DCF Model (Sustainable Growth)	9.05%
Multi-Stage Growth DCF Model	<u>8.64%</u>
Average	9.02%

1                    My DCF studies indicate a return on equity of 9.00% which is the midpoint of  
2                    my estimated DCF range of 8.64% to 9.36%.

3                    **II.H. Risk Premium Model**

4                    **Q.     PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.**

5                    **A.**     This model is based on the principle that investors require a higher return to assume  
6                    greater risk. Common equity investments have greater risk than bonds because bonds  
7                    have more security of payment in bankruptcy proceedings than common equity and  
8                    the coupon payments on bonds represent contractual obligations. In contrast,  
9                    companies are not required to pay dividends or guarantee returns on common equity  
10                    investments. Therefore, common equity securities are considered to be more risky  
11                    than bond securities.

12                    This risk premium model is based on two estimates of an equity risk premium.  
13                    First, I estimated the difference between the required return on utility common equity  
14                    investments and U.S. Treasury bonds. The difference between the required return on

1 common equity and the Treasury bond yield is the risk premium. I estimated the risk  
2 premium on an annual basis for each year over the period 1986 through September  
3 2014. The common equity required returns were based on regulatory commission-  
4 authorized returns for electric utility companies. Authorized returns are typically  
5 based on expert witnesses' estimates of the contemporary investor-required return.

6 The second equity risk premium estimate is based on the difference between  
7 regulatory commission-authorized returns on common equity and contemporary  
8 "A" rated utility bond yields by Moody's. I selected the period 1986 through  
9 September 2014 because public utility stocks consistently traded at a premium to book  
10 value during that period. This is illustrated in Exhibit No.\_\_(MPG-35), which shows  
11 that the market to book ratio since 1986 for the electric utility industry was  
12 consistently above a multiple of 1.0x. Over this period, regulatory authorized returns  
13 were sufficient to support market prices that at least exceeded book value. This is an  
14 indication that regulatory authorized returns on common equity supported a utility's  
15 ability to issue additional common stock without diluting existing shares. It further  
16 demonstrates that utilities were able to access equity markets without a detrimental  
17 impact on current shareholders.

18 Based on this analysis, as shown in Exhibit No.\_\_(MPG-36), the average  
19 indicated equity risk premium over U.S. Treasury bond yields has been 5.36%. Of the  
20 29 observations, 23 indicated risk premiums fall in the range of 4.41% to 6.28%.  
21 Since the risk premium can vary depending upon market conditions and changing  
22 investor risk perceptions, I believe using an estimated range of risk premiums provides

1 the best method to measure the current return on common equity using this  
2 methodology.

3 As shown in Exhibit No.\_\_(MPG-37), the average indicated equity risk  
4 premium over contemporary Moody's utility bond yields was 3.98% over the period  
5 1986 through September 2014. The indicated equity risk premium estimates based on  
6 this analysis primarily fall in the range of 3.03% to 5.03% over this time period.

7 **Q. DO YOU BELIEVE THAT THESE EQUITY RISK PREMIUM ESTIMATES**  
8 **ARE BASED ON A TIME PERIOD THAT IS TOO LONG OR TOO SHORT**  
9 **TO DRAW ACCURATE CONCLUSIONS CONCERNING CONTEMPORARY**  
10 **MARKET CONDITIONS?**

11 **A.** No. The time period I use in this risk premium study is a generally accepted period to  
12 develop a risk premium study using "expectational" data.

13 Contemporary market conditions can change dramatically during the period  
14 that rates determined in this proceeding will be in effect. A relatively long period of  
15 time where stock valuations reflect premiums to book value is an indication that the  
16 authorized returns on equity and the corresponding equity risk premiums were  
17 supportive of investors' return expectations and provided utilities access to the equity  
18 markets under reasonable terms and conditions. Further, this time period is long  
19 enough to smooth abnormal market movement that might distort equity risk  
20 premiums. While market conditions and risk premiums do vary over time, this  
21 historical time period is a reasonable period to estimate contemporary risk premiums.

22 Alternatively, studies have recommended that use of "actual achieved  
23 investment return data" in a risk premium study should be based on long historical  
24 time periods. The studies find that achieved returns over short time periods may not  
25 reflect investors' expected returns due to unexpected and abnormal stock price

1 performance. Short-term abnormal actual returns would be smoothed over time and  
2 the achieved actual investment returns over long time periods would approximate  
3 investors' expected returns. Therefore, it is reasonable to assume that averages of  
4 annual achieved returns over long time periods will generally converge on the  
5 investors' expected returns.

6 My risk premium study is based on expectational data, not actual investment  
7 returns, and, thus, need not encompass a very long historical time period.

8 **Q. BASED ON HISTORICAL DATA, WHAT RISK PREMIUM HAVE YOU**  
9 **USED TO ESTIMATE PSE'S CURRENT COST OF COMMON EQUITY?**

10 **A.** The equity risk premium should reflect the relative market perception of risk in the  
11 utility industry today. I have gauged investor perceptions in utility risk today in  
12 Exhibit No.\_\_(MPG-38). On that exhibit, I show the yield spread between utility  
13 bonds and Treasury bonds over the last 35 years. As shown on this exhibit, the  
14 average utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utility  
15 bonds for this historical period are 1.53% and 1.95%, respectively. The utility bond  
16 yield spreads over Treasury bonds for "A" and "Baa" rated utilities during January-  
17 September 2014 are 0.90% and 1.37%, respectively. The current average "A" and  
18 "Baa" rated utility bond yield spreads over Treasury bond yields are now lower than  
19 the 35-year average spreads.

20 A current 13-week average "A" rated utility bond yield of 4.13%, when  
21 compared to the current Treasury bond yield of 3.14% as shown in Exhibit  
22 No.\_\_(MPG-39), page 1, implies a yield spread of around 99 basis points. This  
23 current utility bond yield spread is lower than the 35-year average spread for "A"

1 utility bonds of 1.53%. Similarly, the current spread for the “Baa” utility yields of  
2 1.57% is lower than the 35-year average spread of 1.94%.

3 These utility bond yield spreads are clear evidence that the market considers  
4 the utility industry to be a relatively low-risk investment and demonstrates that utilities  
5 continue to have strong access to capital.

6 **Q. HOW DID YOU ESTIMATE PSE’S COST OF COMMON EQUITY WITH**  
7 **THIS RISK PREMIUM MODEL?**

8 **A.** I added a projected long-term Treasury bond yield to my estimated equity risk  
9 premium over Treasury yields. The 13-week average 30-year Treasury bond yield,  
10 ending November 7, 2014, was 3.14%, as shown in Exhibit No.\_\_\_\_(MPG-39), page 1.  
11 *Blue Chip Financial Forecasts* projects the 30-year Treasury bond yield to be 4.10%,  
12 and a 10-year Treasury bond yield to be 3.40%.<sup>17/</sup> Using the projected 30-year  
13 Treasury bond yield of 4.10%, and a Treasury bond risk premium of 4.41% to 6.28%,  
14 as developed above, produces an estimated common equity return in the range of  
15 8.51% (4.10% + 4.41%) to 10.38% (4.10% + 6.28%). My risk premium estimates fall  
16 in the range of 8.51% to 10.38%.

17 I next added my equity risk premium over utility bond yields to a current  
18 13-week average yield on “Baa” rated utility bonds for the period ending November 7,  
19 2014 of 4.71%. Adding the utility equity risk premium of 3.03% to 5.03%, as  
20 developed above, to a “Baa” rated bond yield of 4.71%, produces a cost of equity in  
21 the range of 7.74% (4.71% + 3.03%) to 9.74% (4.71% + 5.03%).

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<sup>17/</sup> *Blue Chip Financial Forecasts*, October 1, 2014 at 2.

1 **Q. WHAT IS YOUR RECOMMENDED RETURN FOR PSE BASED ON YOUR**  
2 **RISK PREMIUM STUDY?**

3 **A.** My recommendation considers both utility security risk and market interest rate risk.  
4 Current interest rate spreads suggest the market is embracing utility investments as  
5 relatively low-risk investment alternatives. This is clearly evident from the low utility  
6 bond spreads relative to Treasury bonds currently compared to the historical time  
7 period studied.<sup>18/</sup> Also, the market is pricing “Baa” utility bonds to produce lower  
8 yields compared to general corporate “Baa” bonds. On average over time, “Baa”  
9 utility bond yields are higher than “Baa” corporate bond yields, but not currently.<sup>19/</sup>  
10 All of this supports my conclusion that the utility industry is perceived as a low-risk  
11 stable investment.

12 On the other hand, the Federal Reserve has been procuring long-term Treasury  
13 and collateralized bonds in an effort to stimulate the U.S. economy. This stimulus has  
14 reduced long-term interest rates. This government stimulus initiative was terminated  
15 in October 2014. The termination of the Federal Reserve’s stimulus has not caused  
16 long-term interest rates to increase; however, I believe there is additional risk in long-  
17 term interest rate markets created by this Federal Reserve stimulus policy.

18 I recommend giving more weight to the high-end of my risk premium results to  
19 reflect the greater current market interest rate risk. I propose to provide 75% weight to  
20 the high-end of my risk premium estimates and 25% to the low-end of my risk  
21 premium estimates. Providing more weight to the high-end risk premium captures the  
22 greater market interest rate risk. This results in a risk premium estimate over Treasury

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<sup>18/</sup> See Exhibit No.\_\_(MPG-38) and Exhibit No.\_\_(MPG-39).

<sup>19/</sup> *Id.*

1 bond yields of 9.91%,<sup>20/</sup> and a risk premium estimate over “Baa” utility bond yields of  
2 9.24%.<sup>21/</sup>

3 My risk premium analyses produce a return estimate in the range of 9.24% to  
4 9.91%, with a midpoint of 9.58%, rounded to 9.60%. It is important to note that in  
5 this analysis, compared to the analysis I produced in April 2013, I am providing more  
6 weight to the high-end risk premium estimate than the low-end. I believe this is  
7 appropriate given the fall in interest rates more recently, and the increased uncertainty  
8 about future levels of interest rates in the marketplace. Doing this provides a more  
9 conservative estimate and reflects the risk and uncertainty in the long-term interest  
10 rate market today.

## 11 **II.I. Capital Asset Pricing Model (“CAPM”)**

### 12 **Q. PLEASE DESCRIBE THE CAPM.**

13 **A.** The CAPM method of analysis is based upon the theory that the market-required rate  
14 of return for a security is equal to the risk-free rate, plus a risk premium associated  
15 with the specific security. This relationship between risk and return can be expressed  
16 mathematically as follows:

$$17 \quad R_i = R_f + B_i \times (R_m - R_f) \text{ where:}$$

18  $R_i$  = Required return for stock i

19  $R_f$  = Risk-free rate

20  $R_m$  = Expected return for the market portfolio

21  $B_i$  = Beta - Measure of the risk for stock

22 The stock-specific risk term in the above equation is beta. Beta represents the  
23 investment risk that cannot be diversified away when the security is held in a

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<sup>20/</sup> 75% (10.38%) + 25% (8.51%) = 9.91%.

<sup>21/</sup> 75% (9.74%) + 25% (7.74%) = 9.24%.



1 diversified portfolio. When stocks are held in a diversified portfolio, firm-specific  
2 risks can be eliminated by balancing the portfolio with securities that react in the  
3 opposite direction to firm-specific risk factors (e.g., business cycle, competition,  
4 product mix, and production limitations).

5 The risks that cannot be eliminated when held in a diversified portfolio are  
6 non-diversifiable risks. Non-diversifiable risks are related to the market in general and  
7 are referred to as systematic risks. Risks that can be eliminated by diversification are  
8 regarded as non-systematic risks. In a broad sense, systematic risks are market risks,  
9 and non-systematic risks are business risks. The CAPM theory suggests that the  
10 market will not compensate investors for assuming risks that can be diversified away.  
11 Therefore, the only risk that investors will be compensated for are systematic or  
12 non-diversifiable risks. The beta is a measure of the systematic or non-diversifiable  
13 risks.

14 **Q. PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.**

15 **A.** The CAPM requires an estimate of the market risk-free rate, the company's beta, and  
16 the market risk premium.

17 **Q. WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE**  
18 **RATE?**

19 **A.** As previously noted, *Blue Chip Financial Forecasts'* projected 30-year Treasury bond  
20 yield is 4.10%.<sup>22/</sup> The current 30-year Treasury bond yield is 3.14%, as shown in  
21 Exhibit No.\_\_\_\_(MPG-39), page 1. I used *Blue Chip Financial Forecasts'* projected  
22 30-year Treasury bond yield of 4.10% for my CAPM analysis.

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<sup>22/</sup> *Blue Chip Financial Forecasts*, November 1, 2014 at 2.

1 **Q. WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN**  
2 **ESTIMATE OF THE RISK-FREE RATE?**

3 **A.** Treasury securities are backed by the full faith and credit of the United States  
4 government, so long-term Treasury bonds are considered to have negligible credit risk.  
5 Also, long-term Treasury bonds have an investment horizon similar to that of common  
6 stock. As a result, investor-anticipated long-run inflation expectations are reflected in  
7 both common-stock required returns and long-term bond yields. Therefore, the  
8 nominal risk-free rate (or expected inflation rate and real risk-free rate) included in a  
9 long-term bond yield is a reasonable estimate of the nominal risk-free rate included in  
10 common stock returns.

11 Treasury bond yields, however, do include risk premiums related to  
12 unanticipated future inflation and interest rates. A Treasury bond yield is not a  
13 risk-free rate. Risk premiums related to unanticipated inflation and interest rates are  
14 systematic or market risks. Consequently, for companies with betas less than 1.0,  
15 using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis  
16 can produce an overstated estimate of the CAPM return.

17 **Q. WHAT BETA DID YOU USE IN YOUR ANALYSIS?**

18 **A.** As shown in Exhibit No.\_\_(MPG-40), the Combination Proxy Group average *Value*  
19 *Line* beta estimate is 0.75.

20 **Q. HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATE?**

21 **A.** I derived two market risk premium estimates, a forward-looking estimate and one  
22 based on a long-term historical average.

23 The forward-looking estimate was derived by estimating the expected return  
24 on the market (as represented by the S&P 500) and subtracting the risk-free rate from

1 this estimate. I estimated the expected return on the S&P 500 by adding an expected  
2 inflation rate to the long-term historical arithmetic average real return on the market.  
3 The real return on the market represents the achieved return above the rate of inflation.

4 Morningstar's *Stocks, Bonds, Bills and Inflation 2014 Classic Yearbook*  
5 estimates the historical arithmetic average real market return over the period 1926 to  
6 2013 as 8.9%.<sup>23/</sup> A current consensus analysts' inflation projection, as measured by  
7 the Consumer Price Index, is 2.3%.<sup>24/</sup> Using these estimates, the expected market  
8 return is 11.40%.<sup>25/</sup> The market risk premium then is the difference between the  
9 11.40% expected market return, and my 4.10% risk-free rate estimate, or  
10 approximately 7.3%.

11 The historical estimate of the market risk premium was also estimated by  
12 Morningstar in *Stocks, Bonds, Bills and Inflation 2014 Classic Yearbook*. Over the  
13 period 1926 through 2013, Morningstar's study estimated that the arithmetic average  
14 of the achieved total return on the S&P 500 was 12.1%,<sup>26/</sup> and the total return on  
15 long-term Treasury bonds was 5.9%.<sup>27/</sup> The indicated market risk premium is 6.2%  
16 (12.1% - 5.9% = 6.2%). The average of my market risk premium estimates is 6.8%  
17 (6.2% to 7.3%).

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<sup>23/</sup> Morningstar, Inc., *Ibbotson SBBI 2014 Classic Yearbook*: Market Results for Stocks, Bonds, Bills, and Inflation 1926-2013 at 92.

<sup>24/</sup> *Blue Chip Financial Forecasts*, October 1, 2014 at 2.

<sup>25/</sup>  $\{ [(1 + 0.089) * (1 + 0.023)] - 1 \} * 100$ .

<sup>26/</sup> Morningstar, Inc., *Ibbotson SBBI 2014 Classic Yearbook* at 91.

<sup>27/</sup> *Id.*

1 **Q. HOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE**  
2 **COMPARE TO THAT ESTIMATED BY MORNINGSTAR?**

3 **A.** Morningstar's analysis indicates that a market risk premium falls somewhere in the  
4 range of 6.2% to 7.0%. My market risk premium falls in the range of 6.2% to 7.3%.  
5 My average market risk premium of 6.8% is within Morningstar's range.

6 Morningstar estimates a forward-looking market risk premium based on actual  
7 achieved data from the historical period of 1926 through 2013. Using this data,  
8 Morningstar estimates a market risk premium derived from the total return on large  
9 company stocks (S&P 500), less the income return on Treasury bonds. The total  
10 return includes capital appreciation, dividend or coupon reinvestment returns, and  
11 annual yields received from coupons and/or dividend payments. The income return, in  
12 contrast, only reflects the income return received from dividend payments or coupon  
13 yields. Morningstar argues that the income return is the only true risk-free rate  
14 associated with Treasury bonds and is the best approximation of a truly risk-free  
15 rate.<sup>28/</sup> I disagree with this assessment from Morningstar, because it does not reflect a  
16 true investment option available to the marketplace and therefore does not produce a  
17 legitimate estimate of the expected premium of investing in the stock market versus  
18 that of Treasury bonds. Nevertheless, I will use Morningstar's conclusion to show the  
19 reasonableness of my market risk premium estimates.

20 Morningstar's range is based on several methodologies. First, Morningstar  
21 estimates a market risk premium of 7.0% based on the difference between the total  
22 market return on common stocks (S&P 500) less the income return on Treasury bond  
23 investments. Second, Morningstar found that if the New York Stock Exchange

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<sup>28/</sup> *Id.* at 153.

1 (“NYSE”) was used as the market index rather than the S&P 500, that the market risk  
2 premium would be 6.8%. Third, if only the two deciles of the largest companies  
3 included in the NYSE were considered, the market risk premium would be 6.2%.<sup>29/</sup>

4 Finally, Morningstar found that the 7.0% market risk premium based on the  
5 S&P 500 was influenced by an abnormal expansion of price-to-earnings (“P/E”) ratios  
6 relative to earnings and dividend growth during the period 1980 through 2001.  
7 Morningstar believes this abnormal P/E expansion is not sustainable.<sup>30/</sup> Therefore,  
8 Morningstar adjusted this market risk premium estimate to normalize the growth in the  
9 P/E ratio to be more in line with the growth in dividends and earnings. Based on this  
10 alternative methodology, Morningstar published a long-horizon supply-side market  
11 risk premium of 6.1%.<sup>31/</sup>

12 **Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?**

13 **A.** As shown in Exhibit No.\_\_(MPG-41), based on Morningstar’s market risk premium  
14 of 6.2% to 7.3%, a risk-free rate of 4.10%, and a beta of 0.76, my CAPM analysis  
15 produces a return of 8.77% to 9.59% with a midpoint of approximately 9.18%.

16 This CAPM estimate reflects a projected risk-free rate that is more than  
17 95 basis points higher than the current long-term risk-free rate as proxied by the U.S.  
18 Treasury security.<sup>32/</sup> Using this projected Treasury bond yield largely captures the  
19 additional risk in the marketplace related to the uncertainty of long-term interest rates  
20 since the Federal Reserve discontinued its economic stimulus intervention.

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<sup>29/</sup> Morningstar observes that the S&P 500 and the NYSE Decile 1-2 are both large capitalization benchmarks. *Id.* at 152.

<sup>30/</sup> *Id.* at 156.

<sup>31/</sup> *Id.* at 157.

<sup>32/</sup> Exhibit No.\_\_(MPG-39), page 1.

1 **II.J. Return on Equity Summary**

2 **Q. BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY**  
3 **ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY**  
4 **DO YOU RECOMMEND FOR PSE?**

5 **A.** Based on my analyses, I estimate PSE’s current market cost of equity to be 9.30%.

<b>TABLE 2</b>	
<b><u>Current Return on Common Equity</u></b>	
<b>(at November 2014)</b>	
<b><u>Description</u></b>	<b><u>Results</u></b>
DCF	9.00%
Risk Premium	9.60%
CAPM	9.18%

6 My recommended return on common equity of 9.30% is at the midpoint of my  
7 estimated range of 9.00% to 9.60%. The high-end of my estimated range is based on  
8 my risk premium studies, and the low-end is based on my DCF studies. The midpoint  
9 of this range reflects current market capital costs, increased interest rate risk in the  
10 current market due to Federal Reserve policies and other factors, and represents fair  
11 compensation to PSE’s investors for the total investment risk of its regulated utility.

12 **II.K. Financial Integrity**

13 **Q. WILL YOUR RECOMMENDED OVERALL RATE OF RETURN SUPPORT**  
14 **AN INVESTMENT GRADE BOND RATING FOR PSE?**

15 **A.** Yes. I have reached this conclusion by comparing the key credit rating financial ratios  
16 for PSE, at my proposed return on equity, and capital structure, to S&P’s benchmark  
17 financial ratios using S&P’s new credit metric ranges.

1 **Q. PLEASE DESCRIBE THE MOST RECENT S&P FINANCIAL RATIO**  
2 **CREDIT METRIC METHODOLOGY.**

3 **A.** S&P publishes a matrix of financial ratios that correspond to its assessment of the  
4 business risk of the utility companies and related bond rating. On May 27, 2009, S&P  
5 expanded its matrix criteria by including additional business and financial risk  
6 categories.<sup>33/</sup>

7 Based on S&P's most recent credit matrix, the business risk profile categories  
8 are "Excellent," "Strong," "Satisfactory," "Fair," "Weak," and "Vulnerable." Most  
9 utilities have a business risk profile of "Excellent" or "Strong."

10 The financial risk profile categories are "Minimal," "Modest," "Intermediate,"  
11 "Significant," "Aggressive," and "Highly Leveraged." Most of the utilities have a  
12 financial risk profile of "Aggressive." PSE has a "Strong" business risk profile and a  
13 "Significant" financial risk profile.

14 **Q. PLEASE DESCRIBE S&P'S USE OF THE FINANCIAL BENCHMARK**  
15 **RATIOS IN ITS CREDIT RATING REVIEW.**

16 **A.** S&P evaluates a utility's credit rating based on an assessment of its financial and  
17 business risks. A combination of financial and business risks equates to the overall  
18 assessment of PSE's total credit risk exposure. On November 19, 2013, S&P updated  
19 its methodology. In its update, S&P published a matrix of financial ratios that defines  
20 the level of financial risk as a function of the level of business risk.

21 S&P publishes ranges for three primary financial ratios that it uses as guidance  
22 in its credit review for utility companies. The two core financial ratio benchmarks it  
23 relies on in its credit rating process include: (1) Debt to Earnings Before Interest,

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<sup>33/</sup> S&P updated its 2008 credit metric guidelines in 2009, and incorporated utility metric benchmarks with the general corporate rating metrics. *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

1 Taxes, Depreciation and Amortization (“EBITDA”); and (2) Funds From Operations  
2 (“FFO”) to Total Debt.<sup>34/</sup>

3 **Q. HOW DID YOU APPLY S&P’S FINANCIAL RATIOS TO TEST THE**  
4 **REASONABLENESS OF YOUR RATE OF RETURN**  
5 **RECOMMENDATIONS?**

6 **A.** I calculated each of S&P’s financial ratios based on PSE’s cost of service for its retail  
7 jurisdictional operations. While S&P would normally look at total consolidated PSE  
8 financial ratios in its credit review process, my investigation in this proceeding is not  
9 the same as S&P’s. I am attempting to judge the reasonableness of my proposed cost  
10 of capital for rate-setting in PSE’s retail regulated utility operations in Washington.  
11 Hence, I am attempting to determine whether my proposed rate of return will in turn  
12 support cash flow metrics, balance sheet strength, and earnings that will support an  
13 investment grade bond rating and PSE’s financial integrity.

14 **Q. DID YOU INCLUDE ANY OFF-BALANCE SHEET DEBT EQUIVALENTS?**

15 **A.** Yes. As shown on page 3 of my Exhibit No.\_\_(MPG-42), I included \$284 million of  
16 off-balance sheet debt equivalents including PPAs and operating leases and their  
17 associated interest and depreciation expenses. I did not include some of the off-  
18 balance sheet debt equivalents that S&P includes in its credit rating review. Certain  
19 off-balance sheet debt equivalents, such as pension and other post-employment  
20 benefits (“OPEB”) accrued interest expense, were excluded from my jurisdictional  
21 metric study because these items are controllable by utility management or do not  
22 relate to regulated cost of service.

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<sup>34/</sup> *Standard & Poor’s RatingsDirect*: “Criteria: Corporate Methodology,” November 19, 2013.



1 **Q. PLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS**  
2 **FOR PSE'S ELECTRIC RETAIL OPERATIONS.**

3 **A.** The S&P financial metric calculations for PSE at a 9.30% return are developed on  
4 Exhibit No.\_\_(MPG-42), page 1.

5 PSE's adjusted total debt ratio is approximately 53.4%. This adjusted total  
6 debt ratio will support an investment grade bond rating.

7 Based on an equity return of 9.30%, PSE will be provided an opportunity to  
8 produce a debt to EBITDA ratio of 2.67x. This is within S&P's "Intermediate"  
9 guideline range of 2.5x to 3.5x.<sup>35/</sup> This ratio also supports an investment grade credit  
10 rating.

11 PSE's retail operations FFO to total debt coverage at a 9.30% equity return is  
12 30%, which is within S&P's "Intermediate" metric guideline range of 23% to 35%.  
13 This FFO/total debt ratio will support an investment grade bond rating.

14 At my recommended return on equity of 9.30% and my recommended  
15 embedded debt cost and capital structure, PSE's financial credit metrics are supportive  
16 of its investment grade utility bond rating.

17 **III. RESPONSE TO DR. MORIN**

18 **Q. WHAT RATE OF RETURN ON COMMON EQUITY IS PSE REQUESTING**  
19 **IN THIS PROCEEDING?**

20 **A.** PSE is requesting a return on common equity of 9.80% based on the analysis and  
21 testimony sponsored by Dr. Roger Morin.

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<sup>35/</sup> *Id.*

1 **Q. PLEASE DESCRIBE HOW DR. MORIN DEVELOPED HIS RETURN ON**  
2 **EQUITY RANGE FOR PSE.**

3 **A.** Dr. Morin used a capital asset pricing model, an empirical capital asset pricing model,  
4 a risk premium study, and two discounted cash flow studies to support his return on  
5 equity estimate for PSE. Dr. Morin employed these models to two proxy groups  
6 including: (1) the Combination Electric and Gas Utilities for the first half of 2013;  
7 and (2) the first half of 2014.

8 Dr. Morin's estimated return on equity for PSE is shown below in Table 3  
9 under Columns 1 and 2. Under Column 3, I show adjustments to Dr. Morin's  
10 estimated return for PSE. These adjustments are described in more detail below.

**TABLE 3**

**Summary of Dr. Morin's ROE Estimates**

<u>Description</u>	<u>First Half of 2013</u>	<u>First Half of 2014</u>	<u>Adjusted 2013</u>	<u>Adjusted 2014</u>
	(1)	(2)	(3)	(4)
Traditional CAPM	9.8%	10.3%	8.7%	9.3%
Empirical CAPM	<u>10.3%</u>	<u>10.8%</u>	<u>8.7%</u>	<u>9.2%</u>
<b>Average CAPM</b>	<b>10.1%</b>	<b>10.6%</b>	<b>8.7%</b>	<b>9.3%</b>
Historical Risk Premium Electric	9.8%	10.5%	9.4%	9.6%
Allowed Risk Premium	<u>10.7%</u>	<u>11.0%</u>	<u>9.6%</u>	<u>9.7%</u>
Average Risk Premium	10.3%	10.8%	9.5%	9.7%
<u>Constant Growth DCF</u>				
Combination Electric and Gas Utilities (Value Line Growth)	9.8%	9.4%	<b>9.7%</b>	<b>9.4%</b>
Combination Electric and Gas Utilities (Yahoo Growth)	<u>10.1%</u>	<u>9.6%</u>	<b>9.4%</b>	<b>9.6%</b>
<b>Average Constant Growth DCF</b>	<b>10.0%</b>	<b>9.5%</b>	<b>9.5%</b>	<b>9.5%</b>
<u>Multi-Stage Growth DCF</u>				
Combination Electric and Gas Utilities (Value Line Growth)			<b>8.8%</b>	<b>8.8%</b>
Combination Electric and Gas Utilities (Yahoo Growth)			<b>8.9%</b>	<b>8.9%</b>
<b>Average Multi-Stage Growth DCF</b>			<b>8.8%</b>	<b>8.8%</b>
<b>Recommended ROE</b>	<b>9.8% - 10.7%</b>	<b>9.4% - 11.0%</b>		
<b>Adjusted ROE</b>			<b>9.3%</b>	<b>9.3%</b>

Source: Morin Direct Testimony at 64-65.

1 As described in more detail below, Dr. Morin's CAPM analyses are overstated  
2 because he uses a risk-free rate that is substantially in excess of the consensus of  
3 market outlooks for future Treasury securities, which is the proxy Dr. Morin relies on  
4 to measure a current risk-free rate. Further, his DCF analysis is overstated particularly  
5 for his 2013 study because he excludes proxy companies with low growth rates, but  
6 makes no consideration of proxy group companies with abnormally high growth rate

1 estimates. This may skew his DCF results. Simply relying on the median of Dr.  
2 Morin's 2013 results would show that a DCF return for his proxy group is in the 9.4%  
3 to 9.7% range. While I believe certain aspects of Dr. Morin's 2014 study overstate a  
4 fair return, I note that his DCF studies show a fair return on equity for PSE is no  
5 higher than approximately 9.5%.

6 I also am critical of Dr. Morin's use of an empirical CAPM ("ECAPM")  
7 because he is using *Value Line* adjusted betas in that methodology. ECAPM analysis  
8 was originally developed using unadjusted, or raw, beta estimates. Adjusting the  
9 *Value Line* adjusted betas to reflect their raw beta state results in the ECAPM study  
10 would produce a CAPM estimate using the ECAPM model that is approximately the  
11 same as the result using a traditional CAPM model.

12 With all these relatively minor adjustments to Dr. Morin's analysis, I conclude  
13 that his studies support a finding that PSE's current market cost of equity of 9.8%  
14 exceeds its current market cost of equity in both the first half of 2013 and currently.

15 **Q. PLEASE DESCRIBE DR. MORIN'S TRADITIONAL CAPM ANALYSIS.**

16 **A.** Dr. Morin developed CAPM return estimates of 9.80% for the first half of 2013, and  
17 10.30% for the second half of 2014. The inputs to his CAPM studies are shown below  
18 in Table 4.

**TABLE 4**

**Dr. Morin's CAPM**

<u>Description</u>	<u>First Half 2013</u>	<u>Second Half 2014</u>
Risk-Free	4.60%	5.00%
Market Risk Premium	7.20%	7.20%
Beta	<u>0.72</u>	<u>0.74</u>
CAPM	9.80%	10.30%

Sources: Exhibit No.\_\_\_\_(RAM-12) and Exhibit No.\_\_\_\_(RAM-13).

1 **Q. WHAT ISSUES DO YOU TAKE WITH DR. MORIN'S CAPM ANALYSIS?**

2 **A.** I have primarily two issues with Dr. Morin's projections. First, his risk-free rates of  
 3 5.00% in 2014 and 4.6% in 2013 significantly exceed independent market  
 4 participants' outlooks for Treasury bond yields at these time periods. Second, his  
 5 market risk premium is in part developed from an unreasonable market DCF study.

6 **Q. PLEASE DESCRIBE HOW DR. MORIN DEVELOPED HIS MARKET RISK**  
 7 **PREMIUM ESTIMATE.**

8 **A.** Dr. Morin's market risk premium estimates for his 2013 and 2014 studies are the  
 9 results of the average of a DCF return estimate of the S&P 500 (12.4%) minus his  
 10 risk-free rates of 4.6% and 5.0%, for market risk premium estimates of 7.8% and  
 11 7.4%, respectively. Second, he relied on the market risk premiums published by  
 12 Ibbotson of 6.6% (2013) and 7.0% (2014). Dr. Morin gave equal weight to his DCF  
 13 market risk premium estimate, and that published by Ibbotson. This produces a  
 14 market risk premium estimate of 2013 and 2014 of 7.2%.

1 **Q. DO YOU BELIEVE THAT DR. MORIN'S MARKET RISK PREMIUM**  
2 **ESTIMATES ARE REASONABLE?**

3 **A.** I take issue with the risk premium based on Dr. Morin's DCF return on the market.  
4 Dr. Morin's DCF return on the market reflects a growth rate that is too high to be a  
5 reasonable estimate of long-term sustainable growth, and therefore produces a DCF  
6 return on the market which is not reliable. In his market DCF, Dr. Morin relied on a  
7 constant growth rate of 11.70% for his 2013 DCF study and 10.1% for his 2014 DCF  
8 study. As described at length in my testimony above, these growth rates are excessive  
9 and not sustainable in perpetuity as the constant growth form of the DCF model  
10 requires. In fact, these growth estimates are more than double a reasonable outlook  
11 for sustainable expected growth.

12 **Q. HOW DID DR. MORIN DEVELOP HIS RISK-FREE RATE ESTIMATES?**

13 **A.** Dr. Morin developed his risk-free rate estimates for calendar year 2013 using *Global*  
14 *Insight, Value Line, and Consensus Economists, Inc.* At page 44 of his testimony, he  
15 outlines projected Treasury bond yields from 2014 to 2017 reflecting these sources.  
16 While he does not reference the sources, presumably these were the forecasts that  
17 were available the first half of 2013. Based on these outlooks, Dr. Morin states that  
18 the average forecast over the period 2015 through 2017 was 4.6%. This reflects a  
19 uniform outlook of around 4.3% for 2015, which reflects an increase from the 3.6%  
20 projection for 2014. The higher estimates largely reflect projections for 2016 and  
21 2017. Dr. Morin's Treasury bond yield exceeds the consensus of the projections he  
22 provided in his testimony.

23 For his 2014 risk-free rate projections, Dr. Morin relied on *Global Insight,*  
24 *Value Line,* the Congressional Budget Office, and *EIA Energy Outlook.* These

1 projections range from 3.9% in 2015 to 4.5% in 2016, to 4.9% in 2017. Based on this  
2 data, Dr. Morin selected a 5.0% risk-free rate. Noteworthy, is that 5.0% exceeds most  
3 of the analysts' growth rate projections cited by Dr. Morin in support of his risk-free  
4 rate projections, and simply does not reflect consensus analysts' projections.

5 **Q. DOES DR. MORIN USE CONSISTENT SOURCES AND METHODOLOGIES**  
6 **TO DEVELOP HIS RISK-FREE RATE ESTIMATE?**

7 **A.** No. As described above, Dr. Morin relied on different sources for his 2013 forecast  
8 and 2014 forecast, and his 2013 numbers seem to largely reflect what the consensus  
9 economists were actually projecting. However, in 2014, when consensus economists  
10 were projecting lower Treasury bond yields, Dr. Morin largely set aside those  
11 projections and relied on a risk-free rate that is much higher than that projected out  
12 through two years beyond the 2014 period (2015-2017).

13 **Q. IS THERE A MORE BALANCED AND EVEN-HANDED MEANS OF USING**  
14 **INDEPENDENT ECONOMISTS' PROJECTIONS TO PRODUCE A**  
15 **TREASURY BOND YIELD AS A RISK-FREE RATE PROXY FOR USE IN A**  
16 **CAPM STUDY?**

17 **A.** Yes. As described above, while Dr. Morin cites sources for his Treasury bond yield  
18 projections that use a risk-free rate proxy, he largely used his own judgment in  
19 producing his estimate of a risk-free rate. I believe a more balanced methodology is  
20 simply to use a source of a consensus publication of consensus economists' projected  
21 future Treasury bond outlooks. Use of this data is not subject to manipulation and  
22 opinion, as is Dr. Morin's methodology, and can be used and verified in a more  
23 reasonable and transparent way.

24 **Q. WHAT ISSUES DO YOU HAVE WITH DR. MORIN'S RISK-FREE RATES?**

25 **A.** Dr. Morin used a projected risk-free rate of 4.6% for 2013, and 5.0% for his 2014  
26 study.

1 Each of Dr. Morin's projected risk-free rates are well in excess of the  
 2 consensus economists projected 30-year Treasury bond yield as published in *The Blue*  
 3 *Chip Financial Forecasts*.

4 As shown below in Table 5, the consensus economists' projections for 30-year  
 5 Treasury bonds in 2013 ranged from 3.7% to 4.2% at the beginning, middle and end of  
 6 year 2013. Further, for 2013, the consensus economists' projections for 30-year  
 7 Treasury bonds ranged from 3.4% to 4.3% through beginning to mid-year 2014. All  
 8 of these are projected Treasury bond yields two years out. Dr. Morin's use of a 4.6%  
 9 yield in 2013 exceeded consensus economists' outlooks for Treasury bond yields in  
 10 the range of 3.4% to 4.2%.

11 Dr. Morin's 5% projected Treasury bond yield in 2014 exceeded consensus  
 12 economists' outlooks of 4.4% to 4.1% by 70 to 90 basis points.

**TABLE 5**

**Blue Chip Projected Treasury Bond Yields**

<u>Description</u>	<u>Jan 2013</u>	<u>June 2013</u>	<u>Dec 2013</u>	<u>Jan 2014</u>	<u>June 2014</u>	<u>Nov 2014</u>
30-yr Treasury Yield	3.4%	3.7%	4.2%	4.4%	4.3%	4.1%
At Quarter	2nd/2014	3rd/2014	1st/2015	2nd/2015	3rd/2015	1st/2016

Source: *Blue Chip Financial Forecast*, January 1, 2013; June 1, 2013; December 1, 2013; January 1, 2014; June 1, 2014; and November 1, 2014.

13 For these reasons, Dr. Morin's projected outlook for a risk-free rate  
 14 considerably exceeds consensus economists' outlooks for interest rates that prevailed  
 15 in the marketplace in 2013 and 2014. Therefore, Dr. Morin's CAPM return estimates  
 16 are overstated.



1 **Q. HOW CAN THE CONSENSUS ECONOMISTS' PROJECTED TREASURY**  
2 **BOND YIELDS BE USED TO PRODUCE A TRANSPARENT AND**  
3 **INDEPENDENT OUTLOOK FOR A FUTURE RISK-FREE RATE IN A CAPM**  
4 **STUDY?**

5 **A.** The most independent and transparent way is to simply rely on the consensus analysts'  
6 projections as published at the time of the study. As shown in Table 5 above, around  
7 the first half of 2013, projected Treasury bond yields two years out range from 3.4% to  
8 3.7%. Conservatively, a Treasury bond yield of 3.7% reflects a consensus  
9 independent economists' outlook for future Treasury bond yields. Therefore, for a  
10 2013 CAPM study, a risk-free rate of 3.7% is conservative and reflects market  
11 participant outlooks.

12 Similarly, currently, independent economists are projecting Treasury bond  
13 yields of around 4.1%. As such, the November 2014 Treasury bond yield is the most  
14 reasonable Treasury bond yield to use as a risk-free rate for a 2014 CAPM study.

15 **Q. CAN DR. MORIN'S TRADITIONAL CAPM ANALYSIS BE CORRECTED TO**  
16 **PRODUCE MORE RELIABLE RESULTS?**

17 **A.** Yes. Correcting Dr. Morin's traditional 2014 CAPM analysis by using the published  
18 Ibbotson historical market risk premium of 7.0%, an estimated beta of 0.74, and using  
19 consensus economists' projected risk-free rate (30-year Treasury bond yield) of 4.1%,  
20 Dr. Morin's 2014 traditional CAPM study would produce a cost estimate of 9.3%.

21 Correcting Dr. Morin's traditional 2013 CAPM analysis also using a market  
22 risk premium of 7.0% and a risk-free rate of 3.7%, with Dr. Morin's 2013 beta  
23 estimate of 0.72, produces a CAPM return estimate of 8.7%.

1 **III.A. Empirical CAPM (ECAPM)**

2 **Q. PLEASE DESCRIBE DR. MORIN'S ECAPM ANALYSIS.**

3 **A.** The ECAPM analysis modifies the traditional CAPM equation by including a risk  
4 premium weighted by the utility beta, and the overall market beta of 1.0. The original  
5 ECAPM analysis was designed to use unadjusted regression betas. In Dr. Morin's  
6 ECAPM analysis, he adds two weighted risk premiums to a risk-free rate: a 75%  
7 weighted risk premium based on a 0.74 utility beta, and a 25% weighted risk premium  
8 based on a beta equal to the overall market beta of 1.0. The theory of the ECAPM is  
9 that a beta of less than 1.0 will increase toward the market beta of 1.0 over time, which  
10 is necessary because the risk of securities will be increasing over time.

11 **Q. WHAT ISSUES DO YOU TAKE WITH DR. MORIN'S ECAPM ANALYSIS?**

12 **A.** The ECAPM analysis should be rejected for several reasons. First, the practical result  
13 of Dr. Morin's ECAPM is that the CAPM return is based on a beta estimate of 0.81,<sup>36/</sup>  
14 instead of his actual *Value Line* utility beta of 0.74. The ECAPM analysis  
15 significantly overstates a utility company-specific risk premium for use in a risk  
16 premium analysis.

17 Second, the ECAPM produces the same mathematical adjustments to the result  
18 of a traditional CAPM return estimate as does the use of an adjusted *Value Line* beta  
19 relative to an unadjusted raw beta. Theoretical constructs of the ECAPM are based on  
20 a raw beta or unadjusted betas. Using a raw beta, the ECAPM will increase the  
21 CAPM return estimate when the raw betas are less than 1.0, and decrease the CAPM  
22 return estimate when the raw betas are greater than 1.0.

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<sup>36/</sup> Weighted at 75% utility proxy beta, plus the market beta of 1.0 weighted at 25%.

1            *Value Line*'s adjusted beta creates the same impact on a CAPM return estimate  
2 as the ECAPM. Specifically, *Value Line*'s beta adjustment when used in a traditional  
3 CAPM return estimate, will increase a CAPM return estimate when the beta is less  
4 than 1.0, and decrease the CAPM return estimate when the beta is greater than 1.0.  
5 Therefore, an ECAPM with a raw beta produces the same impact on the CAPM return  
6 estimate as does a traditional CAPM using an adjusted beta estimate. Importantly, I  
7 am not aware of any research, that was subjected to peer review, that supports Dr.  
8 Morin's proposed use of an adjusted beta in an ECAPM study. Therefore, Dr. Morin's  
9 proposal to use an "adjusted" beta in an ECAPM is not based on sound academic  
10 principles, is not supported by the academic community, and should be rejected.

11            Further, using an adjusted beta in an ECAPM analysis, as Dr. Morin proposes,  
12 double-counts the increase in the CAPM return estimates for betas less than 1.0, and  
13 correspondingly would decrease the CAPM return estimates for companies that have  
14 betas greater than 1.0. Since utility companies have betas less than 1.0, Dr. Morin's  
15 application of an ECAPM with adjusted beta estimates, overstates a CAPM return  
16 estimate for a utility company.

17            For all these reasons, Dr. Morin's ECAPM analysis should be rejected.

18 **Q. CAN DR. MORIN'S ECAPM ANALYSIS BE MODIFIED TO PRODUCE A**  
19 **MORE REASONABLE RESULT?**

20 **A.** The only acceptable method of producing a reasonable ECAPM result would be using  
21 raw beta estimates (i.e., unadjusted) rather than the *Value Line* "adjusted" beta  
22 estimates. *Value Line*'s adjusted beta estimates are produced using the equation of  
23 giving 35% weight to the market beta of 1, and 67% weight to the raw beta estimate.  
24 Using this estimate, *Value Line*'s raw beta estimate based on a proxy group adjusted

1 beta estimate of 0.74 would be 0.6. In Dr. Morin's 2013 ECAPM, using a raw beta  
2 estimate of 0.6, a risk-free estimate of 3.7% and market risk premium of 7.2%,  
3 produces an ECAPM of 8.74%. For his 2014 ECAPM, adjusting *Value Line's* raw  
4 beta estimate of 0.72, implies a raw beta estimate of 0.60. Using a raw beta estimate  
5 of 0.60, a risk-free rate of 4.2%, and a market risk premium of 7.2%, produces an  
6 ECAPM result of 9.24%.

7 However, those adjusted ECAPM results are still too high because they are  
8 based on Dr. Morin's overstated market risk premium of 7.2%.

### 9 **III.B. Historical Risk Premium**

#### 10 **Q. PLEASE DESCRIBE DR. MORIN'S HISTORICAL RISK PREMIUM.**

11 **A.** For his 2013 historical risk premium study, Dr. Morin estimates the actual achieved  
12 return on electric utility stocks relative to that of long-term Treasury bond securities  
13 over the period 1931 through 2012. This produced an achieved return on electric  
14 utility stocks above the achieved return on Treasury bonds of 5.2%.<sup>37/</sup> For his 2014  
15 historical risk premium study, Dr. Morin measured the achieved risk premium over the  
16 time period 1931 through 2013. This produced an achieved return on electric utility  
17 stocks above the achieved return on Treasury bonds of 5.5%.<sup>38/</sup>

18 Dr. Morin then adds the estimated electric equity risk premium of 5.2% to his  
19 projected yield on Treasury bonds of 4.6%, to arrive at a risk premium estimate of  
20 9.8% for his 2013 study. For his 2014 estimate, Dr. Morin adds his 5.5% risk  
21 premium to a projected Treasury yield of 5.0%, for a return estimate of 10.5%.<sup>39/</sup>

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<sup>37/</sup> Exhibit No.\_\_(RAM-8).

<sup>38/</sup> Exhibit No.\_\_(RAM-14).

<sup>39/</sup> Morin Direct Testimony (Exhibit No.\_\_(RAM-1T) at 64.

1 **Q. WHAT ISSUE DO YOU TAKE WITH DR. MORIN'S RISK PREMIUM?**

2 **A.** My main concern with Dr. Morin's analysis is his reliance on unrealistic and  
3 overstated projected Treasury bond yields. As described above, Dr. Morin's Treasury  
4 bond projections are substantially out of line with consensus economists' outlooks that  
5 are published by independent sources. I believe the consensus economists' published  
6 Treasury bond projections are far more reasonable estimates of consensus investor and  
7 market participants than are Dr. Morin's subjective projections.

8 **Q. HOW WOULD THE RISK PREMIUM METHODOLOGY USED BY DR.**  
9 **MORIN CHANGE IF IT IS UPDATED TO INCLUDE MORE REALISTIC**  
10 **TREASURY BOND YIELDS?**

11 **A.** Using more reasonable projected Treasury yields of 4.2% for his year-end 2013 study  
12 and 4.1% for his 2014 study, and adding them to his risk premiums of 5.2% and 5.5%  
13 produce cost estimates of 9.4% and 9.6%, respectively.

14 **III.C. Allowed Risk Premium**

15 **Q. PLEASE DESCRIBED DR. MORIN'S ALLOWED RISK PREMIUM.**

16 **A.** For his 2013 study, Dr. Morin measures the indicated risk premium of authorized  
17 electric returns over Treasury bond yields over the period 1986 through 2012. The  
18 average indicated risk premium that Dr. Morin calculates is 5.43%. For his 2014  
19 study, Dr. Morin attempts to capture the same indicated risk premium over the time  
20 period 1986 through 2013. That average indicated equity risk premium is 5.57%. For  
21 each of his analyses, Dr. Morin then performs a linear regression analysis in an  
22 attempt to capture a simple inverse relationship between interest rates and authorized  
23 electric return risk premiums. Dr. Morin then plugs in his projected Treasury bond  
24 yields of 4.6% for his 2013 study, and 5.0% for his 2014 study, in each of the

1            respective regression formulas to calculate a projected risk premium. The projected  
2            risk premium for his 2013 study is 6.1%. Adding the risk premium estimate of 6.1%  
3            to his projected 4.6% Treasury bond yield implies a cost of equity estimate of 10.7%.  
4            The regression formula for his 2014 study suggests a risk premium estimate of 6.0%.  
5            Adding this risk premium estimate of 6.0% to his projected long-term Treasury bond  
6            yield of 5.0% implies a cost of equity estimate of 11.0%.<sup>40/</sup>

7    **Q.    WHAT ISSUES DO YOU HAVE WITH DR. MORIN’S ALLOWED RISK**  
8    **PREMIUM ANALYSES?**

9    **A.**    My two main concerns with Dr. Morin’s allowed risk premium analysis are his  
10           continued reliance on unrealistic long-term Treasury bond yields and his use of a  
11           simple inverse relationship to estimate a risk premium.

12   **Q.    WHY IS DR. MORIN’S USE OF A SIMPLE INVERSE RELATIONSHIP**  
13   **BETWEEN INTEREST RATES AND EQUITY RISK PREMIUMS NOT**  
14   **REASONABLE?**

15   **A.**    Dr. Morin’s belief that there is a simplistic inverse relationship between equity risk  
16           premiums and interest rates is not supported by academic research. While academic  
17           studies have shown that, in the past, there has been an inverse relationship with these  
18           variables, researchers have found that the relationship changes over time and is  
19           influenced by changes in perception of the risk of bond investments relative to equity  
20           investments, and not simply changes to interest rates.<sup>41/</sup>

21                    In the 1980s, equity risk premiums were inversely related to interest rates, but  
22                    that was likely attributable to the interest rate volatility that existed at that time.

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<sup>40/</sup> Morin Direct Testimony (Exhibit No.\_\_\_\_(RAM-1T) at 63.

<sup>41/</sup> “The Market Risk Premium: Expectational Estimates Using Analysts’ Forecasts,” Robert S. Harris and Felicia C. Marston, *Journal of Applied Finance*, Volume 11, No. 1, 2001 and “The Risk Premium Approach to Measuring a Utility’s Cost of Equity,” Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985.

1 Interest rate volatility currently is much lower than it was in the 1980s.<sup>42/</sup> As such,  
2 when interest rates were more volatile, the relative perception of bond investment risk  
3 increased relative to the investment risk of equities. This changing investment risk  
4 perception caused changes in equity risk premiums.

5 In today's marketplace, interest rate variability is not as extreme as it was  
6 during the 1980s. Nevertheless, changes in the perceived risk of bond investments  
7 relative to equity investments still drive changes in equity premiums. However, a  
8 relative investment risk differential cannot be measured simply by observing changes  
9 to nominal interest rates. Changes in nominal interest rates are highly influenced by  
10 changes to inflation outlooks, which also change equity return expectations. As such,  
11 the relevant factor needed to explain changes in equity risk premiums is the relative  
12 changes to the risk of equity versus debt securities investments, not simply changes to  
13 interest rates.

14 Importantly, Dr. Morin's analysis simply ignores investment risk differentials.  
15 His projected equity risk premium is based exclusively on changes in nominal interest  
16 rates. This is a flawed methodology and does not produce accurate or reliable risk  
17 premium estimates. His results should be rejected by the Commission.

18 **Q. CAN DR. MORIN'S RISK PREMIUM ANALYSES BASED ON PROJECTED**  
19 **YIELDS BE MODIFIED TO PRODUCE MORE REASONABLE RESULTS?**

20 **A.** Yes. Eliminating the reliance on a regression formula to estimate the equity risk  
21 premium and relying on an updated consensus economists' projection of Treasury  
22 bond yield, of 4.1% will result in a return on equity risk premium cost estimate of  
23 9.67% for his 2014 study. Similarly, by using Dr. Morin's average allowed risk

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<sup>42/</sup> Morningstar SBBI, 2009 Yearbook at 95-96.

1 premium of 5.43% for his 2013 study and using consensus economists' Treasury yield  
2 projections at that time of 4.2% will produce a cost estimate of 9.63%.

3 **III.D. DCF Analyses**

4 **Q. PLEASE DESCRIBE DR. MORIN'S DCF ANALYSES.**

5 **A.** Dr. Morin performed a constant growth DCF analysis on: (1) Combination Electric  
6 and Gas Utilities during the first half of 2013; and (2) Combination Gas and Electric  
7 Utilities for the second half of 2014. Dr. Morin constructed two DCF analyses for  
8 each of the utility groups using a consensus analysts' growth rate projection from  
9 Yahoo! Finance for one DCF analysis and a second DCF analysis using *Value Line's*  
10 projected growth rate.

11 As shown on Exhibit No.\_\_(RAM-4) through Exhibit No.\_\_(RAM-5), he  
12 relied on growth rate estimates in the range of 5.31% to 5.50% for his 2013 study from  
13 both *Value Line* and Yahoo! Finance to produce a DCF cost of equity in the range of  
14 9.84% to 10.04%. His 2014 DCF studies are shown on his Exhibit No.\_\_(RAM-10)  
15 and Exhibit No.\_\_(RAM-11), where he relied on growth rates of 5.38% to 5.51% to  
16 produce a DCF estimate in the range of 9.43% to 9.57%.

17 **Q. PLEASE DESCRIBE THE ISSUES YOU TAKE WITH DR. MORIN'S DCF**  
18 **ANALYSES.**

19 **A.** There are several concerns with Dr. Morin's interpretation of his DCF results, and  
20 whether or not his results produce reliable estimates of PSE's current market cost of  
21 equity. First, Dr. Morin excludes negative growth rate estimates in his study, without  
22 also considering whether or not any growth rate outlooks reflect abnormally high and  
23 unsustainable levels. Second, Dr. Morin failed to provide any evaluation of whether  
24 or not the proxy group three- to five-year growth rate estimate is a reasonable estimate



1 of long-term sustainable growth. Based on what I provide below, I believe the  
2 non-constant growth DCF model will produce additional evidence to more accurately  
3 measure a reasonable and logical DCF return estimate for PSE in this case.

4 **Q. PLEASE DESCRIBE YOUR CONCERN ABOUT DR. MORIN ELIMINATING**  
5 **NEGATIVE GROWTH RATE ESTIMATES FROM COMPANIES IN HIS**  
6 **PROXY GROUP, WITHOUT ALSO POTENTIALLY ELIMINATING HIGH-**  
7 **END GROWTH RATE ESTIMATES.**

8 **A.** I agree with Dr. Morin that three- to five-year growth rates that are negative should be  
9 eliminated from the study. These growth rates clearly are not rational estimates of  
10 long-term growth outlooks by investors. A rational investor simply would not buy a  
11 stock if the outlook was for negative growth for that company into perpetuity. On the  
12 other hand, it is equally logical to believe that an investor would not buy a stock with a  
13 three- to five-year growth rate estimate that is far too high to be a rational estimate of  
14 long-term sustainable growth. Therefore, consideration should be made for  
15 irrationally low growth rate estimates, and irrationally high growth rate estimates. I  
16 recommend accomplishing a more detailed assessment of the results of Dr. Morin's  
17 DCF studies by considering both group mean estimates as measured by Dr. Morin, and  
18 also implementing a multi-stage growth DCF study.

19 **Q. WHAT DO THE PROXY GROUP MEAN RESULTS SUGGEST IS A FAIR**  
20 **RETURN ON EQUITY FOR PSE BASED ON DR. MORIN'S STUDIES?**

21 **A.** For his 2013 studies using *Value Line* and *Yahoo! Finance* growth rate estimates, as  
22 shown on my Exhibit No.\_\_\_\_(MPG-43), the proxy group mean results indicate a fair  
23 DCF return for PSE in the range of 9.67% to 9.58%. These median results indicate a  
24 fair return on equity of around 9.5% to 9.6%. Similarly, using his 2014 study, the  
25 group median results indicate a fair return on equity in the range of 9.44% to 9.71%.

1 Again, this supports a reasonable estimate of the DCF-required return for PSE in the  
2 range of 9.5% to 9.6%.

3 **Q. WHY ARE THE GROWTH RATE ESTIMATES USED IN DR. MORIN'S DCF**  
4 **STUDY NOT REASONABLE?**

5 **A.** Dr. Morin's average growth rates from *Value Line* and Yahoo fall in the range of  
6 5.31% to 5.51%. These growth rate estimates exceed the projected GDP growth rate of  
7 4.60% for the next five to 10 years. As explained in detail earlier in my testimony, the  
8 GDP growth rate can be used as a proxy for long-term sustainable growth rate because  
9 it represents the maximum growth rate of the U.S. economy. The growth rate  
10 estimates used in Dr. Morin's DCF study exceed the projected GDP growth rate of  
11 4.60% by 70-90 basis points, and inflate the DCF return on equity results for PSE.

12 **Q. CAN DR. MORIN'S DCF MODEL BE MODIFIED TO REFLECT MORE**  
13 **REASONABLE GROWTH RATE ESTIMATES?**

14 **A.** Yes. Explained at length in my testimony above, a utility cannot grow at a faster rate  
15 than the economy in which it provides goods and services. Hence, Dr. Morin's growth  
16 rates are not sustainable indefinitely as required by the constant growth DCF model.  
17 Therefore, the relatively high short-term growth outlooks for security analysts can be  
18 included in a multi-stage DCF analysis to produce a more reasonable and sustainable  
19 long-term growth outlook.

20 Using Dr. Morin's dividend and growth rates as an initial growth period for  
21 five years, transitioning towards the GDP growth rate for six to 10, and growing  
22 indefinitely at the GDP growth rate of 4.6% starting in year 11, results in a average  
23 cost of equity estimate of 8.81% for his *Value Line* growth rates and 8.86% for his  
24 Yahoo growth rates for his 2014 study.

1           This multi-stage growth DCF analysis should be used to gauge the accuracy of  
2           Dr. Morin's constant growth DCF model. Because the growth rates included in his  
3           model reflect three- to five-year projections, and are not reasonable estimates of long-  
4           term sustainable growth, additional data is necessary in order to produce a reliable  
5           DCF return estimate. Using Dr. Morin's data, and a multi-stage growth DCF analysis  
6           with a rational estimate of long-term sustainable growth, expands Dr. Morin's DCF  
7           study to produce a more reasonable range of DCF return estimates that more  
8           accurately measure PSE's cost of common equity.

9    **IV. DECOUPLING MECHANISM RETURN ON EQUITY IMPACTS**

10 **Q. DID PSE OFFER TESTIMONY OUTLINING THE IMPACT ON COST OF**  
11 **CAPITAL BY VIRTUE OF ADOPTING A DECOUPLING MECHANISM?**

12 **A.** Yes. PSE offered testimony by Dr. Michael Vilbert describing decoupling  
13 mechanisms, and describing his belief why these mechanisms do not impact PSE's  
14 cost of capital. Further, Dr. Vilbert offers an analysis which suggests that Dr. Morin's  
15 proxy group of companies used to measure PSE's cost of capital, includes publically  
16 traded companies whose utility affiliates largely have forms of decoupling  
17 mechanisms.

18 **Q. DOES DR. VILBERT DISPUTE THE FACT THAT CREDIT RATING**  
19 **AGENCIES HAVE FOUND THAT DECOUPLING MECHANISMS**  
20 **STABILIZE A UTILITY'S CASH FLOW AND SUPPORT A STRONG**  
21 **CREDIT RATING?**

22 **A.** No. Indeed, he finds that credit ratings represent the credit rating agency's estimate of  
23 the probability that an investor in a company's debt will receive the promised interest  
24 and principal payments. He believes that debt holders benefit from decoupling and

1 other such regulatory mechanisms because the volatility of a utility's revenues is  
2 decreased, which reduces the probability of default.<sup>43/</sup>

3 This is clearly the case for PSE. Following the Commission's order in a credit  
4 report dated July 2014, Moody's positively noted the credit aspects of PSE's recently  
5 awarded regulatory mechanisms. There, Moody's stated that PSE has:

- 6 • Low risk regulated electric and gas utility operations in  
7 supportive regulatory environment, a credit positive
- 8 • Improved cost recovery provisions and financial metrics
- 9 • High dividend payout constrains rating
- 10 • Ring-fence type provisions help mitigate utility from highly  
11 levered parent company<sup>44/</sup>

12 More specifically Moody's stated the following concerning PSE's credit  
13 rating:

14 REGULATORY ENVIRONMENT AND COST RECOVERY  
15 PROVISIONS IMPROVING, BUT A DEGREE OF UNCERTAINTY  
16 REMAINS

17 PSE's most recent rate order, which included the WUTC approval of a  
18 \$30.9 million increase in electric rates and a \$2.0 million reduction in  
19 natural gas rates, the allowance of a decoupling of electric and natural  
20 gas rates (described below), and a series of predetermined annual  
21 delivery rate increases (i.e., 3% applied to electric delivery costs and  
22 2.2% applied to natural gas delivery costs), is viewed favorably from a  
23 credit perspective. We regard the various features of the rate case  
24 outcome as credit supportive in that they reduce regulatory lag (i.e., the  
25 time between costs being incurred and recovered in rates) since the rate  
26 design is more forward looking and provides clarity to the future  
27 financial performance of the company.

28 The decoupling mechanism is credit supportive in that it allows PSE to  
29 defer the difference between its Allowed Delivery Revenue and Actual

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<sup>43/</sup> Vilbert Direct Testimony (Exhibit No.\_\_(MJV-1T) at 15.

<sup>44/</sup> *Moody's Investors Service*: "Credit Opinion: Puget Sound Energy, Inc.," July 31, 2014, included in Attachment B to PSE's response to ICNU Data Request No. 02.01, emphasis added.

1 Delivery Revenue received through its tariff rates to cover delivery  
2 costs. The resulting accumulated deferred balances are trued-up  
3 annually through a surcharge or credit to customers' bills, subject to  
4 certain limitations. The decoupling mechanism includes a 3% "soft-  
5 cap" on rates. If the calculated rate adjustment exceeds 3% in a year,  
6 the amount in excess would carry over as a deferred balance and will be  
7 recoverable in the subsequent rate period subject to the same limits on  
8 potential rate increases. This mechanism helps PSE to have greater  
9 assurance in recovering fixed costs, even in a declining sales volume  
10 environment.<sup>45/</sup>

11 As clearly described by Moody's, improved regulatory mechanisms provide  
12 PSE greater assurance of recovering its costs even in a declining sales volume  
13 environment.

14 **Q. DOES DR. VILBERT EXPLAIN WHY HE BELIEVES A DECOUPLING**  
15 **MECHANISM WOULD BE APPROPRIATE AND REASONABLE IF IT DID**  
16 **NOT POSITIVELY IMPACT THE UTILITY'S COST OF CAPITAL?**

17 **A.** Yes, he believes it is important to keep in mind that decoupling is used to address  
18 incentives for regulated companies to pursue the regulatory policy goal of energy  
19 conservation. He believes a decoupling mechanism removes incentives for utility  
20 companies to pursue energy efficiency and conservation.<sup>46/</sup>

21 **Q. DOES THE FACT THAT CREDIT RATING AGENCIES VIEW**  
22 **DECOUPLING MECHANISMS POSITIVELY SUPPORT THE FINDING**  
23 **THAT DECOUPLING DOES REDUCE A UTILITY'S COST OF CAPITAL?**

24 **A.** Yes. Dr. Vilbert acknowledges that decoupling mechanisms remove the risk of full  
25 cost recovery from utilities if sales do not meet forecasted levels. Hence, utilities are  
26 more likely to fully recover their revenue requirements through approved regulatory  
27 mechanisms. The regulatory mechanisms that enhance utilities' ability to fully  
28 recover their revenue requirements come at a cost to customers. Decoupling  
29 mechanisms can result in customers receiving increased charges in order to allow the

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<sup>45/</sup> *Id.*

<sup>46/</sup> *Id.*

1 utility to fully recover its revenue requirement. Increasing charges to customers can  
2 limit their ability to meet their own budgets, produces strong customer credit metrics  
3 for businesses and households, and can increase their cost of doing business or impact  
4 their family budgets. In other words, decoupling mechanisms shift sales risk of fully  
5 recovering a utility's revenue requirement from utility investors to utility customers.

6 **Q. IS THERE A FINANCIAL PRINCIPLE THAT DESCRIBES HOW A SHIFT IN**  
7 **RISK SHOULD BE IMPACTED BETWEEN TWO COUNTER-PARTIES?**

8 **A.** Yes. Generally, the stakeholder that is most able to manage the risk should take the  
9 risk, and be compensated for taking the risk. PSE's decoupling mechanism shifts sales  
10 risk from investors to customers. Therefore, customers should be compensated for  
11 taking the sales risk. Customers can be compensated for taking sales risk by reducing  
12 the utility's rate of return or revenue requirement, and lower retail rates.

13           Conversely, investors who assume less risk of full recovery of their revenue  
14 requirement should receive less compensation in the form of reduced rate of return.  
15 This is a balanced and fair principle.

16 **Q. HOW DOES DR. VILBERT ADDRESS THE IMPACT ON A UTILITY'S**  
17 **COST OF COMMON EQUITY CAPITAL FOR THE IMPLEMENTATION OF**  
18 **DECOUPLING?**

19 **A.** At pages 9 and 10 of his testimony, he cites various theoretical explanations for why  
20 decoupling would not reduce a utility's cost of equity. Those include the following:

- 21 1. He states that expected return on capital is based on market risk, not book value  
22 risk. He states that changes in market prices are not related to the volatility of  
23 revenue and cash flow in the utility's accounting statements. He states that  
24 decoupling does not impact directly the market return on stocks. Therefore,  
25 decoupling mechanisms do not impact a utility's cost of capital.

1 2. He states that typically an investor will be compensated for systematic risk, not  
2 unsystematic risk. Systematic risk is a market risk that reflects the level of risk  
3 that cannot be diversified if the stock is held in a diversified portfolio.  
4 Unsystematic risk reflects company-specific risk, which can be diversified by  
5 holding a security in a diversified portfolio. Since non-systematic risks are not  
6 compensated in a market return, he believes decoupling mechanisms do not impact  
7 the systematic risk of a stock.

8 3. He states that decoupling mechanisms typically are implemented in recognition of  
9 other regulatory mechanisms or circumstances. Therefore, one cannot view the  
10 impact on a utility's risk by simply considering the implementation of a  
11 decoupling mechanism. Rather, he seems to imply, although it is not clear, that a  
12 total assessment of investment risk is necessary, not simply looking at the  
13 piecemeal impact of implementing a decoupling mechanism.

14 **Q. PLEASE RESPOND TO DR. VILBERT'S ASSESSMENT OF THE**  
15 **THEORETICAL BASIS UPON WHICH HE CONCLUDES THAT**  
16 **DECOUPLING WILL NOT IMPACT A UTILITY'S COST OF CAPITAL.**

17 **A.** I will respond to each of his arguments separately. His first argument deals with the  
18 cost of capital being related to market returns, not returns on book equity. While I  
19 agree that the volatility of stock prices is the primary factor in measuring investment  
20 risk, I do not agree that decoupling mechanisms cannot impact market stock price  
21 volatility. A utility's earnings and cash flows impact its dividend payments and  
22 growth in dividends. Strengthening a utility's ability to pay and grow its dividends  
23 will impact its stock price. More stable earnings and dividends can mitigate the

1 dividend payment risk which can mitigate stock price volatility and hence, the  
2 required return on the stock.

3 When an investor buys a stock, he is buying a pro rata share of the company's  
4 future earnings and cash flows. To the extent those earnings and cash flows are more  
5 stable and predictable with a decoupling mechanism, then the valuation of those future  
6 earnings and cash flows that are encapsulated in the publically traded stock price, will  
7 be more stable and less risky. Also, a company that has a stronger and "Stable" credit  
8 rating will be perceived as lower risk, and the cost of capital will be lower, thus  
9 supporting a higher market price for the stock relative to other companies with weaker  
10 credit and greater uncertainty of future earnings and cash flows.

11 As such, there is a direct connection between the volatility of a utility's  
12 revenues, earnings and cash flows and the valuation of its stock price. While the book  
13 values of revenues, earnings and cash flows do not directly drive stock prices, they do  
14 drive cash flow metrics which in turn drive stock value, and investors' required  
15 returns. Therefore, regulatory mechanisms that stabilize revenues, earnings and cash  
16 flows reduce risk, and justify a lower return on equity.

17 Dr. Vilbert's next point is that market investors typically are only compensated  
18 for systematic risk which does not include the volatility of a company's stock  
19 revenues, earnings and cash flows. Those risks are related to unsystematic factors,  
20 which are not included theoretically in the market-required return. I do not dispute the  
21 theoretical basis of this argument. This measurement of systematic risk is how the  
22 CAPM is based. The underpinning of the systematic risk arguments is that a  
23 non-systematic risk of a company can be diversified away if that stock is held in a



1 diversified portfolio of securities. However, the theoretical makeup of this model is  
2 not particularly in line with the legal mandate of measuring a fair return on equity  
3 which states that the subject companies' return on equity should be comparable to  
4 other companies of comparable risk. The *Hope* and *Bluefield* decisions did not allow  
5 for a reduced return on equity if company-specific risk can be diversified away if that  
6 stock is held in a diversified portfolio. As such, from a practical point of view, a fair  
7 and reasonable return on equity must consider the stability and predictability of a  
8 utility's earnings, dividends and cash flows in assessing the investment risk of the  
9 enterprise.

10 Dr. Vilbert's third argument deals with whether or not a decoupling  
11 mechanism is implemented in response to other factors that require such a measure.  
12 The difficulty here is whether or not the other factors are already included in the risk  
13 assessment of the company, and the decoupling mechanism simply offsets the  
14 increased risk that is already observable in utility risk factors. This is almost a chicken  
15 and egg scenario. Do the current risks before the decoupling mechanism reflect these  
16 other regulatory mechanisms or factors which justify the decoupling mechanism? And  
17 if so, does the decoupling mechanism offset those risk factors in order to stabilize the  
18 utility's revenues, earnings and cash flows?

19 **Q. DR. VILBERT CONCLUDES THAT MANY OF THE PROXY COMPANIES**  
20 **INCLUDED IN DR. MORIN'S PROXY GROUP ALREADY INCLUDE SOME**  
21 **FORM OF DECOUPLING MECHANISMS. PLEASE COMMENT.**

22 **A.** The fact that Dr. Morin's proxy group includes companies that include some form of  
23 decoupling mechanisms makes it imperative that the Commission give strong  
24 consideration to reasonable DCF and CAPM return estimates for this proxy group of  
25 companies in this case. There is no evidence that the 9.8% awarded previously

1 included a proxy group with these current risk attributes. If PSE's investment risk is  
2 comparable to that proxy group, and the proxy group includes companies with  
3 decoupling mechanisms, then PSE's authorized return on equity should be reasonably  
4 close to the current cost of equity measured from the proxy group. As described  
5 above, reasonable estimates of the market cost of equity for this proxy group fall in the  
6 range of 9.0% to 9.6%. PSE's current authorized return of 9.8% does not reflect the  
7 risk of the proxy group, and does not reflect the current market cost of capital for  
8 companies with regulatory mechanisms that mitigate investment risk, and therefore the  
9 Commission should reduce PSE's authorized return on equity in this proceeding.

10 **Q. DOES THIS CONCLUDE YOUR RESPONSE TESTIMONY?**

11 **A.** Yes, it does.

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