[Service Date June 29, 2015]

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of	)	DOCKETS UE-121697
	)	and UG-121705 (*consolidated)*
PUGET SOUND ENERGY,	)	
and NORTHWEST ENERGY	)	ORDER 15
COALITION	)	
	)	FINAL ORDER ON REMAND
For an Order Authorizing PSE To	)	
Implement Electric and Natural Gas	)	
Decoupling Mechanisms and To Record	)	
Accounting Entries Associated With the	)	
Mechanisms	)	
	)	
	)	
. . . . .	)	
	)	
WASHINGTON UTILITIES AND	)	DOCKETS UE-130137
TRANSPORTATION COMMISSION,	)	and UG-130138 *(consolidated)*
	)	
Complainant,	)	ORDER 14
	)	
v.	)	FINAL ORDER ON REMAND
	)	
PUGET SOUND ENERGY,	)	
	)	
Respondent.	)	
	)	
	)	
. . . . .	)	

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SUMMARY

1 **PROCEEDINGS.** On October 25, 2012, Puget Sound Energy (PSE or the Company) and the Northwest Energy Coalition (NWEC) filed a joint petition in Dockets UE-121697 and UG-121705 (*consolidated*) seeking approval from the Washington Utilities and Transportation Commission (Commission) of revenue decoupling mechanisms for the company's electric and natural gas operations. PSE and NWEC filed an Amended Petition for Decoupling Mechanisms (Amended Decoupling Petition) on March 4, 2013.

2 The Amended Decoupling Petition called for the implementation of electric and natural gas revenue decoupling mechanisms, with a baseline revenue per customer to be derived from the results of an expedited rate filing (ERF) proceeding filed in Dockets UE-130137 and UG-130138 (*consolidated*), on February 3, 2013. The Amended Decoupling Petition also called for a rate plan that allowed modest annual increases in rates but established a multi-year stay-out term for general rate case filings proposed to continue through at least March 2016 and possibly through March 2017. The Commission determined that the Amended Decoupling Petition and ERF dockets should not be consolidated, but elected to conduct joint proceedings to promote efficient resolution of overlapping issues. The Commission held an evidentiary hearing on May 16, 2013, and held a public comment hearing the same evening, in Olympia, Washington. The parties filed post-hearing briefs on May 30, 2013.

3 On June 25, 2013, the Commission entered joint Order 07 in the two proceedings recognizing their overlapping concerns due to the proposed use of ERF rates as baseline rates for decoupling and the overarching nature of the rate plan.[1] Order 07,

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[1] *In the Matter of the Petition of Puget Sound Energy and NW Energy Coalition For an Order Authorizing PSE to Implement Electric and Natural Gas Decoupling Mechanisms and to Record Accounting Entries Associated with the Mechanisms*, Dockets UE-121697 and UG-121705 (consolidated) (Decoupling) and *Washington Utilities and Transportation Commission v. Puget Sound Energy*, Dockets UE-130137 and UG-130138 (consolidated) (ERF), Order 07 - Final Order Granting Decoupling Petition and Final Order Authorizing ERF Rates (June 25, 2013) (Order 07).

Order 07 includes a separate statement by Commissioner Jones in which he stated his belief that:

> [I]t is only fair and reasonable to include an ROE reduction when adopting the Company's [ERF, Decoupling, and rate plan] proposals. To account for the risk impact of decoupling and market conditions, I would adjust the Company's

however, addresses the largely discrete issues raised by the ERF, the Amended Decoupling Petition, and the rate plan proposal as separate matters.[2]

4 The Industrial Customers of Northwest Utilities (ICNU) and the Public Counsel Unit of the Washington State Attorney General's Office (Public Counsel) filed Petitions for Judicial Review of Order 07. They argued that the Commission erred by not updating PSE's cost of capital, and specifically its return on equity (ROE), to consider the current market-based cost of capital as of 2013. ICNU argued, in addition, that "the majority decision also improperly declines to adjust PSE's ROE in the face of the decoupling and rate plan mechanisms."[3]

5 The Thurston County Superior Court entered its order in Case Nos. 13-2-01576-2 and 13-2-01582-7 *(consolidated)* on July 25, 2014, Granting in Part and Denying in Part Petitions for Judicial Review. The Court remanded this case to the Commission "for further adjudication," finding the ERF to be flawed procedurally because the Commission did not comprehensively review PSE's market cost of equity as of early 2013 in the context of the multi-year rate plan. The Court did not expressly remand the question whether the Commission improperly declined to adjust PSE's ROE in the face of the decoupling and rate plan mechanisms," as INCU and Public Counsel argued.[4] However, by framing its order contextually the Court made sufficiently clear its intention that the Commission should consider the overall framework of the actions it took in Order 07 when determining on remand the Company's ROE as of early 2013.

6 The Commission, in this Order, addresses the Court's direction that we receive additional market-based evidence on the ROE question, evaluate this evidence considering the context of the joint proceedings, and decide what ROE the record supports. Following its usual approach to ROE determinations in general rate case proceedings, the Commission must first determine a "zone of reasonableness" or

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return on equity by 30 basis points, or 9.5% for ROE, which is higher than the recommendations of Gorman and Hill.

Order 07 at 99 (Commissioner Jones' Separate Statement ¶ 10).

[2] Order 07 discusses and determines the ERF dockets at ¶¶ 33-80, the Amended Decoupling Petition at ¶¶ 81-136, and the Rate Plan at ¶¶ 137-173.

[3] ICNU Petition for Judicial Review ¶ 21. *See also* Public Counsel Petition for Judicial Review at 7:5-15, 9:9-15, 18:1-4.

[4] *See id.*

reasonable range of ROE outcomes. The Commission then must consider factors that bear on the determination of a point value for ROE within that range, including its approval of decoupling and a multi-year rate plan.

7 **PARTY REPRESENTATIVES.** The parties that elected to participate actively on remand are represented as follows:[5]

- Sheree Strom Carson and Jason Kuzma, Perkins Coie, Bellevue, Washington, for Puget Sound Energy.
- Jennifer Cameron-Rulkowski, Assistant Attorney General, Olympia, Washington, for the Commission's regulatory staff.
- Simon ffitch, Senior Assistant Attorney General, Seattle, Washington, for the Public Counsel Unit of the Washington Office of Attorney General.
- Melinda J. Davison and Tyler C. Pepple, Davison Van Cleve, Portland, Oregon, for the Industrial Customers of Northwest Utilities.

8 **COMMISSION DETERMINATION.** The Commission determines that the range of reasonable returns on equity for PSE as of early 2013 was from 9.3 percent to 10.0 percent, with a mid-point of 9.7 percent. To determine a point value within this range, the Commission takes into account additional factors, including:

- Decoupling, which reduces the Company's risk of recovering approximately one-third of its fixed costs (*i.e.*, fixed costs of the Company's electric and natural gas delivery systems that are not otherwise recovered in rates through its fixed charges (*e.g.*, basic charges).[6]
- The terms of the rate plan that bar PSE from filing general rate cases for a period of years and establish escalation factors that are below the Company's historical growth in expenses, as reflected in past general rate cases. These factors mean PSE must operate more

[5] The full list of party representatives that participated in the prior proceedings that led to Order 07 are identified in ¶¶ 11-12 of that order.

[6] PSE's electric delivery revenue subject to decoupling for the test year ended June 30, 2012 was approximately $500 million. Exh. No. JAP-18 at 2:6; *see also* Hill, TR. 632:11-25. This is approximately 31 percent of electric net revenues of approximately $1.6 billion for 2012. *See* Hill, Exh. No. SGH-26CX at 1 (showing Electric Net Revenues in 2012 of $1.580 million).

efficiently and keep its costs down if it is to earn its authorized rate of return.

- The rate plan earnings sharing mechanism that the Commission conditioned by requiring PSE to share 50/50 with customers any earnings above the Company's authorized overall rate of return. Customers do not share any portion of the costs to PSE of earnings that are less than authorized.

- PSE's commitment to accelerate its conservation achievements. Customers benefit from PSE's enhanced commitment to conservation and energy efficiency, a least cost resource, and this also promotes the public interest.

Weighing these factors, the Commission determines that the record below, as enhanced by the record developed on remand, best supports an ROE of 9.8 percent for PSE as of early 2013.

MEMORANDUM

A. Background and Procedural History

9 The Commission entered Order 07, its Final Order in these joint proceedings, on June 25, 2013. Order 07 approved several innovative ratemaking mechanisms to address the Commission's policy goal of breaking the pattern of almost continuous rate cases for PSE. These mechanisms included:

- An Expedited Rate Filing (ERF) process to implement a $31.9 million (1.6 percent) electric delivery revenue increase and a $1.2 million (0.1 percent) gas delivery revenue reduction.[7] The limited purpose of the filing was to update PSE's delivery services costs established in May 2012 in Dockets UE-111048 and UG-111049.[8]

- Approval of a joint petition by PSE and the NWEC seeking authority to implement full decoupling of electric and natural gas rates.

[7] These amounts were subsequently revised to $31,138,511 for electric and $1,717,826 for natural gas to adjust for lower long-term debt costs.

[8] *WUTC v. Puget Sound Energy, Inc.*, Dockets UE-111048 and UG-111049 (*consolidated*), Order 08 (May 7, 2012) (2011/2012 PSE GRC Order).

- Approval of a rate plan that allows for modest annual increases in PSE's rates while requiring that the Company not file a general rate increase before April 1, 2015 at the earliest. Under the rate plan, however, PSE must file a GRC by April 1, 2016, at the latest.

10 The rates proposed in the ERF were developed consistent with a proposal by Staff in PSE's 2011/2012 GRC. The Commission described Staff's proposal as one allowing for:

> An expedited form of general rate relief using a simple and straight-forward process to update the test period relationships between rate base and net operating income. The process would utilize the type of financial information required by Commission basis reports[,] would contain only restating adjustments, such as temperature normalization[, and] PSE would not be allowed to request a change in rate of return, except to update debt costs.[9]

PSE based its ERF on a test year ended June 30, 2012, as reflected in a modified Commission basis report (CBR) PSE prepared specifically for the purpose of the update. The CBR included only restating adjustments to certain delivery services costs, and excluded power costs and property taxes. The rate changes were premised upon PSE's then-authorized 9.8 percent return on equity, representing 48 percent equity in PSE's capital structure and a 7.77 percent overall return, as approved by the Commission in the 2011/2012 GRC and adjusted only to reflect updated long-term debt costs.[10] The CBR used end-of-test-year rate bases valued at $2.622 billion (electric delivery only) and $1.592 billion (gas delivery only).

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[9] *Id.* ¶ 496.

[10] Commissioner Jones, in the first paragraph of his dissent, mischaracterizes in two important ways the Commission's decision in Order 07 to retain PSE's ROE as determined in the Company's 2011/2012 GRC. First, as noted at length in Order 07, ¶ 57 note 72, the concept of an ERF outlined by Staff testimony in PSE's 2011/2012 GRC, which the Commission endorsed in principle, expressly envisioned that PSE would not be allowed to request a change in rate of return, except to update debt costs. This is why there was no "traditional evidence" on cost of capital generally, or ROE specifically, presented by PSE and other parties, except for ICNU. Thus, in this sense, the decision to retain PSE's ROE from the 2011/2012 GRC resulted directly from the Commission's adoption of the ERF mechanism as Staff proposed it. Since the ERF established baseline rates for decoupling and the rate plan, the decision to retain the 9.8 percent ROE had an impact on the operation of those mechanisms, but the Commission's approval of decoupling and the rate plan did not influence the Commission's decision to retain the 9.8 percent

11 ICNU and the Public Counsel filed Petitions for Judicial Review. They argued that the Commission erred by not updating PSE's cost of capital, and specifically its ROE, to consider the current market-based cost of capital as of early 2013. In addition, ICNU argued, "the majority decision also improperly declines to adjust PSE's ROE in the face of the decoupling and rate plan mechanisms."[11]

12 The Court held that "the Commission acted within its discretion when it dispensed with a general rate filing case" and opted for an "alternative expedited rate filing" form of ratemaking. The Court, however, determined the ERF to be flawed procedurally because the Commission did not comprehensively review PSE's market cost of equity as of early 2013, relying instead on the 9.8 percent ROE approved in the Company's 2011/2012 GRC. The Court reversed Order 07 "because the Commission's findings of fact with respect to the return on equity component of Puget Sound Energy, Inc.'s cost of capital in the context of a multi-year rate plan are

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ROE. Commissioner Jones also refers to "resolution of another matter related to coal-fired generation" as part of the Commission's rationale for retaining the 9.8 percent ROE from the prior GRC. This is a transparent reference to a case in a separate docket that certain parties tried unsuccessfully to tie to the ERF and Decoupling dockets. The Commission rejected this idea concluding that:

> [I]t is appropriate to evaluate the individual outcomes proposed by the Multiparty Settlement only to the extent the various positions are supported by an appropriate record in the proceedings to which they pertain, and on an equal basis with the alternative outcomes urged by other parties. *The Commission ultimately must decide each issue in the three matters encompassed by these five dockets based exclusively on the evidence in their separate records* considered in light of the parties' advocacy in these separate proceedings. This we do by separate orders entered simultaneously with this Order.

In the Matter of the Petition of Puget Sound Energy, Inc., for Approval of a Power Purchase Agreement for Acquisition of Coal Transition Power, as Defined in RCW 80.80.010, and the Recovery of Related Acquisition Costs, Docket UE-121373, Order 07 Rejecting Multiparty Settlement ¶ 26 (June 25, 2013); *In the Matter of the Petition of Puget Sound Energy, Inc., and NW Energy Coalition For an Order Authorizing PSE To Implement Electric and Natural Gas Decoupling Mechanisms and To Record Accounting Entries Associated With the Mechanisms*, Dockets UE-121697 and UG-121705, Order 06 Rejecting Multiparty Settlement ¶ 26 (June 25, 2013); and *WUTC v. Puget Sound Energy, Inc.*, Dockets UE-130137 and UG-130138, Order 06 Rejecting Multiparty Settlement ¶ 26 (June 25, 2013) (emphasis added).

In other words, the "matter related to coal-fired generation" to which Commissioner Jones referred had absolutely nothing to do with the Commission's decision to retain the 9.8 percent ROE for purposes of establishing baseline rates in the ERF proceeding.

[11] ICNU Petition for Judicial Review ¶ 21. *See also* Public Counsel Petition for Judicial Review at 7:5-15, 9:9-15, 18:1-4.

unsupported by substantial evidence and the Commission improperly shifted the burden of proof on this issue from [PSE] to the other parties in the proceeding below."

13 The Court remanded the case to the Commission to receive additional evidence on what rate of return on equity (ROE) should be used "to establish fair, just, reasonable and sufficient rates to be charged under the rate plan [approved by Order 07] and to order any other appropriate relief."

14 The Court observed that:

> The analysis of whether a rate is 'just, fair, reasonable, and sufficient' is complex, and generally is determined through sophisticated models. The Commission has particular expertise in understanding the relevant evidence, determining which evidence and models are credible, and determining what 'fair, reasonable, and sufficient' means in the context of an individual rate case. [Citations omitted.] This court does not attempt to override the Commission's expertise on such matters, but focuses on the procedural requirements.

The Court also referred to the requirement in RCW 80.04.130(4) that, when proposing increased rates, "the burden of proof to show that such increase is just and reasonable shall be upon the public service company." Yet, the Court observes, the Commission did not base its approval of proposed rates "on a sophisticated model or complex presentation of evidence by PSE regarding its current situation," but instead elected to leave in place the rate of return on equity approved in PSE's general rate case in 2012.[12] The Court determined that the Commission, having expressed the point that "the record on the issue [of return on equity] in this case lacks the depth and breadth of data analysis, and the diversity of expert evaluation and opinion on which the Commission customarily relies in setting return on equity," should not have left the previously approved rate of return on equity in place and should instead have required the submission of additional evidence on this issue.

15 Following the Court's direction, the Commission initiated further adjudicative proceedings in these dockets by issuing a formal notice asking the parties to file procedural proposals. The Commission also issued a Notice of Prehearing Conference. The parties filed their respective procedural proposals expressing

[12] *See* 2011/2012 PSE GRC Order ¶¶ 85-89.

diverse opinions concerning what evidence the Commission should receive and sharp disagreement concerning what issues the Court's order requires us to address. The parties continued to disagree on these matters during the prehearing conference held on September 30, 2014.

16 On October 8, 2014, the Commission entered Order 10 – Prehearing Conference Order, rejecting suggestions from some parties that it should be narrowly prescriptive and predetermine in some detail the scope of the evidence it would receive on the issue of what rate, or rates, of return on equity should be used to set customer rates during the term of the rate plan. The Commission says in Order 10:

> The Commission does not undertake in general rate proceedings to prescribe the nature or extent of evidence parties present on the question of return on equity. As with respect to other issues in rate proceedings, we leave it to the parties to govern themselves when deciding what testimony and documentary evidence is sufficient to carry their respective burdens of going forward and, in the case of the Company, the burden of proof. We see no good reason to deviate from this well-established practice here.[13]

17 The Commission states, in addition, that as in any other adjudicatory proceeding, parties may object to the admission of evidence and the Commission will hear argument and make rulings, as appropriate.

18 By way of further clarification, Order 10 states:

> In the final analysis, we leave it to the resourcefulness of the parties to overcome the challenges we discuss above by presenting such evidence and making such argument as they individually decide will be sufficient to persuade us of one outcome or another. As in the context of a contested general rate proceeding, the Commission will consider all relevant evidence admitted on the question of return on equity, weigh the evidence, determine a range of reasonable returns, and set a return on equity that falls within that range.[14]

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[13] Order 10 ¶ 22.

[14] *Id*. ¶ 25.

Public Counsel filed a Petition for Review of Interlocutory Order; Request for Clarification and Modification of Order 10. ICNU filed a Request for Clarification of Order 10. The Commission denied the petition and requests in Order 11 but offered the guidance that:

> What the Commission minimally requires on remand are fully developed analyses of data available prior to June 25, 2013, such as are usually undertaken to support advocacy on the issue of return on equity. That is, we expect to see from the expert witnesses their development of the usual models (*e.g.*, discounted cash flow analyses, capital asset pricing models, and other risk premium models) using such data. Beyond this, parties are free to develop and present such other evidence as they believe is relevant and helpful to the Commission in meeting its obligation to ensure that PSE's rates under the rate plan are fair, just, reasonable and sufficient.[15]

19 The parties responded admirably to the Commission's guidance in Orders 10 and 11. As the party bearing the burden of proof on the question of return on equity, a point significant to the Court's remand decision, PSE filed the opening round of testimony and exhibits on November 5, 2014. This testimony is sponsored by two company witnesses and two expert witnesses:

- PSE Witnesses
    - Daniel A. Doyle, Senior Vice President and Chief Financial Officer, PSE.
    - Brandon J. Loshe, Treasurer, PSE.
    - Roger A. Morin, Emeritus Professor of Finance at the Robinson College of Business, Georgia State University, Professor of Finance for Regulated Industry at the Center for the Study of Regulated Industry at Georgia State University, and, Principal, Utility Research International.
    - Michael J. Vilbert, Principal and Manager of the San Francisco office of The Brattle Group.

[15] Order 11 ¶ 14.

Staff, Public Counsel, and ICNU filed response testimonies and exhibits on December 3, 2014, as follows:

- Staff Witnesses
    - David C. Parcell, President and Senior Economist of Technical Associates, Inc.
    - Thomas E. Schooley, Assistant Director, Energy Regulation, Staff.
- Public Counsel Witness
    - Stephen G. Hill, Principal of Hill Associates
- ICNU Witness
    - Michael P. Gorman, Managing Principal, Brubaker & Associates, Inc.
- Public Counsel and ICNU Joint Witness:
    - Christopher Adolph, Associate Professor of Political Science, University of Washington.

The final round of prefiled testimony includes rebuttal and cross-answering testimony. Messrs. Doyle and Vilbert, and Dr. Morin filed rebuttal for PSE. In addition, Jeffrey A. Dubin, Principal, Jeffrey Alan Dubin Economic Consultant, Inc. filed rebuttal testimony for PSE. NWEC filed cross-answering testimony by Ralph Cavanagh, Co-Director, Energy Program, Natural Resources Defense Counsel. ICNU filed cross-answering testimony by Mr. Gorman and Public Counsel filed cross-answering testimony by Mr. Hill.

B. Remand Phase Evidence

20 The Commission gave the parties filing evidence in the remand phase of these proceedings the same high degree of latitude typically allowed in general rate case proceedings where cost of capital issues ordinarily are considered. Thus, the Commission accepted for filing a wide-range of evidence and allowed the parties to argue how we should consider such evidence in addressing the narrow issue the Court

remanded to us.[16] This approach recognized, too, that there remains some dispute among the parties concerning the scope of the Commission's obligation on remand.[17]

21 Having viewed all of the evidence and having heard the parties' arguments concerning how we should view it and to what end, we focus our discussion in this Order on the evidence that answers the following question:

> *If the Commission, in early 2013, had recognized cost of capital generally, and return on equity specifically, as an issue that should be considered anew[18] in setting rates in the context of the ERF dockets, and in the broader context of the rate plan, including decoupling, what range of reasonable returns would it have determined and at what point value within that range would it have set return on equity?*

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[16] *See* Order 10 – Prehearing Conference Order, entered in these dockets on October 8, 2014, and Order 11 - Denying Petition for Review [and] Requests for Clarification of Order 10, entered on October 24, 2014.

[17] *Id.*

[18] "Anew" meaning relative to the return on equity determined on a full record in Dockets UE-111048 and UG -111049, the Company's then most recent GRC that was concluded only nine months prior to PSE's ERF filing on February 3, 2013. 2011/2012 PSE GRC Order (May 7, 2012). The ERF was intended to update those rates via a defined set of adjustments that did not include any cost of capital issues except measurable changes in PSE's cost of debt. Although the Court determined that the Commission should have required the evidence necessary and should have undertaken a full analysis of return on equity in the ERF proceeding considering that updated rates were being set in connection with a multi-year rate plan, we note that there is no statutory or other prohibition against the Commission setting rates without considering this issue. Indeed, this Commission, like many other regulatory authorities throughout the United States, routinely sets rates without explicitly analyzing and determining cost of capital issues. It is not at all uncommon to maintain a previously determined cost of capital structure with its embedded rates of return from one general rate case to the next. This happens in almost every case that is resolved by a full settlement among the parties, which accounts for a significant proportion of all general rate case proceedings over time. Nor is there any reason for the Commission to undertake this detailed and costly analysis when the issues have been recently decided for a given company. *See WUTC v. Pacific Power & Light,* Docket UE-140762, Order 08, ¶¶ 176-183 (March 25, 2015) (Commission exercise of discretion under RCW 80.04.200 not to rehear cost of capital issues decided within two years prior to Pacific Power filing a general rate case in 2014). *See also US West Communications, Inc. v WUTC,* 134 Wn.2d 74 (1997) (it is within the Commission's discretion under RCW 80.04.200 to decide whether to rehear issues within a two year stay-out period following their adjudication and "[d]iscretionary decisions of the Commission are only set aside on a clear showing of abuse." *Id.* at 105).

22 With this question in mind we focus our attention in this Order principally on the evidence presented by the four cost of capital expert witnesses for the early 2013 period: Dr. Morin for PSE, Mr. Parcell for Staff, Mr. Hill for Public Counsel, and Mr. Gorman for ICNU. We analyze and discuss this evidence in the same way the Commission analyzes and discusses such evidence in general rate case proceedings where it ordinarily would be considered. Taking account of the context in which the ERF dockets were resolved, we also discuss how the Commission's contemporaneous decisions to approve decoupling and the rate plan bear on our determination of return on equity as of June 2013, given what a full record on ROE would have included at the time the Commission entered Order 07.[19]

1. The Cost of Capital Witnesses

23 Dr. Morin, Mr. Parcell, Mr. Hill, and Mr. Gorman are nationally recognized experts in cost of capital analysis. We ordinarily would not comment on their credentials, it being beyond question that each of them is highly qualified and well-respected. In this case, however, it is important that the Commission explain in more than usual detail the bases for its evaluation of the considerable body of diverse evidence these witnesses present. It is upon their analyses that we principally rely in determining a range of reasonable returns within which we identify a point value for use in determining rates.

24 PSE's witness, Dr. Morin, is an Emeritus Professor of Finance at the Robinson College of Business, Georgia State University, and Professor of Finance for Regulated Industry at the Center for the Study of Regulated Industry at Georgia State University. He is also a principal in Utility Research International, an enterprise engaged in regulatory finance and economics consulting to business and government.[20] Dr. Morin has authored or co-authored several books, monographs,

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[19] Commissioner Jones, in his dissent, refers several times to the evidence and analyses that inform our decision in this Order as being "backward-looking." We do not agree. Rather, the witnesses all confirmed that the data they needed for the early 2013 time period were readily available and that they were careful to take a forward-looking perspective from that time frame, focusing on what they would have known at the time and on their then-contemporaneous perspectives on what might happen in the financial markets going forward from 2013. *See, e.g.*, TR. 649:19-650:10; 651:2-652:16; and 692:12-694:16. See also Hill, Exh. SGH-2T at 9:3-20; 43:4-7 and note 24.

[20] Morin, Exh. No. RAM-1T.

articles in academic scientific journals on the subject of finance, and "a widely-used treatise on regulatory finance, Utilities' Cost of Capital (Public Utilities Reports, Inc. [PUR], Arlington, Va. 1984).[21] In 2006, PUR published a revised and expanded edition of his well-known 1994 book on regulatory matters, Regulatory Finance.[22]

25 Dr. Morin has testified before more than 50 regulatory Commissions in the U.S. and Canada, including on several occasions the Washington Utilities and Transportation Commission. Of the 145 clients listed in Dr. Morin's resumé, all but a very few are utility companies providing electric, natural gas, water and telecommunications services, and companies providing support to such utilities, such as interstate and inter-province natural gas pipelines and electric generation companies.

26 Public Counsel's witness, Mr. Hill, earned a Bachelor of Science degree in Chemical Engineering from Auburn University in Auburn, Alabama, and a Master's degree in Business Administration at Tulane University in New Orleans, Louisiana. He subsequently was awarded the professional designation of "Certified Rate of Return Analyst," by the Society of Utility and Regulatory Financial Analysts based on education, experience and the successful completion of a comprehensive examination.[23]

27 Following seven years as a rate of return analyst for the Consumer Advocate at the West Virginia Public Service Commission, Mr. Hill established his own consulting firm offering his services as an expert witness on financial and economic issues facing regulated industries.[24] Mr. Hill has testified in a significant number of general rate case proceedings before this Commission, usually as Public Counsel's witness, and has testified on cost of capital, corporate finance and capital market issues in more than 300 regulatory proceedings throughout the U.S. over the past 30 years.[25]

28 Staff's witness, Mr. Parcell, is the President and Senior Economist of Technical Associates, Inc., in Richmond, Virginia. He holds B.A. and M.A. degrees in economics from Virginia Polytechnic Institute and State University (Virginia Tech)

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[21] *Id.* at 2:13-14.

[22] *Id.* at 2:14-18.

[23] Hill, Exh. No. SGH-2T at 1:12-20.

[24] Hill, Exh. No. SGH-20.

[25] Hill, Exh. No. SGH-2T at 2:2-4.

and an M.B.A. from Virginia Commonwealth University.[26] He is a Certified Rate of Return Analyst.[27] He has been a consulting economist with Technical Associates since 1970 and has provided cost of capital testimony in public utility ratemaking proceedings dating back to 1972. He has filed testimony and/or testified in over 500 utility proceedings before about 50 regulatory agencies in the United States and Canada, including testimony in this jurisdiction on behalf of Commission Staff in proceedings involving Puget Sound Energy, Avista Corp., and PacifiCorp.[28] Mr. Parcell's clients include state regulatory agencies in six states and one Canadian province.[29] He has worked for consumer advocates and attorneys general in 21 states and the District of Columbia.[30]

29 ICNU's witness, Mr. Gorman, is a consultant in the field of public utility regulation and an expert on energy, economic and regulatory issues. He received a Bachelor's of Science Degree in Electrical Engineering from Southern Illinois University in 1983 and, in 1986, a Master's Degree in Business Administration with a concentration in Finance from the University of Illinois at Springfield.

30 Mr. Gorman started his professional career as an analyst with the Illinois Commerce Commission (ICC) in 1983, becoming a Senior Analyst in 1986. In September of 1990, Mr. Gorman accepted a position with the consulting firm now known as Brubaker & Associates, Inc., where he is a Managing Principal. Since joining Brubaker, Mr. Gorman has performed various analyses and sponsored testimony on cost of capital, revenue requirements, cost of service and other issues before the Federal Energy Regulatory Commission and numerous state regulatory commissions. Mr. Gorman has appeared before our Commission on many occasions testifying on behalf of large industrial customers.

31 The Commission recognizes that each of these witnesses is identified with a particular set of interests in the relatively small universe of interests typically represented on the issue of cost of equity in utility rate proceedings. Dr. Morin, for example, is routinely called to testify on behalf of investor-owned utility companies. We reasonably infer

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[26] Parcell, Exh. No. DCP-1T at 1:9-17.

[27] Parcell, Exh. No. DCP-2.

[28] Parcell, Exh. No. DCP-1T at 1:9-17.

[29] Parcell, Exh. No. DCP-2.

[30] *Id.*

that this, at least in part, is because his approaches to modeling the cost of equity capital have tended over the years to produce higher results than do the approaches of other witnesses who represent one or another category of the diverse interests that commonly participate actively in the regulatory ratemaking process. Likewise, Mr. Hill has built on his early experience as an analyst for the Consumer Advocate in West Virginia, and is routinely called upon to prepare analyses and testimony supportive of the interests of parties, including of Public Counsel in this state, who share a common perspective on utility ratemaking. Mr. Hill, in the experience of this Commission, uniformly recommends a cost of equity lower, sometimes significantly lower, than what the company witness recommends in a given case. Mr. Parcell, although having a somewhat more diverse client base than the other witnesses in this proceeding, also is identified with the public sector interests—regulatory authority staff and consumer advocates—when testifying in utility rate proceedings. As in this case, Mr. Parcell's results tend to fall more in the low to middle ground of the range of possible returns recommended by the experts. Finally, Mr. Gorman, who started his career as a staff analyst for our sister agency in Illinois, has for many years been favored by industrial customers in this jurisdiction as best representing their unique interests in utility rate proceedings. Mr. Gorman's results tend to occupy the low to middle range of all analytical results presented in a case such as this one that includes testimony from multiple cost of capital witnesses.

32 It is not a criticism of any of these witnesses to observe that they routinely testify on behalf of one class of interests or another among the diverse interests that regularly are represented in the utility ratemaking process. They unquestionably are selected by their clients, in part, on the basis of their tendency to occupy a reasonably predictable relative position concerning the range and point values they recommend for return on equity in any given case. This merely emphasizes the point that regulators, considering the subjective and judgment-based models on which these experts rely, face the challenge in every case of weighing diverse testimony and sometimes wide-ranging estimates of the cost of equity capital. We must weigh this evidence carefully, considering the context in which the case is being considered and also factors such as the general state of the economy, investment cycles in the industry, the principle of gradualism, and so forth. In the final analysis, we must exercise our own informed judgment to determine, in the public interest, what constitutes a reasonable range of returns and what point value to select within this range to determine a company's revenue requirements and, hence, its rates.

2. The Cost of Capital Models

33 In contrast to the cost of debt capital that typically is readily observable in the forms of bond coupon rates and short-term interest rates, the cost of equity cannot be ascertained by reviewing rates established by arms-length bargaining and straightforward contract terms. As a result, equity's cost is more difficult to determine. It must be estimated considering the expert witnesses' various perspectives on what data informs investor expectations and their evaluations of other market factors. There are a variety of methods by which analysts make these estimates. The most commonly used is the discounted cash flow (DCF) method. Its theory is that the market value of stock is the present value of the future benefits, both dividends and growth, of holding the stock. The stream of future benefits is discounted back to present value. While the formal application of this method is complex, a simplified formula can be used under certain assumptions, as discussed below.[31]

34 Other methods are available to indirectly estimate the cost of equity based on what investors may require to compensate for investment risk. These methods, also discussed in more detail below, include the risk premium (RP) method and its variant, the capital asset pricing model (CAPM). Analysts using these methods essentially determine a "risk free rate" and then determine the "premium" that investors would need to receive to purchase the stock.[32]

35 RP analysis estimates the expected rate of return of investing in a stock as the long-term historic mean of a realized risk premium above an historic yield of low-risk bonds plus the current yield of the relevant bond applicable to a specific utility or peer group of utilities. The CAPM model derives the return investors in a utility's stock will expect as equal to the return for a risk-free security plus a risk premium. CAPM reflects an assessment of both systematic market risk and specific risk associated with the company in question.

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[31] *See* James C. Bonbright, *et al*., Principles of Public Utility Rates 317-22 (1988).

[32] *Id.* at 322-28.

36 Other less commonly used methods for estimating the cost of equity capital are the Comparable Earnings (CE) method, the Modified Earnings-Price Ratio (MEPR) approach, and Market-To-Book Ratio (MTB) Analysis. These, too, are discussed in more detail below.

37 The DCF model posits that investors evaluate the value of a stock price by summing the present value of expected future cash flows, discounted at the investor's required rate of return or cost of capital. This model is expressed mathematically as:

$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} \ldots . \frac{D_\infty}{(1+K)^\infty}, \text{ where}$$

P_0 = Current stock price
D = Dividends in periods 1 - ∞
K = Investor's required return

This model can be restated to estimate the discount rate or investor-required return, "K." If it is reasonable to assume that earnings and dividends will grow at a constant rate, then the equation can be expressed as follows:

$$K = D_1/P_0 + G, \text{ where}$$

D_1= Dividend in first year
P_0 = Current stock price
G = Expected constant dividend growth rate

This is referred to as the annual "constant growth" DCF model.

38 It is important to understand that the selection of data used to populate the DCF model is an exercise in judgment by the analysts. The analyst's starting point is to select a set of companies, referred to as a "proxy group," that the analyst believes best represents the subject company. These general standards provide that the authorized return should be sufficient: (1) to maintain financial integrity; (2) to attract capital under reasonable terms; and (3) to provide returns commensurate with those investors could earn by investing in other enterprises of comparable risk.[33] Opinions among the

[33] *See Permian Basin Area Rate Case*, 390 US 747 (1968); *FPC v. Hope Natural Gas Company*, 320 US 591 (1944) (*Hope*); *Bluefield Water Works v. PSC*, 262 US 679 (1923) (*Bluefield*).

experts vary, of course, concerning what mix of companies constitutes a proxy group that best reflects these standards.

39 Similarly, opinions vary among analysts concerning what period of stock prices should be considered to determine P_0, what dividend should be used for the first year, and how quarterly dividends should be converted to annual dividends to determine D_1. Analysts also differ significantly in terms of what data to use when estimating expected growth in dividends, or G, and may vary the basic DCF model itself to include a range of growth factors.

40 The general form of the CAPM, which varies from the simple RP method by using beta to adjust for relative risk of a particular company, or an industry, is:

$$K = Rf + \beta(Rm - Rf), \text{ where}$$

K = cost of equity
Rf = risk free rate
Rm = return on market
β = beta
Rm-Rf = market risk premium

MRP, or Market Risk Premium is sometimes substituted for (Rm – Rf) in expressing this equation.

41 Different analysts use different risk free rates in conducting risk premium analyses. They also use various measures of market risk premium when using in these models. Beta, a measure of risk based on proxy group data, also may vary from analyst to analyst.

42 In short, as exemplified by this discussion of the two models on which all four experts rely in this case, cost of capital analysis gives the appearance of mathematical rigor, but outcomes from the models depend entirely on a series of subjective judgments concerning what data should be used to populate the models and further exercises of judgment evaluating the model results. It is not surprising, therefore, that different experts, using exactly the same model, may arrive at significantly different analytical results to which they then apply their individual professional judgment when making specific return on equity recommendations. In other words, the various models yield a range of results, sometimes a considerable range.

43 All of the expert witnesses in this case agree that it is important to take a number of different analytical approaches and to consider all available evidence when determining return on equity.[34] The Commission has observed in a number of orders that it finds the diversity present in the evidence the experts provide establishes a very useful body of information upon which it will exercise its own informed judgment in setting ROE in a given case.[35]

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[34] *See,* TR. 655:18 - 660:11.

[35] *See, e.g., WUTC v. Puget Sound Energy, Dockets UE-060266 and UG-060267, Order 08 (January 5, 2007)* where the Commission observed:

> Little of the extensive testimony offered on this subject [cost of equity capital] focuses squarely on what might have changed in the capital markets or at PSE in the last 18 months to justify a change in the ROE set by the Commission in February of 2005. Instead, as usual, most of the testimony focuses on familiar, rather academic disputes regarding methods, theory and assumptions. To be sure, these disputes affect the level of the experts' ROE estimates, but when they are boiled down to substance, we find that a few key assumptions drive the differences among the analytic results and the recommendations of the three parties. These assumptions are matters of judgment tempered by differing professional orientations. *We must look beyond the experts' Discounted Cash Flow, Capital Asset Pricing Model and similar analyses to a broader body of evidence to make our determinations, which are informed by, but not dictated by the experts' modeling results.*

Id. ¶ 84 (emphasis added). In a later case, the Commission observed similarly that:

> The Commission has said in more than one order that it appreciates and values a variety of perspectives and analytic results because these serve to better inform the judgment it must exercise than would a single model, or a single expert's opinion. We reiterate that perspective here. We value and rely on multiple methodologies, models and expert opinions to develop a robust record of evidence to inform our judgment. It is particularly important to take multiple methods and models into account in the present circumstances of financial turmoil that may affect the input values and assumptions used in each method.
>
> As is usually the case, much of the dispute among the experts testifying in this case involves "analytic judgment" concerning key data assumptions and model application. *These disputes are not resolvable on the basis of objective tests – their resolution requires the application of considerable judgment when we review the expert testimony. In our experience there is no precise or single right answer to these analytic questions.*

WUTC v. Puget Sound Energy, Dockets UE-090704 and UG-090705, Order 11 ¶¶ 292-93 (emphasis added), (April 7, 2010).

3. The Cost of Capital Analyses

a. Discounted Cash Flow

44 As mentioned above, the four cost of capital witnesses testifying in this case all use discounted cash flow (DCF) methodologies to estimate a cost of equity capital for PSE as of the first half of calendar year 2013. They use several variations on the basic DCF model which itself is a point of dispute among them. Mr. Gorman and Mr. Hill, for example, use a sustainable growth model that Dr. Morin criticizes.[36] In addition, there are significant differences in the assumptions and data upon which each witness relies in applying these models. Dr. Morin and Mr. Gorman, for example, both use consensus analysts growth rates in their constant growth DCF models, but they rely on different analysts who forecast different growth rates.[37] Mr. Parcell and Mr. Hill each have their own approaches to determining growth rates for purposes of DCF analysis and these are different from each other and from Dr. Morin's and Mr. Gorman's approach.

45 As discussed previously, there is a degree of subjective judgment in arriving at the values of every variable in the DCF equation. As a result of using the different values each witness judges to be most suggestive of PSE's market-based ROE as of early 2013, the four experts arrive at significantly different DCF results, as portrayed in Table 2. These results span approximately 160 basis points, ranging from Mr. Gorman's low 8.38 percent ROE using his sustainable growth model, to Dr. Morin's 10.04 percent ROE using his constant growth model that relies on *Value Line* dividends.

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[36] *See, e.g.,* Morin, Exh. No. 16T at 16:6-20:18; 54:17-55:2.

[37] *See* Morin, Exh. No. RAM-1T at 18:4-23. Dr. Morin also uses growth rates from *Value Line* in a second constant growth DCF model run. *See also* Gorman, Exh. No. MPG-3TT at 12:15-13:19.

TABLE 2
Cost of Equity Results and Recommendations
Based on Witnesses' DCF Analyses

Witness		Proxy Group	Stock Price	Dividend (D_0) Annualized	Expected Growth Rate (G)	ROE
Morin	**Constant Growth DCF using Value Line dividends**	**Sample of 28 companies (25 selected) representative of industry average, w/ adjustments**	**Embedded in Dividend (D_0) taken from Value Line Investment Analyzer online database**	**4.54**	**5.50**	**10.04**
	Constant Growth DCF using consensus analysts' growth	**same**		**4.53**	**5.31**	**09.84**
Gorman	**Constant growth DCF using consensus analysts' growth**	**Select group of 22 companies with risks directly comparable to PSE (18 are in Morin's sample)**	**Average closing price over 13 weeks ending 4/9/13**	**4.09**	**5.01**	**09.10 (9.29 median)**
	Sustainable growth DCF	**same**		**4.06**	**4.36**	**08.42 (8.38 median)**
	Multi-stage growth DCF	**same**				**09.03 (median)**
Parcell	**Constant Growth DCF using five measures of growth reported by Value Line and First Call**	**Select group of 13 companies with risks comparable to PSE (five in common with Hill; six in common with Morin; four in common with Gorman)**	**Average of high/low price for 3 months, 1/13-3/13**	**4.3**	**5.4**	**9.7**
		Morin proxy group		**4.1**	**5.3**	**9.4**
		Gorman proxy group		**4.1**	**5.0**	**9.1**
Hill	**Sustainable Growth DCF**	**Select group of 15 companies with risks comparable to PSE (five in common with Parcell; five in common with Morin; four in common with Gorman)**	**Average of closing price for 6 weeks ending 6/21/13**	**3.83**	**4.86**	**8.69**

46 The first judgment each analyst makes when using the DCF methodology is the fundamental task of selecting a proxy group. Ultimately, stock price, dividend, and growth rates applied in the DCF model all depend on data taken from the companies selected. Inclusion of one company, or exclusion of another affects the measures of central tendency on which these proxy-based analyses rely. Different analysts may

select different measures of central tendency (*i.e.*, median, arithmetic mean, geometric mean), which also affects final results. In addition, the experts use different methods to annualize the first year dividend and, most significantly, to determine what growth rate, or rates, to use.

i. Dr. Morin

47 In selecting his proxy group, Dr. Morin uses "a large group of utilities representative of the utility industry average and then make[s] adjustments to account for any difference in investment risk between the company and the industry average, if any."[38] Dr. Morin selects investment-grade, dividend-paying, combination gas and electric utilities covered in Value Line's Electric Utility industry group that possess utility assets similar to PSE's:

> I began with all the companies designated as utilities by Value Line, that is, with Standard Industrial Classification codes 4911 to 4913. Foreign companies, private partnerships, private companies, non-dividend-paying companies, and companies below investment-grade (with a Moody's bond rating below Baa3 as reported in AUS Utility Reports) were eliminated, as well as those companies whose market capitalization was less than $1 billion, in order to minimize any stock price anomalies due to thin trading. The final groups of companies only include those companies with at least 50% of their revenues from regulated utility operations.[39]

Dr. Morin's screening selected 28 companies of which he finds 25 suitable to include in his analyses.[40] Mr. Hill criticizes Dr. Morin for excluding three companies from his sample because they had negative growth while retaining "a high statistical outlier," NV Energy.[41] Mr. Hill nevertheless acknowledges that "it is certainly reasonable to believe that investors do not rely on negative earnings growth rate

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[38] Morin, Exh. No. RAM-1T at 22:4-8.

[39] *Id.* at 24:14-25:3 (internal footnote omitted). Dr. Morin's proxy group for PSE during the first half of 2013 is displayed in Exh. No. RAM-4.

[40] Dr. Morin rejects three companies from the screened set because they had negative projected growth rates and one of the three, in addition, derived less than 50 percent of its revenue from regulated activities. Morin, Exh. No. RAM 1T at 25:13-18. During cross-examination, Dr. Morin explained that companies with negative growth rates should be rejected "because the end result of the DCF computation would be a number that is less than a cost of debt, which is economically, financially and legally nonsense." TR. 564:24-565:1.

[41] Hill, Exh. No. SGH-2T at 55:8-9.

forecast in forming their long-term growth expectations for a utility investment."[42] During cross-examination on this point, Dr. Morin acknowledges that NV Energy shows the highest projected growth in his proxy group, but he testifies that "offsetting that is the 1.8 percent for SECO and the 2 percent for PG&E, so that's the nature of an average. You have some that are higher than the average, some that are lower."[43]

48 Dr. Morin implicitly criticizes the use of "a select group of companies directly comparable in risk to PSE,"[44] which is the approach on which Mr. Hill and Mr. Parcell rely in selecting their own proxy groups.[45] The focus of his criticism is on sample size and statistical reliability. He sums up his general criticism of the "select group" approach, testifying that:

> The use of a handful of companies in a highly fluid and unstable industry produces fragile and statistically unreliable results. A far safer procedure is to employ large sample sizes representative of the industry as a whole and apply subsequent risk adjustments to the extent that the company's risk profile differs from that of the industry average.[46]

49 In his rebuttal testimony, Dr. Morin specifically criticizes Mr. Hill's 15-member proxy group as being "unduly restrictive in some areas, thereby creating a smaller sample of utilities than may otherwise be warranted."[47] Dr. Morin testifies that Mr.

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[42] *Id.* at 54:16-18.

[43] TR. 580:13-16. Dr. Morin also explained that the fact that NV Energy announced a merger with Mid-American Energy on May 29, 2013, was not a basis to eliminate the company from his proxy group because:

> The hearings took place in the spring 2013, and to present testimony at that particular hearing, that would be based on data earlier than that, presumably in January or even December '12. So that announcement came much later in May, so it was no need to exclude NV Energy on the grounds of undergoing a merger. . . . My mandate is to simulate what would have been the cost of equity in early 2013, and I did that by going back to the future, so to speak. And at that time the NV Energy merger was not announced. It only was announced in May.

TR. 578:20-579:7.

[44] *See* Morin, Exh. No. RAM 1T at 21:19-24:9.

[45] Mr. Parcell analyzes a "select group," but he also analyzes Dr. Morin's proxy group and Mr. Gorman's proxy group.

[46] Morin, Exh. No. RAM-1T at 24:5-9.

[47] Morin, Exh. No. RAM-16T at 9:17-20.

Hill's "use of a handful of companies in a highly fluid and unstable industry produces fragile and statistically unreliable results."[48]

50 Although we draw no particular inference from the fact that Dr. Morin does not similarly criticize Mr. Gorman's or Mr. Parcell's proxy group selections, we note that Mr. Gorman uses data from 22 companies he finds comparable to PSE, just 3 fewer than Dr. Morin analyzes. While Mr. Parcell's selected proxy group is small, including only 13 companies, he also takes into account data from all of the companies analyzed by Dr. Morin and Mr. Gorman.[49]

51 Dr. Morin testifies that, from a conceptual standpoint, the stock price used in the model to calculate dividend yield in the first year should be each proxy company's current stock price at the time of estimating the cost of equity.[50] As a practical matter, however, he avoids the need to select a stock price for his proxy companies by relying on the dividend yields reported in the Value Line Investment Analyzer on-line database. He testifies that "[b]asing dividend yields on average results from a large group of companies reduces the concern that the vagaries of individual company stock prices will result in an unrepresentative dividend yield."[51]

52 Dr. Morin applies the DCF model to data that would have been available in early 2013 using two different growth rates. Combining the average 5.50 percent long-term earnings per share growth forecast with the average expected dividend yield of 4.54

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[48] *Id.* at 10:17-19.

[49] The witnesses' proxy groups overlap to varying extents, as indicated above in Table 2.

[50] Morin, Exh. No. RAM-1T at 16:15-17:2.

[51] *Id.* at 17:3-7. Dr. Morin multiplies the Value Line dividend yields by (1 + g) to reflect the year-forward (*i.e.,* D_1 in the DCF formula). Mr. Hill believes the data Dr. Morin takes from Value Line are already stated on an annual basis and argues that Dr. Morin is "double counting growth" in the first year dividend. Hill, Exh. No. SGH-2T at 56:9-20. Dr. Morin testifies in rebuttal, however, that:

> I did not overstate the dividend yield by double-counting the dividend increase. This is because I used the "current dividend yield" as defined by Value Line in the Value Line Investment Analyzer software and not the dividend yield figure to which Mr. Hill refers, and then grossed up the current dividend yield to produce the expected dividend yield required by the DCF model.

Morin, Exh. No. RAM-16T at 32:2-7. We accept that Dr. Morin is intimately familiar with the Value Line data, which report dividend data using various measures, and are not persuaded that he made such an error as Mr. Hill suggests. Public Counsel did not inquire into this matter when Dr. Morin was available for cross-examination.

percent obtained for his proxy group from Value Line,[52] Dr. Morin derives an estimate of equity costs (*i.e.,* ROE) of 10.04 percent.[53]

53 Dr. Morin's second DCF analysis relies on an average consensus analysts' earnings growth forecast of 5.31 percent that, when combined with the consensus analysts' expected dividend yield of 4.53 percent for his proxy group, yields an estimate of equity costs of 9.84 percent.[54]

54 Mr. Hill criticizes Dr. Morin's DCF analyses on several bases, including that they rely solely on projected earnings growth.[55] Dr. Morin testifies, however, that

> Published studies in peer-reviewed academic literature demonstrate that (i) analysts' growth rate forecasts are reasonable indicators of investor expectations, and (ii) investors rely on such forecasts. There is an abundance of evidence attesting to the importance of earnings in assessing investors' expectations.[56]

Dr. Morin says both the "sheer volume" and the focus on earnings forecasts from a number of well-respected sources show "that the investment community regards earnings growth as a superior indicator of future long-term growth."[57] He demonstrates with reference to a number of published studies in the academic literature "that growth forecasts made by security analysts are reasonable indicators of investor expectations, and that investors rely on analysts' forecasts."[58] He disagrees with Mr. Hill's contentions that financial analysts' earnings forecasts are "rosy" and suffer from the "Cinderella effect."[59] He again discusses the academic literature on this point, acknowledging that these studies produce a variety of results, some of

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[52] Dr. Morin chose earnings growth because the data are abundant, in contrast to the "very few forecasts of dividend growth." Morin, Exh. No. RAM-1T at 20:13-14.

[53] Morin, Exh. No. RAM-4, p. 2, col. 4, ln. 27 and p.2, col. 5, ln.27.

[54] Morin, Exh. No. RAM-5, p. 2, col. 4, ln. 27 and p.2, col. 5, ln.27.

[55] Hill, Exh. No. SGH-2T at 53: 22 – 54:4.

[56] Morin, Exh. No. RAM-16T at 32:10-17.

[57] *Id.* at 32:18 – 33:5.

[58] *Id.* at 33:9 – 34:2.

[59] *Id.* at 34:3-35:18 (citing Hill, Exh. No. SGH-2T at 27:8 – 28:23)

which suggest forecasting bias as Mr. Hill points out, but Dr. Morin finds these inconclusive when taken as a body of work.[60] He concludes:

> The magnitude of the optimism bias for large rate-regulated companies in stable segments of an industry is likely to be very small. Empirically, the severity of the optimism problem is unclear for regulated utilities, if a problem exists at all. It is interesting to note that Value Line forecasts for utility companies made by independent analysts with no incentive for over- or understating growth forecasts are not materially different from those published by analysts in security firms with incentives not based on forecast accuracy, and may in fact be more robust.[61]

Dr. Morin, as discussed previously, conducts two DCF analyses, one using *Value Line* forecasts, and the second using consensus analysts' data. The results, 10.04 percent and 9.84 percent, are very close to one another.

ii. Mr. Hill

55 Mr. Hill selected his 15-member proxy group by screening *Value Line* for electric and combination electric and gas utility firms that had a continuous financial history, a senior bond rating between Standard & Poor's BBB and A or Moody's Baa2 and A2, and had 70 percent or more of revenues generated by utility operations. He omitted from his sample companies that did not have generation assets, or were in the process of merging or being acquired, or companies that had recently omitted dividends or had unstable book values.

56 Mr. Hill testifies that: "[t]he evidence I present here will be that which would be presented in a "contested general rate proceeding" regarding the cost of common equity capital for Puget Sound Energy at the time prior to the original decision in these proceedings."[62] However, Mr. Hill uses the closing average stock prices of his

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[60] *Id.* Dr. Morin notes in this discussion a number of "papers corroborating the superiority of analysts' forecasts as predictors of future returns versus historical growth rates." He cites Dan Fried & Dov Givoly, *Financial Analysts Forecasts of Earnings: A Better Surrogate for Earning Expectations*, 4 Journal of Accounting and Economics 85-107 (1982); R. Charles Moyer, *et al.*, *The Accuracy of Long-Term Earnings Forecasts in the Electric Utility Industry*, 1 International Journal of Forecasting 241-52 (1985); and David Gordon, *Choice Among Methods of Estimating Share Yield*, 15 Journal of Portfolio Management 50-55 (1989).

[61] *Id.* at 36:1-7.

[62] Hill, Exh. No. SGH-2T at 3:17-20.

proxy companies for a six week period from May 10, 2013 through June 21, 2013.[63] He divides these prices by Value Line's projected dividends as of June 21, 2013,[64] to calculate a dividend yield for each proxy. Thus, the period from which Mr. Hill drew his analytical data falls after the April 26, 2013, date on which response testimony was filed in the proceedings below and after the May 8, 2013, date for rebuttal testimony from PSE. On the other hand, the ending date of Mr. Hill's data falls four days before the Commission entered Order 07 on June 25, 2013, and so is to that extent contemporaneous with the time frame of the Commission's decision and consistent with what Order 11 "minimally requires."[65]

57 Mr. Hill reports his results in Exh. No. SGH-8 with yields for his proxy companies averaging 3.83 percent, which is lower than any of the other cost of capital witnesses, as shown in Table 2. While we do not have evidence showing whether Mr. Hill's use of the time frame he selected for his analysis affected his DCF results in any material way, it does mean his results are less comparable to those of Dr. Morin and Mr. Gorman, upon which Mr. Parcell also relies. Dr. Morin does not reference the specific dates from which he drew data, but we infer from his general references to data from "12/2012" in Exh. Nos. RAM-4 at 2 and RAM-5 at 1 that he selected data from that period, which is consistent with his testimony on cross-examination.[66] Mr. Gorman's analyses drew from data with an ending date of April 21, 2013, which supported his testimony and exhibits during the first phase of these proceedings, as filed on April 26, 2013, and on which he relies for the remand phase. Mr. Parcell analyzed his own selection of proxy companies focusing on the period from January to March 2013.[67]

58 Mr. Hill's method for determining growth rates for the proxy companies in his DCF model is complex and not entirely transparent in terms of our ability to follow his modeling from source data to results. In terms of source data, he relies on more than a dozen measures of growth rate, including the following:

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[63] Hill, Exh. No. SGH-8.

[64] *Id.*

[65] Order 11 ¶ 14.

[66] *See infra* note 40 (quoting Dr. Morin at TR. 578:20-579:7).

[67] *See* Exh. DCP-7.

- Historical and forecast sustainable growth rates.[68]
- Historical growth rates in book value, earnings, and dividends.[69]
- Five-year historic and projected earnings, dividends, and book value growth rates from Value Line.[70]
- Earnings growth rate projections from Zacks or IBES.[71]
- The average of Value Line and Zacks or IBES growth rates.[72]
- Five-year historical compound growth rates for earnings, dividends and book value.[73]

59 Mr. Hill states that a fundamental assumption of DCF analysis is that earnings, dividends and book value are expected to grow, over the long-term, at the same sustainable rate of growth. According to Mr. Hill, this proves to be reasonable and is an accurate representation of how utility firms actually grow over the long term.[74] However, apparently because "[p]ayout ratios and expected equity returns as well as earnings and dividend growth rates do change at different rates over the short-term," Mr. Hill believes that to "properly apply the DCF model" it is necessary to examine the underlying determinants of long-run expected dividend growth in order to find a long-term sustainable growth rate to use in the DCF model. [75]

60 Mr. Hill demonstrates his approach to examining the underlying determinants in Exh. Nos. SGH-3 and SGH-5 - SGH-7. Exh. No. SGH-3 provides an example that describes the determinants of long-term growth, and provides formulae that Mr. Hill uses in his modeling. In Exh. No. SGH-5, Mr. Hill shows the retention ratios, equity returns, sustainable growth rates, book values per share and number of shares outstanding for his proxy companies for the past five years. This exhibit also includes Value Line's projected 2013, 2014, and 2016-2018 values for equity return, retention ratio, book value growth rates and number of shares outstanding.

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[68] Hill, Exh. No. SGH-2T at 19:10-11.

[69] *Id.* at 19:13-14.

[70] *Id.* at 25:5-6.

[71] *Id.* at 25:7.

[72] *Id.* at 25:7-8.

[73] *Id.* at 25:8-9.

[74] *Id.* at 17:12-18:13.

[75] *Id.* at 18:14-21.

61 Mr. Hill begins his analysis of each proxy company by using historical data to calculate a five-year average sustainable growth rate by taking the product of the earned return on equity (r) and the ratio of earnings retained within the firm (b) for each year, 2008 - 2012. Mr. Hill uses this simple five-year average sustainable growth value as a benchmark against which to measure each company's most recent growth rate trends. Starting with his historical growth benchmark, Mr. Hill examines projected data from a variety of sources for 2013, 2014, and 2016-18, looking at book value growth, earnings per share growth, and dividend growth for a discernable trend toward higher or lower growth going forward. It appears that Mr. Hill then simply applies his judgment to these data without using specific criteria to arrive at a sustainable internal growth rate that "investors can reasonably expect in the future."[76]

62 Mr. Hill testifies that "[a]n investor's long-term growth rate analysis does not end upon the determination of an internal growth rate. Investor expectations regarding growth from external sources (sales of stock) must also be considered and examined."[77] He determines this growth rate by looking at the rate of increase in shares of stock outstanding over the most recent historical five-year period and Value Line projections of the rate of increase in shares through the period 2016-18. To these data, he again appears simply to apply his judgment "weighing both the historical and projected data" and states his "expectation of share growth" going forward.[78] He multiplies this figure by (1 – (Book Value/Market Value)), a formula developed by Professor Myron Gordon, the originator of the DCF model, to show "the accretion rate related to new stock issues."[79] Adding this estimate of external growth to his estimate sustainable internal growth, Mr. Hill arrives at the growth factor (Exh. No. SGH-6), which is added to dividend yield (Exh. No. SGH-8) to result in a DCF cost of equity capital, or ROE. Averaging his results across the proxy companies, Mr. Hill determines a DCF ROE of 8.69 percent.

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[76] *Id.* at 21:15-23:16. *See also* Exh. Nos. SGH-5 – SGH-7.

[77] Hill, Exh. No. SGH-2T at 23:19-21.

[78] *Id.* at 24:3-5.

[79] *Id.* at 24, n. 18.

63 Dr. Morin criticizes Mr. Hill's DCF analysis because "[t]he final growth rate estimates selected by Mr. Hill simply appear without scientific foundation, derivation or ability to be replicated."[80] Using Southern Company (Southern) as an example, as did Mr. Hill in his testimony, Dr. Morin examines the 15 measures of growth Mr. Hill considers. He testifies that he could not replicate Mr. Hill's results and does not understand how Mr. Hill arrives at a growth forecast of 4.25 percent when his measures of growth for Southern range from 3.0 percent to 5.5 percent with an average of 4.1 percent and a median of 4.0 percent. Dr. Morin considers Mr. Hill's selection of growth rates for his proxy companies to be "arbitrary" and to have "little quantitative support or academic empirical evidence as to the optimal growth rate proxy in the DCF model."[81]

64 While Mr. Hill criticizes Dr. Morin for not analyzing historical data in his DCF analyses, Dr. Morin levels exactly the opposite criticism at Mr. Hill, saying that he "inappropriately considers historical growth rates in arriving at proxies for the DCF growth forecast component."[82] Dr. Morin testifies historical growth rates may be considered by investors "if the company and the industry are stable," but have little relevance as proxies for long-term growth" at this time because of "structural changes in the energy industry."[83] In any event, Dr. Morin testifies, "historical growth rates are largely redundant because such historical growth patterns are already incorporated in analysts' growth forecasts that should be used in the DCF model."[84]

65 Although not directly criticizing Mr. Hill, Mr. Gorman agrees with Dr. Morin that consensus analyst forecasts are "better predictors of future return" than "growth rates derived from historical data."[85] As discussed below, Mr. Gorman relies on a consensus, or mean, of professional security analysts' earnings growth estimates as a proxy for investor consensus dividend growth rate expectations for his constant growth DCF model.

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[80] Morin, Exh. No. RAM 16T at 15:17-20.

[81] *Id.* at 15:9-11.

[82] *Id.* at 21:3-6.

[83] *Id.* at 21:6-11.

[84] *Id.* at 21:11-13.

[85] Gorman, Exh. No. MPG-25T at 15:1-2.

66 Dr. Morin's strongest criticism of Mr. Hill's analysis is his reliance on a sustainable growth DCF model, sometimes referred to as an "internal" or "retention" growth model. In Dr. Morin's view, "the sustainable growth methodology is logically circular because it requires an estimate of the expected rate of return on equity to estimate the cost of equity using the DCF model."[86] Mr. Hill and Mr. Gorman, who also presents a sustainable growth model as one of his three DCF analyses, predictably disagree with Dr. Morin's assessment of the sustainable growth DCF methodology.[87]

iii. Mr. Gorman

67 ICNU relies on Mr. Gorman's testimony in the earlier phase of these proceedings, filed on April 26, 2013, for his analysis of a market-based ROE as of that time.[88] Mr. Gorman also filed response testimony in the remand phase, but did not need to, and did not, reevaluate ROE as of early 2013.

68 Mr. Gorman, in his 2013 testimony, determines his proxy group using a broad-based group of 22 integrated electric utility companies followed by *Value Line* that meet the following criteria:

- Have credit ratings from S&P and Moody's in the range of BBB- to A-, and Baa3 to A3, respectively.
- Are characterized as "Regulated" utilities by the EEI.
- Have positive analysts' growth rate estimates from Zacks, Reuters, and SNL Financial.
- Have paid consistent dividends over the last two years.
- Have not been involved in major merger and acquisition activities over the last year.[89]

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[86] Morin, Exh. No. 16T at 17:4-7.

[87] *See* TR. 678:20 – 682:5. We note, however, that Mr. Gorman appears to consider his sustainable growth and multi-stage DCF results as no more than confirmation or support for his recommended DCF of "9.30 percent, based on my constant growth DCF model." Exh. No. MPG-3T at 21:7-8.

[88] Gorman, Exh. Nos. MPG-1T at 12:1-14:2; MPG-3T; and MPG-25T at 1:17-2:4.

[89] Gorman, Exh. No. MPG-3T at 9:9-20.

69 Mr. Gorman performs three DCF analyses using variations of the basic model:

- A constant growth DCF model using consensus analysts' growth rate projections.
- A constant growth DCF using sustainable growth rate estimates.
- A multi-stage growth DCF model.

He uses the same stock prices in all three models. He relies on the average of the weekly high and low stock prices of his proxy group companies over a 13-week period ending on April 19, 2013. Mr. Gorman testifies that a 13-week average stock price reasonably balances the need to reflect current market expectations and the need to capture sufficient data to smooth out aberrant market movements.[90]

70 Mr. Gorman also uses the same dividend data and analysis in all three models. He annualizes (*i.e.*, multiplies by 4) the most recently paid quarterly dividend reported in *The Value Line Investment Survey* and adjusts for one year's expected growth to produce the D_1 factor for use in his DCF equations.[91] He determines an average adjusted yield for his proxy group of 4.09 percent.[92]

71 It is the growth factor in the DCF equations that is the key variable explaining Mr. Gorman's range of results using the three models, which is from an 8.38 percent ROE estimate under his sustainable constant growth model to 9.29 percent ROE estimate under his consensus analysts' constant growth model. In his constant growth DCF analysis, Mr. Gorman relied on a consensus, or mean, of professional security analysts' earnings growth estimates as a proxy for investor consensus dividend growth rate expectations. He used the average of analysts' growth rate estimates from three sources: Zacks, SNL, and Reuters.[93] Mr. Gorman testifies that:

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[90] Gorman, Exh. No. MPG-3T at 11:24-12:9. Mr. Gorman uses a simple (*i.e.*, unweighted) arithmetic average of the three surveyed analysts' growth forecasts because "[t]here is no clear evidence whether a particular analyst is most influential on general market investors." *Id.* at 13:11-19.

[91] Based on the data portrayed in Exh. No. MPG-10, it appears Mr. Gorman adjusts the current dividend yield for each company by a factor (1 + g) to determine adjusted yield. Dr. Morin supports the use of this approach. *See* Morin, Exh. No. RAM-1T at 17:8-18:3.

[92] Gorman, Exh. No. MPG-10, col. 4, ln. 23.

[93] Gorman, Exh. No. MPG-3T at 13:6-9.

> As predictors of future returns, security analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data. That is, assuming the market generally makes rational investment decisions, analysts' growth projections are more likely to influence observable stock prices than growth rates derived only from historical data.[94]

Mr. Gorman's average growth rates for each of his proxy companies taking the consensus analysts' data is displayed in his Exh. No. MPG-9, as is the 5.01 percent average of averages for the entire proxy group that he uses to calculate ROE. Combined with an average adjusted yield for his proxy group of 4.09 percent, this results in a return on equity estimate of 9.10 percent. Mr. Gorman, however, elects to report the median result, 9.29 percent, rather than the mean, as the data point for consideration in his overall evaluation and estimate of ROE for PSE as of early 2013.[95]

72 Mr. Gorman also uses a sustainable growth rate DCF model and a multi-stage growth rate DCF model. These both produce lower results, 8.38 percent and 9.03 percent, respectively, than his constant growth DCF model. Considering the results of all three models, he concludes that "a reasonable and conservative DCF return for PSE in this case is 9.30 [percent], based on my constant growth DCF model."[96] Mr. Gorman considers the sustainable and multi-stage growth models to be corroborative of the constant growth result on which he relies.

iv. Mr. Parcell

73 Mr. Parcell selects his own 13 member proxy group of electric and/or combination electric/natural gas utilities on the basis of six criteria:

- Market capitalization of $1 billion to $5 billion.
- Electric revenues 50 percent or greater.
- Common equity ratio 40 percent or greater.

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[94] *Id.* at 13:1-2 (internal citation omitted).

[95] Gorman, Exh. No. MPG-3T at 21:6-7 (Table 1 – Summary of DCF Results).

[96] *Id.* at 21:7-8.

- Value Line Safety rating of 1, 2, or 3.
- Moody's single-A, or S&P's triple B, bond ratings.
- Has paid, and not reduced, dividends in the past five years.

He also runs analyses using Dr. Morin's and Mr. Gorman's proxy groups. Mr. Parcell's table summarizing his results shows variability across proxy groups, based on the same measures of central tendency, of as much as 90 basis points.[97] This serves to illustrate, among other things, that the selection of one proxy group or another can significantly affect results.

74 Mr. Parcell uses a constant growth DCF model. He uses the average of high and low stock prices for each member of each proxy group for the three-month period, January through March 2013. His dividends, presumably from the same quarter, are taken from Yahoo! Finance. Mr. Parcell, to determine the first year dividend yield, uses the formula:

$$Yield = \frac{D_0(1+0.5g)}{P_0}$$

Thus, he adjusts the current annualized dividend (*i.e.,* D_0) by one-half the expected annual growth instead of the full annual growth as advocated by Dr. Morin and Mr. Gorman.[98] That is, while Mr. Parcell adjusts D_0 by a factor of (1 + 0.5g), Dr. Morin and Mr. Gorman use a factor of (1 + g).

75 Mr. Parcell testifies that "[t]he objective of estimating the dividend growth component is to reflect the sustainable long term growth expected by investors that is embodied in the price (and yield) of a company's stock."[99] This being the case, Mr. Parcell discusses "that individual investors have different expectations and consider alternative indicators in deriving their expectations."[100] Given the wide array of

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[97] Parcell, Exh. No. DCP-1T at 17:13-16; *see also* Exh. No. DCP-7.

[98] Dr. Morin criticizes Mr. Parcell's approach, testifying that it understates the return expected by the investor in the first year because the DCF model assumes dividends are received annually and that the first dividend is received one year from the time of the analysis. Morin, Exh. No. RAM-1T at 17:8-19. Mr. Parcell does not explain why he chose to use the one-half year's growth adjustment.

[99] Parcell, Exh. No. DCP-1T at 15:20-23.

[100] *Id.* at 15:23-16:2.

information available to investors, Mr. Parcell selects five indicators of growth in his DCF analyses, all of which were available to investors as of the first quarter of 2013. These are:

- 2008–2012 (five-year average) earnings retention, or fundamental growth.
- Five-year average of historic growth in earnings per share (EPS), dividends per share (DPS), and book value per share (BVPS).
- 2013, 2014 and 2016–2018 projections of earnings retention growth.
- 2010–2012 to 2016–2018 projections of EPS, DPS, and BVPS.
- Five-year projections of EPS growth (per First Call).

Value line is the source for these data, except for the five-year projections of EPS growth. He takes this information for his own proxy group from First Call. For Dr. Morin's and Mr. Gorman's proxy groups he uses "the EPS growth projections that were contained in their respective testimonies, since past projections are not readily available from First Call."[101]

76 Mr. Parcell's detailed results from his DCF calculations are displayed in Exh. No. DCP-7. He cautions that his individual DCF calculations "should not be interpreted to reflect the expected cost of capital for the proxy groups; rather, the individual values shown should be interpreted as alternative information considered by investors."[102] In his discussion of his overall DCF results, Mr. Parcell points out that his "analysis reflects a broad DCF range of 8.1 percent to 9.7 percent for the proxy groups," a range of 160 basis points.[103] In the final analysis, Mr. Parcell elects to give

[101] *Id.* at 16:20 n. 2.

[102] *Id.* at 17:17-20.

[103] The basis for this statement is not entirely clear. Mr. Parcell testifies, "This is approximated by the average/mean value and high values for the proxy groups examined in the previous analysis." In point of fact, the average/mean value in his table is 8.5 percent. The median Mr. Parcell calculates using Mr. Gorman's proxy group is the only 8.1 percent result portrayed this result cannot be replicated by taking other averages from Mr. Parcell's table. It is perhaps more noteworthy that the full range of Mr. Parcell's analytical results using the DCF model is from 6.6 percent (median low using Parcell proxy group) to 9.7 percent (median high using Parcell proxy group), a rather dramatic spread of 310 basis points.

less weight to the low values and average values of the groups he analyzes. He focuses on the highest values, those that rely on EPS growth. In his judgment, "9.1 percent to 9.7 percent (9.4 percent mid- point) reflects the proper DCF cost for PSE."[104] In the final analysis, considering these results and his Comparable Earnings study, discussed separately below, Mr. Parcell recommends a 9.5 percent ROE for PSE as of early 2013. He testifies, in explanation, that:

> I focus on the highest DCF rates, as well as highest CE rates later in my testimony, in order to be conservative. Had I emphasized mean/median values, as other analysts might reasonably have done, my recommended cost of equity for PSE would have been lower.[105]

77 Mr. Hill criticizes Mr. Parcell for focusing on his highest DCF results without providing a rationale other than his wish to be "conservative."[106] Mr. Hill acknowledges, however, that:

> Cost of capital analysis cannot exist without the use of judgment by the analyst, and if Mr. Parcell believes it necessary to be "conservative" and recommend a result higher than the central indication produced by his DCF analysis, that is his prerogative.[107]

b. Capital Asset Pricing Model (CAPM)

78 Each of the four cost of capital experts uses the Capital Asset Pricing Model (CAPM) as a second measure of PSE's cost of equity capital. The range of results is extremely large, over 360 basis points, from Mr. Parcell's 6.70 percent ROE to the higher of Dr. Morin's two CAPM results, 9.80 percent (traditional CAPM) and 10.30 percent (empirical CAPM). Mr. Hill, at 7.42 percent, and Mr. Gorman at 8.40 percent, fall in between.

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[104] Parcell, Exh. No. DCP-1T at 18:8-10.

[105] *Id.* at 18:13-15.

[106] Hill, Exh. No. SGH-21T at 1:21-4:15.

[107] *Id.* at 3:21-4:1.

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

$K = Rf + \beta \times (Rm - Rf)$ where:

K = Required return for stock
Rf = Risk-free rate
Rm = Expected return for the market portfolio
β = Beta - Measure of the risk for stock[108]

$(R_M - R_F)$ is the market risk premium (MRP).

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

80 Dr. Morin relies on "noted economic forecasts" to estimate a risk-free rate of 4.6 percent for in his traditional and empirical CAPM analyses.[109] These forecasts expect interest rates to increase in response to "the recovering economy, renewed inflation, and record high federal deficits."[110] The benchmark he uses is the 30-year U.S. Treasury Bond. Dr. Morin testifies that this is appropriate "because common stocks are very long-term instruments more akin to very long-term bonds rather than to

[108] Beta represents investment risk that cannot be diversified away when a security is held in a diversified portfolio. When stocks are held in a diversified portfolio, firm-specific risks can be eliminated by balancing the portfolio with securities that react in the opposite direction to firm-specific risk factors (*e.g.*, business cycle, competition, product mix, and production limitations). Risks that cannot be eliminated when stocks are held in a diversified portfolio are non-diversifiable risks related to the market in general and are referred to as systematic risks. In a broad sense, systematic risks are market risks, and non-systematic risks are business risks. The CAPM theory suggests that the market will not compensate investors for assuming risks that can be diversified away but will compensate them for systematic or non-diversifiable risks. Beta is a measure of the systematic or non-diversifiable risks. *See* Gorman, Exh. No. MPG-3T at 26:18-27:9; Exh. No. MPG-25T at 30:22-31:13. *See also*, Morin, Exh. RAM-1T at 34:1-14; Hill, Exh. No. SGH-2T at 32:6-21.

[109] Morin, Exh. No. RAM-1T at 30:18-21.

[110] *Id.*

short-term Treasury bills or intermediate-term Treasury notes."[111] It is appropriate to use forecast rates, Dr. Morin says, because "CAPM is a forward-looking model based on expectations of the future" and "while investors examine history as a guide to the future, it is the expectations of future events that influence security values and the cost of capital."[112]

81 The forecast yields on 30-year U.S. Treasury bonds on which Dr. Morin relies are taken from three sources: Global Insight, Value Line, and Consensus Economics Inc.[113] He reports and discusses 30-year Treasury yield forecasts as of the first half of 2013 for the years 2014-2017, and relies on an average of these data for his conclusion that "a long-term bond yield forecast of 4.6 [percent] is a reasonable estimate of the expected risk-free rate for purposes of his two CAPM analyses for PSE for the first half of 2013."[114]

82 Dr. Morin derives his .72 beta for PSE by averaging the betas of the publicly traded companies in his proxy group. This use of proxies is necessary because PSE is privately held.

83 Dr. Morin calculates a market risk premium (MRP) based on the results obtained in the Morningstar (formerly Ibbotson Associates) study, Ibbotson SBBI 2014 Classic Yearbook, which compiles historical returns from 1926 to 2013.[115] Dr. Morin testifies that:

> This well-known study shows that a very broad market sample of common stocks outperformed long-term U.S. Government bonds by 6.2%. The historical MRP over the income component of long-term Government bonds rather than over the total return is 7.0%. Morningstar recommends the use of the latter as a more reliable estimate of the historical MRP, and I concur with this viewpoint.[116]

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[111] *Id.* at 31:3-5.

[112] *Id.* at 33:14-21.

[113] *Id.* at 44:2-7.

[114] *Id.* at 44:8-45:5. Although Dr. Morin testifies "[t]he average over the 2015-2017 period is 4.6%," this actually is the average over the 2014-2017 period (i.e., 3.6 + 4.3 + 5.0 + 5.4 = 18.3; 18.3 ÷ 4 = 4.575).

[115] *Id.* at 34:15-18.

[116] *Id.* at 34:18-23.

He believes using the income component is appropriate because it better estimates what investors expect in the way of return looking forward, given that "both realized capital gains and realized losses are largely unanticipated by bond investors."[117]

84 Dr. Morin uses a MRP of 7.2 percent in his CAPM analyses based on the results of a series of computations that rely on data from Value Line including both forward-looking forecasts and historical studies of long-term risk premiums.[118] As a check on his result, Dr. Morin says a 7.2 percent MRP is consistent with the upper end of the range he and other finance experts have found in the "fertile literature on the MRP" to be a reasonable range for MRP in the United States. In the final analyses, Dr. Morin testifies:

> Inserting a risk-free rate of 4.6%, a beta of 0.72, and a MRP of 7.2% into the traditional CAPM equation yields an estimate of the cost of common equity for PSE for the first half of 2013 of 9.8%:
>
> $$K = R_F + \beta \times MRP$$
>
> $$4.6\% + 0.72 \times 7.2\% = 9.8\%$$
>
> Using the same values in an alternative equation Dr. Morin refers to as the "Empirical CAPM", he arrives at a somewhat higher result, as follows:
>
> $$K = R_F + 0.25(R_M - R_F) + 0.75\beta(R_M - R_F)$$
>
> $$4.6\% + (0.25 \times 7.2\%) + (0.75 \times 0.72 \times 7.2\%) = 10.3\%$$

The Empirical CAPM differs from the traditional CAPM by taking into account that "[a] CAPM-based estimate of cost of capital underestimates the return required from low-beta securities and overstates the return required from high-beta securities, based on the empirical evidence."[119]

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[117] *Id.* at 34:23-35:7.

[118] *Id.* at 45:15-20; Exh. No. RAM-7.

[119] *Id.* at 40:16-18. See also Exh. No. RAM-3, which provides "a full discussion of the Empirical CAPM, including its theoretical and empirical underpinnings." Exh. No. RAM-1T at 42:12-13.

85 Mr. Hill, contrary to Dr. Morin, states a preference for using a short-term interest rate indicated by the 13-week U.S. Treasury Bill (T-Bill). However, he testifies, because the Federal Reserve Board (Fed) has acted vigorously over the past four years to lower short-term interest rates such that T-Bills have produced an average yield just above zero, they do not offer a useable value for CAPM analysis. He accordingly relies on his analysis of the long-term trend of Treasury Bond pricing, which indicates a current yield of 3.4 percent, for a long-term risk-free rate.[120]

86 Mr. Hill derives his .67 beta for PSE by averaging the betas of the publicly traded companies in his proxy group. Again, this use of proxies to estimate beta is necessary because PSE is privately held.

87 Mr. Hill uses a MRP of 6 percent, the arithmetic average market risk premium between stocks and T-Bills over the 1926–2010 time period reported by the 2011 edition of Morningstar's *Stocks, Bonds, Bills and Inflation.* Comparing this to the geometric average of 4.4 percent over the same period, Mr. Hill regards this as representing "the upper end of the historical risk premium range."

88 In his summary analysis, Mr. Hill testifies that:

> Exhibit No. SGH-11 shows that the combination of a 3.40 percent risk-free rate, with an average beta of 0.67 and a market risk premium of 6.0 percent is 7.42 percent. That result is considerably lower than the DCF results previously presented.[121]

89 Mr. Parcell's CAPM calculations use the three-month average yield (January–March, 2013) for 20-year U.S. Treasury bonds. He uses 20-year U.S. Treasury bond yields because this is the maturity level employed by the Morningstar source he uses, in part, to develop his market risk premium. Mr. Parcell testifies that over the three-month period he considered, these bonds had an average yield of 2.75 percent.[122]

90 Mr. Parcell testifies that he uses "the most recent Value Line betas for each company in the groups of proxy utilities."[123] He means by "most recent," the Value Line data

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[120] Hill, Exh. No. SGH-2T at 32:22-33:21.

[121] *Id.* at 34:20-35:2.

[122] Parcell, Exh. No. DCP-1T at 20:8-12.

[123] *Id.* at 20:14-19.

available "as of the first quarter of 2013," as indicated in his exhibits and the fact that his betas match those included in Dr. Morin's and Mr. Gorman's CAPM analyses.[124]

91 To estimate market risk premium, Mr. Parcell considers alternative measures of returns of the S&P 500 and 20-year U.S. Treasury bonds. First, he compares the actual annual returns on equity of the S&P 500 with the actual annual yields of U.S. Treasury bonds for the period 1978–2012 (*i.e.*, all available years reported by S&P as of early 2013). Based on these returns, Mr. Parcell determines a risk premium of approximately 6.6 percent.[125]

92 Mr. Parcell also considers the total returns (*i.e.*, dividends/interest plus capital gains/losses) for the S&P 500 group as well as for long-term (20-year) government bonds, as tabulated by Morningstar (formerly Ibbotson Associates), using both arithmetic and geometric means for the entire available 1926–2012 period. He combines these results, 5.7 percent and 4.1 percent respectively, with his 6.6 percent result and concludes that an appropriate MRP for PSE as of early 2013 is 5.5 percent.[126]

93 The results of Mr. Parcell's CAPM analyses collectively indicate a cost of 6.5 percent to 6.8 percent for the three groups of proxy utilities he examines. He concludes that the CAPM cost of equity for PSE is 6.8 percent as of early 2013.[127]

94 Mr. Gorman, testifies that in April 2013 the 30-year Treasury bond yield was 3.10 percent. In his CAPM analysis, he elected to use instead the *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 3.70 percent.[128] He determines an average beta of .70 for his proxy group, relying on Value Line data.[129]

95 Mr. Gorman derives two market risk premium estimates, one forward-looking and one historical. His forward-looking estimate is 7.5 percent, while his estimate based on a long-term historical average is 5.7 percent. He takes the average of these to

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[124] See Exh. DCP-12, note 1. *Compare* Exh. No. DCP-9 to Exh. Nos. RAM-6 and MPG-21.

[125] Parcell, Exh. No. DCP-1T at 20:21-21:10.

[126] *Id.* at 21:11-22.

[127] *Id.* at 22:11-14.

[128] Gorman, Exh. No. 3 at 27:13-18; Exh. No. MPG-20.

[129] Gorman, Exh. No. 3 at 28:12-14; Exh. No. MPG-21.

estimate a MRP of 6.6 percent. Mr. Gorman testifies that this is at the high end of what Morningstar estimates, but still within the range anchored at the high end by 6.7 percent. In his final analysis, Mr. Gorman elects to use Morningstar's market risk premium of 6.7 percent, a risk-free rate of 3.70 percent, and a beta of 0.74. The result is a return on equity estimate of 8.39 percent, which he rounds to 8.40 percent.

c. Risk Premium Model

96 Dr. Morin and Mr. Gorman use other risk premium models that, unlike CAPM, do not adjust for market risk through use of beta. Dr. Morin testifies that such "risk premium analyses are widely used by analysts, investors, economists, and expert witnesses."[130] He testifies further that "risk premium analysis is typically recommended as one of the three leading methods of estimating the cost of capital."[131] The risk premium model is based on the principle that investors require a higher return for common equity investments because they are more risky than bonds. Bonds are a form of debt with coupon obligations that are contractual. Dividends on stock, however, are discretionary and returns on stocks are not guaranteed. Moreover, if a company cannot meet all of its financial obligations, bond payments will take precedence over common equity in a bankruptcy.

97 Dr. Morin analyzes both "historical risk premium" and "allowed risk premium." For the first half of 2013, he estimates a historical risk premium for the utility industry as a whole using an annual time series analysis over the 1931-2011 period, using S&P Utility Index as an industry proxy.[132] He estimates a risk premium by subtracting the long-term Treasury bond return from the actual realized return on equity capital for the S&P Utility Index for each year, using the actual stock prices and dividends from the index. The average risk premium he calculates for common equity over the period is 5.2 percent relative to long-term Treasury Bond yields. Using the same long-term interest rate forecasts for 30-year Treasury Bonds that he relied on in his CAPM analyses, Dr. Morin uses a risk-free rate of 4.6 percent in his historical risk premium analysis. Combining his risk premium result with his risk-free rate, Dr. Morin finds a 9.8 percent cost of equity (*i.e.*, 4.6 percent + 5.2 percent = 9.8 percent).

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[130] Morin, Exh. No. RAM-1T at 55:8-9.

[131] *Id.* at 55:13-15.

[132] Morin, Exh. No. RAM-1T at 54:11-20; Exh. No. RAM-8.

98 Dr. Morin's allowed risk premium models the historical risk premiums implied in the ROEs allowed by regulatory commissions for electric utilities over the 1986-2011 period for which data were available, relative to the contemporaneous level of the long-term Treasury bond yield.[133] Dr. Morin testifies that:

> This variation of the risk premium approach is reasonable because allowed risk premiums are presumably based on the results of market-based methodologies (DCF, CAPM, risk premium, etc.) presented to regulators in rate hearings and on the actions of objective unbiased investors in a competitive marketplace. Historical allowed ROE data are readily available over long periods on a quarterly basis from Regulatory Research Associates (now SNL) and easily verifiable from SNL publications and past commission decision archives.[134]

Dr. Morin finds that the average ROE spread over long-term Treasury yields during the 1986-2011 period for which data were available from SNL was 5.4 percent.

99 Dr. Morin finds noteworthy "[t]he escalating trend of the risk premium in response to lower interest rates and rising competition." He performs a regression analysis on these data and testifies that the statistical relationship between the risk premium (RP) and interest rates (YIELD) over the period is:

$$RP = 8.5100 - 0.5153\ YIELD \qquad R^2 = 0.71$$[135]

Using the same long-term Treasury bond yield of 4.6 percent that he consistently applies in these analyses, Dr. Morin calculates an allowed risk premium of 6.1 percent, implying a cost of equity of 10.7 percent.

100 Mr. Gorman's risk premium model is based on two estimates of an equity risk premium. He first estimates the difference between the required return on utility common equity investments and U.S. Treasury bonds on an annual basis for each year

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[133] Morin, Exh. No. RAM-1T at 58:4-10; Exh. No. RAM-9.

[134] Morin, Exh. No. RAM-1T at 58:10-16.

[135] Dr. Morin testifies that this "relationship is highly statistically significant as indicated by the very high R^2." *Id.* at 59:6-8. Dr. Morin notes: "The coefficient of determination R^2, sometimes called the "goodness of fit measure," is a measure of the degree of explanatory power of a statistical relationship. It is simply the ratio of the explained portion to the total sum of squares. The higher [the] R^2 the higher is the degree of the overall fit of the estimated regression equation to the sample data." *Id.* note 4

over the 27 year period from 1986 through 2012.[136] The difference between the required return on common equity and the Treasury bond yield is the risk premium. Mr. Gorman's common equity required returns are based on regulatory commission-authorized returns for electric utility companies. His authorized returns are based on expert estimates of the contemporary investor-required return.

101 Mr. Gorman testifies that 21 of the 27 indicated risk premiums fall in the range of 4.41 percent to 6.18 percent.[137] Focusing on this subset of the data, Mr. Gorman's analysis shows that the average indicated equity risk premium over U.S. Treasury bond yields has been 5.30 percent. Because the risk premium can vary depending upon market conditions and changing investor risk perceptions, he believes using an estimated range of risk premiums provides the best method to measure the current return on common equity using this methodology.[138]

102 Mr. Gorman's second equity risk premium estimate is based on the difference between regulatory commission-authorized returns on common equity and contemporary A-rated utility bond yields, again over the period 1986 through 2012.[139] During this period, he testifies, public utility stocks consistently traded at a premium to book value (*i.e.*, were consistently above 1.0). Mr. Gorman states the fact that regulatory authorized returns were sufficient to support market prices that at least exceeded book value during this period indicates that regulatory authorized returns on common equity supported a utility's ability to issue additional common stock without diluting existing shares. Analyzing 21 of the 27 years of data that fall in the range of 3.03 percent to 4.88 percent, Mr. Gorman determines that the average indicated equity risk premium over contemporary Moody's utility bond yields was 3.89 period over the period 1986 through 2012. [140]

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[136] Gorman, Exh. No. 3 at 22:1-8.

[137] Gorman, Exh. No. MPG-17. It is not clear why Mr. Gorman elected to eliminate six years from his data when identifying this range and calculating this average, including the most recent years, 2011 and 2012, which show increasing and markedly higher risk premia (*i.e.,* 6.31 percent and 7.09 percent, respectively) for the period closest in time to the period for which we must determine PSE's ROE.

[138] *Id.* at 22:23-23:3.

[139] *Id.* at 22:9-19.

[140] Gorman, Exh. No. MPG-18. Again, as noted above, it is not clear why Mr. Gorman eliminated six years from his data when identifying this range and calculating this average, again excluding the most recent years, 2011 and 2012, which show increasing and markedly higher risk

103 Using the *Blue Chip Financial Forecasts* projected 30-year bond yield of 3.70 percent, and a Treasury bond risk premium of 4.41 percent to 6.18 percent Mr. Gorman produces an estimated common equity return in the range of 8.11 percent (*i.e.,* 3.70 percent + 4.41 percent) to 9.88 percent (*i.e.,* 3.70 percent + 6.18 percent). Based on the large risk premium in the market yield spreads, He elects to give 75 percent weight to his high-end risk premium and 25 percent weight to his low risk premium estimate. This produces an equity risk premium ROE estimate of 9.44 percent.

104 He next adds a 4.67 percent 13-week average yield on Baa-rated utility bonds for the period ending April 19, 2013, to his utility equity risk premia of 3.03 percent to 4.88 percent, producing a cost of equity in the range of 7.70 percent (*i.e.,* 4.67 percent + 3.03 percent) to 9.55 percent (*i.e.,* 4.67 percent + 4.88 percent). Again, recognizing the unusually wide Treasury to utility bond yield spreads, he weights these results as described above and recommends a risk premium ROE of 9.09 percent.

105 In sum, Mr. Gorman testifies that his risk premium analyses produce a return estimate in the range of 9.09 percent to 9.44 percent, with a midpoint of 9.27 percent, which he rounds up to 9.30 percent.

d. Other Methods

i. Comparable Earnings

106 Mr. Parcell adds to his DCF and CAPM analyses a third approach, using a comparable earnings model to estimate PSE's cost of equity. He explains that this method is based on the economic concept of opportunity cost: the prospective return available to investors from alternative investments of similar risk.[141] According to Mr. Parcell:

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premia (*i.e.,* 5.18 percent and 5.88 percent, respectively) for the period closest in time to the period for which we must determine PSE's ROE.

[141] Parcell, Exh. No. DCP-1T at 22:20-22. In this sense, the comparable earnings approach examines cost of capital from a perspective suggested by the *Hope* and *Bluefield* decisions. *See supra* ¶ 38.

> The CE method normally examines the experienced and/or projected returns on book common equity. The logic for examining returns on book equity follows from the use of original cost rate base regulation for public utilities, which uses a utility's book common equity to determine the cost of capital. This cost of capital is, in turn, used as the fair rate of return which is then applied to (multiplied by) the book value of rate base to establish the dollar level of capital costs to be recovered by the utility. This technique is thus consistent with the rate base–rate of return methodology used to set utility rates.[142]

107 Mr. Parcell examines realized returns on equity for the same three groups of proxy electric and combination electric/gas utilities he examined using other methods, as well as unregulated companies. He evaluates "investor acceptance" of these returns by reference to the resulting market-to-book ratios.[143] Mr. Parcell testifies that it is generally recognized for utilities that market-to-book ratios of greater than one (*i.e.*, 100 percent) reflect a situation where a company is able to attract new equity capital without dilution (*i.e.*, above book value).[144] Given this, Mr. Parcell says, a fair cost of equity can be estimated by choosing a rate that maintains stock prices at or above book value.

108 In forming his judgment of the early 2013 cost of equity, Mr. Parcell focuses on two prior periods: 2009–2012, the current business cycle as of early 2013, and 2002–2008, the most recent complete business cycle as of 2013. He also considers the prospective returns on equity for 2013, 2014, and 2016–2018 using Value Line estimates as of early 2013.[145] Summarizing his results showing earned returns on average common equity and market-to-book ratios for the groups of proxy utilities he studies, Mr. Parcell testifies that historic returns of 8.3 percent to 10.3 percent have been adequate to produce market-to-book ratios of 121 percent to 155 percent for the groups of utilities. Projected returns on equity for 2013, 2014 and 2016–2018 are within a range of 8.7 percent to 10.4 percent for the utility groups. These relate to 2012 market-to-book ratios of 136 percent or greater.[146] Based on recent earnings and

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[142] *Id*. at 23:5-11.

[143] *Id*. at 23:15-18.

[144] *Id*. at 23:19-21.

[145] *Id*. at 24:9-21.

[146] *Id*. at 25:14-19.

market-to-book ratios, Mr. Parcell concludes that his CE analysis indicates a cost of equity in the 9.0 percent to 10.0 percent range.[147]

ii. Modified Earnings-Price Ratio (MEPR)

109 Mr. Hill, in addition to DCF and CAPM analyses, conducts a modified earnings-price ratio (MEPR) analysis and a market-to-book analysis. Describing his MEPR analysis, Mr. Hill explains that it depends on understanding the relationships among the earnings-price ratio, the expected return on equity, and the market-to-book ratio as follows:

> When the expected return (ROE) approximates the cost of equity, the market price of the utility approximates its book value and the earnings-price ratio provides an accurate estimate of the cost of equity. As the investor-expected return on equity for a utility (ROE) begins to exceed the investor-required return (the cost of equity capital), the market price of the firm will tend to exceed its book value. Also as explained above, in that instance the earnings-price ratio understates the cost of equity capital.
>
> Conversely, in situations where the expected equity return is below what investors require, market prices fall below book value. Further, when market-to-book ratios are below 1.0, the earnings-price ratio overstates the cost of equity capital. Thus, the expected rate of return on equity and the earnings-price ratio tend to move in a countervailing fashion around a central locus, and that central locus is the cost of equity capital. Therefore, the average of the expected book return and the earnings price ratio provides a reasonable estimate of the cost of equity capital.
>
> These relationships represent general rather than precisely quantifiable tendencies but are useful in corroborating other cost of capital methodologies. The Federal Energy Regulatory Commission, in its generic rate of return hearings, found this technique useful and indicated that under the circumstances of market-to-book ratios exceeding unity, the cost of equity is bounded above by the expected equity return and below by the earnings-price ratio.[148] The mid-point of these two parameters, therefore, produces an estimate of the cost of equity capital which, when market-to-book ratios are different from

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[147] *Id.* at 26:18-19.

[148] *E.g.,* 50 *Fed Reg,* 1985, p. 21822; 51; *Fed Reg,* 1986, pp. 361, 362; 37 FERC ¶¶ 61,287.

> unity, is considerably more accurate than the earnings-price ratio alone.[149]

110 In his MEPR analysis Mr. Hill uses IBES projected 2014 per share earnings for each of the firms in his proxy group, 2013 market prices (*i.e.*, the same market prices used in his DCF analysis), and Value Line's 2013 projected returns on equity for 2013 and 2016-2018. Mr. Hill determines the average earnings-price ratio for the electric and gas utility sample group to be 6.69 percent. He testifies that this is below the cost of equity for those companies due to the fact that their average market-to-book ratio of 1.58 is well above unity. The 2013 expected book equity return for Mr. Hill's proxy companies averages 9.73 percent. The mid-point of these two parameters provides an estimate of the cost of equity return of 8.21 percent.

111 Mr. Hill's analysis also shows that the average expected book equity return for the proxy group over the next three- to five-year period is 10.20 percent. The midpoint of that long-term projected return on book equity (10.20 percent) and the current earnings-price ratio (6.69 percent) provides a second estimate of the cost of equity at 8.45 percent.

112 The relationships in the MEPR analysis, according to Mr. Hill, "represent general rather than precisely quantifiable tendencies but are useful in corroborating other cost of capital methodologies."[150] Mr. Hill considers DCF to be the most reliable form of cost of equity analysis and in that connection he observes that both of his MEPR results are below the cost of equity estimate provided by his DCF modeling. This indicates, in his view, that his "DCF result may be somewhat overstated."[151]

iii. Market-to-Book Ratio (MTB)

113 Mr. Hill testifies that the Market-to-Book Ratio (MTB) approach to cost of equity analysis is a derivative of the DCF model that adjusts the capital cost derived for inequalities that exist in the market-to-book ratio.[152] Being derived algebraically from the DCF model, he says, MTB analysis cannot be considered a strictly independent

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[149] Hill, Exh. No. SGH-2T at 36:2-37:4.

[150] *Id.* at 36:19-20.

[151] *Id.* at 39:16-17.

[152] *Id.* at 39:21-23.

check of DCF results. He nevertheless finds the MTB analysis "useful in a corroborative sense."[153] Applying the MTB formula:

$$k = \frac{r(1-b)}{P/B} + g$$

which indicates that the cost of equity capital equals the expected return on equity (r) multiplied by the payout ratio (1-b), divided by the market-to-book ratio (Price per share/Book value), plus growth (g), Mr. Hill estimates MTB cost of equity for his proxy group, recognizing an average market-to-book ratio of 1.58, is 8.63 percent using 2013 data, and 8.73 percent using projected three- to five-year data available in 2013.[154] He states that these results "approximate the DCF equity cost estimates derived previously."[155]

e. Summary of Expert Witnesses' Cost of Equity Recommendations

114 Dr. Morin concludes his direct testimony with a useful summary of his results, including the table reproduced here:

Summary of ROE Estimates for PSE for the First Half of 2013

Study	ROE
Traditional CAPM	9.8%
Empirical CAPM	10.3%
Hist. Risk Premium Electric Utility Industry	9.8%
Allowed Risk Premium	10.7%
DCF Electric Utilities Value Line Growth	9.8%
DCF Electric Utilities Analyst Growth	10.1%

Thus, one application of each methodology, CAPM, RP, and DCF yields an estimate of 9.8 percent, defining the low end of Dr. Morin's range of reasonable returns. Dr.

[153] *Id.* at 40:2.

[154] Hill, Exh. No. SGH-14.

[155] Hill, Exh. No. SGH-2T at 41:14-42:5.

Morin's alternative CAPM estimate yields a high end of 10.7 percent for his range of reasonable returns. Dr. Morin considers 10.3 percent to be the "midpoint" of his results.[156] However, the average of his estimates is 10.1 percent, and both the median and truncated mean are 10.0 percent.

115 Dr. Morin cites as additional support for his estimated range of reasonable returns the current issue of AUS Utility Reports, which publishes the currently outstanding allowed ROEs for the electric utilities in his proxy group. He tabulates these results and calculates the average authorized ROE for these companies to be 10.2 percent. Dr. Morin testifies that this "is almost identical to the midpoint of my recommended range (10.3%) and exceeds PSE's currently authorized ROE of 9.8%."[157]

116 Mr. Hill also summarizes his results in a table, reproduced here:

2013 Cost of Equity Analyses

Method	Cost of Equity
Discounted Cash Flow	8.69%
Mechanical DCF	8.33%
Capital Asset Pricing Model	7.42%
Modified Earnings Price Ratio	8.21%/8.45%
Market-to-Book Ratio	8.63%/8.73%

Referring to these results, he testifies that:

> The DCF, which is the most reliable indicator of the current cost of equity, indicates a cost of equity capital of 8.69 percent. The average of the corroborating analyses (Mechanical DCF, CAPM, MEPR, and MTB) indicates a cost of equity ranging from 8.15 percent to 8.23 percent. That information indicates that the 8.69 percent traditional DCF result may be somewhat overstated as an estimate of the target 2013 cost of common equity capital for Puget.
>
> Given the results described and rounding to the nearest quarter percent, a reasonable point-estimate for the current cost of common equity

[156] Morin, Exh. No. RAM-1T at 24:1-2.

[157] *Id.* at 66:1-9.

capital for an electric utility with risk characteristics similar to Puget and sample group analyzed is 8.75 percent. As noted in the discussion of the economic environment, however, the expectation in May and June of 2013 with regard to the economy and interest rates is that with a continued economic expansion, interest rates will increase over the next two years.[158] Therefore, taking that expectation into account a reasonable range for setting equity capital cost rates ranges from 8.50 percent to 9.50 percent. The mid-point of that range is 9.00 percent.

According to the May 2013 edition of AUS Utility Reports, the average senior bond rating of the sample group of companies used to estimate the cost of common equity is "BBB+" (Standard & Poor's) and "A3" (Moody's). Puget Sound Energy's senior bond rating is "A-" from S&P and "A3" from Moody's. Therefore, Puget Sound Energy's senior bond rating is slightly higher than that of the sample group, but generally quite similar. In addition, the Company's ratemaking common equity ratio (48 percent) is similar to the average common equity ratio of the sample group of companies (47.7 percent). For these reasons, absent any other adjustments for risk, a return on common equity at the mid-point established by the sample group would be appropriate.

An allowed return on common equity of 9.0 percent would have been a reasonable allowed return for Puget's electric utility operations, absent the implementation of a decoupling rate design. However, as I will discuss in detail subsequently, decoupling does lower the Company's operating risk and with that additional risk reduction, Puget's allowed return should be reduced below the 9.0 percent mid-point of a reasonable range. With decoupling, the Company's allowed return on common equity at mid-year 2013 should be 8.65 percent--35 basis points below the market-based cost of equity.[159]

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[158] As noted previously in this testimony, with the 20-20 hindsight afforded by this investigation, we know now that interest rates did not rise as predicted and it was not necessary to include those expectations in the equity cost estimate. However, we did not have that knowledge in 2013 and it is not applied after-the-fact here.

[159] Hill, Exh. No. SGH-2T at 42:14-44:8.

117 Asked to summarize his cost of capital recommendations, Mr. Parcell testifies:

> My three analyses produce the following results:
>
> | | | |
> |---|---|---|
> | DCF | 9.1–9.7% | (9.4% mid-point) |
> | CAPM | 6.5–6.8% | (6.7% mid-point) |
> | CE | 9.0–10.0% | (9.5% mid-point) |
>
> These results indicate an overall broad range of 6.5 percent to 10.0 percent, which focuses on the respective ranges of my individual model results. Focusing on the respective midpoints, the range is 6.7 percent to 9.5 percent. I recommend a return on equity range of 9.0 percent to 10.0 percent for PSE as of the early 2013 time frame. Though this recommendation is higher than my CAPM findings, it approximates the lower end of my DCF and CE ranges (9.0 percent) and the upper end of my CE range (10.0 percent). The mid-point of my range is 9.5 percent, which is my recommended cost of common equity.[160]

118 Mr. Gorman summarizes his results in the table reproduced here:

Return on Common Equity Summary

Description	**Current Results**
DCF	9.30%
Risk Premium	9.30%
CAPM	8.40%

He testifies that "[b]ased on my analyses, I estimate PSE's current market cost of equity to be 9.30%."[161]

C. Commission Determination of a Range of Reasonable Returns

119 Our discussion above of the modeling that supports to varying degrees each of the four expert witnesses' recommended ranges and point values for a return on equity for PSE as of early 2013 illustrates the wide range of results ROE estimation can

[160] Parcell, Exh. No. DCP-1T at 27:13-28:2.

[161] Gorman, Exh. No. MPG-3TT at 31:15.

produce even when analyzing cost of capital for a company during a well-defined period of a few months. While it is possible to level criticism at one witness' or another's selection of companies to include in a proxy group, approach to determining a representative stock price, the starting (*i.e.*, first year) dividend, a growth rate, or a market risk premium, such criticism is of little force.[162] The methods of ROE estimation used by these experts have been relied on for many years and are generally accepted by regulatory authorities, including this commission. The judgments exercised by each expert in this case in selecting analytical models and data to populate their chosen models cannot reasonably be rejected as unsound. Indeed, the experts' various judgments are all well-grounded, albeit sometimes grounded in different rationales supporting the choices they reflect.

120 Put differently, the results of the expert witnesses' analyses of a market-based ROE for PSE as of early 2013 portrayed below in Table 2 are all credible. These results define a range of *possible* returns from 6.50 percent to 10.70 percent applying several variations of the DCF, CAPM, and RP methodologies, and additional results based on the CE, MEPR, and MBR methods, all of which are accepted by this Commission as yielding useful, albeit not individually definitive, information.[163] The Commission must apply its own expert judgment to identify the range of *reasonable* returns it finds within the wider range of results reported by the expert witnesses.

[162] The four experts do criticize each other's methods, data selection, and results at some length. We touch on some of this cross-criticism in our discussion above but find that none of it is persuasive to the point of discrediting the analytical results of any of the witnesses. We note that a significant part of the critical testimony is tautological, cast mostly in terms of: "if witness X had simply used my assumptions, or the data I would have chosen to populate his chosen models and approaches, his results would be closer to, or match, my own." We do not discuss such testimony in our Order for the simple reason that it is entitled to little, or no, weight.

[163] We note, in fact, that Mr. Parcell did not give any weight to his own CAPM results of 6.50 – 6.80 percent in making his recommendation, considering these results only in terms of how market conditions during the relevant time period can impact the methodology and produce results he describes as an "outlier." TR. 591:2-17; 659:9-18.

TABLE 2

		MORIN	HILL	PARCELL	GORMAN
MODEL	**VARIATION**				
DCF	Constant Growth Value Line	9.80		9.10-9.70 9.40	
	Constant Growth Consensus Analysts	10.00	8.33		9.30
	Sustainable Growth		8.69		8.40
	Multi-Stage				9.00
CAPM	Traditional	9.80	7.42	6.50-6.80 6.70	8.40
	Empirical	10.30			
RP	Allowed	10.70			9.30
	Historical	9.80			
CE				9.00-10.00	
MTB			8.21-8.45		
MEPR			8.63-8.73		
OVERALL RANGE		9.8-10.70	7.42-8.73	6.50-10.00	8.40-9.30
RANGE WITNESS SELECTS AS "REASONABLE"		9.8-10.70	8.50-9.50	9.00-10.00	8.40-9.30
RECOMMENDATION		*See infra* ¶ 121	9.00	9.50	9.30

121 Dr. Morin identifies what he considers to be a range of reasonable returns, 9.8 percent to 10.70 percent, but does not make a point value recommendation within this range. This is explained by Mr. Doyle, PSE's Chief Financial Officer, who testifies for the Company that:

> The evidence from the first half of 2013 supports a higher cost of capital than what PSE agreed to in the 2013 proceeding. The evidence supports (i) an ROE in excess of 9.8 percent and (ii) a capital structure including an equity ratio and a long-term debt ratio both in excess of 48 percent.
>
> Despite this evidence justifying a higher cost of capital, PSE is committed to the terms it proposed to the Commission in its 2013

> filings—a multi-year rate plan with decoupling based upon an authorized ROE of 9.8 percent and an authorized rate of return of 7.77 percent that includes an equity ratio of 48 percent.[164]

122 Dr. Morin would have us give all of his methods and results equal weight, as he does himself, thus suggesting his view that his full range of results from 9.8 – 10.7 percent is within the range of reasonable returns.[165] We find, however, that his higher results are too high to be considered reasonable for purposes of setting rates. The suggestion that the Commission might have adjusted PSE's ROE upward by 90 basis points from the level approved in 2012 is simply not tenable considering the general state of the market during this period and the Commission's historic practice of changing ROE levels gradually from one case to the next. Dr. Morin's somewhat lower DCF-based values, on the other hand, are reasonable to consider as defining the high end of the range of reasonable returns in early 2013.

123 Mr. Hill testifies that, in his judgment, a reasonable range for setting market-based equity capital cost rates for PSE in early 2013 ranges from 8.50 percent to 9.50 percent. The mid-point of that range is 9.00 percent. Mr. Hill recommends 9.0 percent as a point value, a level approximately 30 basis points higher than his highest analytical results.[166]

124 Mr. Hill does not disagree with Dr. Morin that more than one model should be used when estimating ROE and, while he finds them all "helpful," he testifies that "DCF is probably the most reliable of all of them."[167] Indeed, he bases his recommended range and point value for ROE principally on his DCF results, considering the other models as producing "corroborating" results, as previously discussed.[168]

125 We find Mr. Hill's 9.0 percent ROE too low for the same reason we find Dr. Morin's 10.7 percent ROE too high. The Commission would not consider an 80 basis point

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[164] Doyle, Exh. No. DAD-4T at 3:8-15.

[165] TR. 655:18-666:13.

[166] Having adjusted his analytical results up by 30 basis points, Mr. Hill proposes a separate decrement to his market-based recommendation to account for decoupling, leaving his recommended ROE at 8.69 percent.

[167] TR. 657:25-658:2.

[168] We note, however, that Mr. Hill's 7.42 percent CAPM does not appear to be particularly supportive of his recommendation.

reduction in ROE in June 2013, relative to the level established in May 2012, as reasonable for ratemaking under the prevailing market conditions during the relevant period. Nor would such a significant change in one step be consistent with historical ratemaking practice in Washington.

126 Mr. Parcell identifies a range of reasonable returns from 9.00 percent to 10.00 percent based on his CE and DCF analyses. He selects the mid-point, 9.50 percent, as his recommendation to the Commission.

127 Although Mr. Parcell routinely uses DCF, CAPM, and CE analyses in preparing cost of capital testimony, he affords different weights to different methodologies and may, as in this case, not consider some results in making his ROE recommendation. Thus, he focuses in this case on his DCF and CE results. Although we find the bottom end of Mr. Parcell's range a bit low, for the same reasons discussed in connection with Mr. Hill, Mr. Parcell's mid-point and point value recommendation, 9.5 percent, is within the range of reasonable returns.

128 Mr. Gorman testifies to his professional judgment that we need to consider:

> [T]he findings of multiple market-based models and estimating the best estimate of return on market cost of equity in each rate case. I, too, have been in this business for over 20 years, and there have been periods where cost of good DCF numbers are way too high and way too low. There have been periods where risk premiums are skewed one direction or another. The CAPM analysis also can move around quite a bit. So I think there needs to be the development of independent models and then use of sound judgment based on observable market evidence and interpreting the results of those models and whether or not they make sense in today's marketplace.[169]

Mr. Gorman does not expressly identify a range of reasonable returns in his 2013 testimony, but selects 9.30 percent, the high end of his DCF results and his RP result, as his recommended point value for PSE's ROE at that time. Mr. Gorman offers a clarifying perspective on his 2013 analyses and results in his response testimony filed on December 3, 2014, during the remand phase. There Mr. Gorman expressly identifies his full range of results, 8.4 percent to 9.3 percent, as "my recommended

[169] TR. 656:16-657:4.

range."[170] Nevertheless, he still ultimately relies on his constant growth DCF model and RP results and recommends a 9.3 percent point value for ROE, at the high end of all of his analytical results.[171]

129 It is the Commission's practice to consider the full range of cost of capital evidence presented in every case, though the weight the Commission gives to one method or another, and to the various witnesses' analytical results, is not the same in every case. In this case, we find it appropriate to give primary weight to the DCF results, as we did, for example, in PSE's most recent, fully litigated general rate case.[172] All four witnesses use this approach. Since at least 1988, "the DCF method has become the most popular technique of estimating the cost of equity, and it is generally accepted by most commissions. Virtually all cost of capital witnesses use this method, and most of them consider it their primary technique."[173] The DCF results support *possible* ROEs in the range of 8.3, determined by Mr. Hill, to 10.0, determined by Dr. Morin. Mr. Gorman's and Mr. Parcell's various results fall within this broad range. are at 9.3 percent and 9.4 percent, respectively, based on their DCF analyses.

130 Focusing on the individual witnesses DCF analyses we give more weight to Dr. Morin's and Mr. Gorman's constant growth models than to other results shown in Table 2. The models producing these results are closely comparable in terms of methodology and are truer to the DCF method, as originally conceived, than are other approaches. Dr. Morin's and Mr. Gorman's testimonies describing their use of the constant growth model are straightforward, transparent, and easy to understand. We cannot say this about Mr. Hill's or Mr. Parcell's DCF analyses.

131 Mr. Hill's analyses and determinations of growth rates for the individual companies in his proxy group are difficult to follow. Moreover, his modeling results do not support fully the market-based ROE he recommends.[174] Among the four witnesses he

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[170] Gorman, Exh. No. MPG-25T at 1:17-22.

[171] Gorman, Exh. No. RPG-3T at 21:5-8.

[172] *See, e.g., 2011/2012 PSE GRC Order* ¶ 89.

[173] James C. Bonbright, *et al.*, Principles of Public Utility Rates 317-18 (2nd ed. 1988).

[174] Mr. Hill testifies that:

> Given the results described and rounding to the nearest quarter percent, a reasonable point-estimate for the current cost of common equity capital for an electric utility with risk characteristics similar to Puget and sample group analyzed is 8.75 percent. As noted in the discussion of the economic

is the only one who finds his DCF and other analyses inadequate, standing alone, to yield a market-based ROE.[175] There seems a certain arbitrariness in his determination of growth rates and in reaching his final recommendation that leaves us less confident in his modeling than we are in the DCF modeling performed by Dr. Morin and Mr. Gorman.

132 We also are concerned that Mr. Hill selected a period for measuring stock prices and dividend yields (*i.e.,* May and June 2013) that is out of sync with the other witnesses who focused on periods for which data would have been available by April 26, 2013, when response testimony was required to be filed in the proceedings below. This makes it difficult for us to confidently compare Mr. Hill's results with those of the other cost of capital witnesses who relied on data that would have been available prior to the date for filing response testimony in the proceedings that led to Order 07.

133 Mr. Parcell performs six DCF analyses using different growth rates. This produces results that range over 310 basis points from a low composite median of 6.6 percent using historical retention growth to a high composite median of 9.7 percent using First Call EPS growth. Although there is nothing inherently wrong in his decision to be "conservative" and select only his highest results, Mr. Parcell provides insufficient discussion of his analysis and decision to instill in us a high sense of confidence in his results. Again, we find better supported results and have more confidence in Dr. Morin's and Mr. Gorman's analyses than those of Mr. Parcell.

134 We find the CAPM analyses less useful in this case than in some others. The results across the experts' analyses range over 330 basis points from Mr. Parcell's low-end estimate of 6.5 percent to Dr. Morin's estimate of 9.8 percent. Such a range of results suggests the CAPM model may be less well suited to the task of estimating ROEs in

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> environment, however, the expectation in May and June of 2013 with regard to the economy and interest rates is that with a continued economic expansion, interest rates will increase over the next two years. Therefore, taking that expectation into account, a reasonable range for setting equity capital cost rates ranges from 8.50 percent to 9.50 percent. The mid-point of that range is 9.00 percent.

Hill, Exh. No. SGH-2T at 43:1-10.

[175] We note with interest, however, that Mr. Hill's recommendation to make a 30 basis point reduction to his 9.0 percent recommended return to account for decoupling, brings his final recommendation in this case back to 8.7 percent, which is what his DCF and MTB analyses indicate at the high end. This arguably suggests, despite his contrary view, that his modeling captures inherently what he considers to be the impact of decoupling.

today's markets. Certainly it is true that bond prices are influenced strongly by government intervention in the form of extraordinarily low interest rates that have resulted in low prices and depressed yields for some time now.

135 Moreover, with the exception of Dr. Morin, the experts' CAPM analyses do not lend support to their respective ROE recommendations. That is, Mr. Parcell recommends a 9.5 percent ROE, yet his CAPM results support only a 6.7 percent ROE, a spread of 280 basis points. Mr. Parcell finds his CAPM results to be "an outlier" relative to his DCF and CE analyses, and does not consider them in stating what he determines to be a range of reasonable returns. Mr. Hill recommends a 9.0 percent ROE, yet his CAPM analysis produces a result 160 basis points lower, at 7.42 percent. He considers CAPM to be a "corroborating" model, but relies principally on his DCF results, which he regards generally as the most reliable model.[176] Mr. Gorman's CAPM, at 8.4 percent is at best only slightly supportive of his recommended 9.3 percent ROE. In contrast, Dr. Morin's CAPM analyses, at 9.8 percent and 10.3 percent align closely with his other risk premium analysis (*i.e.*, 9.8 - 10.7 percent) and his DCF results (*i.e.*, 9.8 - 10.0 percent).

136 Dr. Morin's and Mr. Gorman's historical risk premium analyses produce somewhat similar results at 9.80 percent and 9.30 percent respectively.[177] Dr. Morin's historical RP result supports the low end of his range of reasonable returns. Mr. Gorman's risk premium analysis supports the high end of his results.

137 Dr. Morin also models "allowed risk premium" using the historical risk premiums implied in the ROEs allowed by regulatory commissions for electric utilities over the 1986-2011 period for which data were available, relative to the contemporaneous level of the long-term Treasury bond yield. This leads to a 10.7 percent ROE that defines the high end of Dr. Morin's suggested range of reasonable returns.

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[176] We do not find a 7.42 percent result corroborative of a 9.0 percent recommendation.

[177] Their respective analyses, however, are distinctly different. Dr. Morin uses an annual time series analysis over the 1931-2011 period, using S&P Utility Index as an industry proxy, and arrives at a single point value, 9.80 percent. Mr. Gorman's models, relying on different data sources, produce ranges of results. His model based on Blue Chip Financial Forecasts ranges from 8.11 - 9.88 percent, which he resolves to 9.44 percent based on giving 75 percent weight to the high end and 25 percent weight to the low end. His second model uses 13-week average utility bond yields and produces results that range from 7.70 - 9.55 percent, which he resolves to 9.09 percent using the same 75/25 weighting. He selects the mid-point of the two results, which he rounds to 9.3 percent.

138 We find it appropriate to give secondary weight to these RP results to the extent that they are supportive of the DCF results. In the range of possible returns, the RP results militate in favor of a somewhat higher low-end anchor to a reasonable range than the 9.0 percent Mr. Hill recommends and in favor of a somewhat lower high end anchor than the 10.7 percent suggested by Dr. Morin's analyses. Mr. Parcell's CE model also supports such a narrowing of the range.

139 Mr. Hill's MEPR and MTB approaches support his DCF results, but are lower even than his DCF recommendation of 9.0 percent and significantly lower than the DCF-based recommendations of the other three witnesses. As "corroborating" analyses in any event, we afford these results less weight.

140 Considering all of the analytical evidence in the light of our discussion above, we find the range of reasonable returns best supported by the record is from 9.3 percent to 10.0 percent. This picks up the high end of Mr. Gorman's analytical results considering both his constant growth DCF based on consensus analysts and his RP study. It is also Mr. Gorman's point value recommendation. Further, this 9.3 percent to 10.0 percent range is consistent with Mr. Parcell's range of reasonable returns from 9.0 – 10.0 percent, being 30 basis points higher than the low end of his range and the same as the upper end we identify. The 9.3 percent to 10.0 percent range also captures Mr. Parcell's 9.4 percent DCF result, 9.5 percent CE result, and 9.5 percent point value recommendation.

141 While Mr. Hill's point value recommendation, 9.0 percent, is 30 basis points below the low-end anchor of the range that we find reasonable, it nevertheless is supportive. With respect both to Mr. Parcell's 9.0 percent low anchor and Mr. Hill's 9.0 percent recommendation, we find untenable the implication that an 80 basis point reduction from PSE's ROE established in 2012 would be reasonable as of early 2013. The principle of gradualism would militate strongly against a change of that magnitude absent extraordinary circumstances in the markets.[178] We have no evidence that such circumstances are present in the relevant time frame.

[178] *See, e.g., Utilities & Transp. Comm'n v. PacifiCorp d/b/a Pacific Power & Light*, Docket UE-130043, Order 05 ¶ 63 (December 4, 2013).

D. Commission Determination of a Point Value for ROE

142 The Commission's responsibility to set rates that are fair, just, reasonable, and sufficient turns not on the means by which the individual elements of this general equation are determined, but on its outcome, or "end results."[179] Indeed, the Supreme Court in *Hope* determined that the FPC "was not bound to the use of any single formula or combination of formulae in determining rates."[180] The Court explained that:

> Under the statutory standard of 'just and reasonable' it is the result reached not the method employed which is controlling. It is not theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry under the [Federal Power] Act is at an end. The fact that the method employed to reach that result may contain infirmities is not then important.[181]

In the *Permian Basin* case, another FPC case often cited with *Hope*, the United States Supreme Court embraced the end result test and went on to recognize a "zone of reasonableness" within which approved rates may not be set aside.[182] In *Permian Basin*, the Court also provided the quintessential statement of the standard for review of rate determinations:

> The responsibilities of a reviewing court are essentially three. First, it must determine whether the Commission's order, viewed in light of the relevant facts and of the Commission's broad regulatory duties, abused or exceeded its authority. Second, the court must examine the manner in which the Commission has employed the methods of regulation which it has itself selected, and must decide whether each of the order's essential elements is supported by substantial evidence. Third, the court must determine whether the order may reasonably be expected to maintain financial integrity, attract necessary capital, and fairly

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[179] *See Fed. Power Comm 'n v. Hope Natural Gas Co.*, 320 U.S. 591, 603, 64 S. Ct. 281, 88 L. Ed. 333 (1944) (*Hope*) (the methods by which government regulators determine a utility's rate are inconsequential so long as the *end result* is fair).

[180] *Id.* at 602.

[181] *Id.* This language became known as the "end result" test.

[182] *In re Permian Basin Area Rate Cases*, 390 U.S. 747, 767, 88 S. Ct. 1344, 20 L. Ed. 2d 312 (1968) (*Permian Basin*).

> compensate investors for the risks they have assumed, and yet provide appropriate protection to the relevant public interests, both existing and foreseeable. The court's responsibility is not to supplant the Commission's balance of these interests with one more nearly to its liking, but instead to assure itself that the Commission has given reasoned consideration to each of the pertinent factors.[183]

"Thus," observed the Washington Supreme Court in *POWER,* referring to *Permian Basin* and other authority,[184] "within a fairly broad range, regulatory agencies exercise substantial discretion in selecting the appropriate rate making methodology."[185] The *POWER* Court added that "there is a constitutionally based floor below which a rate ceiling set by a regulatory agency will be reversed by the courts as confiscatory."[186] Quoting another leading U.S. Supreme Court decision, the *POWER* Court states what this means in terms of return:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.[187]

143 These are the fundamental principles that have long guided the Commission when it determines rates of return for a jurisdictional utility such as PSE. With these principles in mind, and having determined from the evidence a range of reasonable returns, we turn to the task of deciding a point value for PSE's ROE as of early 2013.

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[183] *Id.*, 390 U.S. at 791–92, 88 S.Ct. at 1372–73. See also, *POWER,* 104 Wn.2d at 811-12 (quoting *Permian Basin*).

[184] In addition to *Hope* and *Permian Basin*, the Court cites *Jewell v. State Utils. & Transp. Comm'n,* 90 Wash.2d 775, 776, 585 P.2d 1167 (1978).

[185] 104 Wn.2d at 812.

[186] *Id.*

[187] *Id.* at 813 (quoting *Bluefield Water Works & Imp. Co. v. Public Serv. Comm'n,* 262 U.S. 679, 692, 43 S.Ct. 675, 67 L.Ed. 1176 (1923)).

We consider in the balance principally four factors most relevant at that time. These are:

- The effects on PSE's ability to recover a portion of its fixed costs resulting from the Commission's approval of decoupling and a rate plan for PSE in conjunction with updating rates in the ERF dockets.
- The "stretch goal" established via the rate plan that provides escalation factors lower than the Company's historical growth in expenses.
- The Commission's imposition of a sharing mechanism for any earnings in excess of the Company's authorized return.
- The Company's agreements to accelerate its acquisition of conservation and to provide additional funding to support low-income conservation programs.

144 We weigh these factors below and consider whether they militate in favor of a point value for ROE that is at the mid-point of the range of reasonable returns, to the low side of the midpoint, or to the high side of the midpoint.

1. The Effect of Decoupling[188]

145 The Court remanded this case to the Commission "for further adjudication," finding the ERF to be flawed procedurally because the Commission did not comprehensively review PSE's market cost of equity as of early 2013 in the context of a multi-year rate plan. The rate plan included decoupling. By thus framing its order, the Court made sufficiently clear its intention that the Commission should consider the overall framework of the actions it took in Order 07 when determining the Company's ROE as of early 2013.

146 We address in this Order the Court's direction that the Commission receive additional market-based evidence on the ROE question, evaluate this evidence considering the context of the joint proceedings, and decide what ROE the record supports. Thus, we take the perspective that it is not so much whether, but how, we must consider the

[188] The Commission's decision to approve decoupling mechanisms for PSE was not an issue before the Superior Court, as noted in its June 4, 2014, letter ruling.

Commission's simultaneous approvals of the ERF, full decoupling, and the rate plan as we determine a point value for PSE's ROE.

147 Dr. Morin testifies on this question, saying:

> I did not adjust my recommended ROE to account for the impact of a revenue decoupling mechanism on PSE's business risks because my recommended market-derived ROE for PSE is estimated from market information on the cost of common equity for other comparable electric utilities. To the extent that the market-derived cost of common equity for other utility companies already incorporates the impacts of these or similar mechanisms, no further adjustment is appropriate or reasonable in determining the cost of common equity for PSE. To do so would constitute double-counting.[189]

148 During cross-examination on this issue Dr. Morin acknowledges that "a long, long time ago" he recommended adjusting market-based ROE determinations by a "decrement of 25 basis points, because at that time revenue decoupling was singular, innovative, sort of a one-shot deal at one particular commission or two."[190] He testifies further, however, that he has not made such a recommendation since 2008 or 2009 and that: "It's a mechanism that had to be reflected six, seven years ago, but no longer is the case, because it's already embedded in the peer group company data. You don't want to double count the effect."[191]

149 In further cross-examination, Dr. Morin explains his view that changes in the industry and its regulation have led to a proliferation of "risk mitigators" that are all similar to decoupling in terms of their impact on risk. Investors, Dr. Morin testifies, look at these risk mitigators collectively, not individually, when evaluating investments. Thus, Dr. Morin "felt pretty comfortable that [his] peer group reflects the impact of risk mitigators on the cost of capital."[192]

150 In response to questions from the Bench, Mr. Gorman testifies to his view that in PSE's 2011/2012 general rate case, when the Commission determined to leave

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[189] Morin, Exh. No. RAM-1T at 68:3-13.

[190] TR. 569:11-18.

[191] TR. 572:11-13; 15.

[192] TR. 574:6-21.

unchanged the 9.8 percent market-based ROE it decided in Order 07, "the decoupling risk adjustment was not embedded in that number."[193] However, Mr. Gorman agrees with Dr. Morin that the impact of decoupling on risk was adequately reflected in the peer group data and analyses on which the experts relied in evaluating ROE for early 2013 for their remand phase testimony. Specifically on this point, Mr. Gorman says:

> More recent data where the mechanism has been in use and the market is aware of it, it's part of the regulatory mechanisms recognized by credit analysts and other market participants in assessing the investment of risk of PSE, so it's baked into the numbers now, but it's not baked into 9.8.[194]

Responding to a follow-up question, Mr. Gorman confirms that the impact of decoupling, whatever it may be, is reflected in his recommended 9.3 percent ROE for PSE as of early 2013.[195]

151 Dr. Morin and Mr. Gorman take similar approaches and select broad samples of proxy company data to inform their respective cost of capital models as of early 2013. There is considerable overlap between their two samples with 13 out of 22 of Mr. Gorman's sample companies also included in Dr. Morin's sample of 25 companies. They agree that the data drawn from these samples adequately reflect the risk mitigating effect of decoupling. Mr. Gorman, however, appears not to accept that this necessarily implies that both his results and Dr. Morin's results account for the effect of decoupling on risk. Indeed, Mr. Gorman testifies:

> If [PSE], regardless of what was going on in the industry, didn't have a decoupling mechanism at the time the 9.8 percent return on equity was found to be appropriate for its risk at that time, that 9.8 is no longer reasonable if regulatory mechanisms have reduced their operating risk since that time. And that's what's happened. So 9.8 percent return on equity is no longer reasonable for Puget Sound Energy based on that one fact alone.[196]

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[193] TR. 661:3-5.

[194] TR. 661:7-12.

[195] TR. 161:13-16.

[196] Gorman, TR. 667:11-18.

This rationale for rejecting a 9.8 percent ROE for PSE as of early 2013, however, is misplaced. When the Commission approved 9.8 percent ROE in 2012, it was the mid-point of the range of reasonable returns, which the Commission determined was from 9.5 to 10.1 percent.[197] The Commission selected the mid-point of the range while fully aware that PSE had no decoupling mechanisms, though it did have other risk mitigating mechanisms in place, such as a power cost adjustment mechanism and deferred accounting for certain costs. When the Commission elected to retain the previously approved 9.8 percent ROE at the time it entered Order 07, the Commission expressly recognized the risk reducing effect of decoupling and the rate plan and stated that:

> The removal of these risks means an improved opportunity for PSE to recover its authorized rate of return. Moreover, with no adjustments to PSE's capital structure or rate of return on equity, the Company will have the advantage, for the term of the rate plan, of a level of return that *is at the high end of what we presently perceive to be within the range of reasonableness*.[198]

152 We have determined on the basis of the remand evidence, giving significant weight to Dr. Morin's and Mr. Gorman's analyses and conclusions, that the range of reasonable returns for PSE as of early 2013 is 9.3 to 10.0 percent. We find on the strength of these witnesses testimony that the effects of decoupling and other risk mitigating factors are reflected in the proxy group data they analyze on remand. It follows that any ROE we select within that range, whether at the low end, middle, or high end, accounts for the effects of decoupling.

153 We thus reject, as discussed further below, Mr. Hill's contrary view that the proxy groups the witnesses use in their respective analyses do not adequately capture the effect of decoupling "because not all the companies in Dr. Morin's sample group have a similar make-whole revenue decoupling mechanism."[199] Mr. Hill's opinion is that the market-based ROEs to which the various witnesses testify should be reduced outside the cost of capital modeling to recognize a risk reduction factor he ascribes to decoupling. That is, Mr. Hill supports a separate decrement to ROE to account for the risk reducing effect of decoupling.

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[197] 2011/2012 PSE GRC Order ¶ 87.

[198] Order 07 ¶ 25 (emphasis added).

[199] Hill, Exh. No. SGH-2T at 79:4-6.

154 As discussed above, however, the companies in Dr. Morin's proxy group included companies with decoupling mechanisms and risk mitigators that are similar to decoupling in terms of their impact on risk. Dr. Morin explains that had he included in his proxy group only companies with exactly the same decoupling mechanism as PSE this would have resulted in

> a very, very small portfolio of a handful of companies. And the -- statistically, from a reliability point of view, the results would not have been very satisfactory, in my view. So, if you just pick four or five companies that have exactly the revenue decoupling, you have a statistically unreliable sample.[200]

In this connection, Commissioner Jones and Dr. Morin had the following colloquy:

> COMMISSIONER JONES: But I -- and -- and I don't mean to put you too much on the spot here, but it just gets to the point of how granular we should be in our analysis of all these issues. I think you used the word today innovative rate-making mechanisms, supposedly innovative rate-making mechanisms, And whether it's a multiyear rate plan, a CAPEX tracker, a power cost adjustment mechanism, a decoupling mechanism, a power cost adjustment -- a purchase gas adjustment for gas. These are all risk mitigation mechanisms. And so it's -- it's difficult to ascribe a value to that, at least in my mind, to put a value on that as it affects your proxy group. Am I off base here?
>
> DR. MORIN: My point this morning was that investors do not discriminate, oh, this company has revenue decoupling, only covers one-third of revenue. This other company has depreciation tracker. They look at the degree of supportiveness of the commission. They look at risk mitigators as a package deal, is this commission of the new risks that have appeared, the new world order I call it.
>
> And that's the spirit in which I selected the group. They all had risk mitigators, 80 percent of them do. And again, if I said, okay, I'm just going to pick the ones that had exactly the same decoupling mechanism as PSE, I would have ended up with two or three or four companies.[201]

Responding to this same question from Commissioner Jones, Mr. Hill testifies that:

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[200] TR. 663:23-664:3.

[201] TR. 664:8-665:7.

> It's very difficult with cost of capital analysis to get to that level, that granular level of can I assign a basis point impact of this company having a [CWIP] tracker and this company not. And I think the answer to that is "no." It's just not that accurate. Can't do it.[202]

155 We believe it is correct that cost of capital analysis cannot be expected to produce results that support measurement of decrements to ROE ostensibly due to approval of one risk mitigation mechanism or another. Nor would cost of capital analysis be adequate to the task of identifying increments to ROE that might be considered due to some measure of additional risk a company takes on at some point in time.[203] The Commission has never tried to account separately in its ROE determinations for specific risks or risk mitigating factors, nor should it. Circumstances in the industry today and modern regulatory practice that have led to a proliferation of risk reducing mechanisms being in place for utilities throughout the United States make it particularly inappropriate and unnecessary to consider such an undertaking. The effects of these risk mitigating factors was by 2013, and is today, built into the data experts draw from the samples of companies they select as proxies.[204]

156 In sum, we find persuasive the expert opinions of Dr. Morin and Mr. Gorman and find that the risk reducing effect of decoupling is reflected adequately in the data derived from the companies in their respective proxy groups. We reject the idea of a separate decrement to ROE to account for the same risk reduction. We also find persuasive the point that cost of capital analysis cannot achieve the level of granularity necessary to support a discrete adjustment to ROE to account for particularized risks—up or

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[202] TR. 670:15-19. The court reporter mis-transcribed the acronym "CWIP" as "quip." CWIP, an acronym for "Construction Work In Progress," is a familiar term in utility regulatory parlance. *See, e.g.*, James C. Bonbright, *et al.*, Principles of Public Utility Rates 246-53 (1988). Approval of a CWIP tracker is among the various mechanisms available to regulators to reduce a utility's cost recovery risks. Including CWIP in rate base provides a utility return on investment prior to the time when new plant goes into service. *See* ¶ 491 and *passim.*

[203] We note in this connection PSE's argument in this case, discussed below, that it assumed additional risk when agreeing to the rate plan's earnings test.

[204] This may not be true in the case of narrowly drawn samples that exhibit selection bias. There is no evidence that Mr. Gorman's or Dr. Morin's proxy groups suffer from such bias and, indeed, they appear to make a conscious effort to avoid such bias in selecting proxy companies. While we also do not find such bias in Mr. Hill's sample of companies, we do note Dr. Morin's criticism that Mr. Hill's approach to selecting proxies is "unduly restrictive" which results in "a smaller sample of utilities than may otherwise be warranted." Morin, Exh. No. RAM-16T at 9:17-20. In Dr. Morin's view this "produces fragile and statistically unreliable results." *Id.* at 10:17-19.

down. Unfortunately, this takes us only back to the point that setting ROE at any value within the range of reasonable returns will support the determination of rates that are fair, just, reasonable, and sufficient. If decoupling were the only factor influencing our determination of a point value, we would be inclined to select the 9.7 percent midpoint of our range of reasonable returns. However, in the context of these joint proceedings - the ERF, decoupling, and the rate plan - there are several additional factors that also weigh in the balance.

2. The Rate Plan "Stretch" Goal

157 The rate plan bars PSE from filing a GRC for several years and establishes a "stretch" goal for PSE during the GRC stay-out period by providing for fixed annual escalation factors to adjust the Company's rates that are well below the Company's historical growth in expenses as reflected in past general rate cases. Thus, PSE is required to operate more efficiently under the rate plan and keep its costs down if it is to earn its authorized rate of return during the multi-year stay-out period for general rate cases. The Commission discussed this at length in Order 07, concluding:

> The use of fixed annual escalation factors to adjust PSE's rates is a viable approach to reduce the impacts of regulatory lag and attrition during a multi-year general rate case stay-out period. The escalation factors provide PSE an improved opportunity to earn its authorized return, but are set at levels that will require PSE to improve the efficiency of its operations if it is to actually earn its authorized return. This is a critically important consideration underlying our approval of the rate plan.
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> Although PSE's experience over the past five years arguably justifies a delivery-related escalation factor as high as 4.06 percent for electric, PSE uses a 3.0 percent escalation factor. Similarly, for natural gas, although PSE's experience over the past five years arguably justifies an annual delivery-related escalation factor of 3.8 percent, PSE uses a 2.2 percent escalation factor. PSE relied on the forecasted average Consumer Price Index (CPI) for the 2013 to 2015 period less a one-half percent productivity factor for operating expense as the escalation factor for approximate half of the costs adjusted under the rate plan, which is significantly below PSE's actual growth in operating expenses over the past five years. This escalation factor is significantly lower than PSE's historical level of delivery expenses. It follows that PSE will be required to increase the efficiency of its operations during the rate plan stay-out period. Absent the rate plan, PSE could, and most

> likely would file one or more general rate cases seeking full recovery of its delivery expenses that historical data show to have been higher than the CPI less productivity factor.[205]

This discussion remains pertinent to our determination of ROE on remand and militates in favor of selecting from the range of reasonable returns on equity a rate that is on the high side of the mid-point. This is particularly appropriate considering that in early 2013 the cost of capital experts were expecting higher rates of return going forward though the years when PSE would not be allowed to file for general rate relief.[206]

3. The Earnings Sharing Mechanism

158 The Amended Decoupling Petition included an earnings test that would allow the Company to earn up to 25 percentage points over its authorized rate of return.[207] If earnings exceed that amount, PSE and NWEC proposed that the Company and ratepayers would share equally any earnings exceeding that limit.[208] PSE claimed this proposal "provide[d] an appropriate safeguard to customers," and should "allay concerns that the Company will greatly exceed its rate of return."[209]

159 The Commission recognized in Order 07 that "one of the purposes of a multi-year rate plan is to provide incentives to the company to cut costs, and allowing the company the potential to earn in excess of its authorized rate of return creates just such an incentive."[210] The Commission, however, did not agree with to the precise earnings cap the Company proposed. The Commission said in Order 07 that:

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[205] Order 07 ¶¶ 171-72.

[206] *See, e.g.*, Hill, Exh. No. SGH-2T at 43:1-10 ("As noted in the discussion of the economic environment, however, the expectation in May and June of 2013 with regard to the economy and interest rates is that with a continued economic expansion, interest rates will increase over the next two years." This led Mr. Hill to recommend a 9.0 percent ROE for PSE as of early 2013, which is 25 basis points higher than the 8.75 percent ROE his analyses indicated as "a reasonable point-estimate for the current cost of common equity capital for an electric utility with risk characteristics similar to Puget and sample group analyzed."

[207] PSE's authorized rate of return is 7.77 percent. Hence, the earnings test sharing threshold under the Amended Decoupling Petition is 8.05 percent.

[208] Order 07 ¶ 159 (Citing Exhibit No. JAP-8T (Decoupling) at 19:10–13).

[209] *Id.* (citing Exhibit No. JAP-8T (Decoupling) at 19:18–20).

[210] *Id.* ¶ 161.

> [W]e do not agree with the precise formulation of this "cap" as proposed by PSE. We determine elsewhere in this Order that the record does not support a 25 or more basis point reduction in PSE's rate of return to reflect the reduced risk the Company will face in terms of revenue recovery during the rate plan period. However, we do determine that the currently authorized 9.8 ROE, which we determined to be in the middle of the range of reasonableness in PSE's last rate case, now at best is in the higher end of that range.
>
> Accordingly, we determine that to the extent PSE's earnings exceed its currently authorized rate of return (ROR) of 7.80 percent (which will be adjusted slightly downward on its compliance filing due to lower long-term debt costs), the Company and consumers should share 50 percent each of such potential over-earning. The balance should be returned to customers over the subsequent 12-month period.[211]

160 Mr. Doyle's testimony for PSE discusses the asymmetry of risk in the earnings cap mechanism and explains how this increases PSE's business risk vis-à-vis its ability to earn its authorized return.[212] In the passages from Order 07 quoted above, the Commission recognized this effect and found it militated in favor of setting a point value for ROE at the high end of the range of reasonable returns. At the same time, the Commission refused to allow a 25 basis point buffer for PSE to recognize the Company's increased risk, a decision consistent with its determination to not reduce the Company's ROE to recognize the decreased business risk resulting from the approval of decoupling mechanisms.

161 The Commission-approved earnings cap also creates a benefit for PSE's customers that is not available under traditional ratemaking principles that allow a utility to retain 100 percent of any over-earnings, in symmetry with the utility's obligation to absorb 100 percent of any under-earnings. Under the earnings test the Commission approved, customers share in over earnings that the Company may realize by being - more efficient and operating more cost effectively. Customers bear no risk with respect to any under earnings. This, too, militates in favor of a ROE above the mid-point in the range of reasonable returns.

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[211] *Id.* ¶¶ 164-65.

[212] *See* Doyle, Exh. No. DAD-4T at 18:3-22:2.

4. Conservation

162 Order 07 recognizes that another benefit of its approval of decoupling mechanisms for PSE is the Company's commitment to accelerate its acquisition of energy efficiency resources. Indeed, a key policy goal the Commission recognizes in decoupling is the elimination of any incentive the Company has to increase throughput in response to conservation.[213] Order 07 says, in relevant part:

> PSE commits to accelerate its acquisition of energy efficiency resources as part of the Amended Decoupling Petition. The Company will accelerate its acquisition of cost-effective electric efficiency resources to achieve 105 percent of the targets set by the Commission. Considering current conditions in natural gas markets, a similar commitment is not feasible. Gas prices, at this time, are simply too low to leave much room for implementing additional cost-effective conservation efforts. PSE does, however, agree to participate in the Northwest Energy Efficiency Alliance study on gas conservation. By including a commitment to increase electric energy efficiency, and to study ways to improve gas energy efficiency, the joint proposal ensures that not only will the decoupling mechanism remove barriers to increased acquisition of energy efficiency, it will in fact lead to concrete increases in efficiency as well.[214]

The Amended Decoupling Petition also provides for a $500,000 annual increase in low-income conservation funding "which will further allow the Company to provide low-income ratepayers targeted programs aimed at achieving a level of conservation comparable to that achieved by other ratepayers."[215] These conservation benefits are yet another factor that supports a determination of ROE higher than the mid-point of the range of reasonable returns.

5. Conclusion

163 The Commission in Order 07 selected a point value for ROE that it perceived to be at the high end of the range of reasonable returns. In doing so, the Commission expressly considered the factors discussed above: decoupling; the rate plan stretch goal; the earnings sharing mechanism; and conservation. Having now undertaken the

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[213] Order 07 ¶ 85.

[214] *Id.* ¶ 108.

[215] *Id.* ¶ 177.

thorough analysis directed by the Superior Court, we find these factors equally relevant today as we place ourselves in the shoes of the Commission at the point in time Order 07 was entered. Our analysis of the range of reasonable returns based on the remand evidence leads us to the determination above that the range of reasonable returns is from 9.3 percent to 10.0 percent. Our analysis of the four factors discussed above leads us to determine that we should set the point value for ROE on the high side of the 9.7 percent mid-point of this range. However, we see no reason to increase the Company's ROE to the highest point of the range. Applying our informed judgment, we determine on balance that PSE's ROE as of early 2013 should be 9.8 percent, a 10 basis point increment relative to the mid-point and a 20 basis point decrement relative to the high point of the range of reasonable returns.

FINDINGS OF FACT

164 Having discussed above all matters material to this decision, and having stated detailed findings, conclusions, and the reasons therefore, the Commission now makes the following summary findings of fact, incorporating by reference pertinent portions of the preceding detailed findings:

165 (1) The range of reasonable returns on equity for PSE as of early 2013 is from 9.3 percent to 10.0 percent, with a mid-point of 9.7 percent.

166 (2) The balance of risks between PSE and its customers, and the benefits to customers and the public interest resulting from the Commission's approval of the ERF, the Amended Decoupling Petition, and the rate plan, militate in favor of establishing a point value for PSE's return on equity higher than the 9.7 percent mid-point of the range of reasonable returns.

167 (3) A reasonable return on equity for PSE upon which to establish baseline rates in the ERF dockets and to remain applicable through the term of the rate plan, taking decoupling and other relevant factors into account, is 9.8 percent.

168 (4) The rates approved in the context of the ERF, which were determined in part on the basis of a 9.8 percent return on equity, established an appropriate baseline for the application of decoupling and the rate plan escalation factors.

169 (5) Taken together, the Commission's approvals of the ERF, the Amended Decoupling Petition, and the rate plan, utilizing as appropriate the 9.8 percent rate of return on equity found to be fully supported by the evidence in this proceeding, including the evidence adduced in compliance with the "further adjudication" ordered by the Thurston County Superior Court, result in rates for PSE during the term of the rate plan that are fair, just, reasonable, and sufficient.

170 (6) The rates, terms, and conditions of service affected by this Order are fair, just, reasonable, and sufficient.

171 (7) The rates, terms, and conditions of service affected by this Order are neither unduly preferential nor discriminatory.

CONCLUSIONS OF LAW

172 Having discussed above all matters material to this decision, and having stated detailed findings, conclusions, and the reasons therefore, the Commission now makes the following summary conclusions of law, incorporating by reference pertinent portions of the preceding detailed conclusions:

173 (1) The Washington Utilities and Transportation Commission is an agency of the State of Washington, vested by statute with authority to regulate rates, rules, regulations, practices, and accounts of public service companies, including electrical and gas companies.

174 (2) PSE is a "public service company," an "electrical company" and a "gas company," as those terms are defined in RCW 80.04.010 and as those terms otherwise are used in Title 80 RCW. PSE is engaged in Washington State in the business of supplying utility services and commodities to the public for compensation.

175 (3) The Washington Utilities and Transportation Commission has jurisdiction over the subject matter of, and parties to, these proceedings.

176 (4) The rates, terms, and conditions of service that result from this Order are, and will be prospectively during the term of the rate plan, fair, just, reasonable, and sufficient.

177 (5) The rates, terms, and conditions of service that will result from this Order are, and will remain during the term of the rate plan, neither unduly preferential nor discriminatory.

178 (6) The Commission should retain jurisdiction over the subject matters and the parties to this proceeding to effectuate the terms of this Order.

ORDER

THE COMMISSION ORDERS THAT:

179 (1) Taken together, the Commission's approvals in these dockets of the ERF, the Amended Decoupling Petition, and the rate plan, utilizing as appropriate the 9.8 percent rate of return on equity found in this remand proceeding to be fully supported by the evidence adduced below and in the further adjudication ordered by the Thurston County Superior Court, result in rates for PSE during the term of the rate plan that are fair, just, reasonable, sufficient, and neither unduly preferential nor discriminatory.

180 (2) The rates approved by the Commission's acceptance of PSE's compliance filing in a letter from the Commission Secretary dated June 28, 2013, as authorized in these proceedings on June 25, 2013, by Order 07, which were determined in part on the basis of a 9.8 percent return on equity, have been and, as revised from time to time, continue to be for the term of the rate plan, fair, just, reasonable, sufficient, and neither unduly preferential nor discriminatory.

181 (3) Except as expressly determined in this Order, all pending motions and requests for relief are denied.

182 (4) The Commission retains jurisdiction to effectuate the terms of this Final Order.

Dated at Olympia, Washington, and effective June 29, 2015.

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DAVID W. DANNER, Chairman

ANN E. RENDAHL, Commissioner

NOTICE TO PARTIES: This is a Commission Final Order. In addition to judicial review, administrative relief may be available through a petition for reconsideration, filed within 10 days of the service of this order pursuant to RCW 34.05.470 and WAC 480-07-850, or a petition for rehearing pursuant to RCW 80.04.200 and WAC 480-07-870.

PHILIP B. JONES, Commissioner, dissenting:

183 I respectfully dissent with the Majority Opinion in Order 15 which makes no change to PSE's currently authorized return on equity (ROE) of 9.8 percent. As I previously discussed in my Separate Statement to Order 07, the Commission did not properly establish a then-current ROE based on the "traditional" evidence that is normally presented by various parties' cost of capital witnesses based on contemporaneous financial market data and analysis. Instead, in Order 07 the Commission improperly left PSE's ROE unchanged at 9.8 percent due to the adoption of an expedited ratemaking formula (ERF) agreed to by the company and Staff, implementation of a new decoupling mechanism, and resolution of another matter related to coal-fired generation. In my Separate Statement, I observed that Order 07 improperly maintained the older 9.80 percent ROE which, at that time, was based on 2011 financial market conditions. Now, in the instant phase of the joint proceedings, I believe the Majority Opinion's decision to sustain PSE's ROE at 9.8 percent means

the company will continue to enjoy an unreasonably high ROE for at least a three year period (i.e., from June 2013 until 2016), despite observable reduced financial risks for PSE and favorable capital market conditions.

184 As discussed below, I disagree with my colleague's decision to sustain PSE's authorized ROE, because I believe it provides an excessive return to the company, does not meet the requirements of the *Hope* and *Bluefield* doctrines, and will undeniably harm customers. I believe the evidence presented by the cost of capital witnesses in the most recent phase of these proceedings supports a reduction to PSE's ROE from 9.8 to 9.5 percent, a result that is consistent with my Separate Statement to Order 07.

185 Judge Murphy noted in her Decision remanding this matter back to the Commission that I had contended in my Separate Statement that the company had not, in my view, met its burden of proof by submitting any cost-of-capital testimony. In fact, only Mr. Gorman on behalf of ICNU provided any contemporaneous evidence on PSE's ROE and financial market conditions at that time. Now, in contrast to the earlier phase, in the instant portion of these joint proceedings we have a full and robust record on which to base a decision. I share my colleagues' view that the company has met its burden of proof on ROE through the testimonies of its Chief Financial Officer and a nationally recognized cost-of-capital witness, Dr. Roger Morin. Additionally, we are informed by another round of testimony from Mr. Gorman, and the testimonies of Mr. Parcell and Mr. Hill on behalf of Staff and Public Counsel, respectively. In my view, we now have a sufficient basis for assessing capital market conditions and other factors in authorizing an appropriate ROE for PSE for the multi-year rate period.

I. Legal Standard

186 All of the cost of capital witnesses agree that the traditional *Hope* and *Bluefield* legal precedents should apply. They differ however in their interpretation and application of such case law to this backward-looking situation in which a stale authorized ROE, established based on 2011 data, is being challenged. As interpreted over the years, the *Hope* and *Bluefield* cases establish three basic standards for setting a utility's profitability. That is, a lawful authorized ROE must enable a regulated utility to maintain sufficient financial integrity; enable it to attract capital under reasonable terms; and be commensurate with returns investor could earn by investing in other enterprises of comparable risk. In meeting these legal standards, I believe that the

underlying data and analysis presented by cost of capital witnesses must be as contemporaneous as possible to the date that rates are established. Therefore, I would give greater weight to the initial cost of capital analysis proffered by Mr. Gorman during the initial phase of these joint proceedings than the retrospective analysis provided by all of the cost of capital witnesses in the subsequent phase. Simply stated, I find Mr. Gorman's original analysis credible where he argues that a 9.3 percent ROE would sufficiently meet all three legal standards.

II. The Inherent Difficulty of Retrospective ROE Analysis

187 As pointed out by the Majority, the cost of capital witnesses were hired to represent their respective clients' interests in this proceeding. Each witness is highly skilled in capturing capital market data, incorporating it into a number of financial models, and applying certain inputs and assumptions according to their professional view of how an appropriate range of ROE results may be derived.

188 In this phase of the proceeding their work is made even more difficult by virtue of the backward-looking aspect of the analysis they were asked to present in light of the court's decision. The circumstances in this case require us to consider a retrospective view of 2013 capital market conditions, instead of looking to prospective assessments of such conditions. During the hearing all four expert witnesses agreed that we should place primary weight on their portrayal of the early 2013 analysis, despite the fact that we allowed them to produce a 2014 analysis.

189 I agree with their position. However, I also believe this backward-looking analysis may invite an inherent bias into the witnesses' analysis and produce even greater degree of subjectivity than normally exists when setting an ROE. For these unique reasons, I would place more weight on Mr. Gorman's original 2013 testimony because only his client, ICNU, met its burden of proof and submitted timely analysis that reflected contemporaneous data resulting in his recommendation of a reduction to PSE's ROE to 9.30 percent.

III. Analysis of the specific ROE models

190 This phase of the joint proceedings is solely focused on whether an adjustment to PSE's ROE is warranted according to the various methods used by the cost of capital witnesses. In varying degree, the witnesses presented analyses based on three

primary methods: variations on the Discounted Cash Flow (DCF) approach; Risk Premium studies; and the Capital Asset Pricing Model (CAPM).[216] Both the Majority and I focus on the underlying assumptions and data inputs the witnesses employ when presenting the results of these models as the basis for their ROE recommendations. While there is some commonality in evaluating the evidence, it is to the relative weight afforded to each method and their key assumptions and the "zone of reasonableness" where I differ with the Majority.

191 Traditionally, this Commission has afforded greater weight to the use of the DCF methodology and its several variants, namely constant growth, sustainable growth, and multi-stage growth. But we have always stressed that we welcome evidence using a variety of approaches to estimate the cost of equity in order to develop a robust record and inform our final judgment. However, in my view, the unusual circumstances of this case require us to go beyond merely a primary weighting of DCF analysis and results, and look more carefully at the results from the risk premium and CAPM analyses. There are several reasons. First, as stated above, this is a highly unusual case that requires us to look backwards at historical evidence that has changed over two years, and to try to be as objective as possible. Second, as stated in the record by all the cost of capital witnesses, there was great uncertainty and speculation by most financial experts in the spring of 2013 about the timing of potential tightening of monetary policy by the Federal Reserve and the potential for subsequent increases in interest rates. Since interest rates are an essential component of most models, especially the risk premium and CAPM models, this condition in 2013 is a consideration in assessing the merits of the witnesses' analysis. Finally, a DCF analysis relies heavily on equity prices, dividend yields, and growth rates for publicly traded companies, which PSE is not. In sum, the nature of this analysis and the uncertainties created by looking back inevitably creates greater uncertainty for our end result and a wider "zone of reasonableness" on which we must try to narrow our analysis.

192 Overall, I generally believe that our analysis in setting an ROE should rely primarily on the various versions of the DCF methodology, which is our typical practice. Here, I believe we should afford greater weighting to the risk premium analysis in this case than usual for the reasons stated above. As to the witnesses CAPM results, although I

[216] Other less established methods were employed by some of the witnesses but I place virtually no reliance on such methods at this time.

appreciate such an approach in academic literature as an objective way to value capital assets, I don't believe they present us with credible results in this unusually low interest rate environment established by the Federal Reserve. Simply looking at the low end CAPM result of 6.70 percent presented by Mr. Parcell with Dr. Morin's high end CAPM result of 10.3 percent (which he refers to as an "Empirical CAPM"), one immediately sees the conundrum and volatility in placing much weight on this ROE modeling approach. In normal rate cases, we strive to narrow in our initial analysis the observed zone of ROE recommendation down to 75 to 100 basis points between witnesses in order to establish a reasonable range upon which to set an ROE. In the joint proceedings, a CAPM range of 360 basis points is simply too broad to be given serious consideration.

IV. Proxy Group Considerations

193 Another vital element of setting an ROE is to select an appropriate proxy group to satisfy the *Hope* standard of measuring utilities of comparable risk, but also because PSE's equity is not publicly traded. Each utility has a different overall risk profile, but witnesses attempt to select utilities with comparable credit ratings from the agencies although ratemaking and risk mitigation measures certainly vary by state commission. Moreover, merger and acquisition (M&A) activity can significantly affect the value and the equity price of a utility stock, so those adjustments should be made during the process. Although in past proceedings Mr. Gorman normally adopts the proxy group of the utility's cost of capital witness, with some adjustments for M&A activity and statistical outliers, he was not able to do so in this proceeding and had to establish his own proxy group of 20 comparable companies since PSE did not offer a ROE analysis in the initial phase of the joint proceedings. Subsequent to Mr. Gorman's analysis, Dr. Morin used many of Mr. Gorman's proxy companies, namely 13 utilities, for his 2013 analysis in this case although there are some important differences that affect the end results.[217] Gorman excluded 6 utilities from Dr. Morin's proxy group since they were involved in M&A activities and can distort especially the DCF results. He also sought to include in his proxy group utilities with similar overall credit ratings and a risk profile that was generally similar given the variety of risk mitigation mechanisms that Commissioners afford utilities. Overall, I

[217] The common 13 utilities are noted in ICNU's Initial Brief, and I will not cite them all here. Gorman performed DCF analysis on this common set of companies, which is cited as well.

ICNU Initial Brief, p. 30, para. 55-56.

believe the proxy group selected by Mr. Gorman for his 2013 analysis is more relevant to this unique proceeding, especially given our need to examine a potential adjustment for the decoupling plus k factor mechanism discussed later.[218]

V. A Differing View on ROE Ranges and the Ultimate Point Value for ROE

194 As noted in the Majority Opinion, there are a wide range of analytical results in this case presented by the four witnesses. However, due to the unique nature of this case, I would accord relatively less weight to the recommended ROE end result of each witness which, I humbly believe may be influenced to some degree by the end result desired by such witnesses' clients. Instead, I prefer to focus on the specific analyses performed by Dr. Morin and Mr. Gorman in their application of the DCF and RP methodologies and would accord nearly equal weight to the range of potential ROE results they derived.

195 The Majority Opinion sets forth a "range of reasonableness" of 9.30 to 10.0 percent, and argues that a reasonable authorized ROE for PSE should be in the higher end of this range at 9.80 percent. In my view, however well-intentioned their analysis is conveyed, it appears to be developed too subjectively in order to justify the end result set forth in Order 07. First, the Majority's "range" is simply a range – nothing more, nothing less. It is based on the data, assumptions, and end results produced by the various cost of capital witnesses, particularly Dr. Morin and Mr. Gorman. Second, one could credibly argue that another "reasonable range" can be produced from Dr. Morin and Mr. Gorman's analysis is 8.4 to 10.70 percent if one looks at the totality of their various analysis. That is a 230 basis point difference that is based on credible evidence from the two leading witnesses. As opposed to the Majority's effort to develop a complex and arbitrary way to try to narrow the range, I believe the unique circumstances of these joint proceedings requires us to exercise more creativity and common sense in arriving at a reasonable end result.

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[218] In response to my question from the Bench about possible inaccuracies in Dr. Morin's proxy group, Gorman stated:

> . . . but when I developed my proxy group, I used the risk factors I felt most accurately describe PSE's risk and would produce a publicly traded proxy group that – that measures, that is consistent with those risks, that can be used to measure a fair return on equity.

TR. 662:13-17.

196 Let me focus first on the DCF results of Dr. Morin and Mr. Gorman. As is typical, Mr. Gorman's DCF results end up on the lower end of the range and posits three results of 8.38 percent (rounded to 8.4 percent), 9.03 percent, and 9.29 percent (rounded up to 9.3 percent). These results are not as low as Mr. Hill's two variations of DCF that produce results in the range of 8.33 to 8.69 percent, which I believe are simply too low to be credible. The sustainable growth DCF normally produces the lowest ROE result since it focuses heavily on the dividend payout ratio and the amount of earnings the company puts back in to rate base. The constant growth and multi-stage growth models produce slightly higher outcomes. In contrast, Dr. Morin uses two DCF methods to estimate the growth factor in the DCF model, one based on Value Line numbers (slightly lower) and one based on analyst projections (slightly higher), resulting in an observed DCF range of 9.80 to 10.1 percent.

197 Simply using Dr. Morin and Mr. Gorman's DCF results, we can conclude that the appropriate range of DCF results is actually 8.40 to 10.1 percent, a difference of 170 basis points. Without addressing all the disagreements between the two witnesses' on data and assumptions, I do agree with Mr. Gorman that Dr. Morin overstates his DCF growth factor by using 5.5 percent in his constant growth DCF (Mr. Gorman suggests a range of 4.7 to 5.0 percent is more reasonable because it does not exceed projections of nominal GDP growth). In any case, a mid-point calculation of the broader DCF range I discuss above, would produce a more appropriate range of 9.3 to 9.5 percent, depending on adjustments are made for the fact that Dr. Morin relied on two model variants while Mr. Gorman used three. If we bias toward the lower end, we could end up in the range of 9.2 to 9.3 percent; whereas if we bias toward the higher end, as the Majority Opinion argues, we could end up in the 9.5 to 9.6 percent range. Regardless, either range is below the 9.8 percent ROE the Majority adopts.

198 I also believe that we need to accord relatively more weight to the RP (risk premium) analysis than the Majority appears to consider and as compared to previous cases. This is both due to the unique nature of this case, and due to the uncertainty at the time of spring, 2013 regarding the future direction of monetary policy, and interest rates, by the Federal Reserve. Here, I note that Mr. Gorman uses a traditional risk premium analysis based on historical data that produces a potential ROE result of 9.30 percent. Similarly, Dr. Morin develops a historical RP approach that produces a result of 9.80 percent. He also offers another RP method termed "allowed risk premium", which produces a result of 10.70 percent which I find unreasonably excessive and should be removed from consideration in establishing an RP range. In

doing so, the RP results offered by Mr. Gorman and Dr. Morin of 9.3 to 9.8 percent result in a midpoint of 9.55 percent, which could be rounded to 9.6 percent.

199 In contrast to the range established by the Majority, if we take the end results of Mr. Gorman and Dr. Morin's DCF and RP analysis in the manner I have presented herein, I believe the appropriate, and more focused range of ROE results would be in the range of 9.2 to 9.6 percent.

VI. Consideration of an Adjustment to ROE for Decoupling

200 Finally, let me turn to a significant risk mitigation measure we approved for PSE in the previous proceeding; full electric and gas decoupling with a k factor. Here, we are presented with the quandary as to whether or not the proxy groups selected by Mr. Gorman and Dr. Morin adequately reflect that reduced risk profile over the 2011 to 2013 time period. Again, I differ in several respects with the position taken by the Majority in this case.

201 First, does full electric and gas decoupling, inclusive of a guaranteed annual escalator called a k factor, reduce the operating and financial risk of PSE? This is a threshold question that must be answered. As I stated in my Separate Statement to Order 07: "Yet the adoption of these mechanisms will engender a significant shift in risks from the company to the customers. Therefore, it is only fair and reasonable to include an ROE reduction when adopting the company's proposals." I continue to stand by that statement. In fact, when asked at hearing if the operation of a full decoupling mechanism reduces the operating and financial risk for a utility, all four witnesses answered that it does. Moreover, most of the academic and think tank literature on the subject, including the Brattle Group analysis, supports this view. It reflects common sense from both a business and regulatory standpoint: when one increases the "likelihood" of certain cash flows to a utility's gross revenue and margins, its ability to meet its allowed ROE will grow commensurately.

202 The Majority Opinion selectively quotes from some of my exchanges with the witnesses from the Bench at hearing, which I believe incorrectly gave the impression that I agreed with Dr. Morin that that the effects of decoupling (as well as other risk mitigation measures) are all "baked in to" to the proxy group financial indicators. Although Dr. Morin may have inferred that, he did not provide a precise answer to my inquiry on the matter, and instead made an assertion (not based on record

evidence) that "they (the proxy group) all had risk mitigators, 80 percent of them do." He was referring in that statement to a whole host of risk mitigating mechanisms, other than decoupling per se, in making his argument that such mechanisms, in total, were "baked in "to the numbers and expectations of investors, and that if he had to focus on decoupling mechanisms only, he would be left with a proxy group of only three or four companies.[219] To me, that is not a convincing argument and doesn't answer the threshold question stated above, and if one answers that risk is reduced, then how much should ROE be reduced?

203 Candidly, I am most persuaded by Mr. Gorman's answers on this subject at hearing on the issue of the proxy group risk profile, specifically:

> It's my position that at the time the 9.8 percent was measured, the decoupling risk adjustment was not embedded in that number.[220]

As we have stated in previous orders, the Commission relies on its exercise of informed judgment as it arrives at a final "end-result" number for ROE. Sometimes, the evidence and analysis of the witnesses point in different directions, and the range of estimates for a forward-looking ROE vary widely, as they do in these joint proceedings. In the final judgment, selecting a final point number for the ROE is not a science, or an algorithm that yields a precise number. Instead, we must consider wide range of factors, based on the evidence, using our exercise of judgement and wisdom to develop a final recommendation.

204 It is very important to remember that the financial information used to set PSE's ROE of 9.80 percent was established in Order 08 in the previous rate proceedings for the company (UE-111048 and UG-111049, consolidated) adopted in June, 2012. The

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[219] The surveys referred to in the Brattle Group study (dated March, 2014) are not directly relevant to our analysis, since we are exclusively relying on the early spring 2013 analyses. This study cites to a survey done in September, 2013 (after this period), in which they say that 22 natural gas utilities and 12 electric utilities (including PSE) had adopted some form of decoupling. In my view, the evidence in this case does simply not support such an assertion. If one were to do a survey for the appropriate period, 2012, my view is that one would find a limited number of electric utilities with decoupling, certainly under 10, while natural gas utilities would be roughly the same, or nearly double the number for electric. This is an important point for cost-of-capital considerations for combined electric and gas utilities like PSE, since the electric rate base is usually substantially larger than the natural gas rate base. In PSE's case, for the early 2013 period, electric rate base was $5.3 billion, and natural gas rate base was only $1.7 billion.

[220] TR. 661:3-5.

financial information utilized in those proceedings was based on test year data ending in December, 2010. Therefore, the direct and responsive testimonies of the cost-of-capital witnesses were based on data from 2010 and 2011. The effect of the Majority's decision is continued reliance on older, stale financial data in justifying the continuation of the 9.8 percent ROE for the period from 2013 to 2016 despite important changes in financial market conditions. The implication appears to be that whatever flaws may occur by retaining the current authorized ROE can be fixed at a later time, after the fact, and that any harms to consumers can be subsequently remedied. I disagree. As I stated in my Separate Statement:

> Based on the record analyzing the effect of decoupling on risk, as well as our guidance on this issue in our Policy Statement, I would adjust the company's ROE at this time. The company proposes to evaluate the impact of the mechanism on its risk profile at the end of the rate plan in 2015 or 2016. I would not wait until that distant date to make an ROE adjustment.

205 In spite of the Majority's agreement with the company's position on timing of assessing the effects of decoupling on financial risk, I continue to stand by my belief that rates should be set based on the most current financial information at the time of the case so that we balance the needs of the consumer with the investors. In my view, if we do not establish rates with a fair ROE at the outset of a multi-year rate plan, I do not believe that we satisfy that standard for just and reasonable (as well as sufficient) rates required under *Hope* and *Bluefield* doctrines as well as under our own Washington statutes in RCW 80.28.010. The company may earn excessive returns during the pendency of the rate plan (or more than "sufficient"), but the Commission has little recourse during this period. If excessive returns occur, it is undeniable that customers will be harmed, while PSE's investors will be allowed to reap excessive returns for a period of time. Despite the Majority's view, I do not believe such harm can be remedied easily in the next rate proceeding.

VII. Conclusion

206 I strongly believe that a more appropriate zone of reasonable estimates of ROE, based primarily on the DCF and RP analyses offered by Dr. Morin and Mr. Gorman is in the range of 9.2 to 9.6 percent. This is based exclusively on the early spring 2013 analyses performed by the witnesses. I would give nearly equal weight to each of these methodologies. Given the range and weighting, I arrive at a reasonable ROE of

9.5 percent, which is a 30 basis point adjustment that is not unusual in scope or magnitude for our regulated utilities. In fact, we previously prescribed exactly that level of adjustment when we reduced PSE's ROE from 10.1 to 9.8 percent in the company's previous rate proceedings

207 I disagree with the Majority's decision to maintain PSE's ROE at 9.8 percent given the preponderance of financial and capital market evidence and other factors, such as the advent of decoupling that warrant a reduction to the company's authorized ROE. Put simply, in contrast to the Majority, I would reduce PSE's ROE to 9.50 percent which I firmly believe would establish just and reasonable rates for the company, a level that more appropriately enables us to fulfill our obligation to balance consumer and investor interests.

PHILIP B. JONES, Commissioner