UNITED STATES OF AMERICA 144 FERC ¶ 63,012
FEDERAL ENERGY REGULATORY COMMISSION

Martha Coakley, Massachusetts Attorney General; Connecticut Public Utilities Regulatory Authority; Massachusetts Department of Public Utilities; New Hampshire Public Utilities Commission; Connecticut Office of Consumer Counsel; Maine Office of the Public Advocate; George Jepsen, Connecticut Attorney General; New Hampshire Office of Consumer Advocate; Rhode Island Division of Public Utilities and Carriers; Vermont Department of Public Service; Massachusetts Municipal Wholesale Electric Company; Associated Industries of Massachusetts; The Energy Consortium; Power Options, Inc.; and the Industrial Energy Consumer Group,

Docket No. EL11-66-001

v.

Bangor Hydro-Electric Co.; Central Maine Power Co.; New England Power Co. d/b/a National Grid; New Hampshire Transmission LLC d/b/a NextEra; NSTAR Electric and Gas Corp.; Northeast Utilities Service Co.; The United Illuminating Co.; Unitil Energy Systems, Inc. and Fitchburg Gas and Electric Light Co.; and Vermont Transco, LLC.

INITIAL DECISION

(Issued August 6, 2013)

APPEARANCES

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Catherine P. McCarthy, Esq., and R. Scott Mahoney, Esq., for Central Maine Power Company

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Gunnar Birgisson, Esq., for New Hampshire Transmission LLC

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Joseph H. Fagan, Esq., and Sebastian Lombardi, Esq., for the New England Power Pool

Jesse S. Reyes, Esq., Charlene R. Hull, Esq., and Patrick J. Tarmey, Esq., for Massachusetts Attorney General

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John P. Coyle, Esq., and Ashley M. Bond Esq., for Eastern Massachusetts Consumer Owned Systems

Hollis J. Alpert, Esq., Phillip Mone, Esq., and Deborah Lyon, Esq., for Federal Energy Regulatory Commission Staff

MICHAEL J. CIANCI, JR., PRESIDING ADMINISTRATIVE LAW JUDGE

I. BACKGROUND

1. On September 30, 2011, pursuant to section 206 of the Federal Power Act (FPA),[1] Complainants[2] filed a complaint against the New England Transmission Owners (New England TOs, NETOs or Respondents),[3] contending that the current 11.14 percent base return on equity (ROE) for New England TOs recovered through ISO New England Inc.'s (ISO-NE) Open Access Transmission Tariff (OATT) is unjust and unreasonable. Complainants contended that the ROE should be set to no more than 9.2 percent (a reduction of 194 basis points). On May 3, 2012, the Commission issued its Order establishing hearing and settlement judge procedures. It also set a refund effective date of October 1, 2011.

2. The New England TOs recover their transmission revenue requirements through formula rates included in the ISO-NE OATT. The Regional Network Service (RNS) and Local Network Service (LNS) revenue requirements for all the New England TOs are calculated using a single base ROE. In the Opinion No. 489 proceeding, the going-forward base ROE was established at 11.14 percent, consisting of a base ROE of 10.4 percent with an upward adjustment of 74 basis points to account for changes in capital market conditions—

[1] 16 U.S.C. § 824e (2006).

[2] Complainants include: Martha Coakley, Massachusetts Attorney General; Connecticut Public Utilities Regulatory Authority; Massachusetts Department of Public Utilities; New Hampshire Public Utilities Commission; Connecticut Office of Consumer Counsel; Maine Office of the Public Advocate; George Jepsen, Connecticut Attorney General; New Hampshire Office of Consumer Advocate; Rhode Island Division of Public Utilities and Carriers; Vermont Department of Public Service; Massachusetts Municipal Wholesale Electric Company; Associated Industries of Massachusetts; the Energy Consortium; Power Options, Inc.; and the Industrial Energy Consumer Group. The Eastern Massachusetts Consumer Owned Systems moved to intervene late on October 1, 2012. The undersigned granted said motion on October 4, 2012.

[3] Respondents include: Bangor Hydro-Electric Co.; Central Maine Power Co.; New England Power Co. d/b/a National Grid; New Hampshire Transmission LLC d/b/a NextEra; NSTAR Electric and Gas Corp.; Northeast Utilities Service Co.; United Illuminating Co.; Unitil Energy Systems, Inc. and Fitchburg Gas and Electric Light Co.; and Vermont Transco, LLC. Because, as discussed below, we grant ISO-NE's motion for dismissal as a party to this proceeding, we do not include ISO-NE in the phrase "Respondents."

specifically, the yield of 10-year U.S. Treasury bonds—that took place between issuance of the Administrative Law Judge's Initial Decision in the case and Opinion No. 489.[4]

3. Complainants argue that, due to changes in capital market conditions occurring since October 31, 2006, when Opinion No. 489 issued, the 11.14 percent base ROE for New England TOs as currently reflected in the ISO-NE OATT formula rates is unjust and unreasonable.[5] Further, Complainants cite the recent financial crisis as a changed economic circumstance, inclusive of the Lehman Brothers bankruptcy and the resulting "flight to quality" in the capital markets.[6]

4. Complainants further assert in their Complaint that their expert witness's discounted cash flow (DCF) analysis shows that the zone of reasonableness is now 7.0 percent to 11.4 percent, with a midpoint of 9.2 percent. Based on this analysis, Complainants argue that a just and reasonable base ROE for the New England TOs should not exceed 9.2 percent, which is 194 basis points lower than the current base ROE.

5. According to Complainants, their DCF analysis, which uses a national proxy group of 28 companies, conforms to the Commission's current precedent.[7] Their analysis eliminates two low-end ROE outliers (including these companies' high-end ROE values),[8] which

[4] *See ISO-New England Inc.*, 106 FERC ¶ 61,280, at PP 232-250 (2004); *Bangor Hydro-Elec. Co.*, Opinion No. 489, 117 FERC ¶ 61,129 (2006) (Opinion No. 489), *order on reh'g*, 122 FERC ¶ 61,265 (2008), *order granting clarification*, 124 FERC ¶ 61,136 (2008) (Opinion No. 489 Rehearing Order).

[5] Complainants' expert witness asserts that the monthly yields on 10-year U.S. Treasury bonds have fallen from 4.98 percent to 2.88 percent, a decline of 210 basis points. Complainants state that 10-year U.S. Treasury bond yields directly correlate to the yields of utility bonds and their common stocks, and, therefore, the decline should be reflected in a downward adjustment to the ROE. Complaint, Ex. C-1 at 6-12.

[6] "Flight to quality" refers to the action of investors moving their capital away from riskier investments to the safest possible investment vehicles.

[7] Complainants state they selected the proxy group using the following screening criteria for utilities: (1) listed as an electric or combination gas and electric company in *AUS Utility Reports*; (2) listed as an electric utility in *Value Line*; (3) has at least 50 percent regulated electric revenues; (4) has paid dividends for at least three years, with no dividend cuts; (5) is not involved in a merger or acquisition; (6) has an investment grade bond rating by Moody's or Standard & Poor's; and (7) has published analysts' earnings per share (EPS) growth rate from at least two different online financial information services (e.g., Zacks, Yahoo, or Reuters).

[8] Utilities eliminated due to low-end ROE outliers were Entergy Corporation (5.6 percent) and Great Plains Energy (6.2 percent).

Complainants state is consistent with the 100 basis point utility bond yield test.[9] Complainants' analysis also eliminates Hawaiian Electric Industries, Inc. (Hawaiian Electric),[10] which Complainants contend has a high-end ROE estimate of 13.7 percent, exceeding the next highest ROE in the proxy group by 190 basis points, and should therefore be excluded as an extreme outlier.

6. Complainants argue further in their Complaint that even though the current base ROE of 11.14 percent falls within the top of their zone of reasonableness, the Commission should nonetheless find it to be unjust and unreasonable. Complainants assert that the Commission has found not every point within the DCF range would necessarily result in just and reasonable rates.[11] Complainants assert that transmission customers are overpaying the New England TOs by $113 million annually, which overpayment will increase to $206 million annually by 2015 due to expansion of the New England transmission system. Complainants request in their Complaint that the Commission: (1) institute a hearing proceeding to investigate the New England TOs' base ROE; (2) establish the earliest possible refund date; and (3) direct ISO-NE to make refunds.

7. Notice of the Complaint was published in the *Federal Register*, 76 Fed. Reg. 62,396-97 (2011), with interventions and protests due on or before October 20, 2011. On October 4, 2011, ISO-NE filed motions for dismissal as a party, to postpone the answer date, to request expedited action, and that any refund effective date be established as the first day of a calendar month. On October 6, 2011, Complainants responded to ISO-NE's motions.

8. The following parties filed timely motions to intervene: Public Service Electric and Gas Co.; New England Power Pool (NEPOOL) Participants Committee; and Dynegy Marketing and Trade, LLC.

9. The New Jersey Board of Public Utilities submitted a notice of intervention. The Maine Public Utilities Commission (Maine Commission) submitted a notice of intervention and comments, joined by a timely motion to intervene and comments by the New England Conference of Public Utility Commissioners (NECPUC) (together, Maine Commission and NECPUC).

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[9] Complaint at 22 (quoting *S. Cal. Edison*, 131 FERC ¶ 61,020, at P 55 (2010) (*SoCal Edison*) (excluding any company whose low-end ROE fails to exceed average bond yield test by about 100 basis points or more).

[10] Complainants list several more reasons why Hawaiian Electric does not have comparable risks (e.g., non-jurisdictional status and banking operations).

[11] Complaint at 26 (citing Opinion No. 489 Rehearing Order, 124 FERC ¶ 61,136 at PP 10-16).

10. The following parties filed timely motions to intervene and comments: NEPOOL Industrial Customer Coalition (NEPOOL Industrials); New Hampshire Electric Cooperative, Inc. (New Hampshire Coop), and New England States Committee on Electricity (NESCOE).

11. On October 20, 2011, ISO-NE and Respondents each filed answers. On November 4, 2011, Complainants filed an answer to Respondents' answer. Respondents submitted a response to Complainants' answer on November 21, 2011, and Complainants filed an answer to that response on December 6, 2011.

12. ISO-NE moved for dismissal as a party to this proceeding. ISO-NE principally contended that it is not the beneficiary of any ROE and, instead, is simply the billing agent for the New England TOs. ISO-NE maintained that it has purely an administrative role and that the New England TOs are the real parties in interest. In its response to ISO-NE's October 4, 2011 motion, Complainants did not object to ISO-NE's requested October 1, 2011 effective date.

13. The Maine Commission and NECPUC agreed that because of substantial changes in the financial markets, an investigation into the reasonableness of the base ROE is appropriate. They cite Complainants' witness testimony that the average 10-year Treasury yield for the period from April to September 2011 was 2.88 percent, which they state is significantly lower than the 5.0 percent average previously relied on by the Commission to adjust the ROE. They asserted that "[t]here is every reason to believe, for example, that the composition of the proxy groups, the yields, and the growth rates that comprise the inputs to the DCF calculations have changed in significant ways since the Commission last evaluated the base ROE."[12]

14. NEPOOL Industrials support Complainants' request for an investigation, arguing that there is compelling evidence that the 11.14 percent base ROE is no longer just and reasonable.

15. New Hampshire Coop also supports the Complaint, because the data underlying the current base ROE are more than five years old and "predate the dramatic capital market changes that have occurred in recent years."[13]

16. NESCOE argues that the current base ROE of 11.14 percent does not meet the just and reasonable standard, because "economic conditions in New England and the rest of the United States are significantly altered from what they were [when the ROE was determined]."[14] Such a change, in NESCOE's view justifies the initiation of an inquiry.

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[12] Maine Commission and NECPUC Comments at 7.

[13] New Hampshire COOP Comments at 3.

[14] NESCOE Comments at 4.

17. In its answer, ISO-NE asserted that it takes no position regarding the merits of the complaint because it is merely the billing agent for others: "the rates at issue are not the ISO's rates." ISO-NE states that it has no ROE and therefore, any order to change the base ROE should be directed at the New England TOs, not at ISO-NE.

18. In their October 20 answer, Respondents asserted that Complainants have failed to meet the requirement under section 206 of the FPA,[15] namely, to show that the existing base ROE is unjust and unreasonable, because Complainants' DCF analysis does not conform to Commission precedent. Respondents submit witness testimony of Dr. William E. Avera with a DCF analysis that they assert shows the existing ROE is just and reasonable.

19. Respondents further argued in their Answer that Dr. Avera's DCF analysis relies on the use of a national proxy group in a manner consistent with Commission policy.[16] Among other things, Respondents calculated the growth rate used in the Commission's one-step DCF methodology for electric utilities,[17] excluding companies "that fail fundamental tests of reasonableness and economic logic as defined by the Commission."[18] They assert how such logic was applied to outliers. Specifically, Respondents excluded 11 low-end DCF results, ranging from 3.57 to 6.82 percent, as well as a high-end outlier of 20.15 percent.[19]

20. Respondents' DCF calculations retained the next highest cost of equity at 15.32 percent (Integrys Energy Services, Inc. (Integrys)), stating that this is well under the 17.7 percent threshold set in Opinion No. 489, and the 9.4 percent growth rate underlying this ROE estimate is significantly less than the 13.3 percent benchmark the Commission has continued to apply.[20]

21. In support of their position that Complainants' DCF analysis is inconsistent with Commission precedent, Respondents contend that Complainants use inappropriate proxy group screening criteria. For example, Respondents pointed out that Complainants exclude electric utilities from the proxy group which are not listed in AUS Utility Reports, whereas Commission precedent uses listing in Value Line Investment Survey (Value Line) as the criterion. Moreover, Respondents stated in their Answer that Complainants exclude electric

[15] 16 U.S.C. § 824e (2006).

[16] Respondents October 20 Answer at 15 (citing *id.*, Attachment A at 10-29 & n.5 (Avera Testimony)).

[17] Respondents October 20 Answer at 17.

[18] *Id.* at 18; *see also* n.37.

[19] *Id.* at 18-19 (referring to *Bangor Hydro-Elec. Co.*, 122 FERC ¶ 61,265 (2008), which found that a 17.7 percent cost of equity was extreme and should be excluded).

[20] *Id.* at 20.

utilities that do not have at least 50 percent regulated electric revenues, which criterion is also inconsistent with Commission precedent that requires all members of the proxy group to be electric utilities, without setting minimum revenue levels.[21] Respondents also take issue with Complainants calculation of the DCF growth rates, averring that they use the wrong sources. Respondents argue that while under Commission policy such growth rates are derived from Value Line and Institutional Broker Estimate Services (IBES), Complainants replaced IBES with a composite of IBES and two other sources.

22. According to Respondents, this "combination of using the wrong proxy group and the wrong growth rates resulted in an obviously downwardly biased DCF analysis that understated the New England TOs' cost of equity."[22] Respondents further contended in their Answer that Complainants inappropriately excluded Hawaiian Electric, whose high-end DCF result of 13.7 percent satisfied Complainants' proxy group screening criteria. They maintain that the Commission's policy is to exclude high-end DCF results above 17.7 percent.[23] In their view, this exclusion "appears to be entirely results-oriented."[24]

23. The Commission held in its May 3, 2012 Order that according to Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2011), prohibits an answer to an answer unless otherwise ordered by the decisional authority, and that it was not persuaded to accept the Answers following ISO-NE's and Respondents' October 20, 2011 Answers to the Complaint.

24. The Commission further granted ISO-NE's motion for dismissal as a party to this proceeding. In doing so, the Commission stated that Complainants do not protest the motion,[25] and that it agreed with ISO-NE that, with regard to the ROE at issue, ISO-NE is the billing agent for the New England TOs, not the beneficiary. The Commission held that the New England TOs are the true parties in interest for purposes of this proceeding.

25. The Commission further found that the Complaint raises issues of material fact that cannot be resolved based upon the record before them and that are more appropriately addressed in the hearing and settlement judge procedures, which it ordered. Accordingly, the

[21] *Id.* at 24 (referring to *SoCal Edison*, 131 FERC ¶ 61,020 (2010), *order on reh'g and clarification*, 137 FERC ¶ 61,016 (2011)).

[22] *Id.* at 29.

[23] *Id.* at 30 (citing *SoCal Edison*, 131 FERC ¶ 61,020 at P 57); *see also id.* at 31 (evaluating Commission policy in case law).

[24] *Id.* at 32.

[25] Complainants October 6 Answer to Motion.

Commission set the Complaint for investigation and a trial-type evidentiary hearing under section 206 of the FPA, but ordered settlement proceedings be initially attempted.

26. The Commission further stated that when it institutes an investigation on Complaint under section 206 of the FPA, section 206(b), as amended by section 1285 of the Energy Policy Act of 2005, requires that the Commission establish a refund effective date that is no earlier than the date a complaint was filed, but no later than five months after the filing date. Consistent with that general policy of providing maximum protection to customers,[26] The Commission set the refund effective at the earliest date possible, i.e., October 1, 2011, as requested by the Complainants.

27. Commissioner Moeller issued a dissenting opinion asserting that the Complainants' arguments were not compelling, and that they followed the wrong methodology in determining an appropriate ROE.

28. On May 8, 2012, the Chief Judge appointed Judge Judith Dowd as Settlement Judge. On August 1, 2012, Judge Dowd reported that the parties had reached an impasse and recommended termination of settlement judge procedures. On August 2, 2012, the Chief Judge terminated Settlement Judge proceedings and appointed the undersigned as Presiding Judge. On August 8, 2012 the undersigned met with the parties at a pre-hearing conference to discuss adoption of a procedural schedule. The parties agreed upon certain hearing related dates and further filed a joint motion on August 13, 2012 to extend certain time limits for this Track II designated case. The Chief Judge granted the joint motion by Order issued on August 14, 2012. The undersigned issued an Order adopting a procedural schedule in this matter on August 14, 2012, which included the dates agreed to by the parties and approved by the Chief Judge, exceeding the time limits in a Track II designated case.[27]

29. Hearing in this matter commenced on May 6, 2012, and was completed on May 10, 2013.[28] Five expert witnesses testified at the hearing: Dr. Woolridge, Dr. Wilson,

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[26] *See, e.g., Seminole Elec. Coop., Inc. v. Fla. Power & Light Co.*, 65 FERC ¶ 61,413, at 63,139 (1993); *Canal Elec. Co.*, 46 FERC ¶ 61,153, at 61,539 (1989), *reh'g denied*, 47 FERC ¶ 61,275 (1989).

[27] The Eastern Massachusetts Consumer Owned Systems (EMC) moved to intervene on October 1, 2012, and the undersigned granted the motion on October 4, 2012, also allowing EMC to late file testimony of Dr. Wilson, their expert, in this proceeding.

[28] The undersigned held a pre-hearing conference on May 1, 2012 whereupon the majority of exhibits were admitted into evidence pursuant to 18 C.F.R. Sec. 385.508; Rule 508. The identification of documents as required by Rule 508 and compliance is sufficiently achieved as the descriptions are contained in the detailed written exhibit lists offered by the parties, and which were admitted into evidence as ALJ exhibits (ALJ Exhibits 1-6) by the undersigned. The NETOs moved for admission of supplemental evidence by motion pertaining to a substantial growth rate increase for UIL Holdings, one of the proxy group

Ms. Lapson, Dr. Avera, and Ms. Joe. At hearing, 377 exhibits were admitted into evidence, plus 6 six ALJ exhibits which contain the exhibits descriptions. Additionally, the undersigned took administrative notice of two legal citations used for cross-examination by Complainants' counsel, but which were not offered into evidence (Exhibits identified as SC-547 and 548). Three additional items by reference (IBRs) were administratively noticed (NET IBR-1 and SC IBR-1 &2). Excerpts of all administratively noticed exhibits were attached to the record.

II. ISSUES

30. The parties stipulated to the following issues to be decided in this case. The undersigned in general accepts the stipulated issues, finding that the ultimate issue in this case is whether the existing ROE is just and reasonable and if not, what ROE is adopted and found to be just and reasonable. To the extent this decision is made, the remaining issues stipulated to by the parties are either supportive or non-supportive of the Initial Decision or rendered moot. Moreover, some of the stipulated issues pertain to policy considerations which are better left to the Commission to determine. The undersigned's Initial Decision therefore addresses the ultimate issue of ROE and only addresses the peripheral issues where necessary to support the decision. The verbatim issues stipulated to and numbered by the parties are as follows:

I. General

A. What policy objectives should be taken into account in determining the just and reasonable RTO-wide ISO-NE Base ROE in this proceeding?

B. What is the applicable burden of proof, and has it been met?

C. Should the existing RTO-wide ISO-NE Base ROE be retained if it is within the zone of reasonableness?

D. Should the RTO-wide ISO-NE Base ROE be set at the Commission's current best estimate of the cost of equity capital for ISO-NE transmission facilities?

II. DCF Methodology and Supporting Commission Precedent

A. What are the appropriate proxy group screening criteria and proxy group members?

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members. Likewise, the Complainants and Staff moved to strike certain updated evidence from Dr. Avera. Finding it necessary to assemble as complete as record as possible, the undersigned granted the NETO's motion and denied Complainants' and Staff's motion. The undersigned further notes that citations to the record and legal authority are often repeated in this Initial Decision to assist the reader.

B. How should the dividend yields be calculated?

C. How should the growth rate(s) be calculated?

1. What, if any, source(s) of analysts' long-term growth rate forecasts should be relied upon?

2. How, where used, should the fundamental growth rate (br+sv) be calculated?

D. What are the high-end and low-end outliers for the proxy group, and what DCF results, if any, should be excluded as a consequence?

E. What other issues related to the DCF methodology should be considered?

III. Other Considerations in Setting the RTO-wide ISO-NE Base ROE

A. What financial models other than the traditional DCF analysis should be used in evaluating the RTO-wide ISO-NE Base ROE, what are the results of those models, and what weight should be accorded those results?

B. In determining the just and reasonable RTO-wide ISO-NE Base ROE, what is Commission policy, and what, if any, changes in Commission policy are appropriate?

C. What is the impact of current capital markets on the ROE calculation?

D. For what time period(s) does the RTO-wide ISO-NE Base ROE determined in this proceeding apply, and what ROE analysis or analyses is or are applicable to those time period(s)?

IV. ROE Determination

A. What is the zone of reasonableness for purposes of this proceeding?

B. Is the existing RTO-wide ISO-NE Base ROE unjust and unreasonable, and what criteria are applicable to making this determination?

C. If the existing RTO-wide ISO-NE Base ROE is unjust and unreasonable, what is the just and reasonable Base ROE?

III. SUMMARY OF THE EVIDENCE

A. Complainants' Direct Testimony

1. Dr. J. Randall Woolridge

31. Dr. Woolridge's business address is 120 Haymaker Circle, State College, PA 16801. He is a Professor of Finance and the Goldman, Sachs & Co. and Frank P. Smeal Endowed University Fellow in Business Administration at the University Park Campus of the Pennsylvania State University. He is also the Director of the Smeal College Trading Room and President of the Nittany Lion Fund, LLC. A summary of his educational background, research, and related business experience is provided in Exhibit SC-101. (Exhibit SC-100, at 4).

32. Dr. Woolridge has been asked by the Massachusetts Office of the Attorney General, various state regulators and ratepayer advocates, and other industrial end users to prepare a study on the appropriate base-level return on equity ("ROE") applicable to the New England Transmission Owners ("TOs"). These TOs include Bangor Hydro Electric Company (Emera), Central Maine Power Company, NSTAR Electric Corporation, New Hampshire Transmission LLC (NextEra), Northeast Utilities Service Company, The United Illuminating Company, New England Power Company (National Grid), Unitil Energy Systems, Inc. and Fitchburg Gas and Electric Light Company (Unitil), and Vermont Transco (Vermont Electric Power Company). (Exhibit SC-100, at 4).

33. Dr. Woolridge's testimony is organized such that he first, provides an overview and summary of his ROE recommendation. Second, he provides an overview assessment of capital costs in today's capital markets. Third, he develops an estimate of the cost of common equity capital for the New England Transmission Owners, by identifying a proxy group of electric utilities to which he applies a Discounted Cash Flow analysis. (Exhibit SC-100, at 4).

34. Dr. Woolridge states that the Federal Energy Regulatory Commission initially established a base-level ROE for New England Transmission Owners through its Opinion No. 489. The Commission initially set the base-level ROE at 10.2%, which represented the midpoint of the range of ROEs which the Commission determined to be in a zone of reasonableness with a low-end ROE of 7.3% and a high-end ROE of 13.1%. This analysis employed the six-month average dividend yield for the period July through December 2004. The midpoint of 10.2% was subsequently adjusted upwards to 10.4% to reflect a modified calculation of the *Value Line* projected earned rate of return on equity. (Exhibit SC-100, at 5).

35. He asserts that the Commission has traditionally required updated data to reflect changing market conditions between the time of the financial market data considered at a hearing and the issuance of the Commission's Opinion. The Commission has endorsed the use of the monthly yields on ten-year constant maturity U.S. Treasury Bonds as an indicator

of capital market trends. In Opinion No. 489, for the six-month period July 2004 through December 2004, the average monthly yield on these bonds was 4.2%, whereas the updated bond yield data for the period March 2006 through August 2006 produced an average monthly yield of 5.0%. The Commission adjusted the base-level ROE for the going-forward period by 74 basis points to reflect changing market conditions. Therefore, the base-level ROE for the TOs, adjusted for changing market conditions, was set at 11.14% (10.4% + 0.74%). (Exhibit SC-100, at 5).

36. Dr. Woolridge states that the bubble in the housing market and the subsequent financial crisis and economic recession has had a profound impact on financial institutions and capital markets. In response, the government has employed aggressive fiscal and monetary policies. In the capital markets, one impact has been the lower yields on the obligations of the United States Treasury. These yields today are somewhat below those at the time of the Opinion No. 489 and the rehearing update noted above. He points out that Panel A of Exhibit SC-105 shows the yields on ten-year Treasury bonds for the periods July 2004–December 2004, March 2006–August 2006, and March 2012 – August 2012. The average ten-year Treasury yields for these three periods are 4.24%, 4.98%, and 1.81%, respectively. (Exhibit SC-100, at 5-6).

37. These yields indicate that capital costs are lower by more than 200 basis points than at the time of Opinion No. 489. Panel B of Exhibit SC-105 shows the yields on thirty-year public utility bonds for the same three periods (July 2004–December 2004, March 2006–August 2006, and March 2012–August 2012). The average yields for these three periods are 5.67%, 6.15%, and 3.99%, respectively. These yields also indicate a similar decline in utility capital costs as the change indicated by the Treasury data, according to Dr. Woolridge. (Exhibit SC-100, at 5-6).

38. Dr. Woolridge contends that based on this data and his equity cost rate study, it is his opinion that the current base-level ROE of 11.14% is in excess of what the standards set forth by the Supreme Court in the authoritative cases discussed throughout this case, of *Bluefield* and *Hope* deem necessary to: (1) maintain the financial integrity of the utility, (2) enable the company to attract new capital, and (3) provide a return to common equity that is commensurate with returns on investments in other utilities of corresponding risk. (Exhibit SC-100, at 6-7).

39. Dr. Woolridge states he has applied the DCF to a proxy group of publicly-held electric utility companies. The Electric Proxy Group includes thirty-four companies. Consistent with recent Commission findings, this group is comprised of utilities throughout the United States and is not limited to the Northeast region. He has presented DCF results using the Commission's approach. He has concluded that the appropriate equity cost rate for the TOs is 9.0%. This is summarized in Exhibit SC-104. (Exhibit SC-100, at 6-7).

40. Dr. Woolridge states that long-term capital cost rates for corporations are a function of the required returns on risk-free securities plus a risk premium. The risk-free rate of interest is the yield on long-term Treasury yields. The yields on ten-year Treasury bonds

from 1953 to the present are provided on page 1 of Exhibit SC-106. These yields peaked in the early 1980s and have generally declined since that time. In the summer of 2003, these yields hit a 60-year low at 3.33%. They subsequently increased and fluctuated between the 4.0% and 5.0% levels over the next four years in response to ebbs and flows in the economy. (Exhibit SC-100, at 7).

41. He notes further that ten-year Treasury yields began to decline in mid-2007 at the beginning of the financial crisis. In 2008 Treasury yields declined to below 3.0% as a result of the expansion of the mortgage and subprime market credit crisis, the turmoil in the financial sector, the government bailout of financial institutions, the monetary stimulus provided by the Federal Reserve, and the economic recession. From 2008 until 2011, these rates fluctuated between 2.5% and 3.5%. Over the past six months, the yields on ten-year Treasuries have declined from about 2.2% to below 1.8% as the Federal Reserve has continued to support a low interest rate environment and economic uncertainties have persisted. (Exhibit SC-100, at 7-8).

42. Dr. Woolridge states further that Panel B on page one of Exhibit SC-105 shows the differences in yields between ten-year Treasuries and Moody's Baa rated bonds since the year 2000. This differential primarily reflects the additional risk required by bond investors for the risk associated with investing in corporate bonds, in his view. The difference also reflects, to some degree, yield curve changes over time. The Baa rating is the lowest of the investment grade bond ratings for corporate bonds. The yield differential hovered in the 2.0% to 3.0% range until 2005, declined to 1.5% until late 2007, and then increased significantly in response to the financial crisis. This differential peaked at 6.0% at the height of the financial crisis in early 2009, due to tightening in credit markets, which increased corporate bond yields and the "flight to quality," which decreased treasury yields. The differential subsequently declined and has been in the 2.5% to 3.5% range over the past three years, according to Dr. Woolridge. (Exhibit SC-100, at 7-8).

43. Dr. Woolridge also believes the risk premium is the return premium required by investors to purchase riskier securities. The risk premium required by investors to buy corporate bonds is observable based on yield differentials in the markets. The equity risk premium is the return premium required to purchase stocks as opposed to bonds. The equity risk premium is not readily observable in the markets (as are bond risk premiums) since expected stock market returns are not readily observable. As a result, equity risk premiums must be estimated using market data. There are alternative methodologies to estimate the equity risk premium, and these alternative approaches and equity risk premium results are subject to much debate. One way to estimate the equity risk premium is to compare the mean returns on bonds and stocks over long historical periods. Measured in this manner, the equity risk premium has been in the 5% to 7% range. However, studies by leading academics indicate the forward-looking equity risk premium is actually in the 4.0% to 5.0% range. These lower equity risk premium results are in line with the findings of equity risk premium surveys of CFOs, academics, analysts, companies, and financial forecasters, in Dr. Woolridge's opinion. (Exhibit SC-100, at 8).

44. Dr. Woolridge additionally states the mortgage crisis, subprime crisis, credit crisis, economic recession and the restructuring of financial institutions have had tremendous global economic implications. This issue first surfaced in the summer of 2007 as a mortgage crisis. It expanded into the subprime area in 2008 and led to the collapse of certain financial institutions, notably Bear Stearns, in the first quarter of 2008. Commodity and energy prices peaked and began to decline in the summer of 2008, as the crisis in the financial markets spread to the global economy. The turmoil in the financial sector peaked in September of 2008 with the failure of several large financial institutions, Bank of America's buyout of Merrill Lynch, and the government takeover of Fannie Mae and Freddie Mac. (Exhibit SC-100, at 8-9).

45. Dr. Woolridge asserts further that in response to the market crisis, the Federal Reserve ("Fed") took extraordinary steps in an effort to stabilize capital markets. Most significantly, in his view, the "Fed" opened its lending facilities to numerous banking and investment firms to promote credit markets. As a result, the balance sheet of the Federal Reserve grew by hundreds of billions of dollars in support of the financial system. The federal government took a series of measures to shore up the economy and the markets. The Troubled Asset Relief Program was aimed at providing over $700 billion in government funds to the banking system in the form of equity investments. The federal government spent billions bailing out a number of prominent financial institutions, including AIG, Citigroup, and Bank of America. The government also bailed out other industries, most notably the auto industry. In 2009, President Obama signed into law his $787 billion economic stimulus, which included significant tax cuts and government spending aimed at creating jobs and turning around the economy. (Exhibit SC-100, at 9).

46. Dr. Woolridge states the spillover of the financial crisis to the economy has been ongoing. According to the National Bureau of Economic Research ("NBER"), the economy slipped into a recession in the 4th quarter of 2007. The NBER has indicated that the recession ended in the 2nd quarter of 2009. Nonetheless, the recovery of the economy has lagged behind the recoveries from previous recessions. Since the 2nd quarter of 2009, economic growth has only been 2.4% per year, and just 1.8% and 1.5% in the first two quarters of 2012. Furthermore, he asserts the economic recovery in the United States has been hindered by global economic concerns, especially the continuing fiscal and monetary issues in Europe and the slowing economic growth in China. (Exhibit SC-100, at 9). As a result, he believes the United States is still saddled with relatively high unemployment, large government budget deficits, continued housing market issues, and uncertainty about future economic growth. (Exhibit SC-100, at 9).

47. Dr. Woolridge points out that Panel A of page two of his Exhibit SC-106 provides the yields on A, BBB+, and BBB rated public utility bonds. These yields peaked in November 2008 and have since declined by about 400 basis points. For example, the yields on 'A' rated utility bonds, which peaked at about 7.75% in November of 2008, have declined to 3.75% as of September, 2012. Panel B of page two of Exhibit SC-106 provides the yield spreads on A, BBB+, and BBB rated public utility bonds relative to Treasury bonds. These

yield spreads increased dramatically in the third quarter of 2008 during the peak of the financial crisis and have decreased significantly since that time. For example, the yield spreads between 30-year Treasury bonds and 'A' rated utility bonds peaked at over 3.50% in November of 2008, declined to 1.0% in early 2012, and have since increased to about 1.25%. (Exhibit SC-100, at 10).

48. Mr. Wooldridge states in sum, while the economy continues to face significant problems, the actions of the government and Federal Reserve had a large effect on the credit markets. The capital costs for utilities, as measured by the yields on 30-year utility bonds, have declined to below pre-financial crisis levels.

49. Dr. Woolridge states in his opinion that interest rates are likely to be low for some time. He observes that the Federal Reserve also indicated that it intends to keep the target rate for the federal funds rate between 0 to ¼ percent through at least mid-2015. These monetary policy actions of the Federal Reserve, coupled with U.S. economic conditions of slow economic growth, high unemployment, and low inflation, should keep U.S. interest rates and capital costs low for several years. The likelihood that these conditions will keep interest rates and capital costs low for businesses is reinforced by the economic and political problems in Europe, as the United States is viewed as a safe haven for investment capital around the world. This will impact the ROE in dispute in this case for a long time to come. (Exhibit SC-100, at 11).

50. Dr. Woolridge further opines that in a competitive industry, the return on a firm's common equity capital is determined through the competitive market for its goods and services. Due to the capital requirements needed to provide utility services and to the economic benefit to society from avoiding duplication of these services, some public utilities are monopolies. It is not appropriate to permit monopoly utilities to set their own prices because of the lack of competition and the essential nature of the services. Thus, regulation seeks to establish prices that are fair to consumers and, at the same time, are sufficient to meet the operating and capital costs of the utility (i.e., provide an adequate return on capital to attract investors). (Exhibit SC-100, at 12).

51. Dr. Woolridge states the total cost of operating a business includes the cost of capital. The cost of common equity capital is the expected return on a firm's common stock that the marginal investor would deem sufficient to compensate for risk and the time value of money. In equilibrium, the expected and required rates of return on a company's common stock are equal. (Exhibit SC-100, at 12).

52. Furthermore, he cites to James M. McTaggart, founder of the international management consulting firm Marakon Associates, who has described this essential relationship between the return on equity, the cost of equity, and the market-to-book ratio in the following manner:

> Fundamentally, the value of a company is determined by the cash flow it generates over time for its owners, and the minimum acceptable rate of return

> required by capital investors. This "cost of equity capital" is used to discount the expected equity cash flow, converting it to a present value. The cash flow is, in turn, produced by the interaction of a company's return on equity and the annual rate of equity growth. High return on equity (ROE) companies in low-growth markets, such as Kellogg, are prodigious generators of cash flow, while low ROE companies in high-growth markets, such as Texas Instruments, barely generate enough cash flow to finance growth….
>
> A company's ROE over time, relative to its cost of equity, also determines whether it is worth more or less than its book value. If its ROE is consistently greater than the cost of equity capital (the investor's minimum acceptable return), the business is economically profitable and its market value will exceed book value. If, however, the business earns an ROE consistently less than its cost of equity, it is economically unprofitable and its market value will be less than book value. (Exhibit SC-100, at 13).

53. He opines the relationship between a firm's return on equity, cost of equity, and market-to-book ratio is relatively straightforward. A firm that earns a return on equity above its cost of equity will see its common stock sell at a price above its book value. Conversely, a firm that earns a return on equity below its cost of equity will see its common stock sell at a price below its book value. (Exhibit SC-100, at 13-14).

54. Dr. Woolridge provides additional insights into the relationship between return on equity and market-to-book ratios. He states that this relationship is discussed in a classic Harvard Business School case study entitled "A Note on Value Drivers." On page 2 of that case study, the author describes the relationship very succinctly:

> For a given industry, more profitable firms – those able to generate higher returns per dollar of equity – should have higher market-to-book ratios. Conversely, firms which are unable to generate returns in excess of their cost of equity should sell for less than book value.

Profitability	***Value***
If ROE > K	***then Market/Book > 1***
If ROE = K	***then Market/Book =1***
If ROE < K	***then Market/Book < 1***

55. To assess the relationship by industry, as suggested above, Dr. Wooldridge has performed a regression study between estimated return on equity and market-to-book ratios using natural gas distribution, electric utility and water utility companies. He used all companies in these three industries that are covered by *Value Line* and have estimated return on equity and market-to-book ratio data. The results are presented in Panels A-C of Exhibit SC-107. The average R-squares for the electric, gas, and water companies are 0.52, 0.71,

and 0.77, respectively. This demonstrates the strong positive relationship between ROEs and market-to-book ratios for public utilities, in his view. (Exhibit SC-100, at 14).

56. Dr. Woolridge opines the expected or required rate of return on common stock is a function of market-wide as well as company-specific factors. The most important market factor is the time value of money as indicated by the level of interest rates in the economy. Common stock investor requirements generally increase and decrease with like changes in interest rates. The perceived risk of a firm is the predominant factor that influences investor return requirements on a company-specific basis. A firm's investment risk is often separated into business and financial risk. Business risk encompasses all factors that affect a firm's operating revenues and expenses. Financial risk results from incurring fixed obligations in the form of debt in financing its assets. (Exhibit SC-100, at 15).

57. Dr. Woolridge goes on to state that due to the essential nature of their service as well as their regulated status, public utilities are exposed to a lesser degree of business risk than other, non-regulated businesses. The relatively low level of business risk allows public utilities to meet much of their capital requirements through borrowing in the financial markets, thereby incurring greater than average financial risk. Nonetheless, the overall investment risk of public utilities is below most other industries, in his view. (Exhibit SC-100, at 15).

58. He points out that in his Exhibit SC-108 provides an assessment of investment risk for 100 industrial categories as measured by beta, which according to modern capital market theory, is the only relevant measure of investment risk. These betas come from the *Value Line Investment Survey* and are compiled annually by Professor Aswath Damodoran of New York University. Tracking *Value Line*'s geographic groupings, the study breaks out the betas for electric utilities into east, central, and west electric utilities. The study shows that the investment risk of all five resulting utility categories is very low. The average betas for electric utilities (east), electric utilities (central), electric utilities (west), water, and gas utility companies are 0.70, 0.75, 0.75, 0.66, and 0.66, respectively. The betas for utilities are in the lowest ten percent of all industries covered by *Value Line*. These are well below the *Value Line* average of 1.15. As such, the cost of equity for utilities is among the lowest of all industries in the United States, according to Dr. Woolridge. (Exhibit SC-100, at 15-16).

59. Dr. Woolridge additionally contends that the costs of debt and preferred stock are normally based on historical or book values and can be determined with a great degree of accuracy. The cost of common equity capital, however, cannot be determined precisely and must instead be estimated from market data and informed judgment. This return to the stockholder should be commensurate with returns on investments in other enterprises having comparable risks. (Exhibit SC-100, at 16).

60. Dr. Woolridge notes that according to valuation principles, the present value of an asset equals the discounted value of its expected future cash flows. Investors discount these expected cash flows at their required rate of return that, as noted above, reflects the time value of money and the perceived riskiness of the expected future cash flows. As such, the

cost of common equity is the rate at which investors discount expected cash flows associated with common stock ownership. (Exhibit SC-100, at 16).

61. Dr. Woolridge believes models have been developed to ascertain the cost of common equity capital for a firm. Each model, however, has been developed using restrictive economic assumptions. Consequently, judgment is required in selecting appropriate financial valuation models to estimate a firm's cost of common equity capital, in determining the data inputs for these models, and in interpreting the models' results. All of these decisions must take into consideration the firm involved as well as current conditions in the economy and the financial markets, in his view. (Exhibit SC-100, at 16-17).

62. Dr. Woolridge asserts he relies primarily on the DCF model to estimate the cost of common equity capital. Given the investment valuation process and the relative stability of the utility business, he believes that the DCF model provides the best measure of equity cost rates for public utilities. He also undertook a CAPM study, based on the same proxy group as was examined in his DCF study. The CAPM study resulted in a 7.5% estimate of the cost of common equity capital, as shown in his exhibits. However, he gives that CAPM result no weight because he believes that risk premium studies, of which the CAPM is one form, provide a less reliable indication of equity cost rates for public utilities. (Exhibit SC-100, at 16-17).

63. According to the DCF model, the current stock price is equal to the discounted value of all future dividends that investors expect to receive from investment in the firm. As such, stockholders' returns ultimately result from current as well as future dividends. As owners of a corporation, common stockholders are entitled to a *pro rata* share of the firm's earnings. The DCF model presumes that earnings that are not paid out in the form of dividends are reinvested in the firm so as to provide for future growth in earnings and dividends. The rate at which investors discount future dividends, which reflects the timing and riskiness of the expected cash flows, is interpreted as the market's expected or required return on the common stock. Therefore, this discount rate represents the cost of common equity. Algebraically, the DCF model can be expressed as:

$$P = \frac{D_1}{(1+k)^1} + \frac{D_2}{(1+k)^2} + \ldots \frac{D_n}{(1+k)^n}$$

where P is the current stock price, D_n is the dividend in year n, and k is the cost of common equity. (Exhibit SC-100, at 17).

64. Dr. Woolridge states further that the DCF model is consistent with valuation techniques employed by investment firms. Virtually all investment firms use some form of the DCF model as a valuation technique. One common application for investment firms is called the three-stage DCF or dividend discount model ("DDM"). The stages in a three-stage DCF model are presented in Exhibit SC-109. This model presumes that a company's dividend payout progresses initially through a growth stage, then proceeds through a

transition stage, and finally assumes a steady-state stage. The dividend-payment stage of a firm depends on the profitability of its internal investments, which, in turn, is largely a function of the life cycle of the product or service, as follows: (See Exhibit SC-100, at 17-18).

a. Growth stage: Characterized by rapidly expanding sales, high profit margins, and abnormally high growth in earnings per share. Because of highly profitable expected investment opportunities, the payout ratio is low. Competitors are attracted by the unusually high earnings, leading to a decline in the growth rate.

b. Transition stage: In later years increased competition reduces profit margins and earnings growth slows. With fewer new investment opportunities, the company begins to pay out a larger percentage of earnings.

c. Maturity (steady-state) stage: Eventually the company reaches a position where its new investment opportunities offer, on average, only slightly attractive returns on equity. At that time its earnings growth rate, payout ratio, and return on equity stabilize for the remainder of its life. The constant-growth DCF model is appropriate when a firm is in the maturity stage of the life cycle.

65. In using this model to estimate a firm's cost of equity capital, dividends are projected into the future using the different growth rates in the alternative stages, and then the equity cost rate is the discount rate that equates the present value of the future dividends to the current stock price, according to Dr. Woolridge. (Exhibit SC-100, at 18).

66. Dr. Woolridge also states that under certain assumptions, including a constant and infinite expected growth rate, and constant dividend/earnings and price/earnings ratios, the DCF model can be simplified to the following:

$$P = \frac{D_1}{k - g}$$

where D_1 represents the expected dividend over the coming year and g is the expected growth rate of dividends. This is known as the constant-growth version of the DCF model. To use the constant-growth DCF model to estimate a firm's cost of equity, one solves for k in the above expression to obtain the following:

$$k = \frac{D_1}{P} + g$$

(Exhibit SC-100, at 18).

67. In Dr. Woolridge's opinion, the Constant-Growth DCF model is appropriate for public utilities. The economics of the public utility business indicate that the industry is in the steady-state or constant-growth stage of a three-stage DCF. The economics include the

relative stability of the utility business, the maturity of the demand for public utility services, and the regulated status of public utilities (especially the fact that their returns on investment are effectively set through the ratemaking process). The DCF valuation procedure for companies in this stage is the constant-growth DCF. In the constant-growth version of the DCF model, the current dividend payment and stock price are directly observable. However, the primary problem and controversy in applying the DCF model to estimate equity cost rates entails estimating investors' expected dividend growth rate. (Exhibit SC-100, at 19).

68. Dr. Woolridge states further that one should be sensitive to several factors when using the DCF model to estimate a firm's cost of equity capital. In general, one must recognize the assumptions under which the DCF model was developed in estimating its components (the dividend yield and expected growth rate). The dividend yield can be measured precisely at any point in time, but tends to vary somewhat over time. Estimation of expected growth is considerably more difficult. One must consider recent firm performance, in conjunction with current economic developments and other information available to investors, to accurately estimate investors' expectations. (Exhibit SC-100, at 19).

69. To develop a fair rate of return recommendation for the TOs, Dr. Woolridge evaluated the return requirements of investors in the common stock of the Electric Proxy Group. He states that the selection criteria for the proxy group include the following:

a. At least 50% of revenues from regulated electric operations as reported by *AUS Utilities Report*;

b. Listed as Electric Utility by *Value Line Investment Survey* and listed as an Electric Utility or Combination Electric & Gas Company in *AUS Utilities Report*;

c. An investment grade corporate credit and bond rating that falls within the comparable risk band;

d. Has paid a cash dividend for the past three years, with no cuts or omissions;

e. Not involved in an acquisition of another utility, and not the target of an acquisition, in the past six months; and

f. Analysts' long-term EPS growth rate forecasts available from Yahoo, Reuters, and/or Zacks. (Exhibit SC-100, at 20).

70. Dr. Woolridge notes his Electric Proxy Group includes thirty-four companies. Summary financial statistics for the proxy group he used are listed on page one of his Exhibit SC-110. The median operating revenue and net plant for the Electric Proxy Group are $4,282.0M and $10,062.0M, respectively. The group receives 77% of revenues from regulated electric operations, has an BBB+ bond rating from Standard & Poor's, a current common equity ratio of 45.3%, and an earned return on common equity over of 9.8%. (Exhibit SC-100, 20-21).

71. Dr. Woolridge testifies the election of his electric proxy group is consistent with prior commission guidelines. The companies in the group are primarily electric utilities as indicated by the percent of regulated electric revenue (at least 50%). The selection process includes a national group of electric utilities, which is consistent with the Commission's recent findings that geographic proximity is not necessarily a determining factor in evaluating risk. Widening the geographic focus allows him to apply relatively stringent screening criteria, but still wind up with a reliably large group of proxies. (Exhibit SC-100, at 21).

72. Dr. Woolridge points out that at page two of Exhibit SC-110 provides the S&P corporate credit ratings of the New England TOs. These ratings range from A- on the high end to BBB on the low end. According to the Commission's credit rating screen or "comparable risk band" approach, reference companies may be included with ratings that are one "notch" higher or lower than the corporate ratings of the utility at issue, within the investment grade ratings scale. Accordingly, the range for the group is A to BBB-. The median for the TOs is A-/BBB+. On page 3 of Exhibit SC-110, Mr. Woolridge has assessed the riskiness of the TOs and the Electric Proxy Group using three different risk measures published by *Value Line*. These measures include Beta, Safety, and Financial Strength. These measures are all very similar for the TOs and the Electric Proxy Group, in his opinion. (Exhibit SC-100, at 21-22). Dr. Woolridge states overall, the selection of the Electric Proxy Group is consistent with Commission proxy group guidelines and is comparable in risk to the TOs. (Exhibit SC-100, at 21-22).

73. Dr. Woolridge notes further that a proxy selection criterion requiring that a company derive at least 50% of its revenues from regulated electric operations is designed to select proxy group members of comparable risk to the NETOs. In a case involving setting the ROE for electric utilities, it is axiomatic that the proxy group should consist of electric utilities and eliminating companies from the proxy group that are not electric utilities is consistent with Commission precedent. For example, it is Dr. Woolridge's understanding that the Commission has found appropriate the application of a proxy selection criterion that eliminated utilities primarily operating as natural gas companies. *Bangor Hydro-Electric Company, et al.*, 111 FERC ¶ 63,048 (2005); *Consumers Energy Co.*, 98 FERC ¶ 61,333 (2002). The companies in his proxy group are primarily electric utilities as indicated by the percent of revenue that derives from regulated electric operations. (Exhibit SC-100, at 21-22).

74. Dr. Woolridge states that Dr. Avera's proxy group from Exhibit NETO-104 included companies for which the percentage of regulated electric revenue is relatively small. Dr. Avera's rationale for including such disparate companies seemed to be that *Value Line* continues to include those companies in its electric utility industry reporting. However, the frequency with which *Value Line* reclassifies companies and the criteria by which it does so are not known, and in any case the classification applied by any one publication is much less significant in characterizing a firm's industry category than is the question where it gets most

of its revenues. Dr. Woolridge thinks the Commission appears to agree with that view. (Exhibit SC-100, at 22).

75. For example, he points out that in arecent hearing on NETOs' ROE, a major issue concerned whether UGI was properly included in the proxy group, given its extensive non-electric operations. The Presiding Judge and the Commission found that UGI was not an appropriate proxy, and the basis for that finding was the fact that electric operations represented a small share of UGI's customer base and revenues, not any labeling by *Value Line*. (Exhibit SC-100, at 22).

76. Dr. Woolridge notes that a proxy selection criterion requiring that the company be listed as an electric utility or combination electric utility and gas company in *AUS Utilities Report* provides a quick way to ensure that the proxies all have some substantial level of traditional electric utility operations, and therefore share that relevant characteristic with the NETOs. However, it is not as useful or as precise a criterion as is my separate criterion requiring that electric utility operations provide 50% of revenues. In its application here, the AUS Utilities Report classification criterion excludes only ITC Holdings, which in any case would be screened out by other criteria. (Exhibit SC-100, at 22-23).

77. Dr. Woolridge states that a proxy selection criterion requiring an investment grade corporate credit and bond rating screens directly for comparable risk, as graded in corporate credit and bond ratings. As he discussed above, this "comparable risk band" is well established in Commission precedent. A proxy selection criterion requiring that a company consistently has paid a cash dividend for the past three years has been applied because application of the DCF model to measure an equity cost rate requires that investors expect to receive a dividend in the future. Such expectations may change if a company has recently cut or omitted a dividend. (Exhibit SC-100, at 22-23).

78. Dr. Woolridge additionally notes that the proxy selection criterion requiring that in the past six months, the company not have been involved in the acquisition of another utility nor the target of an acquisition has been applied because merger activity tends to distort the inputs on which the DCF model relies. For example, expectations that an acquiring company will pay a premium may inflate the target's share prices, and deflate those of the acquiring company. These distortions would depress the target's study-period dividend yield, and inflate the acquiring company's study-period dividend yield. Also, whether analysts' EPS growth rate forecasts relate to the pre-merger or anticipated post-merger entity is not always known. In the post-merger period, expectations can change regarding the integration and long-term prospects of the merging companies. (Exhibit SC-100, at 23).

79. Dr. Woolridge states that long-term analyst's forecasts of growth in earnings per share are a required input for the Commission's standard DCF methodology. All three of these sources are reputable and are relied upon by investors. Moreover, in the prior proceeding to set the NETOs' base return on equity, the Commission stated that comparable growth projections from other sources could be considered along with *Value Line* projections and what was then I/B/E/S. He goes on to say that each of the nine companies included in

Dr. Avera's proxy group but excluded from Dr. Woolridge's proxy group fails to meet one or more of the proxy selection criteria. Center Point Energy derives only 31% of its revenues from regulated electric operations. Entergy Corp. is currently involved in merger activity. Integrys Energy Group derives only 31% of its revenues from regulated electric operations. (Exhibit SC-100, at 23-24).

80. Moreover, he notes that ITC Holdings is currently involved in merger activity and is not listed as an Electric Utility or Combination Electric and Gas Company in *AUS Utility Reports*. Otter Tail Corp. derives only 33% of its revenues from regulated electric operations and has a split corporate rating, one of which is "junk." PPL Corp. derives only 45% of its revenues from regulated electric operations. Public Service Enterprise Group derives only 44% of its revenues from regulated electric operations. Sempra Energy derives only 30% of its revenues from regulated electric operations. Furthermore, Vectren Corp. derives only 28% of its revenues from regulated electric operations. (See Exhibit SC-100, at 24).

81. Dr. Woolridge asserts further that the overall risk levels of the proxy group that results from his criteria provides additional assurance that those criteria are sound. As he noted earlier, on page three of Exhibit SC-110, he has assessed the riskiness of the TOs and the Electric Proxy Group using three different risk measures. Again, these measures are all very similar for the TOs and the Electric Proxy Group. (Exhibit SC-100, at 24).

82. As noted earlier, Dr. Woolridge performed a DCF analysis using the Commission's DCF approach. The detailed results of his DCF analysis are presented in Exhibit SC-111. The DCF summary is on page one of this Exhibit, and the supporting data and analysis for the dividend yield and expected growth rate are provided on the following pages of the Exhibit. In this application, the dividend yield is computed as the average low and high indicated dividend yields for each utility during the six months ending September 2012. (Exhibit SC-100, at 25).

83. Dr. Woolridge also stated that according to the traditional DCF model, the dividend yield term relates to the dividend yield over the coming period. As indicated by Professor Myron Gordon, who is commonly associated with the development of the DCF model for popular use, this is obtained by (1) multiplying the expected dividend over the coming quarter by 4 and (2) dividing this dividend by the current stock price to determine the appropriate dividend yield for a firm, that pays dividends on a quarterly basis. (Exhibit SC-100, at 25).

84. Dr. Woolridge states further that in applying the DCF model, some analysts adjust the current dividend for growth over the coming year as opposed to the coming quarter. This can be complicated because firms tend to announce changes in dividends at different times during the year. As such, the dividend yield computed based on presumed growth over the coming quarter as opposed to the coming year can be quite different. Consequently, it is common for analysts to adjust the dividend yield by some fraction of the long-term expected growth rate. Dr. Woolridge adjusts the dividend yield by one-half (1/2) the expected growth so as to reflect growth over the coming year. This is consistent with the Commission's

approach, in his view. (Exhibit SC-100, at 25-26). The DCF equity cost rate (K) is computed as follows:

$$k = \frac{D}{P}(1 + 0.5g) + g$$

85. Dr. Woolridge testifies further that the Commission's DCF approach uses two measures of projected growth. These include: (1) the projected EPS growth as forecasted by Wall Street analysts; and (2) sustainable growth, as measured by the sum of internal growth (the retention rate times expected ROE) and external growth (the percent of equity expected to be issued times the equity accretion ratio). (Exhibit SC-100, at 26).

86. Dr. Woolridge states analysts' EPS forecasts for companies are collected and published by a number of different investment information services, including Institutional Brokers Estimate System ("I/B/E/S"), Bloomberg, FactSet, Zacks, First Call and Reuters, among others. Thompson Reuters publishes analysts' EPS forecasts under different product names, including I/B/E/S, First Call, and Reuters. Bloomberg, FactSet, and Zacks publish their own set of analysts' EPS forecasts for companies. These services do not reveal: (1) the analysts who are solicited for forecasts; or (2) the actual analysts who provide the EPS forecasts that are used in the compilations published by the services. I/B/E/S, Bloomberg, FactSet, and First Call are fee-based services.

87. These services usually provide detailed reports and other data in addition to analysts' EPS forecasts. Thompson Reuters and Zacks do provide limited EPS forecasts data free-of-charge on the internet. Yahoo finance (http://finance.yahoo.com) lists Thompson Reuters as the source of its summary EPS forecasts. The Reuters website (www.reuters.com) also publishes EPS forecasts from Thompson Reuters, but with more detail. Zacks (www.zacks.com) publishes its summary forecasts on its website. Zack's estimates are also available on other websites, such as msn.money (http://money.msn.com). (Exhibit SC-100, at 26-27).

88. Dr. Woolridge additionally states the DCF growth rate is the long-term projected growth rate in EPS, DPS, and BVPS. Therefore, in developing an equity cost rate using the DCF model, the projected long-term growth rate is the projection used in the DCF model. Based on Dr. Woolridge's review of previous cases, he believes that it appears that the Commission has accepted analyses that use the long-term EPS growth rate forecasts as published by I/B/E/S in developing a DCF equity cost rate. The Commission appears to believe that the I/B/E/S growth rate projections are published on the Yahoo Finance website. This contention cannot be verified on either the Yahoo Finance or the Thompson Reuters websites. Regardless, it is Dr. Woolridge's experience that there is not one single figure that represents analysts' projected long-term EPS growth rate for a company. (Exhibit SC-100, at 28).

89. He notes that at page 2 of Exhibit SC-111 there appears an analysts' projected long-term EPS growth rates for the proxy group companies as published by Reuters, Yahoo, and Zacks. These are the primary providers of analysts' EPS growth rate forecasts available free-of-charge on the internet. Of the thirty-four proxy companies, none has the same growth rate forecast from the three services. Black Hills and Cleco have the same growth rate forecast from two providers, but are not covered by a third. In addition, only five of the companies have the same growth rate forecasts from Yahoo and Reuters, both of which have Thompson Reuters as the source of projected long-term earnings growth rate forecasts. (Exhibit SC-100, at 28).

90. Dr. Woolridge states all of these sources of analyst growth rate forecasts are available to investors, either by subscription or publicly. Consequently, all of them have the potential to influence investor expectations and share prices. Also, there are several issues with using the EPS growth rate forecasts of Wall Street analysts as DCF growth rates. First, the appropriate growth rate in the DCF model is the dividend growth rate, not the earnings growth rate. Nonetheless, over the very long-term, dividend and earnings will have to grow at a similar growth rate, according to Dr. Woolridge. (Exhibit SC-100, at 29).

91. Second, he notes that a recent study by Lacina, Lee, and Xu (2011) has shown that analysts' long-term earnings growth rate forecasts are not more accurate at forecasting future earnings than naïve random walk forecasts of future earnings. Employing data over a twenty year period, these authors demonstrate that using the most recent year's EPS figure to forecast EPS in the next 3-5 years proved to be just as accurate as using the EPS estimates from analysts' long-term earnings growth rate forecasts. In the authors' opinion, these results indicate that that analysts' long-term earnings growth rate forecasts should be used with caution as inputs for valuation and cost of capital purposes. (Exhibit SC-100, at 29).

92. Finally, and most significantly, he states that it is well-known that the long-term EPS growth rate forecasts of Wall Street securities analysts are overly optimistic and upwardly biased. This has been demonstrated in a number of academic studies over the years. Hence, using these growth rates as a DCF growth rate will provide an overstated equity cost rate. On this issue, he observes that a study by Easton and Sommers (2007) found that optimism in analysts' growth rate forecasts leads to an upward bias in estimates of the cost of equity capital of almost 3.0 percentage points. (Exhibit SC-100, at 29).

93. Notwithstanding his issues with analysts' long-term EPS growth rate forecasts outlined above and in Exhibit SC-102, he follows the Commission's precedent and use analysts' long-term EPS growth rate forecasts uses the Yahoo Finance long-term EPS growth rate estimates even though in his opinion it cannot be verified that growth rates are I/B/E/S growth rates. (Exhibit SC-100, at 30).

94. Dr. Woolridge states the second growth rate is FERC's measure of sustainable growth. The sustainable growth rate is calculated as:

$$g = br + sv$$

where:
b = expected retention ratio;
r = expected earned rate of return;
s = percent of equity expected to be issued on an annual basis as new common stock;
v = equity accretion ratio.

(Exhibit SC-100, at 30).

95. Dr. Woolridge states further that the calculation of the sustainable growth ("g") rate is provided on pages three and four of Exhibit SC-111. On page three of Exhibit SC-111, the expected retention ratio ("b") and the expected return on equity ("r") are calculated and then averaged using *Value Line* data for 2012, 2013, and 2015-2017 period. The expected retention ratio is based on *Value Line*'s projected EPS and DPS. The average values for "r" are then adjusted by the 'Adjustment Factor' since *Value Line*'s expected earned rate of return on equity is based on end-of-year figure equity. The Adjustment Factor is calculated as ((2*(1+5-yr Change in Equity)/(2+5-yr Change in Equity)). The 5-Year Change in Equity is computed using *Value Line*'s actual 2011 and projected 2016 equity ratios and total capital figures. (Exhibit SC-100, at 30-31; Exhibit SC-300, at 4-5).

96. He observes further that the computation of the sv growth factor is shown on page four of Exhibit SC-111. The percent of common equity expected to be issued annually as new common stock ("s") is computed as the product of the projected market-to-book ratio and *Value Line*'s projected growth in common shares. The equity accretion rate ("v") is computed as 1 minus the inverse of the projected market-to-book ratio (1-B/M). (Exhibit SC-100, at 31-32).

97. Dr. Woolridge states the DCF results employing the Commission's DCF approach are presented in Exhibit SC-111. Page one of Exhibit SC-111 provides the summary results. The projected EPS growth rates from Yahoo, Reuters, and Zacks are shown on page two of Exhibit SC-111. Only the long-term EPS growth rate projections published on the Yahoo website are used in the analysis. Pages three and four show the data and calculations used to compute the $br + sv$ sustainable growth rate. (Exhibit SC-100, at 31-32).

98. Dr. Woolridge's states it is his understanding that the Commission has a policy of applying a test of economic logic and eliminating extreme DCF equity cost rate outliers. The Low and High DCF equity cost rates from page one of Exhibit SC-111 are shown as a histogram on page five of Exhibit SC-111. A visual review of the Low and High DCF equity cost rates suggest that there may be several low-end outliers and one or two high-end outliers. (Exhibit SC-100, at 31).

99. Dr. Woolridge further takes some time to discuss in detail the Commission's policy on low-end outliers. The Table below provides recent past yields on 30-year term A, BBB+, and BBB rated utility bonds. These data suggest to Dr. Woolridge that yield on utility bonds with a rating similar to the proxy group (A-/BBB+) over the 6-month study period have

primarily been in the 4.0% to 4.5% range. Dr. Woolridge uses the upper end of this range, 4.5%, as the benchmark base interest rate. This figure, and FERC's bond yield plus 100 basis point threshold for the low-end outliers, results in a 5.50% low-end threshold for the DCF results for proxy companies, in his view. (Exhibit SC-100, at 32).

Date	Utility A	Utility BBB+	Utility BBB
4/13/12	**4.16**	**4.46**	**4.63**
5/18/12	**3.93**	**4.21**	**4.43**
6/15/12	**3.87**	**4.14**	**4.33**
7/13/12	**3.74**	**4.00**	**4.17**
8/17/12	**4.00**	**4.16**	**4.40**
9/14/12	**4.13**	**4.27**	**4.52**

(Exhibit SC-100, at 32).

100. Applying the low-end screen would eliminate the low-end and high-end DCF results for Ameren, Edison International, Exelon, FirstEnergy, and PG&E, in his view. Moreover, Dr. Woolridge states that with respect to high-end outliers, Commission policy likewise calls for excluding DCF results from companies for which the high-end DCF result is illogically high. However, unlike the bond yield plus 100 basis points test for excluding low-end outliers, he is not aware of any specific Commission policy for quantifying how the exclusion level for high-end outliers varies with current economic conditions. However, symmetry and economic logic require that some such exclusion level be identified. Dr. Woolridge also states that in addition to its outlier status, there are other reasons why in particular Hawaiian Electric Industries should be eliminated from the proxy group. Hawaiian Electric Industries is the holding company for Hawaiian Electric Company. (Exhibit SC-100, at 33-34).

101. Almost half of the holding company's earnings come from banking, a business that has been depressed by significant loan write-offs in recent years. Given its location, the utility has no back up in the case of the loss of generation or transmission/system assets (such as storm recovery personnel, trucks, and mobile generators). The company is being forced into significant investment in renewables to replace its oil generation. As a result, the holding company's bond ratings are some of the lowest in the electric industry (Standard & Poor's BBB- and Moody's Baa2). Finally, the holding company is coming off an extended period of lower earnings and has just implemented newly approved electric rate increases that result in the above-average short-term earnings growth forecasts. (Exhibit SC-100, at 33-34).

102. Dr. Woolridge notes that retaining the results for Hawaiian Electric Industries would have only a modest effect on the mean, median, and midpoint of the range of the ROE values for the Electric Proxy Group. (Exhibit SC-100, at 33-34).

103. Dr. Woolridge states the summary results of the FERC DCF model are provided on page one of Exhibit SC-111. The median, mean, and midpoint of the array of the ROE values for the Electric Proxy Group as identified through the FERC DCF model are provided.[29] Given these results, he believes that an ROE of no more than 9.0% is appropriate in this case, and because he believes that the median provides a reliable indicator of the cost of common equity capital in the circumstances presented here, he recommends an ROE of 9.0%. (Exhibit SC-100, at 34).

104. Dr. Woolridge further claims that after eliminating proxy companies for which either of its two preliminary DCF results is a low or a high outlier, he obtains one blended DCF result for each remaining proxy company by averaging the high and low preliminary DCF result for that company. That sequence produces an array of 29 DCF results, one per company. The median of an array containing an odd number of results is identified by arranging the results from low to high and selecting the result for which as many of the other results lie above it as below it. He identified it by applying the "median" function in Microsoft Excel. (Exhibit SC-100, at 34-35).

105. Dr. Woolridge additionally states he follows that sequence for two reasons. One, recent Commission decisions clearly specify that that the sequence he followed is the correct one. The second reason arises from the sequence by which each of the low and high results for each proxy company are calculated (a sequence that is well established in Commission precedent, and followed in his analysis). That sequence pairs each company's higher dividend yields with the higher of its two growth projections. That is, the higher growth factor is applied to the higher preliminary dividend yield to compute the higher growth-adjusted dividend yield, and that higher growth-adjusted dividend yield is then added to the higher growth projection to compute the high result for that proxy. Likewise, the standard computational sequence pairs the lower growth projection with the lower dividend yield. In this way, the computational sequence for finding the low and high results for each proxy company automatically maximizes the difference between those results. (Exhibit SC-100, at 35-36).

106. In reality, however, he states he believes the analyst forecasts and other inputs to each of the two growth projections are forecasts for the entire company, not forecasts for a company that had only the past high share prices that produced the low-end dividend yields, nor forecasts for a company that had only the past low share prices that produced the high-end dividend yields. Likewise, the past lower dividend yields reflect past higher prices that in turn reflect relatively optimistic growth expectations, and vice-versa. Consequently, it makes sense to first blend the DCF results within each proxy company before proceeding to

[29] 9.0, 8.7 and 8.6 per cent respectively.

find their central value. Skipping that step, and instead relying on the alternative sequence that was rejected previously by the Commission, would tend to introduce distortion and statistical "noise" that would make the resulting central value a less reliable indicator of the required rate of return on common equity, in his view. (Exhibit SC-100, at 36).

107. Dr. Woolridge opines that if he had skipped the step of blending the low and high DCF result for the proxy company, then unlike the median and the mean, the midpoint of the 58 unblended results would have been higher than the midpoint of the 29 blended results. Specifically, it would have been 9.5% rather than 8.6%. (Exhibit SC-100, at 36). In Mr. Woolridge's opinion it would not be appropriate to rely on the higher of the two midpoints. Skipping the step of blending the DCF results within each proxy company before proceeding to find the central value among all proxy companies' DCF results, and instead relying on the alternative sequence that was rejected by the Commission in a previous case, would tend to introduce distortion and statistical "noise" that would make the resulting midpoint a less reliable indicator of the required rate of return on common equity. Although he makes these observations based on generally-applicable principles of central tendency, he notes that they are corroborated by the "odd-man-out status" of that 9.5% result. (Exhibit SC-100, at 36-39).

108. Dr. Woolridge opines further that of the six computationally feasible ways of finding a central value (median-of-29, median-of-58, mean-of-29, mean-of-58, midpoint-of-29, and midpoint-of-58); the first five ways yield results that are all clustered within about 40 basis points of each other, whereas the sixth way yields a result that lies about 50 basis points above any of the others. Consequently, to the extent any reference is made to the midpoint, it should be to the version of the midpoint that lies closer to the other clustered results, namely the midpoint of the 29 results that represent one blended result per company, in his view. (Exhibit SC-100, at 36-39).

109. Dr. Woolridge states that Commission precedent does not require that the blending step be skipped. He argues that first, those cases were decided before *Atlantic Grid* and *PATH*, in which the Commission refined its approach to identifying the final set of DCF results from which the central value should be derived. Those more recent decisions should take precedence, in his view. Second, the proxy groups that were relied upon in the *Midwest ISO* and *New England* cases were regional, not national. The outcome of this proceeding therefore will not determine the transmission ROE applicable to those facilities and there is no reason to consider whether applying a 9.0% transmission ROE to those facilities will result in under-recovery of capital costs. Accordingly, little or no reliance should be placed on a midpoint result that is out of line with the median and mean results, in his opinion. (Exhibit SC-100, at 36-39).

110. Dr. Woolridge summarizes that based on the capital market data he has reviewed and his equity cost rate study, it is his opinion that a base-level ROE of 9.0% is adequate to meet the standards set forth by the Supreme Court in the *Bluefield* and *Hope* decisions which indicate that the ROE should allow a utility to: (1) maintain the financial integrity of the utility, (2) enable the company to attract new capital, and (3) provide a return to common

equity that is commensurate with returns on investments in other utilities of corresponding risk. (Exhibit SC-100, at 39-40).

111. Dr. Woolridge cites several indicators he claims supports his position. First, as shown on in Exhibit SC-108, the electric utility industry is one of the lowest risk industries as measured by *Value Line's* beta. As such, this industry has the lowest cost of equity capital in the United States. Second, as shown in Exhibit SC-106, capital costs for utilities, as indicated by long-term bond yields, have declined to historical low levels. Third, the 9.0% figure is supported by the application of the FERC DCF model to the proxy group of electric utilities. As such, the 9.0% figure is consistent with FERC ROE standards. Finally, while the financial markets have recovered somewhat in the past three years, the economy has not. The economic times are still viewed as being difficult, with unemployment high by historical standards. As a result, interest rates and inflation are at relatively low levels. (Exhibit SC-100, at 40).[30]

2. Dr. John Wilson

112. John W. Wilson is President of J.W. Wilson & Associates, Inc, and has been sponsored by EMC as an expert witness in this proceeding. His business address is 1601 North Kent Street, Suite 1104, Arlington, Virginia, 22209. Dr. Wilson holds a B.S. degree with senior honors and a Masters Degree in Economics from the University of Wisconsin. He has also received a Ph.D. in Economics from Cornell University. His major fields of study were industrial organization and public regulation of business, and his doctoral dissertation studied utility pricing and regulation. After completing his graduate education, he was an assistant professor of economics at the United States Military Academy, West Point, New York. In that capacity, he taught courses in economics and government at the introductory and intermediate levels. While at West Point, he also served as an economic consultant to the Antitrust Division of the United States Department of Justice. (Exhibit EMC-1, at 1-2).

113. After leaving West Point, he was employed by the Federal Power Commission, first as a staff economist and then as Chief of the FPC's Division of Economic Studies. In that capacity, he was involved in regulatory matters involving most phases of FPC regulation of electric utilities and the natural gas industry. Since 1973, he has been employed as an economic consultant by various clients including federal, state and local governments, private enterprise and nonprofit organizations. This work has pertained to a wide range of issues concerning public utility regulation, insurance rate regulation, antitrust matters and economic and financial analysis. He has testified on numerous occasions as an expert on financial and rate of return matters. (Exhibit EMC-1, at 2-3).

[30] Initially, the Complainants had secured the services of a utility analyst Frederick Plett, who had pre-filed testimony filed with the Secretary's Office. His testimonials were not offered into evidence and was formally withdrawn for consideration in this matter.

114. Dr. Wilson states at the time that they filed their complaint, the Complainants noted that, since the issuance of Opinion No. 489, yields on 10-year Treasury bonds had fallen from 4.98 percent to 2.88 percent, a decline of 210 basis points. As of the time of this testimony (October 1, 2012), these yields have fallen another 100 basis points and are now in the range of 1.7 to 1.8 percent. Other interest rates, including long term utility, corporate and Treasury bond rates have also declined substantially. (Exhibit EMC-1, at 6-7).

115. Dr. Wilson states further that bond yields are not a direct measure of the cost of equity, but the two generally move in a parallel manner. He views the current 11.14 percent ROE allowance in this case to be excessive, unreasonable and unjust. It is therefore now appropriate to undertake an analysis of the NETOs' cost of equity in order to ensure that their Commission-authorized ROE reasonably reflects their current capital cost levels, in his view. (Exhibit EMC-1, at 7).

116. Dr. Wilson testifies that he does not disagree with the description of the Discounted Model that Dr. Avera and Dr. Woolridge have presented in their testimony. Discounted cash flow (or DCF) models of this type are frequently used by this and other regulatory commissions as a method for estimating the cost or required return for a regulated utility's common equity capital. Dr. Avera's and Dr. Woolridge's basic description of the Commission's "constant growth DCF model" conforms with his own. However, he disagrees with some of Dr. Avera's elaborations such as his unquestioning adherence to stock analysts' earnings growth forecasts. In his view, the most controversial aspect of DCF analysis is usually estimating the growth component of the model, rather than the underlying model or theory, itself. Dr. Wilson disagrees substantially with Dr. Avera on the calculated DCF outcome in this case, but he has no fundamental disagreement about the basic model that he and Dr. Woolridge have used to frame the dispute set for hearing in this case. (Exhibit EMC-1, at 7-8).

117. Dr. Wilson also states it is generally recognized that the cost of common equity changes over time. Of particular importance in this case, a cost of common equity that is estimated at one point in time may be quite different from an ROE that was established previously, or different than what may be found to be the case in the future. (Exhibit EMC-1, at 8).

118. Dr. Wilson states that according to Dr. Avera's October 20, 2011 testimony (Exhibit No. NETO-100 at page 9), EIA's AA Utility bond rate forecast for 2012 was 5.5%. Today that forecast is 4.5%. Likewise, the EIA forecast for 2013 has dropped from 6.4% to 5% and there have been similar reductions in forecasts for future years. Also, while Dr. Avera reports the S&P AAA Corporate bond forecast as 4.5% for 2012, it is now 3.7%. Similarly, the 2014 S&P forecast has dropped from 5.9% to 4.5% and the 2015 forecast has declined from 6.8% to 5.1%. In the same way, while Dr. Avera reported the Value Line AAA Corporate bond rate forecast as 5.5% for 2012 and 6.0% for 2013, these rates have declined to 4.0% and 4.4%, respectively. Likewise, Moody's BBB utility bond rates have declined from the 5.6% level used by Dr. Avera to define low-end DCF outliers (Exhibit No. NETO-100 at 23) to 4.73%. (Exhibit EMC-1, at 9-10).

119 Furthermore, Dr. Wilson states that Dr. Avera also reported a Value Line Investment Survey estimate for 30-year Treasury bonds of 4.9% in 2012. In fact, the 30 year Treasury bond rate is now under 3.0%. Likewise, the 2011 Congressional Budget Office forecast of 10-year Treasury rates has declined from 3.8% for 2012 and 4.2% for 2013 to 1.9% and 1.7%, respectively in the 2012 forecast – a decline of more than half. Contrary to Dr. Avera's October 20, 2011, testimony that "there is a clear consensus that the cost of permanent capital will be higher in the 2012-2015 timeframe than it is currently," (Exhibit No. NETO-100 at 9, 10-11) both current rates and forecasts have declined substantially since that testimony was submitted for the record. In short, there is no basis (if there ever was) for excluding utility equity cost estimates in the 6-7% range, as was done by Dr. Avera, based on his earlier and now clearly excessive debt cost measures, in his professional view. (Exhibit EMC-1, at 10).

120. Dr. Wilson states that he begins his DCF cost of equity estimates by examining the same national proxy group of thirty-eight utilities that Dr. Avera used in his DCF analysis. His Exhibit No. EMC-2 is similar to Dr. Avera's Exhibit No. NETO-104. Both Exhibits include the same companies with information derived from the same data sources, and the calculation procedures are the same. The differences are that (1) Dr. Wilson has prepared his analysis using more recently reported information, (2) He has consistently followed Commission directives with respect to high end and low end outliers, and (3) for comparison purposes, and to remove the distortion that may occur because of a single company's highest or lowest number, he also presents an additional implied cost of equity range reflecting the median of high and low values for the proxy group companies. (Exhibit EMC-1, at 11-12).

121. Dr. Wilson does not necessarily disagree that it is sometimes appropriate to exclude outliers in evaluating calculated results, when that is done it should be done even-handedly, in his view, and he is critical of Dr. Avera's application. Dr. Avera removed eleven low growth estimates from his adjusted calculations, but only one high growth estimate. Dr. Wilson opines this is contrary to the Commission's directive which states that when either the high-end or the low-end ROE outlier of a company is eliminated, the corresponding low-end or high-end ROE of that company must also be eliminated. (Exhibit EMC-1, at 12-13).

122. Additionally, Dr. Wilson states that holding such benchmarks fixed over extended periods of time when money costs change substantially is not a valid analytical method. Whether a particular ROE is a high-end outlier or is calculated with an unsustainable growth rate is an observation that can only be made sensibly relative to other indicia of capital costs. The cost of capital has dropped very significantly since the Commission's November 2004 *Bangor Hydro* rehearing order, as have expected electric utility earnings growth rates. The average yield on 10-year Treasury bonds, which the Commission routinely uses to update its cost of equity findings, for the month of November 2004 was 4.2 % but it is now approximately 1.7 % -- a drop of 250 basis points, or about 60%. Given this movement in 10-year Treasury bond yields, it should be expected that the high-end cost of equity threshold would now be substantially lower. Therefore, it cannot be reasonably concluded at

the outset, and especially under present economic and money cost circumstances, that a common equity return of 15 percent is acceptable or that a return in the 6 to 7 percent range is necessarily below a company's cost of equity capital. (Exhibit EMC-1, at 13-14).

123. Dr. Wilson further states that the Commission has stated that it is reasonable to exclude any company whose low-end ROE fails to exceed the average utility bond yield by about 100 basis points or more, taking into account the extent to which the excluded low-end ROEs are outliers from the low-end ROEs of other proxy group companies -- depending upon where the natural break is in the array of low-end ROEs of the candidate proxy group companies that would distinguish outliers from non-outliers. (Exhibit EMC-1, at 14).

124. He also points out that in this case the average Moody's Baa bond rate over the past six months has been 4.93 percent, and the current yield is 4.71 percent. Dr. Wilson has therefore excluded low-end outliers below 6.00 percent from the analysis. This value is a "natural break" in the array of low-end ROEs, with the possible exception of the low-end implied cost of equity for Entergy Corporation at 5.77%. All of the other low end values are below 4.1%. He notes that in this proceeding the Moody's six-month average yield on Baa public utility bonds ending September, 2007 is 4.93 percent. In addition to Entergy at 5.77%, there are four additional companies whose low-end ROEs are less than the 4.93 percent bond yield plus 100 basis points, or 5.93 percent. These are Ameren Corp., Edison International, PG&E Corp. and PPL Corp., whose low-end ROEs are 0.59 percent, 0.69 percent, 4.05 percent, and (3.39) percent, respectively. (Exhibit EMC-1, at 14-15).

125. He observes further that the company with the next lowest low-end ROE is Cleco Corp., whose low-end ROEs of 6.19 percent is 126 basis points above the six month average Baa bond rate and 148 basis points above the current Baa rate. In any event, he believes that the decline that has occurred in bond interest rates and other money costs invalidate any reasons for eliminating equity cost estimates in the 6 to 7 percent range from the analysis. (Exhibit EMC-1, at 14-15).

126. Moreover, Dr. Wilson states he has eliminated two high-end outliers in accordance with the Commission's prescribed adjustment methods. These two companies are ITC Holdings Corporation and Hawaiian Electric. Both of these companies have unsustainable IBES-forecasted earnings growth rates, in his opinion. The Commission has concluded that high-end outliers should be removed from proxy group calculations of implied utility equity capital costs if their equity cost estimates are illogical or if the growth rates that are the basis of these estimates are unsustainable. According to the Commission, such exclusion is necessary because the inclusion of these outliers in the calculation of the implied proxy group cost of equity would skew the results. In this case the inclusion of calculated results for ITC Holding Corp or Hawaiian Electric would unreasonably skew the end results, in his view. He notes that the Respondents apparently agree that ITC Holding Corp is an unreasonable high-end outlier, but they do not agree that Hawaiian Electric should be excluded. He believes this is erroneous. (Exhibit EMC-1, at 15-16).

127. Dr. Wilson opines it cannot be denied that Hawaiian Electric's calculated equity cost rate is truly an outlier and that its underlying projected IBES earnings growth rate is unsustainable. Whereas the calculated common equity cost result for this company is 13.55 percent, the next highest included cost value for the proxy group companies is 10.96 percent – a gap of 259 basis points. Even more compelling is the fact that Hawaiian Electric's IBES projected earnings growth rate of 8.60 percent annually, which is the basis of the cost of equity calculation, is not sustainable in his view. (Exhibit EMC-1, at 16-17).

128. Dr. Wilson goes on to discuss reasons why Hawaiian Electric should also be excluded. He states Hawaiian Electric has for many years had a dividend payout rate exceeding 80 percent of earnings. Value Line projects that the company's dividend payout rate may decline from that level to 70 percent by 2017. He believes that even if that payout level is in fact achieved over the next five years and maintained in the future, a payout level of 70 percent (and retained earnings of 30 percent) would imply an annual return on equity capital of 28.67 percent annually in order to achieve an annual earnings per share growth rate of 8.6%. That is not plausible in his opinion. (Exhibit EMC-1, at 17).

129. Dr. Wilson also points out that unlike the NETOs and the other members of the National Proxy Group, Hawaiian Electric is not a participant in an RTO nor is the company engaged in the interstate transmission of electricity. It therefore differs from the NETOs and all of the other National Proxy Group companies in that it has no transmission rates that are regulated by this "Commission. In short, Hawaiian Electric lacks the business risk similarity that should be required in order to function as a proxy for the NETOs' cost of common equity capital to be used in calculating formula rates for transmission service under the ISO-NE OATT, in his view. In this case using Hawaiian Electric's single high value to define the midpoint for the proxy group would permit a single unrepresentative company to dominate the analytical outcome of the DCF calculation and skew the Commission's DCF method so as to produce an end-result that is not logically related to NETO risks, in his opinion. (Exhibit EMC-1, at 18).

130. In describing his proposed adjustments to the DCF analysis, Dr. Wilson states that following the same computational procedure employed by Dr. Avera and using current Value Line and IBES data as of September 2012 rather than September 2011, the (unadjusted) low single value implied cost of common equity capital is -3.4% and the high single value implied cost of common equity capital is 19.9%, with a midpoint of 8.2% and a median of 8.6%. Making adjustments for the exclusion of the high-end and low-end outliers as prescribed by Commission policy, the low single value implied cost of capital is 6.19% and the high single value implied cost of capital is 10.96% with a midpoint of 8.6% and a median of 8.7%. In his view, this is reasonable and all of these results and their underlying computations are shown in detail in his Exhibit No. EMC-2. (Exhibit EMC-1, at 19).

131. In addressing Dr. Avera's CAPM analysis, Dr. Wilson states that Dr Avera's CAPM analysis is not an appropriate application of the CAPM Model. In his view, Dr. Avera makes several errors including that he incorrectly used a risky 30-year bond interest rate as the 'risk-free" component of his CAPM calculation. Moreover, his very high risk premium of

9.2% is a DCF result (using unregulated S&P 500 companies) and not the result of a CAPM analysis. That is, according to Dr. Wilson, Dr. Avera calculated a DCF ROE estimate of 13.2% for his unregulated S&P 500 companies and then deducted the 30-year treasury bond rate from this calculated DCF amount. He then calls this result his CAPM risk premium. He then adjusts this risk premium for beta, adds back the same 30-year treasury bond rate, makes what he refers to as a "size adjustment" and calls the end result the "implied" CAPM cost of equity for the electric utility proxy group. (Exhibit EMC-1, at 19-21).

132. Dr. Wilson opines that this DCF calculation, based on the S&P 500 companies and a risky 30-year bond rate, is not a CAPM calculation, and the result has virtually nothing to do with the electric utility proxy group. In fact, the only elements of the calculation that relate to the electric utility proxy group at all are the beta and the size adjustments. In short, Exhibit No. NETO-108 presents a meaningless calculation that should be given no weight at all in determining a just and reasonable return on common equity, in his view. (Exhibit EMC-1, at 19-21).

133. Dr. Wilson performs his own corrections to Dr. Avera's CAPM analysis. He states that the best estimate of the cost of common equity capital for the New England Transmission Owners is in the range of 8.2 to 8.7 percent. The midpoint of a constant growth discounted cash flow analysis conducted in accordance with Commission policy and using the same national proxy group as Dr. Avera used in his testimony is 8.6 percent. Within the 8.2 to 8.7 percent range, he recommends that the Commission adopt an ROE allowance in this case of 8.2 percent. He testifies he also bases this upon the fact that the allowed ROE will be used in conjunction with formula rates, which mitigate some of the risk of cost and revenue fluctuations. Because formula transmission rates actually and significantly mitigate those risks, a return allowance at the low end of the range would be appropriate, in his opinion. (Exhibit EMC-1, at 22-23).

B. Respondents' Answering Testimony

1. Dr. William E. Avera

134. Dr. Avera's business address is 3907 Red River, Austin, Texas, 78751. He is the President of FINCAP, Inc., a firm providing financial, economic, and policy consulting services to business and government. Dr. Avera received a Bachelors of Arts degree with a major in economics from Emory University. After serving in the Navy, he entered the doctoral program in economics at the University of North Carolina at Chapel Hill. Upon receiving his Ph.D., he joined the faculty at the University of North Carolina and taught finance in the Graduate School of Business. He subsequently accepted a position at the University of Texas at Austin where he taught courses in financial management and investment analysis. He then went to work for International Paper Company in New York City as Manager of Financial Education, a position in which he oversaw all corporate education programs in finance, accounting, and economics. (Exhibit NET-300, at 1).

135. In 1995, Dr. Avera was appointed by the PUCT, with the approval of the Governor, to the Synchronous Interconnection Committee to advise the Texas legislature on the costs and benefits of connecting Texas to the national electric transmission grid. In addition, he served as an outside director of Georgia System Operations Corporation, the system operator for electric cooperatives in Georgia. (Exhibit NET-300, at 2).

136. Dr. Avera has served as a Lecturer in the Finance Department at the University of Texas at Austin and taught in the evening graduate program at St. Edward's University for twenty years. In addition, he has lectured on economic and regulatory topics in programs sponsored by universities and industry groups. He has taught in hundreds of educational programs for financial analysts in programs sponsored by the Association for Investment Management and Research, the Financial Analysts Review, and local financial analyst societies. These programs have been presented in Asia, Europe, and North America, including the Financial Analysts Seminar at Northwestern University. (Exhibit NET-300, at 2).

137. He holds the Chartered Financial Analyst (CFA®) designation and has served as Vice President for Membership of the Financial Management Association. He has also served on the Board of Directors of the North Carolina Society of Financial Analysts. He was elected Vice Chairman of the National Association of Regulatory Utility Commissioners ("NARUC") Subcommittee on Economics and appointed to NARUC's Technical Subcommittee on the National Energy Act. He has also served as an officer of various other professional organizations and societies. A resume containing the details of his experience and qualifications can be found at Exhibit No. NET-301. (Exhibit NET-300, at 2-3).

138. Dr. Avera states that the purpose of his testimony is to present to the Commission his independent analysis of a fair base ROE for the NETOs. In addition, his testimony also responds to the testimony of Dr. J. Randall Woolridge, submitted on behalf of the Complainants, and Dr. John W. Wilson, on behalf of the Eastern Massachusetts Consumer-Owned Systems ("EMCOS"). He states that his evaluation considered FERC's established precedent and policy objectives, industry conditions and fundamentals, and independent estimates of the ROE for a benchmark group of electric utilities. (Exhibit NET-300, at 4).

139. To prepare his testimony, Dr. Avera states that he used information from a variety of sources that would normally be relied upon by a person in his capacity. He is familiar with and has considered the details of specific FERC polices and decisions related to ROE and has submitted testimony in numerous proceedings at the Commission involving required rates of return for electric utilities, including Docket No. ER04-157-014, which established the current 11.14% base ROE for the NETOs. In connection with the present filing, he considered and relied upon information relating generally to capital markets and specifically to investor perceptions, requirements, and expectations for regulated utilities and the NETOs. According to Dr. Avera, these sources, coupled with his experience in the fields of finance and utility regulation, has given him a working knowledge of ROE issues affecting the NETOs and forms the basis for his conclusions. (Exhibit NET-300, at 4-5).

140. Dr. Avera states that the rate of return on common equity compensates shareholders for the use of their capital to finance the plant and equipment necessary to provide utility service. Investors commit capital only if they expect to earn a return on their investment commensurate with returns available from alternative investments with comparable risks. To be consistent with sound regulatory economics and the standards set forth by the Supreme Court in the authoritative cases of *Bluefield* and *Hope*, a utility's allowed return on common equity should be sufficient to: (1) fairly compensate investors for capital they have invested in the utility, (2) enable the utility to offer a return adequate to attract new capital on reasonable terms, and (3) maintain the utility's financial integrity. (Exhibit NET-300, at 6).

141. Based on the results of Dr. Avera's evaluation, he states that the 11.14% base ROE currently approved for the NETOs continues to be just and reasonable. He asserts that an application of the Commission's discounted cash flow ("DCF") model to a proxy group of comparable risk electric utilities under the Commission's existing precedent resulted in an adjusted range of reasonableness of 6.0% to 15.2%, with a midpoint of 10.6%. (Exhibit NET-300, at 7).

142. Moreover, in his opinion a base ROE of 11.14% falls well within the ROE zone of reasonableness produced by the Commission's DCF approach. In his view, the reasonableness of an ROE from within the upper end of the zone is supported by the Commission's statutory authority and prior findings, which have endorsed ROEs at the midpoint of the upper end of the DCF range of reasonableness. An ROE from above the midpoint of the DCF range is also supported by the fact that current bond yields are anomalous, and result in a low-end DCF value that is understated in his view. Moreover, he asserts the alternative ROE benchmarks support the continued reasonableness of the existing 11.14% base ROE. (Exhibit NET-300, at 7-8).

143. He notes further that when applying the risk premium approach based on allowed ROEs for FERC-jurisdictional electric utilities, it suggest a current cost of equity on the order of 10.7% to 10.9%. Reference to the ROEs approved by the Commission for natural gas pipelines implies a current cost of equity for an electric utility of approximately 10.5%. DCF estimates for a low-risk group of non-utility firms suggest an ROE range of 7.3% to 16.6%, with a midpoint of 12.0%, in his view. (Exhibit NET-300, at 7-8).

144. Moreover, his application of the Capital Asset Pricing Model ("CAPM"), using forward-looking estimates and current interest rates, implied an adjusted ROE range of 8.9% to 11.9%, or 8.5% to 12.8%, after adjusting for firm size. Incorporating projected bond yields resulted in an unadjusted ROE range of 9.2% to 12.5%, or 8.8% to 14.2% after incorporating the necessary size adjustment. The midpoint results of his CAPM analyses ranged from 10.4% to 11.5%. The expected returns for electric utilities suggest an ROE range of 7.6% to 15.0%, with a midpoint of 11.3%, in his view. He believes that if the Commission were to alter the current base ROE based on a finding that it is currently unjust and unreasonable the midpoint of the DCF range of reasonableness under its existing precedent is 10.6%. (Exhibit NET-300, at 7-8).

145. In his view, the Commission has demonstrated a willingness to adapt its policies and adjust the application of its methods to reflect changed circumstances and achieve a balanced outcome. Adhering solely to a mechanical approach in determining ROE must be tempered when the end result violates established regulatory standards and undermines the Commission's policy goals, as do the recommendations of Complainants and EMCOS in this case, according to Dr. Avera. (Exhibit NET-300, at 8).

146. Dr. Avera also states that Transmission facilities must compete with alternative uses and the capital investment necessary to support the grid will only be allocated if investors anticipate an opportunity to earn a return that is sufficient to compensate for the associated risks. In his opinion, the Commission has achieved success in attracting an enormous commitment of private capital to expand the transmission grid, reduce congestion, and improve reliability, and infers that this must continue. (Exhibit 8).

147. According to Dr. Avera, adopting an inadequate ROE for transmission investment, such as those recommended by Drs. Woolridge and Wilson, would have a chilling effect on investors' future willingness to support expansion of electric power infrastructure. He states that his conclusions are reinforced by the need to consider flotation costs, the expected upward trend in capital costs and the need to support financial integrity and fund crucial capital investment even under adverse circumstances. Dr. Avera states the recommendations of Drs. Woolridge and Wilson should be rejected in their entirety. (Exhibit NET-300, at 8-9).

148. He states further that his testimony demonstrates that the existing 11.14% base ROE for the NETOs falls within the current DCF zone of reasonableness, and Complainants and EMCOS failed to demonstrate that it is unjust and unreasonable;There is no basis in regulatory policy or economic logic to conclude that the NETOs' existing ROE is unjust or unreasonable based solely on a simplistic comparison with a midpoint or median value from a particular DCF analysis, especially when the application departs from Commission precedent, and that the recommendations of Drs. Woolridge and Wilson are entirely inadequate to compensate investors in the NETOs when evaluated against the earnings expected for the proxy utilities that they consider to be comparable. (Exhibit NET-300, at 9).

149. Dr. Avera argues that the NETOs must be granted an opportunity to earn a return that is competitive with other utilities. The allowed ROEs for the companies that Drs. Woolridge and Wilson consider to be comparable in risk also demonstrate that their recommendations are too low to be credible. Moreover, he believes the proxy group criteria adopted by Dr. Woolridge are flawed and inconsistent with prior Commission precedent. Additionally, he believes the DCF analyses of Drs. Woolridge and Wilson do not conform with Commission practice and their results and conclusions are biased downward. In his view, criticisms of analysts' growth projections are unfounded and reference to historical risk premiums provides no meaningful information regarding investors' current required rate of return. Taken together, these considerations confirm to him that his conclusion that the 11.14%

existing base ROE approved for the NETOs remains just and reasonable. (Exhibit NET-300, at 1).

150. Dr. Avera attempts to describe the impact of capital market conditions and in so doing states investors have recently faced a myriad of challenges and uncertainties, with Value Line recently observing, "The situation is notably worse on the global front, where China is growing more slowly and Europe's outlook is deteriorating, particularly across its southern tier." Meanwhile, there is ongoing speculation that the economy remains exposed to a potential "double-dip" recession, with unemployment remaining stubbornly high, concern over the "fiscal cliff" of mandated tax hikes and spending cuts scheduled for year-end and continued weakness plaguing the real estate sector. (Exhibit NET-300, at 10-11).

151. Mr. Avera states that, as described more fully in the testimony of Ms. Lapson, market sentiment remains highly sensitive to disappointment, and Value Line recently noted, "we caution that stocks are now more richly valued, making them vulnerable to possible event risks." The dramatic rise in the price of gold also attests to investors' heightened concerns over prospective challenges and risks, including the overhanging threat of inflation and renewed economic turmoil. S&P noted that, "The effect of a potential financial collapse in the "Eurozone" spreading to our shores is at the top of the list of events that could push the United States into recession." With respect to utilities, Moody's has noted the dangers to credit availability associated with potential turmoil in the global credit markets. (Exhibit NET-300, at 10-11).

152. Dr. Avera states that in his opinion current capital market conditions do not provide a representative basis on which to evaluate a fair ROE for the NETOS. Current capital market conditions reflect the legacy of the Great Recession, and they are not representative of what investors expect in the future. In his view, investors have had to contend with a level of economic uncertainty and capital market volatility that has been unprecedented in recent history. The ongoing potential for renewed turmoil in the capital markets has been seen repeatedly, with common stock prices exhibiting the dramatic volatility that is indicative of heightened sensitivity to risk. In response to heightened uncertainties, investors have repeatedly sought a safe haven in government bonds, according to Dr. Avera. (Exhibit NET-300, at 11-12).

153. Dr. Avera goes into some detail describing the market conditions and investor jitters, and concludes that investors do not anticipate that the low interest rates in the market will continue into the future. (Exhibit NET-300, at 12-14). Dr. Avera states the yields on utility bonds are at their lowest levels in modern history. Figure WEA-1 compares the current yield on long-term, triple-B rated utility bonds with those prevailing since 1968:

FIGURE WEA-1
BBB UTILITY BOND YIELDS – CURRENT VS. HISTORICAL

(Exhibit NET-300, at 13).

154. A major premise of Dr. Avera's opinion is that the prevailing capital market conditions, as reflected in the yields on triple-B utility bonds, are an anomaly when compared with historical experience. He believes it is widely anticipated that as the economy stabilizes and resumes a more robust pattern of growth, long-term capital costs will increase significantly from present levels. In Table WEA-1 he compares current interest rates on 30-year Treasury bonds, triple-A rated corporate bonds, and double-A rated utility bonds with near-term projections from the Value Line Investment Survey ("Value Line"), IHS Global Insight, Blue Chip Financial Forecasts ("Blue Chip"), and the Energy Information Administration ("EIA").

TABLE WEA-1
INTEREST RATE TRENDS

	Current (a)	2013	2014	2015	2016	2017
30-Yr. Treasury						
Value Line (b)	2.8%	3.7%	4.0%	4.6%	5.0%	--
IHS Global Insight (c)	2.8%	3.7%	4.1%	4.6%	5.4%	5.5%
Blue Chip (d)	2.8%	3.7%	4.2%	4.9%	5.3%	5.5%
AAA Corporate						
Value Line (b)	3.6%	4.4%	4.7%	5.5%	6.0%	
IHS Global Insight (c)	3.6%	4.4%	4.7%	5.5%	6.2%	6.3%
Blue Chip (d)	3.6%	4.4%	4.9%	5.6%	6.0%	6.2%
S&P (e)	3.6%	4.0%	4.7%	5.5%		
AA Utility						
IHS Global Insight (c)	3.8%	4.8%	5.2%	6.0%	6.7%	6.9%
EIA (f)	3.8%	5.0%	5.8%	6.7%	7.0%	7.1%

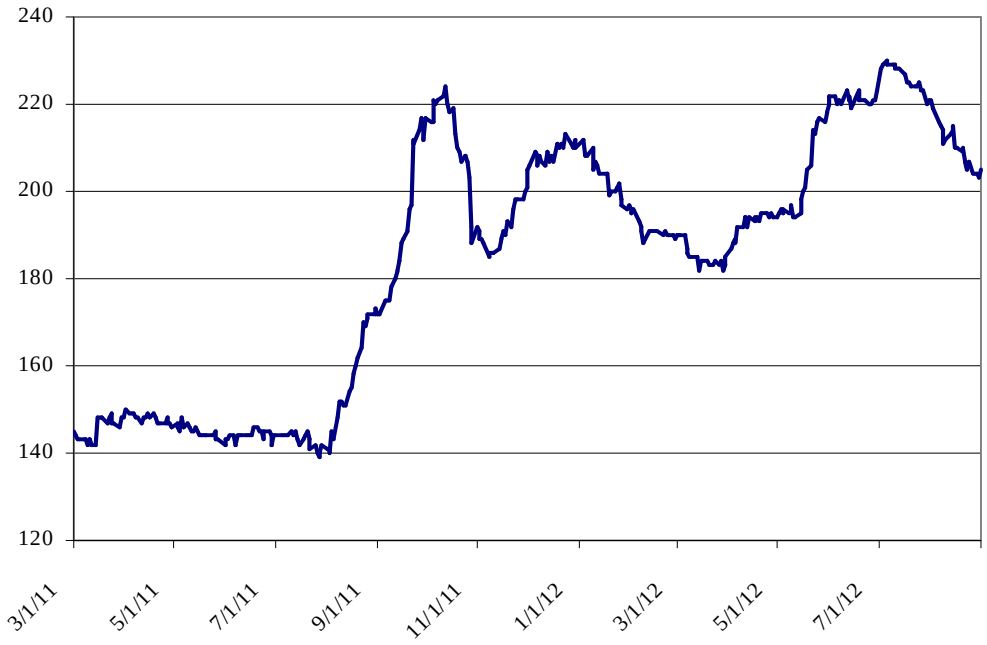
(a) Based on monthly average bond yields for the six-month period Apr. 2012 - Sep. 2012 reported at www.credittrends.moodys.com and http://www.federalreserve.gov/releases /h15/data.htm.
(b) Value Line Investment Survey, Forecast for the U.S. Economy (Aug. 24, 2012)
(c) IHS Global Insight, *U.S. Economic Outlook* at 19 (May 2012)
(d) *Blue Chip Financial Forecasts*, Vol. 31, No. 6 (Jun. 1, 2012)
(e) Standard & Poor's Corporation, "U.S. Economic Forecast: Keeping The Ball In Play," *RatingsDirect* (Aug. 17, 2012)
(f) Energy Information Administration, *Annual Energy Outlook 2012* (Jun. 25, 2012)

(Exhibit NET-300, at 15).

155. He believes this is hard evidence that there is a clear consensus that the cost of long-term capital will be significantly higher over the 2013-2017 period than it is currently. (Exhibit NET-300, at 15).

156. Dr. Avera believes that trends in government bond yields are not directly representative of changes in the cost of equity capital for regulated electric utilities, such the NETOS. As he noted earlier, he believes Treasury bond yields have been pushed significantly lower due to a global “flight to safety” in the face of rising political, economic, and capital market risks, and as the result of Federal Reserve policies. In turn, this has led to a significant increase in risk premiums, as illustrated by the spreads between triple-B utility bond yields and 30-year Treasuries shown in his Figure WEA-2.

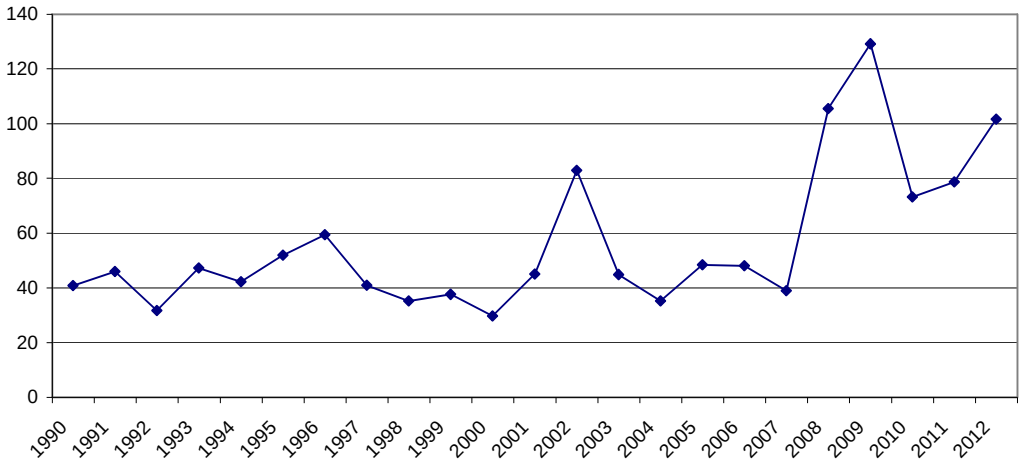
FIGURE WEA-2
YIELD SPREAD (BASIS POINTS) – BBB UTILITY – 30-YR. TREASURY



(Exhibit NET-300, at 16).

157. This increase in the yield spread indicates that the additional compensation investors demand to take on higher risks has increased, in his view. While the cost of equity cannot be directly observed in capital markets like the yields on bonds, there is every reason to believe in his opinion that the required return to attract risk capital to utilities has increased relative to the yield on utility bonds. As he states he illustrates in his Figure WEA-3, the spread between bonds of different ratings has clearly expanded in the last few years.

FIGURE WEA-3
YIELD SPREAD – BBB / AA UTILITY BONDS
(BASIS POINTS)



Sourc Source: Moody's Investors Service.

(Exhibit NET-300, at 17).

158. If investors require additional return to bear the risk of BBB bonds relative to AA bonds, it is likely that they also require additional return to shift from the relative safety of bonds to the higher risk of utility equity, according to Dr. Avera. Moreover, he believes that current capital market conditions continue to reflect the legacy of unprecedented policy measures taken in response to recent dislocations in the economy and financial markets. As a result, current capital costs are not representative of what is likely to prevail over the near-term future, with this conclusion being demonstrated by comparisons to the historical record and independent forecasts. Recognized economic forecasting services project that long-term capital costs will increase from present levels, which should be considered in order to ensure that the ROE allowed in this proceeding will allow the NETOs to compete for capital with other opportunities of comparable risk. (Exhibit NET-300, at 17-18).

159. Dr. Avera states investors continue to react swiftly and negatively to any future signs of trouble in the financial system or economy. The fact remains that the electric utility industry requires significant new capital investment. Given the importance of reliable electric utility service and the need for increased investment in transmission infrastructure and operations, it would be unwise to ignore investors' increased sensitivity to risk and future capital market trends in evaluating a fair base ROE for the NETOs. While Dr. Avera agrees that investors' future expectations are reflected in current capital market data used to apply the DCF model, he states this does not provide a rationale for ignoring evidence that suggests long-term capital costs are expected to increase. In his view, this is especially the case in this proceeding, where Complainants are seeking to overturn an existing ROE on the grounds that it is unjust and unreasonable. (Exhibit NET-300, at 19).

160. He believes there is no basis for Complainants' conclusion that the currently approved ROE for the NETOs is unreasonable simply because it is not equal to the midpoint result of a particular DCF analysis. Rather, he believes the Commission's determination must consider other pertinent evidence, including the ROE zone of reasonableness and established regulatory policy, before it can make this determination. Expected capital market conditions provide another reference point that is relevant in evaluating the Complainants' assertion that the currently approved base ROE for the NETOs is unjust and unreasonable, and where a reasonable ROE should fall within the zone of reasonableness, in his view. (Exhibit NET-300, at 19).

161. Dr. Avera further states that the ROE is the cost of inducing and retaining investment in the utility's physical plant and assets. This investment is necessary to finance the asset base needed to provide utility service. Competition for investor funds is intense and investors are free to invest their funds wherever they choose. They will commit money to a particular investment only if they expect it to produce a return commensurate with those from other investments with comparable risks. (Exhibit NET-300, at 20).

162. Dr. Avera asserts the fundamental economic principle underlying the cost of equity concept is the notion that investors are risk averse. In capital markets where relatively risk-free assets are available (Treasury securities), investors can be induced to hold riskier assets only if they are offered a premium, or additional return, above the rate of return on a risk-free asset. Since all assets compete with each other for investor funds, riskier assets must yield a higher expected rate of return than safer assets to induce investors to hold them. Given this risk-return tradeoff, the required rate of return (k) from an asset (i) can generally be expressed as:

$$k_i = R_f + RP_i$$

where: R_f = risk-free rate of return, and
RP_i = Risk premium required to hold riskier asset i.

163. Thus, the required rate of return for a particular asset is a function of: (1) the yield on risk-free assets and (2) the asset's relative risk, with investors demanding correspondingly larger risk premiums for bearing greater risk. (Exhibit NET-300, at 21).

164. Dr. Avera states there is evidence that the risk-return tradeoff principle actually operates in the capital markets. The risk-return tradeoff can be readily documented in segments of the capital markets where required rates of return can be directly inferred from market data and where generally accepted measures of risk exist. Bond yields, for example, reflect investors' expected rates of return, and bond ratings measure the risk of individual bond issues. The observed yields on government securities, which are considered free of default risk, and bonds of various rating categories demonstrate that the risk-return tradeoff does, in fact, exist in the capital markets. (Exhibit NET-300, at 22).

165. Dr. Avera states it is generally accepted that the risk-return tradeoff evidenced with long-term debt extends to all assets. Documenting the risk-return tradeoff for assets other than fixed income securities, however, is complicated by two factors. First, there is no standard measure of risk applicable to all assets. Second, for most assets – including common stock – required rates of return cannot be directly observed. Yet there is every reason to believe that investors exhibit risk aversion in deciding whether or not to hold common stocks and other assets, just as when choosing among fixed-income securities. (Exhibit NET-300, at 22).

166. He states further that the risk-return tradeoff principle applies not only to investments in different firms, but also to different securities issued by the same firm. The securities issued by a utility vary considerably in risk because they have different characteristics and priorities. Long-term debt secured by a mortgage on property is senior among all capital in its claim on a utility's net revenues and is, therefore, the least risky. Following first mortgage bonds are other debt instruments also holding contractual claims on the utility's net revenues such as subordinated debentures. The last investors in line with respect to a claim on the utility's assets are common shareholders. They receive only the net revenues, if any, which remain after all other claimants have been paid. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by the utility's senior, long-term debt. (Exhibit NET-300, at 23).

167. Dr. Avera states although the cost of equity cannot be observed directly, it is a function of the returns available from other investment alternatives and the risks to which the equity capital is exposed. Because it is unobservable, the cost of equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the company specifically, and employing various quantitative methods that focus on investors' required rates of return. These various quantitative methods typically attempt to infer investors' required rates of return from stock prices, interest rates, or other capital market data. (Exhibit NET-300, at 24).

168. With one exception, Dr. Avera states he used the same methodology that FERC has approved for use in numerous recent proceedings involving electric transmission ROEs to establish his proxy group, to calculate each element of the DCF formula, and to derive the updated ROE based on the midpoint of the DCF range after eliminating outliers in accordance with FERC precedent. The one exception – which had no effect on the range of reasonableness or the midpoint of his DCF analysis in his view – is that where a single DCF result for a company is excluded as an outlier, he does not automatically exclude the other result for that company as well. (Exhibit NET-300, at 24).

169. Dr. Avera's DCF analyses focused on a national group of other utilities that meet the following criteria:

a. Companies that are included in the Electric Utility Industry groups compiled by Value Line;

b. Electric utilities that paid common dividends over the last six months and have not announced a dividend cut since that time;

c. Electric utilities with no ongoing involvement in a major merger or acquisition;

d. Electric utilities that have been assigned an S&P corporate credit rating between"BBB-" and "A";

e. Companies with a published 5-year consensus earnings growth forecast from IBES and,

f. Electric utilities that are covered by at least two industry analysts.

(Exhibit NET-300, at 25-26).

170. As he shows in Exhibit No. NET-302, these criteria resulted in a proxy group composed of 41 companies, which Dr. Avera refers to as the "National Group." This national group of risk-comparable utilities follows the same general approach approved in case he is familiar with, *SoCal Edison*, and is consistent with the approach that the Commission has used to establish the ROE for transmission services in a number of recent cases, in his view. It also reflects the Commission's determination that geographic proximity is not necessarily a determining factor when evaluating comparable risks, according to Dr. Avera. (Exhibit NET-300, at 26).

171. Dr. Avera contends that in evaluating credit ratings to identify a proxy group of utilities with comparable risks, the Commission has adopted a "comparable risk band", interpreted as one "notch" higher or lower than the corporate credit ratings of the utility at issue and within the investment grade ratings scale. The S&P corporate credit ratings corresponding to the NETOs are displayed on Exhibit NET-303. As shown there, these ratings range from "BBB" to "A-". Expanding this range by one notch, consistent with the Commission's guidelines, results in the "BBB-" to "A" range used to identify the National Group. (Exhibit NET-300, at 27).

172. Dr. Avera states that this comparison does indicate that investors would view the firms in his national group as risk-comparable to the NETOS. Widely cited in the investment community and referenced by investors as an objective measure of risk, credit ratings are also frequently used as a primary risk indicator in establishing proxy groups to estimate the cost of equity. The Commission has determined that "corporate credit ratings are a reasonable measure to use to screen for investment risk," and concluded, "Credit ratings are a key consideration in picking a proxy group that is risk-comparable." The Commission has also determined that the comparable risk band afforded by its credit rating screen alone is a sufficient test of comparable investment risks. (Exhibit NET-300, at 27-28).

173. Dr. Avera states DCF models attempt to replicate the market valuation process that sets the price investors are willing to pay for a share of a company's stock. The model rests on the assumption that investors evaluate the risks and expected rates of return from all

securities in the capital markets. Given these expectations, the price of each stock is adjusted by the market until investors are adequately compensated for the risks they bear. Therefore, one can look to the market to determine what investors believe a share of common stock is worth. By estimating the cash flows investors expect to receive from the stock in the way of future dividends and capital gains, one can calculate their required rate of return. Thus, the cash flows that investors expect from a stock are estimated, and given the stock's current market price, one can back into the discount rate, or cost of equity, that investors implicitly used in bidding the stock to that price. (Exhibit NET-300, at 1).

174. Dr. Avera further states DCF models assume that the price of a share of common stock is equal to the present value of the expected cash flows (future dividends and stock price) that will be received while holding the stock, discounted at investors' required rate of return. Thus, the cost of equity is the discount rate that equates the current price of a share of stock with the present value of all expected cash flows from the stock, in his view. (Exhibit NET-300, at 29).

175. Dr. Avera asserts that rather than developing annual estimates of cash flows into perpetuity, after making certain assumptions, the DCF model can be simplified to a "constant growth" form:

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

where: P_0 = Current price per share;
D_1 = Expected dividend per share in the coming year;

k_e = Cost of equity;
g = Investors' long-term growth expectations.

176. The cost of equity (k_e) can be isolated by rearranging terms:

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

177. This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: 1) dividend yield (D_1/P_0); and 2) growth (g). In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through price appreciation. (Exhibit NET-300, at 1).

178. Additionally, Dr. Avera testifies that following Commission policy, average low and high indicated dividend yields were calculated for each electric utility during the six months

May through October 2012. He states that as indicated in Exhibit No. NET-304, these six-month average low and high historical dividend yields were also increased by one-half of the low and high growth rates discussed subsequently (1 + 0.5*g*) to convert them to adjusted dividend yields. (Exhibit NET-300, at 30).

179. Dr. Avera states the one-step DCF method for electric utilities adopted by the Commission employs two growth rates for each firm. The first growth rate is a "sustainable" growth rate calculated by the following formula:

$$g = br + sv$$

where: b = expected retention ratio;
r = expected earned rate of return;
s = percent of common equity expected to be issued annually as new common stock;
v = equity accretion ratio.

180. The second growth rate is the IBES consensus 5-year earnings growth forecast. These two growth rates are combined with the adjusted dividend yields to develop a cost of equity range for each company. (Exhibit NET-300, at 31).

181. Moreover, Dr. Avera states for each electric utility the expected retention ratio (b) was calculated based on projected dividends and earnings per share from Value Line for 2012, 2013, and their 2015-2017 forecast horizon. Consistent with the Commission's DCF method, each firm's expected earned rate of return (r) was based on Value Line's end-of-year forecasts. In *Southern California Edison*, the Commission correctly recognized that if the rate of return, or "r" component of the br+sv growth rate, is based on end-of-year book values, such as those reported by Value Line, it will understate actual returns because of growth in common equity over the year. (Exhibit NET-300, at 31-32).

182. Accordingly, consistent with the Commission's findings and the theory underlying this approach to estimating investors' growth expectations, an adjustment was incorporated to compute an average rate of return. Finally, the percent of common equity expected to be issued annually as new common stock (s) was equal to the product of the projected market-to-book ratio and growth in common shares outstanding over Value Line's forecast horizon, while the equity accretion rate (v) was computed as 1 minus the inverse of the projected market-to-book ratio. The calculation of the sustainable growth rate for each electric utility in the National Group is shown in Exhibit No. NET-305. (Exhibit NET-300, at 31-32).

183. Dr. Avera points out that the five-year IBES earnings growth forecasts for each electric utility in the proxy group are shown in column (d) in his Exhibit No. NET-304. Furthermore, as shown in Exhibit No. NET-304, application of the Commission's DCF model to the National Group resulted in current cost of equity estimates ranging from –9.4% to 15.2% before excluding outliers. Dr. Avera observes that in applying quantitative

methods to estimate the cost of equity, it is essential that the resulting values pass fundamental tests of reasonableness and economic logic. Accordingly, DCF estimates that are implausibly low or high should be eliminated when evaluating the results of this method, in his opinion. (Exhibit NET-300, at 31-32).

184. Dr. Avera further states it is a basic economic principle that investors can be induced to hold more risky assets only if they expect to earn a return to compensate them for the risk they assume. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by senior, long-term debt. Consistent with this principle, the DCF range must be adjusted to eliminate cost of equity estimates that are determined to be extreme low outliers when compared against the yields available to investors from less risky utility bonds. The Commission has recognized in his view that it is appropriate to eliminate cost of equity estimates that fail to meet threshold tests of economic logic. The practice of eliminating low-end outliers has been adopted in numerous proceedings. In its April 15, 2010 decision in *SoCal Edison*, he notes that the FERC affirmed that, "it is reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more." (Exhibit NET-300, at 34-35).

185. Dr. Avera shows in Exhibit No. NET-304, five utilities in the proxy group had low-end DCF estimates that ranged from –9.4% to 5.9%. All of these utilities have ratings that fall in the triple-B category, with Moody's monthly yields on triple-B utility bonds averaging approximately 4.8% over the six-month period ending October 2012. These low-end DCF outliers are displayed in his Table WEA-2, along with the implied spread above the average utility bond yield:

TABLE WEA-2
LOW-END DCF OUTLIERS

Company	S&P Rating	Low-end Dcf	BBB Bond Yield	Spread
Exelon Corp.	BBB	-9.4%	4.8%	-14.2%
PPL Corp.	BBB	-3.5%	4.8%	-8.3%
Ameren Corp.	BBB-	0.5%	4.8%	-4.3%
PG&E Corp.	BBB	2.7%	4.8%	-2.1%
Edison International	BBB-	5.9%	4.8%	1.1%

(Exhibit NET-300, at 35).

186. According to Dr. Avera, these estimates were below current utility bond yields, or within approximately 100 basis points of this threshold. In light of the risk-return tradeoff principle and the tests applied by the Commission in prior decisions, it is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock, which is the riskiest of a utility's securities, in his view. He argues that as a result, consistent with the test of economic logic applied by the FERC, as he describes it, these values cannot

be considered credible estimates of investors' required return on equity capital and should be excluded. (Exhibit NET-300, at 36).

187. Dr. Avera reiterates that he believes it is generally expected that long-term interest rates will rise as the economy and financial markets return to more stable patterns. As shown in his Table WEA-3 he assumes the forecasts of IHS Global Insight and the EIA imply an average triple-B bond yield of 7.24% over the period 2013-2017 (Exhibit NET-300, at 36).

Table WEA-3:
IMPLIED BBB BOND YIELD

	2013-17
Projected AA Utility Yield	
IHS Global Insight (a)	5.92%
EIA (b)	6.33%
Average	6.13%
Current A - AA Yield Spread (c)	0.30%
Implied Single-A Utility Yield	**6.43%**
Current BBB - AA Yield Spread (c)	1.11%
Implied Triple-B Utility Yield	**7.24%**

(a) IHS Global Insight, U.S. Economic Outlook at 19 (May 2012)
(b) Energy Information Administration, Annual Energy Outlook 2012 (Jun. 25, 2012)
(c) Based on monthly average bond yields from Moody's Investors Service for the six-month period May 2012 - Oct. 2012

(Exhibit NET-300, at 37).

188. He asserts that the increase in debt yields anticipated by IHS Global Insight and EIA is also supported by the widely-referenced Blue Chip Financial Forecasts, which projects that yields on corporate bonds will climb on the order of 200 basis points over the 2012-2018 period. He argues that these projections suggest that his earlier evaluation of low-end DCF outliers based on Commission precedent is conservative, and creates a downward bias to the results.

189. Dr. Avera states further that there is no basis to exclude the 15.2% or 14.8% cost of equity estimates at the high end of the DCF range. In a November 2004 Order in *Bangor Hydro*, he asserts that the Commission determined that a cost of equity estimate at the high end of the range of reasonableness might also be excluded if it is determined to be an extreme outlier. The Commission found that a 17.7% cost of equity estimate for PPL Corporation ("PPL") was "extreme" and that including this result would "skew the results."

The Commission, according to Dr. Avera, also expressed concern regarding the sustainability of the underlying 13.3% growth estimate for PPL, and has also referenced this threshold as a test of reasonableness. (Exhibit NET-300, at 38).

190. Dr. Avera opines the 15.2% and 14.8% high-end DCF estimates for Empire District Electric Company ("Empire District") and Great Plains Energy Inc. ("Great Plains") fall far below the 17.7% threshold established in *Bangor Hydro*. Similarly, the 10.2% and 10.5% growth rates underlying these cost of equity estimates are also significantly less than the 13.3% growth rate benchmark that has been used by the Commission to evaluate values at the high end of the DCF range, in his view. Moreover, the 15.2% and 14.8% values at the upper end of the DCF range are not "extreme outliers" in his view when compared with the ROE ranges approved by the Commission in the recent past, and the Commission has approved ROEs based on growth rates at least this high in several recent proceedings. Accordingly, these high-end cost of equity estimates are properly included under the rationale adopted by the Commission, according to Dr. Avera. (Exhibit NET-300, at 38-39).

191. Moreover, he argues that in addition, while cost of equity estimates of 15.2% and 14.8% may exceed expectations for most electric utilities, remaining low-end estimates on the order of 6.0% to 6.6% are assuredly far below investors' required rate of return. Taken together and considered along with the balance of the DCF estimates, these values provide a reasonable basis on which to evaluate investors' required rate of return, in his view. (Exhibit NET-300, at 39).

192. Dr. Avera also states that the fact that Empire District cut its dividend payment in 2011 does not provide a basis for excluding this company from the proxy group, in his opinion. Following a tornado that hit Empire District's service territory on May 22, 2011, the utility's Board of Directors announced their decision to suspend dividend payments for the remainder of 2011. The Board also indicated its expectation that the quarterly dividend would be reestablished at $0.25 per share after a two-quarter suspension. Empire District subsequently resumed regular quarterly dividend payments at $0.25 per share in the first quarter of 2012, which was well before the six-month period referenced for the stock prices and dividend payments used in his DCF analysis. And while this storm resulted in the loss of approximately 4,000 poles and 100 miles of line in Empire District's distribution system, by year-end 2011 the utility announced that its system-wide customer count was down by only 1,800 from previous levels. He believes Empire District has been accepted as a valid proxy by the Commission in prior proceedings, and there is no reason for him to exclude it here. (Exhibit NET-300, at 40).

193. Dr. Avera does not believe it is appropriate to exclude PPL's high-end value simply because its low-end DCF estimate is illogical. Furthermore, he does not believe that it is necessary or appropriate to remove a company from the proxy group altogether when just one of its DCF values fails the test of logic. Because there is no infallible method for assessing what the growth rate is precisely, it is customary to consider alternative growth estimates, with the IBES and sustainable, "br+sv" growth rates being two widely referenced proxies for investors' expectations, in his view. (Exhibit NET-300, at 41).

194. He asserts that reliance on these alternative growth sources is analogous to the logic underlying the use of a proxy group to estimate the cost of equity – the cost of equity is inherently unobservable and cannot be precisely estimated. Evaluating both IBES and sustainable growth rates recognizes the importance of examining alternative sources and approaches to estimate investors' growth expectations in order to reduce error and enhance confidence in the reliability of the DCF results. An illogical cost of equity estimate does not imply that the underlying company is not of comparable risk or otherwise unsuitable. The problem is not with the company, but with the particular DCF estimate. In other words, he contends that the particular application of the model to a specific set of data produces an illogical and therefore produces an unreliable result. (Exhibit NET-300, at 41-42).

195. Dr. Avera additionally states the two estimated growth rates relied on by the Commission – IBES and Value Line "br+sv" – are entirely distinct sources and employ alternative approaches to measure investors' growth expectations. The fact that one growth rate estimate may produce a cost of equity that fails tests of economic logic says nothing about the veracity of the second, independent value. In fact, it was the recognition that estimates can and do vary that prompted the Commission to consider alternative growth measures in applying the DCF model. Each cost of equity estimate is evaluated for reasonableness on a stand-alone basis, and there is no requirement for a symmetrical elimination of equal numbers of estimates at the high and low end. (Exhibit NET-300, at 42).

196. For example, the simple fact that a 5.0% cost of equity estimate is patently illogical when evaluated against observable yields on long-term utility debt says nothing whatsoever with respect to a high-end value of 10.9% for the same company derived using different input data. Similarly, there would be no reason to eliminate a low-end DCF estimate of 9.0% simply because the high-end estimate for the same utility is considered to be an extreme outlier. While considering alternative growth rates helps to reduce the potential for skewed results by providing additional information regarding investors' expectations, once illogical values are eliminated there is no evidence to suggest that retaining all valid DCF estimates would somehow impose bias on the results. Indeed, the canons of statistical reasoning dictate that no data should be discarded unless it is found to be suspect on objective grounds, according to Dr. Avera. (Exhibit NET-300, at 42).

197. Dr. Avera states further that eliminating the illogical low-end outliers shaded on Exhibit No. NET-304 resulted in an adjusted range of reasonableness for the National Group ranging from 6.0% to 15.2%. As shown on Exhibit No. NET-304, the midpoint of this ROE zone of reasonableness is 10.6%. In a typical case involving the transmission-owning members of an RTO, Commission precedent would establish 10.6% as the base ROE based on the midpoint of the DCF range. However, the low-end numbers in this range are abnormally low and do not reflect investor needs or expectations, and therefore improperly skew the results downward. In these unusual circumstances, Dr. Avera recommends using a value in the upper end of the zone of reasonableness to establish a just and reasonable ROE. (Exhibit NET-300, at 42-44).

198. Dr. Avera's testimony goes on to outlines the support for reference to additional ROE benchmarks in confirming the results of the DCF model, and evaluating a point estimate from within the zone of reasonableness. In addition, he presents the results of a risk premium approach that is based directly on the Commission's prior findings with respect to the fair ROE for utilities under its jurisdiction. Considering the anomalous conditions that characterize today's capital markets, relying on past ROE determinations of the Commission provides an important reference point to evaluate current DCF results.Dr. Avera states he is well aware that the Commission has narrowed the focus of its base ROE evaluation to a particular variant of the DCF approach. Nevertheless, because the cost of equity is unobservable, other methods are useful in assessing the results of the DCF analysis, and in evaluating a point estimate from within a range. (Exhibit NET-300, at 40). (Exhibit NET-300, at 44-45).

199. Dr. Avera states further that the Commission has recognized it may be appropriate to consider the results of alternative methods. For example, the Commission concluded in *Distrigas of Massachusetts Corp.* that, "no one methodology is preferred to the exclusion of all others. The . . . DCF methodology, which we endorse, is but one analytical tool." FERC has also granted that "[i]n some instances, the DCF methodology alone may be inappropriate," and in its decision in *Southern California Edison*, which first established the current DCF approach, the Commission noted that, "Should circumstances in the industry change, in the future, we will reevaluate our methodology, as necessary." While electing not to make "broadly applicable changes to how the Commission has traditionally performed its DCF analysis," he believes Order No. 679 noted the opinion that "there is a benefit to introducing more information into the analysis process," and FERC indicated a willingness to consider modifications to its standard approach on a case-by-case basis. More recently, in *SoCal Edison*, the Commission determined that additional methods could be used to test or corroborate the results of its preferred DCF approach. (Exhibit NET-300, at 47-48).

200. Dr. Avera discusses in some detail the risk premium approach to common stocks the risk-return tradeoff observed with bonds. The cost of equity is estimated by first determining the additional return investors require to forgo the relative safety of bonds and to bear the greater risks associated with common stock, and by then adding this equity risk premium to the current yield on bonds. He explains that like the DCF model, the risk premium method is capital market oriented. However, unlike DCF models, which indirectly impute the cost of equity, risk premium methods directly estimate investors' required rate of return by adding an equity risk premium to observable bond yields. (Exhibit NET-300, at 49-51).

201. Dr. Avera applied the risk premium approach directly using ROEs approved by the Commission for electric utilities since 2006, which should reflect the influence of policies to support transmission investment. Dr. Avera states the Commission has previously recognized the merit of this risk premium approach. (Exhibit NET-300, at 49-51).

202. Dr. Avera states, as shown on page 2 of Exhibit No. NET-306, the corresponding six-month average yield for triple-B public utility bonds is subtracted from the allowed ROE approved by the Commission to calculate an implied equity risk premium. In addition,

because the Commission also routinely references 10-year Treasury bond yields in the context of updating ROE findings, Dr. Avera also developed implied equity risk premiums based on this series of government bond yields. As shown on page four of Exhibit No. NET-306, between 2006 and 2012, the equity risk premium implied by the Commission's authorized ROEs for electric utilities averaged 4.10% over triple-B utility bond yields, and 7.33% over the yield on 10-year Treasury bonds. (Exhibit NET-300, at 49-51).

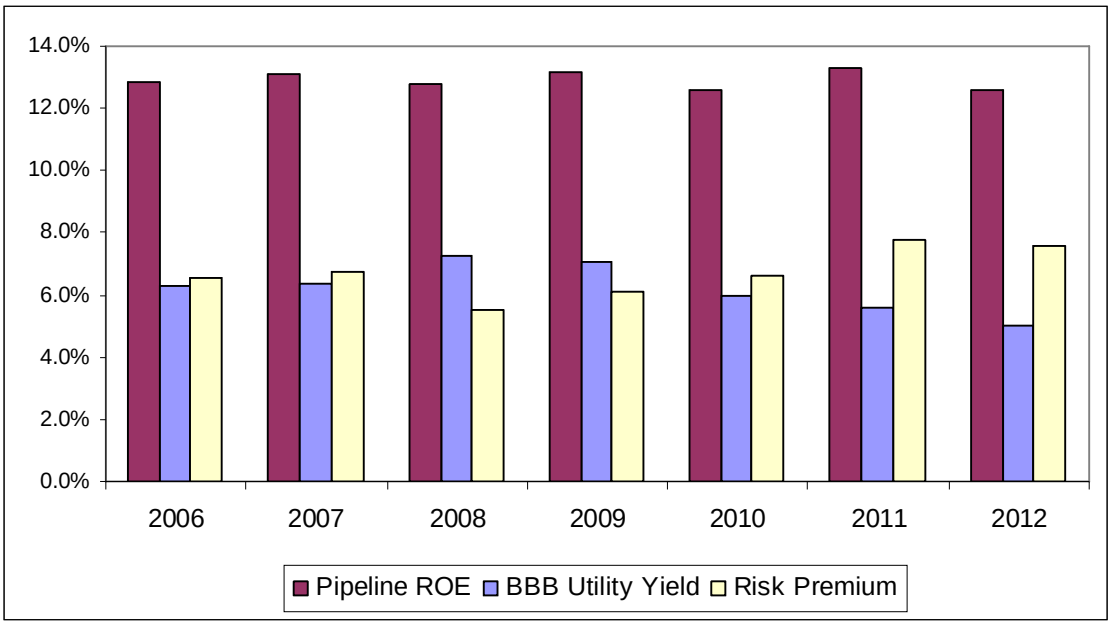
203. Dr. Avera states that there is a capital market relationship must be considered when implementing the risk premium approach. He states there is considerable evidence that the magnitude of equity risk premiums is not constant and that equity risk premiums tend to move inversely with interest rates. In other words, in his opinion, when interest rate levels are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity risk premiums widen. The implication of this inverse relationship is that the cost of equity does not move as much as, or in lockstep with, interest rates. (Exhibit NET-300, at 52).

204. Dr. Avera states that as shown in Exhibit No. NET-306, adding an equity risk premium corresponding to current interest rate levels to the average yield on triple-B utility bonds for the six-months ending October 2012 of 4.83% implies a current cost of equity for electric utilities of approximately 10.7%. Similarly, applying the risk premium approach using 10-year Treasury bond yields also produces a current cost of equity of approximately 10.7%. (Exhibit NET-300, at 53).

205. Dr. Avera states, as shown on page two of Exhibit No. NET-306, incorporating a forecasted triple-B utility bond yield for 2013-2017 implied a cost of equity of approximately 10.9%, or 10.8% based on projected 10-year Treasury bond yields.

206. Dr. Avera additionally examines the allowed ROEs approved by the Commission for natural gas pipelines for the years 2006 through 2012, which are presented in his Exhibit No. NET-307, along with the implied equity risk premiums above triple-B public utility and 10-year Treasury bond yields. The average annual ROE, the corresponding average bond yields, and implied risk premiums are summarized on page one of Exhibit No. NET-307, with equity risk premiums over utility bond yields being illustrated in Figure WEA-4 as follows (Exhibit NET-300, at 55-56).

FIGURE WEA-4
EQUITY RISK PREMIUM - GAS PIPELINE ROE VS. BBB UTILITY BOND YIELDS



(Exhibit NET-300, at 56).

207. He states further that he believes that consistent with Commission-approved ROEs for electric utilities, the implied equity risk premiums for gas pipelines increase as interest rates decline. (Exhibit NET-300, at 56).

208. Dr. Avera states further that as shown in the lower portion of page one of Exhibit No. NET-307, the average ROE for natural gas pipelines has exceeded the base ROE approved by the Commission for electric utilities by 2.13% between 2006 and 2011. Subtracting this spread from the 12.59% average ROE approved for natural gas pipelines during 2012 results in a current implied base ROE for an electric utility of approximately 10.5%. Dr. Avera states he is not recommending that the fair base ROE for the NETOS be established directly on these risk premium analyses. He recognizes that the Commission has elected to rely primarily on the DCF model in establishing an ROE zone of reasonableness for utilities under its jurisdiction. However, he believes it is important to consider the results of other methods in evaluating a fair base ROE. (Exhibit NET-300, at 56-57).

209. Dr. Avera also evaluated the cost of equity for the NETOs against other ROE benchmarks developed by: (1) applying the DCF model to a group of low-risk non-utility companies; (2) using the CAPM; and (3) making reference to expected earned rates of return for electric utilities. He goes into great detail in his analysis, which does not need to be repeated here. His point is that in his opinion, his ROE opinions are supported by a variety

of methodologies, a position the State parties and Staff strongly disagree. ((Exhibit NET-300, at 58).

210. The cost of equity estimates produced by the analysis described in Dr. Avera's testimony are summarized in his Table WEA-5:

TABLE WEA-5
SUMMARY OF COST OF EQUITY ESTIMATES

	Adjusted Range		
DCF Method	**Low**	**High**	**Midpoint**
National Proxy Group	6.0% --	15.2%	10.6%
Non-Utility Proxy Group	7.3% --	16.6%	12.0%
FERC Risk Premium			
Utility - Current Bond Yields		10.7%	
Utility - Projected Bond Yields		10.9%	
Treasury - Current Bond Yields		10.7%	
Treasury - Projected Bond Yields		10.8%	
Gas Pipeline ROE Spread		10.5%	
CAPM - Current Bond Yields			
Unadjusted	8.9% --	11.9%	10.4%
Size Adjusted	8.5% --	12.8%	10.7%
CAPM - Projected Bond Yields			
Unadjusted	9.2% --	12.5%	10.8%
Size Adjusted	8.8% --	14.2%	11.5%
Expected Earnings Approach			
Value Line Electric Utilities		10.5%	
National Proxy Group	7.6% --	15.0%	11.3%

(Exhibit NET-300, at 77).

211. Based on the results of the Commission's DCF approach applied to the National Group, Dr. Avera opines that the ROE zone of reasonableness for the NETOs is 6.0% to 15.2%. Dr. Avera states that while the Commission's general practice is to apply the midpoint when establishing a single base ROE for a group of utilities within a transmission organization the Commission has consistently recognized the importance of the zone of reasonableness in framing its evaluation of the ROE. For example, he observes that in evaluating incentive returns, Commission policy requires that the resulting ROE fall within the reasonable range determined for the proxy group. (Exhibit NET-300, at 77-78).

212. Similarly, when adjusting its findings for changes in capital market conditions up to the time of its decision, the adjustment is constrained by the bounds of the ROE range. The DCF zone of reasonableness is equally relevant to an evaluation of the NETOs' existing ROE in this case, particularly in light of expectations for higher capital costs and the results of alternative ROE benchmarks, according to Dr. Avera. (Exhibit NET-300, at 77-78).

213. Dr. Avera asserts that reference to the ROE zone does support the reasonableness of the NETOS' existing ROE, because it is in the zone. The 11.14% base ROE currently approved for the NETOs falls well within the DCF zone of reasonableness, and considerably below the 15.2% high end of this range, according to Dr. Avera. (Exhibit NET-300, at 81).

214. Dr. Avera states again, one of his central themes that bond yields are uncharacteristically low, and because these yields are referenced as the benchmark in evaluating low-end DCF estimates, this serves to significantly reduce the low end of the DCF range, and the resulting midpoint. Dr. Avera argues that the continued reasonableness of the existing 11.14% base ROE is supported by other benchmarks, as he has discussed through his testimony. (Exhibit NET-300, at 82).

215. Dr. Avera re-discusses his alternative methodologies including the current cost of equity estimates based on the risk premium approach applied to prior ROEs approved by the Commission, which fall in the range of 10.5% to 10.9%; the DCF estimates for the Non-Utility Group, which implied a range of 7.3% to 16.6%, and a midpoint of 12.0%, and opines these analysis provide compelling evidence that supports the reasonableness of the existing 11.14% base ROE for the NETOS. (Exhibit NET-300, at 83-84).

216. Moreover, Dr. Avera states application of the CAPM based on current interest rates implied an adjusted ROE range of 8.9% to 11.9%, or 8.5% to 12.8% after adjusting for firm size. Incorporating projected bond yields resulted in an unadjusted ROE range of 9.2% to 12.5%, or 8.8% to 14.2% after incorporating the size adjustment he uses. The midpoint results of his CAPM analyses ranged from 10.4% to 11.5%. Earned rates of return for electric utilities suggested an ROE range of 7.6% to 15.0%, with a midpoint of 11.3%. The results of these alternative benchmarks confirm his conclusion that a base ROE of 11.14% for the NETOs continues to be reasonable. (Exhibit NET-300, at 84-85).

217. Dr. Avera's next examines the critical link between the ROE and the availability of capital, and the negative implications of a downward-biased ROE that favors rote application of a DCF formula over investors' requirements. He attempts to rebut the evaluations of Drs. Woolridge and Wilson, including various arguments concerning the composition of the proxy group and their application of the DCF model. (Exhibit NET-300, at 86).

218. Dr. Avera additionally states that the investment community has recognized that large capital expansion plans, such as those undertaken by the NETOS, also impose significant financial pressures. Investors are also aware of the financial and regulatory pressures faced by utilities associated with both rising costs and the need to undertake significant capital investments. He believes this is important information for the Commission when determining a fair ROE. (Exhibit NET-300, at 87).

219. In this regard, he notes that the NETOs have undertaken significant utility capital expenditures to support the transmission grid, and investors anticipate substantial new capital commitments. From 2002 to 2011, approximately $4.7 billion of new transmission facilities has been placed in service in New England to address reliability needs, and an additional

$5.7 billion of transmission reliability investment is in various stages of development and is slated to be placed in service from 2012 through 2020. In addition to these reliability projects, Northeast Utilities' Northern Pass Project – a new high voltage direct current line that will interconnect the Hydro-Québec TransÉnergie transmission system to the New England transmission system – will require incremental investment of approximately $1.1 billion. Meanwhile, National Grid and Bangor Hydro have proposed construction of a 230-mile, 1,100 megawatt direct current transmission line delivering renewable energy from northern and eastern Maine and eastern Canada into southern New England. The projected cost of this Northeast Energy Link project is $2 billion. (Exhibit NET-300, at 87-88). He continues on spending a great deal of time discussing the importance of investment in the electricity industry. (Exhibit NET-300, at 87-97).

220. Dr. Avera also states that neither Dr. Woolridge nor Dr. Wilson established that the NETOS current base ROE of 11.14% is unjust and unreasonable. Nowhere in their testimony did they provide a credible evaluation of the reasonableness of the NETOs' currently approved base ROE. The simple fact that a particular DCF analysis – and especially one that departs from Commission precedent – produces a midpoint value that differs from the currently approved base ROE is not sufficient to find it unjust and unreasonable, in his opinion. (Exhibit NET-300, at 99).

221. Furthermore, Dr. Avera states that neither Dr. Woolridge nor Dr. Wilson tested their ROE recommendations against fundamental regulatory requirements. Moreover, Dr. Avera states regulators do not set the returns that investors earn in the capital markets – they can only establish the allowed return on the value of a utility's investment, as reflected on its accounting records. As a result, the expected earnings approach provides a direct guide to ensure that the allowed ROE is similar to what other utilities of comparable risk will earn on invested capital. This opportunity cost test does not require theoretical models to indirectly infer investors' perceptions from stock prices or other market data. As long as the proxy companies are similar in risk, their expected earned returns on invested capital provide a direct benchmark for investors' opportunity costs that is independent of fluctuating stock prices, market-to-book ratios, debates over DCF growth rates, or the limitations inherent in any theoretical model of investor behavior. (Exhibit NET-300, at 100-102). Dr. Avera states that in his opinion, the NETOs will find it difficult to compete for investors' capital if the proposed ROE offered by the Complainants is accepted. (Exhibit NET-300, at 77-78).

222. Dr. Avera offers for example, in May 2011, and again in June 2012, the Commission approved the continued use of the 12.38% base ROE approved for the TOs of the Midwest Independent Transmission System Operator, Inc., which does not reflect any incentive adders for RTO membership, new transmission investment, or advanced technologies. In December 2011, the Commission accepted an ROE that incorporated an 11.18% base ROE for Public Service Electric and Gas Company. With respect to ROEs for FERC-jurisdictional transmission assets, S&P informed investors that "approved ROEs for transmission range between 12% and 14%." (Exhibit NET-300, at 109).

223. Dr. Avera also argues that reference to allowed ROEs at the state level provides another useful guideline that can be used to assess the extent to which an ROE recommendation in the 8.2% to 9.0% range is comparable and sufficient. As shown on page one of Exhibit No. NET-313, data from the October 2012 *AUS Monthly Utility Report* (a source relied on by Dr. Woolridge) indicates that the average authorized ROE for the firms in Dr. Woolridge's proxy group is 10.4%, or 140 basis points higher than the base ROE he recommends for the NETOs. With respect to the proxy group used by Dr. Wilson, as shown on page two of Exhibit No. NET-313, these firms are also presently authorized an average ROE of approximately 10.4%. He believes it is unreasonable to suppose that investors would be attracted by an ROE in the range of 8.2% to 9.0% for the NETOs, which falls significantly below the allowed returns for other utilities. (Exhibit NET-300, at 109-110).

224. Dr. Avera argues these benchmarks clearly demonstrate that the recommendations of the Drs. Woolridge and Wilson are far too low and violate the economic and regulatory standards underlying a fair ROE. In contrast to the Commission's long-standing support of investment in wholesale transmission infrastructure, the 9.0% and 8.2% base ROEs proposed by Complainants and EMCOS, respectively, would represent one of the lowest electric ROEs in the country under either federal or state jurisdiction, and fall far below average returns authorized for other utilities. (Exhibit NET-300, at 110-111)

225. Dr. Avera goes on to spend some time discussing how the Complainants' witnesses used flawed proxy group criteria. First, he states there is no justification to impose a requirement that proxy companies must be included in the monthly industry publication from *AUS Utility Reports*. Second, Dr. Woolridge's requirement that his proxy companies have at least 50% of their revenues from regulated electric utility operations has no relation to investment risks and violates Commission precedent. Third, Dr. Woolridge's requirement that proxy companies must be followed by multiple online financial services mischaracterizes FERC's prior findings and ignores the test embodied in Commission precedent. Fourth, he argues that because investors are focused on future expectations, and not on backward, historical data, there is no justification to exclude a company simply because it has cut dividends in the past. (Exhibit NET-300, at 111-112).

226. Moreover, Dr. Avera states there is no reason for the Commission to require that a proxy utility be followed by *AUS Utility Reports.* The purpose of the criteria used to define a proxy group is to identify utilities that investors view as risk-comparable to the utility at issue. In evaluating the universe of potential investment alternatives within the electric utility industry, the industry groups followed by Value Line represent a broad, representative compilation. In contrast to Value Line, which is perhaps the most widely available source of information on common stocks, *AUS Utility Reports* is a narrowly focused industry publication that is largely unknown outside regulatory circles. As a result, it is highly unlikely that any potential investor would rely on this source to evaluate risk comparable alternatives. According to Dr. Avera, the Commission has not relied on this report in the past, and there is no reason to reference *AUS Utility Reports* in determining the field of utilities from which to select a proxy group. (Exhibit NET-300, at 112-113).

227. In addition, Dr. Avera asserts that some of the data published by *AUS Utility Reports* and relied on by Dr. Woolridge in his proxy group selection are inaccurate. For example, while Dr. Woolridge reports an S&P credit rating of "BBB-" for UniSource Energy, S&P does not publish a credit rating for this company. Meanwhile, Tucson Electric Power Company, which is UniSource Energy's principal operating subsidiary, is rated "BB+," which according to S&P is not accurate. (Exhibit NET-300, at 113).

228. Dr. Avera states that under the regulatory standards established by *Hope* and *Bluefield*, the salient criteria in establishing a meaningful proxy group to estimate investors' required return is relative risk, not the source of the revenue stream. In his opinion, Dr. Woolridge presented no evidence to demonstrate a relationship between his arbitrary criteria and the views of real-world investors in the capital markets. Moreover, due to differences in business segment definition and reporting between utilities, it is often impossible to accurately apportion financial measures, such as total revenues, between utility segments (*e.g.*, distribution, transmission, or generation) or regulated and non-regulated sources. As a result, even if one were to ignore the fact that there is no clear link between the source of a utility's revenues and investors' risk perceptions, it is generally not possible to accurately and consistently apply revenue-based criteria, according to Dr. Avera. (Exhibit NET-300, at 114-115).

229. Dr. Avera states further that in applying the DCF model, the Commission has consistently relied on IBES, not the other financial sources relied upon by Dr. Woolridge, as the source of consensus analysts' growth rates, and there has never been any finding that requires a utility to have published EPS growth rates from multiple sources before it can be considered for inclusion in a proxy group. (Exhibit NET-300, at 116).

230. Dr. Avera states Dr. Woolridge's proxy group criteria also erroneously included the requirement that the utility "[h] as paid a cash dividend payment for the past three years, with no cuts or omissions." He states that as Dr. Woolridge recognized, the DCF model is based on investors' future expectations, and not on backward-looking, historical experience. As a result, the fact that a utility may have cut or eliminated dividend payments at some time in the past does not in any way preclude application of the DCF model. Stock prices during the six-month historical period referenced in the Commission's DCF model are predicated on current dividend payments and expectations for the future, so the fact that a utility that is now paying dividends may have cut dividend payments in the past provides no basis to disqualify that firm from the proxy group, according to Dr. Avera. (Exhibit NET-300, at 117).

231. Additionally, Dr. Avera states Dr. Wilson simply used the exact same companies that he relied on in his direct testimony filed in October 2011 in this proceeding as Exhibit No. NET-100. While the criteria that he used to identify this proxy group were identical to those that he has applied in his testimony, more than a year has past since his Exhibit No. NET-100 was filed. (Exhibit NET-300, at 116-118).

232. Dr. Avera opines Dr. Woolridge's and Dr. Wilson's arguments run counter to Commission precedent. The Commission has developed a clear policy of evaluating the results of its DCF approach in order to eliminate values that are extreme outliers, either low or high. This fact-specific evaluation properly considers each of the cost of equity estimates on a stand-alone basis, and compares them with the thresholds established by Commission precedent. In a November 2004 Order in *Bangor Hydro*, the Commission determined that a 17.7% cost of equity estimate for PPL was "extreme" and that including this result would "skew the results." The Commission also expressed concern regarding the sustainability of the underlying 13.3% growth estimate for PPL, and has also referenced this threshold as a test of reasonableness. This test provides an understood, effective means of evaluating an ROE zone of reasonableness using the Commission's DCF approach, in his view. (Exhibit NET-300, at 117-118).

233. The 13.7% and 13.55% cost of equity estimates calculated for Hawaiian Electric Industries ("HEI") by Drs. Woolridge and Wilson fall far below the 17.7% threshold that has been consistently referenced by the Commission, in Dr. Avera's opinion. Similarly, the 8.6% growth rate underlying these cost of equity estimates is also significantly less than the 13.3% benchmark that has been used by the Commission to evaluate values at the high end of the DCF range. Moreover, 13.7% and 13.55% cost of equity estimates are not "extreme outliers" when compared with the ROE ranges approved by the Commission in the past. Similarly, growth rates above the 8.6% level have been used by the Commission to set ROEs without a finding that the resulting DCF estimate is an outlier. Accordingly, these cost of equity estimate are properly included under the thresholds of the Commission's established test, which he used. (Exhibit NET-300, at 119-120).

234. Moreover, he notes that Dr. Woolridge's proportional adjustment, which was based on the ratio of the 17.7% cost of equity estimate to prevailing bond yields, ignores the fact that the risk premiums implied by the Commission's ROEs for electric utilities move inversely with changes in bond yields. (Exhibit NET-300, at 121).

235. Dr. Avera further states the Commission also recognized in its 2004 *Bangor Hydro* decision that DCF cost of equity estimates that did not exceed the yields on public utility bonds should be excluded as outliers. As shown in Exhibit No. NET-314, the inverse relationship between interest rates and the Commission's approved ROEs for electric utilities, coupled with changes in bond yields since 2004, would imply an increase in the equity risk premium of approximately 150 basis points. Accordingly, if the previous bottom-end threshold was 100 basis points over utility bond yields in 2004, changes in the equity risk premium would now imply an expanded spread of 250 basis points. (Exhibit NET-300, at 122).

236. In other words, he opines that because the equity risk premium increases as bond yields decline, changes in interest rates since the Commission adopted its practice of excluding DCF outliers in 2004 would now support a bottom-end threshold of 250 basis points over utility bond yields. He claims this supports his earlier conclusion that an ROE from within the upper end of the zone of reasonableness is warranted because of the

influence of extraordinarily low interest rates on the elimination of low-end outliers. (Exhibit NET-300, at 122).

237. Dr. Avera opines further that HEI's involvement with banking should not disqualify it from the proxy group as Dr. Woolridge advocates for. Despite the fact that HEI meets all of his own comparable risk screening criteria, Dr. Woolridge apparently had a change of heart regarding its suitability, and enumerates various "other reasons" why HEI should be eliminated. He believes there is no basis for Dr. Woolridge's misguided decision to ignore the DCF results for HEI, which produced the highest estimate from his DCF analysis. Dr. Avera spends additional time discusses why Dr. Woolridge's other reasons for disqualifying HEI have no merit. (Exhibit NET-300, at 123-124; 124-126).

238. Of particular note, Dr. Avera states that as shown in Exhibit SC-111, the low and high estimates produced by Dr. Woolridge's DCF analysis were 5.9% and 13.0%, respectively. The midpoint of this range is 9.5%. Dr. Woolridge first averaged the low and high DCF estimates for each of the companies in his proxy group. He then identified the lowest and highest of these average values, and computed the average of these averages to arrive at a value of 8.5%. Dr. Avera also states that Dr. Woolridge recognized this approach of basing the midpoint on the averages of the low and high estimates for each proxy company is not consistent with the Commission's findings in *Midwest ISO* or in the proceeding that established the existing 11.14% base ROE for the NETOs. In fact, he asserts the Commission's long-standing practice has been to establish the midpoint based on the lowest and highest of the individual DCF estimates that make up the zone of reasonableness, without any averaging of the results, which Dr. Woolridge did in his analysis. (Exhibit NET-300, at 127-128).

239. Dr. Avera states that in *PATH,* the Commission simply held that the median should be used to determine the base ROE, and set the issue for a trial-type evidentiary hearing. The Commission made clear its distinction and preferences between the median calculations established for a single company of average risk, and the midpoint of the ROE zone of reasonableness that applies to joint filings for RTOs, such as the NETOs. (Exhibit NET-300, at 128).

240. Similarly, Dr. Avera points out that *Atlantic Grid* marked no change or refinement of Commission orthodoxy. As in *PATH*, the Commission reiterated its standard practice of calculating the median based on the average of the low and high DCF estimates for the proxy group, without any mention whatsoever of the midpoint. This is the exact same approach that the Commission applied three years earlier in *Golden Spread.* There, the Commission clearly distinguished between the median, which was based on the averages of the two individual estimates for each utility, and the midpoint, which is determined using the lowest and highest of the individual DCF values that make up the zone of reasonableness for the proxy group. (Exhibit NET-300, at 128-129). Dr. Avera states the averaging approach used by Dr. Woolridge directly contradicts the principles enunciated by the Commission in its remand of the midpoint-median issue in *Midwest ISO.* (Exhibit NET-300, at 128).

241. Furthermore, Dr. Avera states that while the Commission has previously accepted membership in adjacent transmission organizations as one criterion in identifying comparable-risk utilities, the use of a national proxy group does not impact the rationale for referencing the entire range of DCF results. Whether national or regional, the proxy companies represent a group of utilities of comparable investment risk, and the individual DCF results frame the zone of reasonableness. For a group of RTO members, such as the NETOs, the Commission has determined that the widest range of results for the proxy group should be considered when establishing the midpoint. (Exhibit NET-300, at 129-131).

242. Dr. Avera next discusses in some detail his issues with Dr. Woolridge's opinions that looking at individual DCF estimates introduces distortion into the process. Additionally, he criticizes Dr. Woolridge's claims that projected EPS growth rates are biased. (Exhibit NET-300, at 131-134).

243. In this regards, Dr. Avera states investors just like securities analysts and others in the investment community, do not know how the future will actually turn out. They can only make investment decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and securities prices are constantly adjusting to reflect their assessment of available information. While the projections of securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing the expected growth that investors have incorporated into current stock prices, and any bias in analysts' forecasts – whether pessimistic or optimistic – is irrelevant if investors share analysts' views. There is every indication that expectations for earnings growth are instrumental in investors' evaluation and the fact that analysts' projections deviate from actual results provides no basis to ignore this relationship, in his view. (Exhibit NET-300, at 134-135).

244. Dr. Avera opines that in using the DCF model to estimate investors' required returns, the purpose is not to prejudge the accuracy or rationality of investors' growth expectations. Instead, to accurately estimate the cost of equity one must base an analysis on the growth expectations investors actually used in determining the price they are willing to pay for common stocks – even if one does not agree with their assumptions. Indeed, despite the findings of his research, Dr. Woolridge reportedly "remains somewhat puzzled that so many continue to put great weight in what [analysts] have to say." (Exhibit NET-300, at 135).

245. Dr. Avera goes on to argue that similarly, there is no logical foundation for criticisms such as those raised by Dr. Woolridge that the purported upward bias of analysts' growth rates limits their usefulness in applying the DCF model. If investors' base their expectations on these growth rates, then they are useful in inferring investors' required returns – even if the analysts' forecasts prove to be wrong in hindsight. (Exhibit NET-300, at 135-136).

246. Additionally, Dr. Avera states that Dr. Woolridge asserted belief that Value Line projections are "excessive and unrealistic," based only on his personal belief that Value Line does not report a sufficient number of negative growth rates, is misplaced. He notes that a negative long-term growth rate implies a DCF cost of equity below the firm's dividend yield

and is hardly representative of investors' expectations. Value Line is a well-recognized source in the investment and regulatory communities, in his opinion. (Exhibit NET-300, at 136-137).

247. Dr. Avera continues on and attempts to rebut Dr. Woolridge's approach when applying the CAPM. He states that, like the DCF model, the CAPM is a forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the CAPM must be applied using data that reflect the expectations of actual investors in the market. However, the CAPM application presented by Dr. Woolridge was based entirely on historical, not projected, rates of return. This skewed his results. (Exhibit NET-300, at 137-138).

248. Dr. Avera states further that applying the CAPM is complicated by the impact of the recent capital market turmoil and recession on investors' risk perceptions and required returns. The CAPM cost of common equity estimate is calibrated from investors' required risk premium between Treasury bonds and common stocks. In response to heightened uncertainties, investors have repeatedly sought a safe haven in government bonds and this "flight to safety" has pushed Treasury yields significantly lower while yield spreads for corporate debt widened. According to Dr. Avera, this distortion not only impacts the absolute level of the CAPM cost of equity estimate, but it affects estimated risk premiums. Economic logic would suggest to him that that investors' required risk premium for common stocks over Treasury bonds has also increased. (Exhibit NET-300, at 139-140).

249. Furthermore, according to Mr. Avera, the backward-looking approach used by Dr. Woolridge incorrectly assume that investors' assessment of the relative risk differences, and their required risk premium, between Treasury bonds and common stocks is constant and equal to some historical average. At no time in recent history has the fallacy of this assumption been demonstrated more concretely. As a result, in his view, there is every indication that the historical CAPM approach fails to fully reflect the risk perceptions of real-world investors in today's capital markets, which would violate the standards underlying a fair rate of return by failing to provide an opportunity to earn a return commensurate with other investments of comparable risk. (Exhibit NET-300, at 140).

250. Dr. Avera states Dr. Wilson recommends that the Commission adopt a base ROE for the NETOs at the bottom of his 8.2% to 8.7% range, simply because the ROE determined in this proceeding will be used in conjunction with formula rates. This proposal is unwarranted and should be ignored, in his view. (Exhibit NET-300, at 141).

251. Dr. Avera argues the 8.2% value relied on by Dr. Wilson to establish the bottom end of his range is the midpoint of his DCF analysis before excluding outliers. This value is based on DCF estimates of –3.39% and 19.88%, which are both extreme outliers and fail the Commission's established tests of reasonableness. Because this 8.2% figure is based on two illogical values, it should be disregarded entirely, in his opinion. Moreover, he states that Dr. Wilson simply asserted that formula rates "mitigate some of the risk of cost and revenue

fluctuations." He provided no other support for his conclusion that "a return allowance at the low end of the range would be appropriate." (Exhibit NET-300, at 141-142).

252. Dr. Avera states further that in his opinion Dr. Wilson's recommendation is not consistent with the Commission's prior findings. Formula rate filings are a routine part of the regulatory landscape, and the Commission has consistently determined that the ROE is properly based directly on cost of equity estimates for a proxy group of comparable risk utilities. Indeed, the Commission used its standard DCF methodology to establish the current 11.14% base ROE for the NETOs without any adjustment associated with using a formula rate. Dr. Avera states he is unaware of any proceeding in recent history where the Commission has determined that the use of formula rates warrants a downward adjustment to the ROE, and provides his rationale. (Exhibit NET-300, at 142-143).

253. In summary, Dr. Avera notes that as the Commission has recognized, the impact of regulatory mechanisms is considered by the investment community in its assessment of a utility's overall risks. As a result, any mitigation in risks associated with utilities' ability to attenuate the impact of fluctuations in costs is already reflected in the results of the Commission's DCF approach. (Exhibit NET-300, at 145).

2. Ellen Lapson

254. Ms. Lapson's business address is 370 Riverside Drive, New York, NY 10025. She is the founder and principal of Lapson Advisory, a division of Trade Resources Analytics LLC, of which she is a member. Through Lapson Advisory, she advises clients on how to improve their access to capital and debt markets on favorable terms and she testifies as an expert witness relating to utility finance and utility capital market matters. In addition, she also conducts executive seminars to teach utility credit analysis and financial analysis. She received a BA degree from Barnard College in 1969 and earned a Master's degree in Business Administration with a concentration in Accounting from New York University's Stern School of Business in 1975. She has 43 years of experience as a financial professional, including 38 years focused on financial analysis and securities evaluation within the broad utilities sector. (Exhibit NET-400, at 1-2).

255. Ms. Lapson's opines that the ROE of 9.0% suggested by Dr. Woolridge and the 8.2 % ROE suggested by Dr. Wilson fall significantly below investor return requirements. An ROE finding based on the recommendations of Dr. Woolridge or Dr. Wilson would seriously undermine the confidence of financial market participants in the Commission and frustrate FERC's policy to promote needed investment in electric transmission infrastructure, in her opinion. (Exhibit NET-400, at 4, 6).

256. Ms. Lapson states further that neither capital market investors nor TOs considered electric transmission a desirable area for investment in the decades prior to the early to mid-2000s. Prior to the restructuring of electric power markets in the late 1990s and early part of the 2000 decade, investment in transmission was submerged in the business of integrated utilities, and integrated utilities' capital expenditures ("capex") for electric transmission

generally were quite low. Past transmission development had largely been connected with the building of new power plants, with a peak level of spending in constant dollars in the 1970s to 1980, a cycle of heavy investment by electric utilities in new central station nuclear and thermal power plants. At the times of peak transmission investment, the capex focus was to connect a utility's owned generation units to its major load center, rather than to build a robust interstate backbone transmission network. After that capital spending cycle, capex on electric transmission facilities in constant dollars declined from 1980 to 1998. Few major transmission projects were initiated. Generally, investors did not see electric transmission as a compelling area for capital deployment, in her view. (Exhibit NET-400, at 4, 7).

257. Moreover, Ms. Lapson states electric transmission development is subject to controversy and public opposition, and thus projects could experience contentious environmental impact proceedings, suits by landowners, and long delays. Ms. Lapson also states for small and even moderate sized utilities like several of the NETOs, projects can be large relative to the size of the balance sheet, and therefore a source of concentrated risk, and require large amounts of external funding, a source of liquidity risk to the TOs. Given these multiple investment risks, all of which continue to be of concern, capital market investors and TOs would expect to earn higher returns in compensation, but returns authorized by FERC for electric transmission prior to the past decade were similar to those FERC allowed for other businesses, and no premiums or incentives were available for transmission investment. Electric utilities might earn the same or higher returns in their state jurisdictions on more conventional business activities, depending upon the state. Therefore, capital market investors did not accord favorable valuation to companies engaged in transmission investment, in her opinion. (Exhibit NET-400, at 9-10).

258. Furthermore, Ms. Lapson states that beginning in approximately 2000-2001, FERC increasingly reflected in public statements and in its orders that under-investment in transmission was a growing problem that raised power generation costs and impeded non-discriminatory open-access transmission. FERC began to authorize higher base ROEs in electric transmission cases involving independent transmission companies and innovative projects, to the extent available to the Commission, pursuant to the Federal Power Act. A few FERC orders set the ROE at the top end of the reasonable ROE range, and provided either explicit or implicit premiums. Some orders that illustrate those characteristics from 2002 and 2003 include: 2002 Orders: Western Area Power Authority; TRANSLink Development Company; and Mid-West Independent System Operator ("MISO") TOs. 2003 Orders: American Transmission Company, LLC; ITC Holdings LLC. (Exhibit NET-400, at 11-12).

259. Continuing on with her historical analysis Ms. Lapson notes that some FERC incentive ROEs were challenged in court (for example, MISO TOs) and did not come to fruition, and therefore, investors were uncertain about the durability and reliability of the FERC's regulatory signals and remained on the sidelines. (Exhibit NET-400, at 12).

260. Ms. Lapson contends that a turning point was Congressional passage of the Energy Policy Act of 2005 ("EPACT 2005") followed by the FERC's promulgation of Order 679 in

2006. However, investors still did not embrace investment in FERC jurisdictional transmission assets for several years, due to the lack of clear precedents and experience in a fairly novel sector. A central theme of her analysis is that changing signals on base ROEs will tend to revive the investment community's skepticism about FERC initiatives. (Exhibit NET-400, at 12).

261. Ms. Lapson observes that after Order 679 FERC put in place a package of reforms that increased the appeal of investing in electric transmission. Individual transmission tariffs decided since 2006 have typically included base-level ROEs that were attractive to investors and were within or above the high end of the range of returns available in state jurisdictions. (Exhibit NET-400, at 13).

262. She argues that although certain FERC orders post Order 679 have included various case-specific incentives, this proceeding concerns the NETOs' base ROE and is not about incentives. FERC incentive compensation (adders) apply to specific projects, but adders are not applicable to all transmission investments of the NETOs. Furthermore, the Commission has indicated in its November 15, 2012 policy statement that it intends to subject projects to more rigorous standards prior to granting any project-specific incentives. In her opinion, this underscores the need for the Commission to set the base ROEs correctly. It is not appropriate for the Commission to afford the NETOs sub-standard base ROEs in the expectation that the deficiency will be offset by incentives earned on specific projects, in her view. Base ROEs must be adequate in themselves to enable transmission investment to earn returns that are consistent with returns available on competing forms of investments. (Exhibit NET-400, at 13).

263. Ms. Lapson additionally testifies that there has been nearly a threefold increase in the real (inflation adjusted) amount of capital invested annually in the electric transmission sector relative to the level in 1999; however, most regions of the country are behind New England in terms of their transmission improvements. At this time, "there is still only one pure-play 'transmission only' company with trading equity, and for this reason no statistically meaningful indices are available." Investors cannot look back at the performance of the sector over several economic or political cycles. In investment terms, that makes the sector immature, and not yet well established for investment. (Exhibit NET-400, at 14).

264. Ms. Lapson states that despite its novelty, electric transmission investment has recently been viewed favorably by a segment of the investment community. Equity investors are attracted to the growth prospects that are inherent due to decades of under-investment in electric transmission relative to the more mature areas of the electric and gas utility sector. But this favorable view of electric transmission in the capital market does not exist independent of the continuation of FERC policy in the form of a competitive ROE, and recent FERC activity is arousing some doubts about FERC's policy direction and endangering investors' favorable perceptions, in her view. Ms. Lapson spends a great deal of time discussing how her opinions how the FERC policy could drive or hinder investment opportunities in the electric industry (Exhibit NET-400, at 15-17).

265. In this context, Ms. Lapson considers Dr. Avera's recommended base ROE to be more consistent with investors' expectations at a level that would maintain investor confidence and interest in the transmission business. She spends some time discussing various position statements historically issued by individual FERC Commissioners, regarding transmission incentives. (Exhibit NET-400, at 19; 20-21).

266. Ms. Lapson states equity and fixed income investors read these statements, and they took note. Given the continuing expressions of commitment and support for ongoing investments in transmission, capital market investors have concluded that the Commission will likely establish base level ROEs for this sector that enable TOs to attract equity and debt capital. That requires ROEs that compare favorably with other investment opportunities in the utility sector. This line of thought is a strong underpinning for market confidence that FERC will maintain healthy ROEs for the NETOs, in her view. According to Ms. Lapson, to do otherwise would undermine the financial market's confidence in the Commission and risk turning off the inflow of capital that is needed in order for TOs to dedicate ongoing capital investment in FERC-jurisdictional electric transmission. (Exhibit NET-400, at 23).

267. Ms. Lapson continues on to argue that in her opinion capital market investors are aware that transmission investments need to compete in the financial market with other sectors, including other relatively low-risk non-utility corporations and also with more conventional electric utilities. If FERC were to decide upon the ROEs recommended by Dr. Woolridge or Dr. Wilson, it would be below the lowest base ROE authorized by FERC for any TO in the past seven years, and below the low end of the base-level ROE determinations over the past eight quarters for electric utilities in state jurisdictions. That would put transmission build at a competitive disadvantage in the capital market in contrast with more conventional electric utility activities, in her view. (Exhibit NET-400, at 124).

268. Ms. Lapson attempts to support her position with a state base data analysis for allowed ROEs published by SNL Financial LP's Regulatory Research Associates (RRA). She believes RRA is a respected source that is relied upon for this type of information both by investors and by experts in public utility regulatory matters. The results are shown in the tables in her Exhibits NET-402 and NET-403. To prepare this analysis, Ms. Lapson captured only cases in which RRA identified an ROE finding. Then she excluded several cases in which the Commission applied an ROE from an earlier decision to the current case; this had the effect of lowering the number of observations, but it made the results more reflective of the most recent trends. Furthermore, since this case focuses on base-level ROE determinations, Ms. Lapson utilized only the base level ROE determinations in the state decisions. She therefore states that she excluded incentive returns for specific projects or activities. (Exhibit NET-400, at 24-25).

269. Ms. Lapson notes that there are only a limited number of decisions in a few state jurisdictions. In her 24-month sample, RRA reported on average 9 to 11 decisions per quarter in which there was a relevant finding as to ROE, and in each period only a few jurisdictions are represented. The sample from quarter to quarter is comprised of different companies in different regions and state jurisdictions, and many utilities enter into two- and

three-year rate agreements, so there is no comparability unless the time period is lengthened. In Ms. Lapson's view, the sample becomes statistically robust only when you have a minimum of 8 quarters of data. (Exhibit NET-400, at 12).

270. In her view, some analysts prefer a larger sample in order to capture all or nearly all state jurisdictions, and therefore they use moving 36- or 48-month time spans. Ms. Lapson observed that observations over eight quarters (24 months) provide a reasonable sampling of results across a sufficiently large sample of jurisdictions. By choosing an eight-quarter period (October 1, 2010 through September 30, 2012), the analysis captures 72 rate orders involving ROE determinations in 30 jurisdictions for integrated electric utilities. She also states that she tested a somewhat larger sample universe of 91 rate orders for electric utilities, including both integrated electric utilities as well as distribution-only electric utilities in 37 jurisdictions. (Exhibit NET-400, at 12).

271. Ms. Lapson states further that in the 72 cases in 30 jurisdictions involving integrated electric utilities, the ROEs ranged from 9.25% to 11.3%. Exhibit NET-402 shows the distribution of results. The ROEs are distributed roughly in a bell-shaped curve, with a strong central tendency, such that 90% of all the observations lie in the range of 9.8% to 10.74%. It is evident from the exhibit that the recommendations of Dr. Woolridge and Dr. Wilson are below the bottom-most observation (9.25%) in this pool. The upper end of the range in this is 10.75% to 11.3%, and the current base ROE of the NETOs falls within the upper end of the range. In her view, it would be expected that base transmission ROEs would either fall at the upper end of the range or above the range, given that electric transmission investment is subject to special investment risks. (Exhibit NET-400, at 26).

272. Ms. Lapson also conducted the same analysis using an expanded pool of 91 rate orders during the same eight quarters for electric utilities including not only integrated electric utilities but also distribution-only electric utilities, shown in her exhibit NET-403. As this exhibit shows, the authorized base ROEs ranged from 9.2% to 11.3%, and 83% of the cases were in the range of 9.8% to 10.74%. As in the first case, the upper end of the range is 10.75% to 11.3%, and the current base ROE of the NETOs falls within the upper range. (Exhibit NET-400, at 27).

273. Ms. Lapson opines that this evidence leads her to conclude that the NETOs' current 11.14% ROE is neither unjust nor unreasonable, "from a financial market perspective." First, when compared with the base-level returns authorized by FERC for other TOs, the NETOs' 11.14% ROE is within the range and is not exceptional. As recently as June 2012, she notes that FERC authorized DATC, a joint venture of Duke and American Transmission Company, to earn a base-level ROE of 12.38% on new projects. (Exhibit NET-400, at 27).

274. Furthermore, she believes the NETOs' current ROE falls within the range of ROEs authorized by state public service commissions for electric utilities that compete for capital with the NETOs. It is in the upper end of the range of state ROE findings, which is consistent with the special risks of transmission investment along with the novelty and lack of historical experience for transmission investments. The NETO's current return of 11.14%

also comes within the range of returns suggested by the FERC DCF model, as demonstrated by Dr. Avera. (Exhibit NET-400, at 27-28).

275. Additionally, she believes the current return is consistent with FERC's intention of encouraging investment in modernizing the transmission grid by providing a base-level ROE that is in the higher end of the FERC DCF model range. (Exhibit NET-400, at 28).

276. Ms. Lapson states both the capital market and TOs across the nation would quickly receive the signal that FERC establishes higher base-level ROE findings (at the upper end of the DCF range) at the time that new investments are called for, but then after TOs have placed substantial amounts of money in these highly capital-intensive and long-lived projects, the Commission changes its yard-stick for setting base-level ROEs. Capital market investors have several disparaging characterizations for this type of regulatory surprise or reversal, whether in the United States, Latin America, or any emerging market regime. (Exhibit NET-400, at 29).

277. In looking at the regional dynamics, Ms. Lapson states that according to testimony submitted in support of the recent October 25, 2012 Order 1000 compliance filing by the ISO-NE and the NETOs (Docket Nos. ER13-193-000 and ER13-196-000), the NETOs have completed over the past decade $4.7 billion of new investment in transmission, and another $5.7 billion in projects are in different stages of development for the period from now through 2020. (Exhibit NET-400, at 30-31).

278. She testifies she put together the following table which summarizes the annual savings already created by the completed investments in New England under the current base ROE as documented in the ISO-NE Order 1000 compliance filing:

Change in ISO-NE Congestion and Reliability Costs, 2005-2011[9]				
	2005	2011	Change	%, Change
Congestion $M	266	18	-248	-93%
Daily Reliability Payments $M	287	73	-214	-75%
Total $M			-462	-84%
Source: ISO-NE FERC Order 1000 Compliance Filing Docket No. ER13-193-000, October 25, 2012				

(Exhibit NET-400, at 31).

279. Furthermore, Ms. Lapson believes these savings are likely to continue for decades relative to the level of costs that consumers in New England would have experienced had the new transmission investments not been made. The table above does not reflect further savings that will result from projects under development. (Exhibit NET-400, at 31).

280. Ms. Lapson also spends some time discussing how the current capital market conditions are abnormal and not sustainable. Ms. Lapson actually agrees with Dr. Woolridge on his description of the current conditions and its causes. However, he views these conditions as a new norm that will persist for several or many years, whereas in her view these are abnormal conditions that are likely to change. (Exhibit NET-400, at 32-34).

281. Ms. Lapson states she believes one implication of these risk-off/risk-on market swings is that utility equities and bonds are highly vulnerable to the possibility of improving trends in world economies or currencies. A second factor that might tend to drive down the prices of Treasury and corporate bonds and utility equities and drive up their yields is an increase in inflation. Utilities do poorly during periods of accelerating inflation, so an increasing inflation rate is likely to switch the utility sector from a favored investment sector into disfavor. And higher inflation would be a likely accompaniment to improving global economic conditions, implying that the prices of Treasury bonds, investment grade corporate bonds, and utility equities are doubly at risk from any favorable shift in the world economic conditions. Increased inflation could also be a consequence of U.S. fiscal deficits and failure to reduce the debt. (Exhibit NET-400, at 35).

282. Ms. Lapson states she does not intend to speculate on the probability of favorable versus unfavorable news on the world economy or increased discipline in United States deficits and sovereign debt, but rather to highlight that the current capital market environment is historically quite unusual, volatile, and unlikely to persist in the current extreme situation for long. She believes therefore that the values that are inputs to the FERC DCF model may fluctuate either up or down, driven by short-term swings in market sentiment regarding geopolitical or domestic economic events, without regard to the need to attract long-term capital inflows into transmission infrastructure investments. (Exhibit NET-400, at 36).

283. In discussing other points of disagreement with Drs. Woolridge and Wilson, Ms. Lapson states that she disagrees strongly with their conclusion that the spread between the risk-free rate and the required equity return (the equity premium) should be represented as a constant value. In her experience, investors' required risk premiums expand with low interest rates and shrink at higher interest rates. (Exhibit NET-400, at 36).

284. Moreover, Ms. Lapson finds further support for the correlation of rising investor risk premium as Treasury yields fall comes from the risk premium (also called the "credit spread") that is calculated as the difference between the yield on the 10 - year BBB Utility Index and that of 10-year US Treasury Notes. This differential expands at low Treasury rates and shrinks when Treasury rates are high. That means to her that the average or median risk premium over many years is not relevant at a time of extremely low risk-free interest rates. A graphic representation illustrating the inverse relationship between the level of US Treasury yields and the risk premium (spread) of the yield on BBB utility index bonds with Treasury notes of the same maturity appears in her Exhibit NET-406. The risk premium between risk-free bonds and the riskier bonds of BBB-rated utilities is related conceptually

to the risk premium between risk-free bonds and equity, in her view and she agrees with Dr. Avera on this point. (Exhibit NET-400, at 37).

285. Ms. Lapson also addresses adjusting the DCF model to take into consideration the abnormal market conditions. Ms. Lapson states the DCF results of Dr. Woolridge and Dr. Wilson exclude low-end outliers if they are 100 bp or less over the risk-free rate. In her opinion, this results in inclusion of very low returns that are not reasonable when the risk-free rate is as low as it is currently. For the first ten months of 2012, the risk premium between 10-year Treasury notes and 10-year BBB Utility bond yields has been approximately 250-275 bp, further evidence in her view of the need to recognize that the risk premium expands at low interest rate levels. (Exhibit NET-400, at 38-39).

286. Ms. Lapson states the current abnormally low yields on Treasury securities distort not only bond market yields and the prices of dividend-paying utilities but also distort the results of the FERC standard DCF model. Specifically, the distortion appears to be that model in its standard form produces some low-end results that unrealistically depress the DCF ROE midpoint (and similar measures of central tendency). FERC can and should take that low bias into consideration and adjust by setting its ROE at the higher end of the range, rather than at the midpoint, in her view. (Exhibit NET-400, at 39).

287. In addressing other elements in the DCF model that may be impacted by current market conditions, Ms. Lapson states projected earnings growth rates play an important role in the DCF model, and the utilities that form the proxy group have experienced lower projected earnings growth as a result of the slow economic recovery and other factors that are correlated with the low interest rate environment. For example, she notes that utilities are generally experiencing low sales and lower profits with a slow business recovery. Also, higher forecasted pension expenses are a consequence of reduced assumed returns on pension funds. Taken together, reduced forecasts of earnings growth combined with abnormally low interest yields results in some extreme low-end DCF outliers at the present time. (Exhibit NET-400, at 39-40).

288. Moreover, Ms. Lapson states there is "model risk" associated with the excessive reliance or mechanical application of a model when the surrounding conditions are outside of the normal range. "Model risk" is the risk that a theoretical model that is used to value real-world transactions fails to predict or represent the real phenomenon that is being modeled. Although the concept of model risk was originally applied to derivative instruments and hedging transactions, it applies equally to models used to value companies, to manage investment portfolios, to assign credit ratings, or in this case, to determine the ROE that will provide a fair return and encourage investment in critical infrastructure. (Exhibit NET-400, at 40).

289. Additionally, Ms. Lapson states the existing 50 bp incentive for membership is already incorporated in the NETOs' revenues and market prices of their securities, so investors will feel the full brunt of any reduction in the base ROE regardless of the 50 bp. But more important in her opinion, if the incentives must function to correct any deficit in

the base ROE, then the incentives will not function to encourage the specific activities that they are designated to motivate. The incentives are not transparent or meaningful unless the base ROE is set at a level that represents the realistic return that will compensate investors fairly and attract capital to transmission projects that do not benefit from such incentives. In fact, many projects are not regionalized, and are not eligible to receive any premium or incentive return. She believes it is of great importance that the base ROE decided in this proceeding be sufficient in itself to compensate investment in transmission infrastructure. (Exhibit NET-400, at 41).

290. Finally, she summarizes her testimony conveying her central themes and opines that her analysis convinces her that the Commission retain its current 11.14% base-level ROE for the Respondents in this case, as a clear signal to the investment community that FERC is not altering its basic policy and intends to maintain an attractive investment environment to attract capital for the development of a robust electric grid. (Exhibit NET-400, at 43-41).

C. Staff's Direct and Answering Testimony

1. Ms. Sabina U. Joe

291. Staff's testimony was filed on January 18, 2013. Sabina Joe is employed by the FERC as an Energy Industry Analyst in the Office of Administrative Litigation. Her specialty is as a Financial Analyst. Her business address is 888 First Street, NE, Washington, D.C. 20426. Ms. Joe received a Master's in Business Administration degree with Distinction in Finance and a Bachelor of Science degree *magna cum laude* in Land Development/Urban Life from Georgia State University in Atlanta, Georgia in 1982 and 1973, respectively. Her primary M.B.A. coursework focused on corporate finance, economics, accounting and statistics. She also matriculated in additional economics and statistical coursework at the University of Georgia in Athens, Georgia. (Exhibit S-1, at 1).

292. Upon completion of her bachelor's degree she was employed by the Department of the Interior, Heritage Conservation and Recreation Service, primarily as a water resources recreation planner performing planning and economic cost-benefit analyses on federal water resources project feasibility studies. Between 1987 and 1991, she was employed by the South Florida Water Management District in West Palm Beach, Florida, as a policy analyst and comprehensive planner evaluating economic and environmental issues related to critical water resource infrastructure for counties encompassing the Everglades National Park and the Florida Keys. In 1991, she joined the Federal Energy Regulatory Commission as an Environmental Protection Specialist overseeing environmental impact statement contracts for the Office of Hydropower Licensing. (Exhibit S-1, at 1).

293. Ms. Joe is responsible for recommending a Base ROE in this case. She provides direct testimony on the Base ROE and she answers the direct testimony filed by witnesses Dr. Avera, Ms. Lapson, Dr. Woolridge, and Dr. Wilson. (Exhibit S-1, at 4).

294. In addition to her Direct and Answering testimony, Exhibit No. S-1, Ms. Joe is also sponsoring Exhibit Nos. S-2, S-3 and S-4. Exhibit No. S-2 contains her supporting proxy group data, comparative credit rating data for her proxy group versus a national proxy group submitted by other witnesses in this proceeding, summary Discounted Cash Flow (DCF) analysis results, and ratepayer savings schedules. Exhibit No. S-3 contains additional documents referenced in this Exhibit No. S-1 Direct and Answering Testimony. Exhibit No. S-4 contains her work papers. (Exhibit S-1, at 4).

295. Ms. Joe recommends a Base ROE of 9.66 percent which is equal to the midpoint value within her zone of reasonableness of 6.82 percent to 12.51 percent based on her analysis of market data for the six months ending December 31, 2012. States that her recommendation is based on a methodology consistent with Commission principles, policies and precedent, and is reasonable and fairly balances investor and consumer interests. (Exhibit S-1, at 5).

296. She testifies further that the last Base ROE for ISO-NE RTO transmission was established, on the basis of 2004 market data updated on the basis of bond yields in 2006, as 11.14 percent, to which upward adjustments were made through the award of certain ROE "adders" to achieve higher effective ROEs for different transmission investments providing service under the ISO-NE Open Access Transmission Tariff. All incentive projects of which Ms. Joe is aware would realize their full Commission-granted ROE incentive adders within her zone of reasonableness. Ms. Joe's recommended Base ROE and zone of reasonableness would result in the following single RTO-wide ROEs for ISO-NE:

a. Regional Network Service - For RNS transmission projects completed and in-service before December 31, 2008 and approved through the ISO-NE RTO Regional Transmission.

b. Expansion Plan (RTEP) - the effective total ROE consistent with her DCF results would be 11.16 percent versus the existing 12.64 percent ROE inclusive of a Commission-approved 150 basis point adder.

c. All other Regional Network Service - She recommend an effective total ROE of 10.16 percent versus the existing 11.64 percent ROE inclusive of a 50 basis point adder pre-approved by the Commission for participation in an RTO.

d. Selected Sample Regional Network Service Projects - Consistent with her DCF results, she indicates her ROEs for the following RNS projects already granted incentives under *Promoting Transmission Investment Through Pricing Reform,* Order No. 679, 116 FERC ¶ 61,057 (2006) and *Order No. 679-A*, order on reh'g, 117 FERC ¶ 61,345 (2006) are as follows:

e. Middleton to Norwalk Advanced Technology Project (150 basis point adder); recommended effective total ROE of 11.16 percent versus the existing 12.64 percent ROE.

f. New England East-West Solution (NEEWS) project (175 basis point adder); recommended ROE of 11.41 percent versus the existing 12.89 percent ROE.

g. Local Network Service (LNS) – Consistent with her DCF results, her recommended ROE is 9.66 percent (Base ROE) versus the existing ROE of 11.14 percent. Citing to *ISO-New England, Inc., et al*., 106 FERC ¶ 61,280 at P 3 (2004) (March 24 RTO Order). LNS rates are for the individual TOs' transmission services (generally for facilities at 69 kV and below) under Schedule 21 of the OATT. (Exhibit S-1, at 6-7).

297. Ms. Joe estimates the dollar impact of her recommended Base ROE by relying in part on Mr. Plett's testimony on the minimum dollar savings based on Complainant's Dr. Woolridge's recommended Base ROE of 9.0 percent. (Exhibit No. SC-113, page 4, lines 1-12). Mr. Plett's estimates are a minimum savings because they estimate savings on RNS but not incentive projects or LNS. Ms. Joe relies on Mr. Plett's foundation testimony which establishes an estimate of $65,002,902 (return only) as the revenue impact of a 1 percent (100 basis points) change in Base ROE. (Exhibit S-1, at 7-8).

298. Ms. Joe states she believes her recommended Base ROE of 9.66 percent results in a very conservative $96.2 million savings on return and $33.7 million savings in federal income taxes (at typical 35 percent tax rate and not yet reflecting the deductibility of state income taxes) for a total of approximately $129.9 million in savings to ratepayers for only RNS facilities in 2012. She estimates additional 2012 savings for the New England East-West Solution (NEEWS) incentive project and she believes that 2012 savings on return and federal and state income taxes would be roughly $19.3 million. (See Exhibit No. S-2, at page 16). She opines that added to the $129.9 million savings estimate for RNS, results in a total savings of $149.2 million in 2012. (Exhibit No. S-2, at page 15). Ms. Joe estimates that in 2016 the savings for RNS service only would be about $202.6 million in return and federal income taxes. (Exhibit No. S-2, at page 15; (Exhibit S-1, at 8).

299. Ms. Joe states these estimates are incomplete and further savings to ratepayers would be realized through LNS transmission, state income taxes, and other existing incentive projects. (Exhibit S-1, at 8).

300. In describing ROE standards, Ms. Joe states there are three primary sources standards for setting an ROE. These are the Federal Power Act and two Supreme Court cases, *Federal Power Commission v. Hope Natural Gas Co*., 320 U.S. 591 (1944) (*Hope*), and *Bluefield Waterworks and Improvement Company v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) (*Bluefield*). (Exhibit S-1, at 8-9).

301. Ms. Joe states a just and reasonable rate is one that is "bounded on one end by investor interest and the other by the public interest against excessive rates." *Maine Public Utilities Commission v. Federal Energy Regulatory Commission*, 520 F.3d 464, 471 (D.C. Cir. 2008) citing *Pacific Gas & Electric Co, v. FERC*, 306 F. 3d 1112, 1116 (D.C. Cir. 2002). (Exhibit S-1, at 9).

302. Ms. Joe states that under *Hope* and *Bluefield*, an ROE should be sufficient to maintain the financial integrity of the utility, allow it to raise capital necessary for the discharge of its mission to provide efficient and economical electric service to the public, and compensate investors for the risk they assume. Thus, the ROE should provide adequate compensation to cover the equity costs of the utility, including dividends to the shareholder. However, in striking a balance with public interests against excessive rates, *Bluefield* states that a utility "has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures". (Exhibit S-1, at 10).

303. Ms. Joe states an ROE which is too high results in an unjust transfer of wealth from ratepayers to shareholders and a potential over-allocation of scarce resources to transmission investment to the detriment of competing economic demands. An ROE which is too low impacts the rate of return to shareholder equity and leads to under allocation of capital resources to the electric system. (Exhibit S-1, at 10).

304. Ms. Joe does not believe the existing ROE is reasonable. The results of her DCF analysis indicate that a much lower Base ROE would be reasonable at this time. Her DCF analysis is consistent with Commission precedent for establishing a Base ROE for a diverse group of electric utilities, in her view. (Exhibit S-1, at 10-11).

305. Ms. Joe states Drs. Woolridge and Wilson also present factual evidence of changed market conditions consistent with a dramatic shift downward in investors' required equity return. Dr. Woolridge notes that the yield on ten-year Treasury bonds has dropped more than 200 basis points from the time of Opinion No. 489 establishing the existing Base ROE. (Revised Exhibit No. SC-100, at page 6, lines 11-13). In fact, the indicated yield on the ten-year Treasury bond has fallen 316 basis points from a monthly average of 4.88 percent in August 2006 to 1.72 percent in December 2012. (Exhibit No. S-3, at pages 1-13; Exhibit S-1, at 11-12).

306. Further, in Ms. Joe's view Dr. Wilson effectively rebuts Respondent witness Dr. Avera's October 20, 2011 testimony, which maintains that the cost of permanent capital will be higher in the 2012-2015 timeframe than it is currently. (Exhibit S-1, at 11).

307. Ms. Joe states the Commission has consistently made litigated Base ROE decisions on the basis of what is the most just and reasonable result rather than adopting all DCF results within the larger zone of reasonableness. Ms. Joe believes her DCF analysis is consistent with Commission precedent and rate-making principles for a diverse group of electric utilities, in contrast to the analyses presented by other witnesses. She believes her DCF result of 9.66 percent best meets the *Hope* and *Bluefield* standards of providing adequate financial compensation to stockholders while protecting against excessive rates.

308. Ms. Joe states that the Commission's methods for determining an RTO-wide ROE versus an ROE for a single utility have been different in the past. (Exhibit S-1, at 12-14). Ms. Joe states the existing ISO-NE RTO-wide Base ROE of 11.14 percent was established based on methods described in *Bangor Hydro-Electric Co., et al*., Opinion No. 489, 117

FERC ¶ 61,129 (2006) (Opinion No. 489); order on rehearing, 122 FERC ¶ 61,265 (2008) (*Bangor Hydro-Electric* Rehearing Order); order granting clarification, 124 FERC ¶ 61,136 (2008) (*Bangor Hydro-Electric* Clarification Order*).* Citing also to, *Bangor Hydro-Electric Company, et al.*, Initial Decision, 111 FERC ¶ 63,048 (2005) (*Bangor Hydro-Electric* Initial Decision). The mandates described in these RTO-wide ROE methods adopted in those orders were in her opinion as follows (Exhibit S-1, at 19):

a. Use of a single-stage constant growth Discounted Cash Flow (DCF) model as established for electric utilities in *Opinion No. 445*. See *Bangor Hydro-Electric* Rehearing Order at PP 19-23 citing *Southern California Edison Company*, Opinion No. 445, 92 FERC ¶ 61,070 (2000).

b. Use of a "sufficiently representative" initial universe of "Northeast utility companies" consisting of ten electric utilities in the adjoining ISO-NE RTO, New York ISO RTO, and PJM RTO. See Opinion No. 489 at PP 14 and 37-38; *Bangor Hydro-Electric* Initial Decision at PP 11-16 and 48-49; and *ISO New England Inc., et al*., 109 FERC ¶ 61,147 (2004) (November 3 RTO Order). See also March 24 RTO Order at fn. 140.

c. Exclusion of predominantly gas companies from the electric proxy group. Opinion No. 489 at PP 37-38. See also *Bangor Hydro-Electric* Initial Decision at PP 59-60 rejecting gas utilities as well as non-energy companies.

d. Exclusion from the proxy group of any electric utilities which do not pay dividends. Opinion No. 489 at P 8. See also *Bangor Hydro-Electric Initial Decision* at P 4.

e. Use of Institutional Brokers Estimate Survey (IBES) and Value Line Investment Survey (Value Line) growth data, but do "not preclude the presiding judge from finding candidates for inclusion in the proxy group for which comparable data can be reasonably substituted for the growth rate data reported by I/B/E/S or Value Line. " Opinion No. 489 at P 8. Similarly, exclusion of firms "for which no growth data is currently available, as reported by the Institutional Brokers Estimation System International, Inc. (IBES) or Value Line [Investment Survey], subject to the right of the Presiding Judge to consider the inclusion of additional companies for which comparable data can be reasonably substituted," *Bangor Hydro-Electric* Initial Decision at P 4 citing the November 3 RTO Order. See also the November 3 RTO Order at P 205. and *ISO-New England, Inc.*, 110 FERC ¶ 61,111 at P 23 (2005) (February 10 RTO Order).

f. Exclusion of any company for which only one source of data, either IBES or Value Line is available. *Bangor Hydro-Electric* Initial Decision at P 49; Opinion No. 489 at P14.

g. Exclusion of any company whose low-end DCF result is lower than its latest available individual respective reported debt cost during the period of analysis. Citing to Opinion No. 489 at PP 8, 53, 56, and 60; and *Bangor Hydro-Electric* Initial Decision at PP 4 and 55.

h. Exclusion of any company with a high-end DCF result of 17.7 percent as an extreme outlier whose inclusion would skew ROE results. November 3 RTO Order at P 205, as cited in the *Bangor Hydro-Electric* Initial Decision at PP 4 and 62.

i. Exclusion of any company with illogical financial indicators, such as an unsustainable growth rate of 13.3 percent. *Bangor Hydro-Electric* Initial Decision at P 63 citing the November 3 RTO Order and February 10 RTO Order.

j. If either a low-end or high-end DCF result of a single proxy company is eliminated, then disqualification of that single proxy company entirely because "[t]he use of only one component of the UIL data would skew the Commission's DCF method and is rejected." Opinion No. 489, at P 54.

k. Exclusion of companies whose stock price or DCF analysis is influenced by announced merger activity during the period of analysis. Citing to Opinion No. 489 at PP 67-69.

l. Use of the midpoint of the zone of reasonable returns to set a single RTO-wide ROE. Citing to Opinion No. 489 at P 2. See also *Bangor Hydro-Electric* Initial Decision at P 4 citing the November 3 RTO Order.

(Exhibit S-1, at 14-17).

309. Ms. Joe states further that most of the above mandates have been affirmed, usually in cases involving a single electric utility. Other recent cases have not rejected any of these methods for use in establishing an RTO-wide single ROE. As far as she is aware, the Commission has not established an RTO-wide single ROE for any RTO since the 2006 ISO-NE RTO ROE decision. She additionally notes that the Opinion No. 489 methods are closely aligned with the methods used to establish the single RTO-wide Base ROE for the diverse group of MISO RTO transmission owners in 2002. *Midwest Independent System Operator, Inc*., 100 FERC ¶ 61,292 (2002) (*MISO* 2002 Order); order on remand, 106 FERC ¶ 61,302 (2004) (*MISO* Remand Order). (Exhibit S-1, at 17-18).

310. Additionally, Ms. Joe states that RTO-wide ROEs present a distinct and uniquely different set of circumstances than what is involved in determining an ROE for a single electric utility. Rather than pinpointing a measure of central tendency that best represents one electric utility, determining an RTO-wide ROE involves finding a single base ROE that considers the full range of DCF results for a diverse group of affected electric utilities. Ms. Joe believes the differences between determining an ROE for a diverse group of electric

utilities rather than a single electric utility are most evident: (i) in the method used to select an appropriate proxy group; (ii) in the method for eliminating high outliers among the proxy member DCF results; and, (iii) in the use of the midpoint of the zone of reasonableness instead of the median. (Exhibit S-1, at 17-18).

311. Ms. Joe proposes the following methods for determining a reasonable RTO-wide Base ROE for ISO-NE (Exhibit S-1, at 18-22). First, she addresses criteria involved in selecting an appropriate the Proxy Group.

a. Consistent with methodology used to establish the existing ISO-NE RTO-wide ROE, use a starting proxy group of transmission-owning regulated electric utilities active in the integrated Northeast electric market comprised of participants in the ISO-NE, NYISO, and PJM RTOs.

b. Use proxy companies that are domestic publicly traded electric companies and have available Value Line financial data.

c. Use proxy companies that are regulated electric utilities as indicated by their Value Line classification and financial indicators of regulated electric business activity.

d. Use the business risk and financial risk of comparable risk electric utilities in the integrated northeastern electric utility market as a surrogate for the potential forward-looking business and financial risk of the ISO-NE TOs.

e. Use proxy companies that have paid common stock dividends for three years preceding the period of analysis and do not have an announced dividend cut.

f. Use proxy companies that have no announced significant merger activity during the period of analysis.

g. Exclude any company whose low-end DCF result is about 100 basis points below their average cost of debt as indicated by Moody's bond yield index, taking into consideration the natural break in the distribution of low-end DCF results in the proxy group.

h. Exclude electric utilities with high-end DCF results that reflect unsustainable growth rates that do not meet a fundamental test of economic logic. Apply market-sensitive methodologies for eliminating high outliers consistent with market conditions.

i. Exclude in entirety both the low- and high-end DCF results of any single proxy company when it's low-end or high-end DCF result is eliminated through application of the methods she lists above.

(Exhibit S-1, at 19).

312. Next Ms. Joe discusses the ROE Model and appropriate data to use:

a. Use the Opinion No. 445 single stage, constant growth DCF model to determine the ROE and use actual market data for a six month period of analysis.

b. Use the Opinion No. 423 methodology for calculating electric dividend yield as the average of the low monthly dividend yields and the average of the high monthly dividend yields for each proxy company during the six month period of analysis. Citing to *Appalachian Power Company*, Opinion No. 423, 83 FERC ¶ 61,335 (1998).

c. Use "long term" (3>5 years) mean growth estimates based on IBES projections or other reliable projections likely to be used by investors in making stock investment decisions.

d. Mean growth estimates from IBES or other reliable sources should be the result of at least two independent analysts' estimates.

e. Long term mean growth estimates from IBES or other reliable sources should be dated as of the last day of the period of analysis to ensure synchronized DCF inputs and most up to date market data.

f. Use Value Line financial data and estimates to develop the "sustainable growth rate" calculated as br+sv in the DCF model, as explained in the following testimony.

g. Reject alternative ROE models such as those based on the Capital Asset Pricing Model (CAPM) and equity risk premium approach.

(Exhibit S-1, at 20-21).

313. Then she addresses how to select a reasonable single RTO-wide Base ROE.

a. Establish the midpoint of the proxy group zone of reasonableness as the Base ROE.

(Exhibit S-1, at 21).

314. Ms. Joe state further that under *Hope* and *Bluefield*, one should estimate the required returns of proxy companies which are of "comparable risk" in terms of business risk and financial risk to the target utilities. In her view, this is the single over-riding criterion for proxy group selection. Ms. Joe states the risk level of the actual ISO-NE Transmission Owners which are impacted by the Base ROE is the target risk level against which to match a proxy group. (Exhibit S-1, at 21).

315. She notes that most of these affected ISO-NE TOs are subsidiaries of parent companies. There are also many smaller participating ISO-NE TOs which are not impacted by the Base ROE to be determined in this proceeding. The ISO-NE TOs actually impacted by the Base ROE are shown in her Exhibit No. S-2 at page one and are also indicated by their relevant historical revenue requirement in the right-most column of Exhibit No. S-2 at page eight. She observes further that other smaller participating ISO-NE TOs not impacted by the Base ROE are included in the left column of her Exhibit No. S-2, at page eight. (Exhibit S-1, at 21).

316. Ms. Joe goes on to state that none of the actual targeted ISO-NE TOs as well as the small, unaffected participating transmission owner entities, are publicly traded companies. Therefore they do not have their own common stock price which is needed to implement a DCF analysis. Using the targeted ISO-NE TOs' parent corporations, which are publicly traded companies, is not necessarily acceptable if the parent corporations have significantly different risk characteristics from the targeted TOs. However, in this case she believes the broad credit rating risk profiles of the parents of the targeted ISO-NE TO subsidiaries are closely aligned. Therefore, Ms. Joe has used the targeted TOs' parent corporations in her proxy group. (Exhibit S-1, at 22).

317. Ms. Joe also evaluated the TOs for both S&P and Moody's corporate credit ratings (ICR). None of the TOs are publicly traded domestic entities covered by Value Line. Therefore, Value Line risk factors such as Safety Rank and Financial Strength are not available for the TO subsidiaries themselves, in her view. (Exhibit S-1, at22).

318. Ms. Joe states the Commission has long established that an issuer credit rating is a "good measure of investment risk, since this rating considers both financial and business risk." She cites to *Virginia Electric and Power Company*, 123 FERC ¶ 61,098 at P 62 (2008) (VEPCO); and, *Southern California Edison Company*, 131 FERC ¶ 61,020 at P 51 (2010) (*Southern California Edison* 2010 Order). She additionally asserts that this view was endorsed also by the New England Transmission Owners (NETOs; Respondents in this proceeding), according to the *Bangor Hydro-Electric* Initial Decision; citing to *Bangor Hydro-Electric* Initial Decision at P 14.

319. Furthermore, Ms. Joe states the target transmission owners in ISO-NE RTO, as well as their respective S&P and Moody's Issuer Credit Ratings (ICRs), are listed below and in Exhibit No. S-2 at page one along with the names of their publicly traded parent companies. The S&P equivalent ratings corresponding to Moody's ICRs are shown in parentheses. These include the respondents in this proceeding plus a few small, mainly municipal electric departments which own Regional Network Service (RNS) and Local Network Service (LNS) facilities. The major incentive transmission projects that she is aware of that use the ISO-NE RTO-wide Base ROE are owned by the parent utilities of the ISO-NE TOs, according to Ms. Joe. (Exhibit S-1, at 23-24). See below table.

Table No. 1 ISO-NE TOs' and Parents' Credit Ratings

ISO-NE TO	S&P	Moody's	**PARENT**	S&P
1. Bangor Hydro Co.	na	na	Emera Inc	BBB+
2. Central Maine Power Co	na	Baa1(BBB+)	Iberdrola.	BBB+
3. Connecticut Light & Power	A-	Baa2 (BBB)	Northeast Util	A-
4. Maine Electric Power Co	na	na	private equity	
5. New England Power Co	A-	A3 (A-)	National Grid	A-
6. New Hampshire Transmission	na	na	NextEra Energy	A-
7. NSTAR Electric Co	A-	A2 (A)	Northeast Util	A-
8. Public Service Co of N.H.	A-	Baa2(BBB)	Northeast Util	A-
9. The United Illuminating Co	BBB	Baa2(BBB)	UIL Holdings	BBB
10. Vermont Transco	na	na	none	na
11. Western Massachusetts Electric	A-	Baa2(BBB)	Northeast Util	A-
12. Fitchburg Gas & Electric	na	na	Unitil Corp	na

320. The equivalent S&P ratings are shown in parentheses behind the Moody's independent ICRs. The term "na" in the table above means not available(Exhibit S-1, at 24). Additionally, Ms. Joe states that the credit rating of the target TOs is overwhelmingly A- since 5 out of 6 of the available S&P issuer credit ratings are A-. (This includes three TOs that are subsidiaries of Northeast Utilities.) This is a low level of risk. The S&P issuer credit ratings of the publicly traded parents of the ISO-NE TOs are closely aligned. (Exhibit S-1, at 24).

321. Ms. Joe notes that while the Moody's ICRs of the ISO-NE TOs are generally lower than the *S&P* ICRs, Moody's also indicates that the TOs have relatively low investment risk with 43 percent (3/7) rated A2, A3, or Baa1 (equivalent to *S&P* A, A-, BBB+, respectively); and 57 percent (4/7) rated Baa2 (equivalent to S&P BBB). (Exhibit S-1, at 24-25).

322. Moreover, she observes that the S&P credit rating scheme, in order of increasing investment risk and decreasing credit quality, is investment grade credit ratings of A+, A, A-, BBB+, BBB, BBB-, and non-investment grade ("junk") ratings of BB+, BB, BB- and below. Moody's credit rating scheme in increasing order of investment risk and decreasing credit quality is investment grade credit ratings of Aaa, Aa1, Aa2, Aa3, A1, A2, A3, Baa1, Baa2, Baa3, and non-investment grade ratings of Ba1, Ba2, Ba3, B1, B2, and B3. (Exhibit S-1, at 25).

323. Ms. Joe states further that as with Opinion No. 489, which established the existing ISO-NE Base ROE, she started with the group of publicly-traded transmission-owning companies located in the ISO-NE, PJM, and NYISO RTOs. Before the Opinion No. 489

hearing, the Commission approved formation of the ISO-NE RTO in a series of orders. (Exhibit S-1, at 25).

324. Ms. Joe also states that given the limited objective risk factor measurements available for the target subsidiary TOs (because they are not publicly traded domestic companies for which Value Line otherwise provides for publicly traded companies several risk factor ratings such as a "Safety Rank" and "Financial Strength"), using a starting universe made up of the diverse electric utilities in the Northeast region ensures that her ultimate proxy group will have a meaningful degree of business risk comparability in terms of similar regulatory environment, regional economy, regional demographics, regional transmission planning needs, and similar energy market platforms, in her view. The degree of regional integration among the ISO-NE TO parents themselves is evidenced by the regional system planning and "must build" obligations that were asserted by ROE filers as justification for the single region-wide ROE that would appropriately elicit investment by Transmission Owners. (Exhibit S-1, at 26).

325. Therefore, Ms. Joe states that her initial universe of utilities is consistent with the Commission's 2001 RTO Order, where it: found that inter-regional trading in the Northeast markets – by market participants in PJM, the New York ISO, and NEPOOL [ISO-NE current members]—was significant and growing and that to a certain extent these Northeast control areas relied on each other to meet their energy needs. (Exhibit S-1, at 26-27).

326. In her opinion, this sufficiently representative starting universe of Northeast utilities includes a total of 20 companies shown on page two in her Exhibit No. S-2. See below table:

Table No. 2 Northeastern Utilities

1. American Electric Power, Inc.
2. AES Corp. (DPL Energy – Dayton Power & Light Co)
3. Central Vermont Public Service Corp.
4. Consolidated Edison
5. Dominion Resources
6. Duke Energy
7. Emera Inc (Bangor Hydro-Electric Co TO)
8. Exelon
9. FirstEnergy
10. Green Mountain Power
11. Iberdrola SA (Central Maine Power TO)
12. National Grid Plc – (National Grid USA TO)
13. NextEra Energy – (New Hampshire Transmission TO)
14. Northeast Utilities (4 TOs as listed in Table 1)
15. PEPCO Holdings
16. PPL Corp
17. Public Service Enterprise Group
18. UGI Corp
19. UIL Holdings (United Illuminating Co TO)
20. Unitil Corp (Fitchburg Gas and Electric TO)

(Exhibit S-1, at 27).

327. Ms. Joe then states that she screened her starting universe of northeastern utilities for the following requirements: (1) being a publicly traded regulated electric utility or diversified electric power merchant operating primarily in the continental United States as indicated by Value Line classification and financial indicators of electric utility activity; (2) having available Value Line data to perform a DCF analysis; (3) having a three year history of dividend payments with no announced cuts in dividends; (4) having no announced merger activity that distorted stock prices during her six month period of analysis; (5) having investment grade ICRs comparable to and generally in proportion with the credit rating profile of the target ISO-NE TOs; and (6) having IBES or other reliable estimates of growth data by at least two independent analysts. (Exhibit S-1, at 28).

328. Ms. Joe additionally states that the Commission requires that proxy members be electric utilities and therefore excludes predominantly gas companies from electric utility proxy groups. Accordingly, she states that she removed UGI Corporation whose subsidiary, UGI Utilities, is a PJM transmission-owning member. Only 2.5 percent of UGI Corporation's net income is derived from its electric utility operations, while the remainder comes from gas operations, according to Value Line's September 7, 2012 investment report. (Exhibit S-1, at 28).

329. Ms. Joe eliminated Emera, Inc., the parent of ISO-NE TO Bangor Hydro-Electric Company, because Emera is a Canadian company and has no Value Line forecast data necessary to perform a DCF analysis. She eliminated Iberdrola, S.A., the publicly traded parent of Iberdrola USA and the ISO-NE TO Central Maine Power Company because 47 percent of its revenues derive from Spain, according to S&P at August 14, 2012. It also has no Value Line forecast data necessary to perform her DCF analysis. DPL, a member of PJM, was acquired by AES Corporation November 28, 2011, and Value Line classifies AES in the "power industry." However, AES Corporation only derives 16 percent of its total revenues from North America, according to the Value Line company investment report at December 28, 2012. (Exhibit S-1, at 29).

330. She notes that National Grid, plc is the publicly traded parent of ISO-NE TO New England Power Company. However, there is no Value Line investment report for National Grid. Unitil Corporation is the parent of ISO-NE TO Fitchburg Gas and Electric; however, the Value Line report for the parent does not currently contain forecast data needed for her DCF analysis. Also, there is no current S&P or Moody's credit rating for Unitil Corporation. ISO-NE electric utility members Green Mountain Power and Central Vermont Public Service merged and were acquired by Gaz Metro, a Montreal firm, in late June 2012. There is no domestic stock price or Value Line forecast for them. (Exhibit No. S-2, at 2; Exhibit No. S-3 at, 14-41;Exhibit S-1, at 29).

331. Ms. Joe states further that dividends are a necessary input of the DCF model and one of the assumptions of the model is that the dividends and dividend payout are stable. Having a continuous three years of dividend payouts with no cuts is a criterion that ensures meeting the restrictions of the DCF model. Therefore, it was necessary for her to screen for this criterion. After her initial screening for Value Line data and electric utility/electric power company status, she indicates that none of the residual members of her starting universe of northeastern utilities were eliminated by the dividend criterion. (Exhibit S-1, at 30).

332. Ms. Joe also testifies that significant merger activity can be accompanied by distortions in the stock price of one or both of the merged companies. The payout ratio, dividend yield, and earnings growth rate may be temporarily aberrational from intermediate term expectations for the merged entity going forward. In her view, this is inconsistent with some of the theoretical DCF model assumptions. Therefore, use of such companies in the DCF model could produce illogical results when applied under merger conditions, in her opinion. (Exhibit S-1, at 30).

333. Ms. Joe states she did include recently merged companies Northeast Utilities and Duke Energy in her final proxy group. Northeast Utilities completed its merger with NSTAR in an all-stock transaction in April 2012 (before her six-month period of DCF analysis). Duke Energy completed acquisition of Progress Energy (a PJM TO) on July 2, 2012 (two days into the beginning of her six month period of DCF analysis). However, investor expectations of the merged entity should already be reflected in the July to December 2012 stock prices because the July 2, 2012 merger comes one and one-half years after Duke Energy signed and publicized its Plan of Merger Agreement with Progress

Energy in January 2011. (Exhibit No. S-3, at 42). The fact that the beginning of her period of analysis was two days prior to merger completion did not distort the stock prices (adjusted for a three to one reverse split on July 3, 2012) that she used, in her opinion. (Exhibit S-1, at 31).

334. Ms. Joe states that in Opinion No. 489 the Commission concurred with the presiding judge's decision to include both Public Service Enterprise Group and Exelon in the proxy group despite their respective planned merger activity. The Commission found that these entities should be included in the proxy group in the absence of evidence demonstrating that the planned merger distorted these entities' stock prices or had any effect on the DCF analysis. In contrast, the Commission has supported the removal of companies from a proxy group where there is evidence that an announced merger may have affected the stock price or growth projections for such company. (Exhibit S-1, at 31).

335. Ms. Joe states her recommended Base ROE is based on IBES or Reuters Estimates Database (RED*)* mean growth rates at December 31, 2012 produced from at least two independent analysts' estimates, as sourced from Thomson Reuters On Demand or the Reuters.com website. (Exhibit No. S-2 at, 9-12; Exhibit S-1, at 32).

336. Ms. Joe obtained the number of analysts contributing to the December 31, 2012 IBES mean growth rate estimate from Thomson Reuters On Demand. She indicates that if the IBES growth estimates for the residual members of her proxy universe were based on only one analyst, then for those companies she substituted RED data from the Reuters.com website, if the RED growth rate was produced by more than one analyst. The Reuters.com website publishes the RED mean growth estimate and the number of analysts contributing to the mean growth rate estimate. (Exhibit S-1, at 32).

337. Ms. Joe goes on to state that a brokerage analyst may "game" a high growth rate in order to encourage a stock's price to be bid up. There is recent documentation and litigation of past behavior involving improper determination of financial benchmarks. Consider the recently discovered gaming of the London Interbank Offer Rate (LIBOR) which established a daily interest rate from which trillions of dollars in business contracts in every field imaginable were benchmarked. As a result of that scandal the Chief Executive Officer of Barclays Bank resigned and UBS Bank agreed in settlement to pay approximately $1.5 billion in damages and plead guilty to criminal conspiracy charges. It is reported that the rate-rigging occurred undetected over a six year span and the Commodity Futures Trading Commission said it "seriously compromised" the integrity of the financial markets during that time. She continues to state that damages and criminal convictions against other banks are being sought by prominent fiduciary institutions and governmental authorities. (Exhibit No. S-3 at, 44-47; Exhibit S-1, at 33).

338. Ms. Joe indicates she believes mean growth estimates in the Commission's DCF analyses should be based on at least two independent analysts' estimates to help reduce bias in the determination of a growth rate that significantly impacts the results of a DCF analysis. (Exhibit S-1, at 33).

339. Moreover, Ms. Joe states that the Commission adopted a screening criterion of having growth rates produced by at least two industry analysts in *Atlantic Path 15, LLC*, 122 FERC ¶ 61,135 at P 20 (2008) (*Atlantic Path 15*). The *Atlantic Path 15* order lists the criterion for using utilities that are covered by two utility industry analysts separate from the criterion for using utilities that have both a Thomson Financial First Call (IBES) growth rate and Value Line data. Therefore, it is clear to her that the Commission preference for two analyst estimates refers to the number of analysts inputting to the growth rate data, since growth rates are the only DCF data requiring independent analyst input. (Exhibit S-1, at 34).

340. Ms. Joe also notes that Dr. Avera states that he requires two industry analysts in his proxy group criteria. (Exhibit S-1, at 34). However, Ms. Joe states that she used the IBES estimates because they have been sanctioned by the Commission for use in Commission DCF analysis. (Exhibit S-1, at 1). Ms. Joe states that as shown in the record of the Opinion No. 489 proceeding, the Commission specifically sanctioned the use of IBES data for the existing ISO-NE RTO-wide Base ROE, however, it did "not preclude the presiding judge from finding candidates for inclusion in the proxy group for which comparable data can be reasonably substituted for the growth rate data reported by IBES or Value Line;" citing to Opinion No. 489, at P 8. (Exhibit S-1, at 35).

341. Addressing Dr. Woolridge's concern that the Commission may not know whether the *Yahoo!Finance.com First Call* growth rates are IBES growth rates (see Revised Exhibit No. SC-100, page 29, lines 10-11), Ms. Joe states she has confirmed through personal communication with management of Thomson Reuters On Demand that their contracted "long term growth rates" (3 to 5 year growth estimates) are from the same IBES database system which IBES used and last published independently on December 18, 2003. The IBES database was acquired by Thomson Financial (now Thomson Reuters) from Primark in 2000. The Thomson Reuters On Demand growth rates are identical to the consensus analyst growth rates estimates published daily on *Yahoo!Finance.com*. Both the Thomson Reuters On Demand growth rates and the *Yahoo!Finance.com* growth rates are mean estimates in contrast to the median IBES growth estimates that used to be published and were used by the Commission prior to December 2003. She indicates the IBES and *Yahoo!Finance.com* data are updated continuously. (Exhibit No. S-3 at, 48-57; Exhibit S-1, at 35-36).

342. Ms. Joe goes on to say that this data is current as of December 31, 2012, which is the last full trading day of her six-month period of analysis. Ms. Joe states she was able to include in her proxy group FirstEnergy, PPL Corporation and UIL Holdings because there is RED data to substitute for the single analyst's IBES growth rate estimate and/or IBES growth rate data for these companies. (Exhibit No. S-2 at, 9-12; Exhibit S-1, at 37).

343. The December 31, 2012 IBES growth rates for both FirstEnergy and PPL Corporation are the result of only one analyst's estimate. Therefore, Ms. Joe substituted RED data downloaded from the Reuters.com website for December 31, 2012 for these two companies. The RED data indicates that three analysts contributed to the mean RED growth rate estimate for FirstEnergy and three analysts likewise contributed to the mean RED growth rate estimates for PPL Corporation. (Exhibit No. S-2, at 10-11; Exhibit S-1, at 36-37).

344. Ms. Joe also included UIL Holdings in her proxy group because of the availability of RED data. UIL Holdings is the parent of the United Illuminating Company ISO-NE TO. The IBES growth rate estimate shown on the Yahoo!Finance.com website for UIL Holdings is stale from March 2012, with no analyst contributing an updated estimate synchronized within her period of analysis since then. However, she notes there is a RED growth rate estimate at December 31, 2012 which is the mean of three analysts' estimates. (Exhibit S-1, at 37).

345. Ms. Joe's screened proxy group includes 12 members shown in her Exhibit No. S-2 at page three, and as follows:

Table No. 3 Staff Proxy Group

ISO-NE TO	S&P	Moody's	**PARENT**	S&P
1. Bangor Hydro Co.	na	na	Emera Inc	BBB+
2. Central Maine Power Co	na	Baa1(BBB+)	Iberdrola.	BBB+
3. Connecticut Light & Power	A-	Baa2 (BBB)	Northeast Util	A-
4. Maine Electric Power Co	na	na	private equity	
5. New England Power Co	A-	A3 (A-)	National Grid	A-
6. New Hampshire Transmission	na	na	NextEra Energy	A-
7. NSTAR Electric Co	A-	A2 (A)	Northeast Util	A-
8. Public Service Co of N.H.	A-	Baa2(BBB)	Northeast Util	A-
9. The United Illuminating Co	BBB	Baa2(BBB)	UIL Holdings	BBB
10. Vermont Transco	na	na	none	na
11. Western Massachusetts Electric	A-	Baa2(BBB)	Northeast Util	A-
12. Fitchburg Gas & Electric	na	na	Unitil Corp	na

(Exhibit S-1, at 38).

346. Ms. Joe used the single stage constant growth DCF model established for electric utilities in Opinion No. 445. This is the DCF model used to establish the existing Base ROE for ISO-NE in the Opinion No. 489 proceedings. It continues to be the electric DCF model used by the Commission, according to Ms. Joe. (Exhibit S-1, at 38-39).

347. She notes further that the Commission described the model in Opinion No. 445 as follows:

> In the past, we have consistently applied a one-step, constant growth DCF model for calculating ROEs for electric utilities. The DCF methodology determines the ROE by summing the dividend yield (with an adjustment for the quarterly payment of dividends) and expected growth rate. The resulting formula is D/P(1+.5g)+g=k, where "D/P" is

> the dividend yield, "g" is the sustainable growth rate of dividends per share, and "k" is the resulting ROE. The sustainable growth rate is calculated by the following formula: g = br+sv, where "b" is the expected retention rate, "r" is the expected earned rate of return on common equity, "s" is the percent of common equity expected to be issued annually as new common stock, and "v" is the equity accretion rate. (Footnote omitted). Opinion No. 445 at 61,262-63

(Exhibit S-1, at 39).

348. She goes on to state that at its simplest, the investors' required return "k" is equal to the sum of the expected future dividend yield "D/P" plus the expected growth rate "g" in the dividend yield, all of which are presumed to be constant into perpetuity. This simplest basic formulation is:

$$k = (D/P) + g$$

which is mathematically equivalent to:

$$P = D/(k-g)$$

349. The expected dividend yield "D/P" is the expected dividend "D" divided by present stock price "P". The growth in dividends "g" is the result of internal growth through investment of retained earnings, and external growth from the issuance of new common shares. The Opinion No. 445 model, in her view, makes an adjustment to this basic equation for the sake of recognizing the quarterly payment of dividends and to convert forecasted Value Line year-end returns into an average yearly return. Conventionally assuming that companies are halfway through their dividend cycle, the DCF model becomes:

$$k = (D/P)(1+0.5g) + g$$

(Exhibit S-1, at 39-40).

350. Ms. Joe then divided the actual annualized dividend (actual quarterly dividend multiplied by four) during her six-month period of analysis by the corresponding monthly high stock price to obtain a "low dividend yield" figure. Similarly, she divided the actual annualized dividend by each month's low stock price to obtain a "high dividend yield" figure for each of the six months (i.e., twelve dividend yield figures). She then averaged the six high dividend yield figures and averaged the six low dividend yield figures to obtain one average high dividend yield figure and one average low dividend yield figure for the period of analysis. She states she then applied the average high dividend yield figure to the higher of her two estimated growth rates and the average low dividend yield figure to the lower of her two estimated growth rates to obtain a "high-end DCF result" and "low-end DCF result" for each proxy company. Ms. Joe confirmed the exact dividends by month for each month by using the monthly S&P's "Security Owner's Stock Guides". (Exhibit S-1, at 40-41).

351. She opines that this is the methodology approved in Commission precedent for electric DCF analyses and she cites to the case of *Appalachian Power Company*, Opinion No. 423, 83 FERC ¶ 61,335 at 62,350 (1998), where she notes that the Commission corrected the dividend yields to select the average of the monthly low dividend yields and the average of the monthly high dividend yields. (Exhibit No. S-3 at, 58-60; Exhibit S-1, at 41).

352. Next Ms. Joe states she applied an adjustment factor to the average low and the average high dividend yields to adjust for the quarterly payment of dividends. The adjustment factor assumes that the firm is halfway into its quarterly dividend cycle and assigns a half year's growth to the dividend. The adjustment factor is equal to (1+0.5g) where g is the expected growth rate. The low adjusted dividend yield is equal then to the average of the monthly low dividend yields multiplied by (1+0.5g) where "g" is the lower of the sustainable growth rate or the analysts' estimated growth rates. The high adjusted dividend yield is the average of the monthly high dividend yields multiplied by (1+0.5g) where "g" is the higher of the two growth rates. (Exhibit S-1, at 41).

353. Ms. Joe then used both a "br+sv" growth rate (known as the sustainable growth rate) developed from Value Line projections and also a 3-5 year growth rate based on at least two independent analysts' estimates from IBES or RED. (Exhibit S-1, at 42).

354. Ms. Joe states that the "br" represents the internal growth rate in earnings per share (as a proxy for dividend yield cash flows in the DCF model) expected as a result of reinvestment of retained earnings in the company at the company's average earned equity return. The "b" is the forecasted annual average retention ratio, *i.e.*, the reciprocal of the company's dividend payout ratio, signifying the rate at which earnings are expected to be plowed back into investment in the company. The "r" is the average annual earned rate of equity return on book value common equity. Both "b" and "r" are derived from Value Line forecasts for the company for the periods 2012, 2013, and 2016. The "r" is multiplied by an Adjustment Factor equal to (2)(1+G)/(2+G) where "G" is the annual compound growth rate in common equity capital. She states that this Adjustment Factor merely changes Value Line's published year-end earned equity returns to an average yearly earned return "r." (Exhibit S-1, at 42).

355. The Value Line-based growth in common equity "G" is calculated in this case between the historical 2011 year and the projected 2016 year. Ms. Joe states that the "sv" is the external growth factor resulting from the issuance of new common stock. Here, "s" is the percent of the existing common equity capitalization expected to be issued annually as new common stock and "v" is the equity accretion which represents the shares of earnings and dividends that accrue to existing shareholders due to the funds obtained from the sale of new common stock. (Exhibit S-1, at 43).

356. Ms. Joe further states that the "s" is the average annual expected growth rate of common shares multiplied by P/B where "P" is the simple average of stock prices observed

over her six month period of analysis and "B "is the midpoint book value of common shares during her six month period of analysis. (Exhibit S-1, at 43).

357. Ms. Joe goes on to state that the equity accretion "v," which is the portion of earnings and dividends accruing to existing shareholders from the issuance of new common stock, is calculated as 1-(1/(P/B)) where P and B are the same average share price and book value per share observed in her six month period of analysis. (Exhibit S-1, at 43).

358. Ms. Joe eliminated companies with low-end DCF results which were approximately less than 100 basis points above the six-month average *Moody's* Baa Public Utility Bond Yield consistent with a "natural break" in the low-end DCF results for her proxy group. A "natural break" is a wide gap, relative to the distribution of other DCF results, between the low-end DCF results near the 100 basis point demarcation. She opines that diverging from Opinion No. 489, the Commission has in recent years decided that although the low outlier cut-off should relate to a proxy member's own cost of debt, there are significant practical and theoretical difficulties in estimating a single company's overall debt cost given the non-comparability of debt instruments in terms of contingent provisions. Instead, benchmarking low-end DCF results against the average Moody's risk-appropriate public utility bond yield has become policy and recent practice, in her view, citing to the case of *Southern California Edison* 2010 Order at PP 55-56. (Exhibit S-1, at 44).

359. Ms. Joe eliminated Exelon, PPL, and Public Service Enterprise Group as low outliers. Ms. Joe states that the Commission has excluded high outliers but has done so without benefit of any market-sensitive methodology. In Opinion No. 489, the Commission indicated that a proxy candidate was excludable on the basis of its then-prevailing growth rate of 13.3 percent and resulting ROE of 17.7 percent. (Exhibit S-1, at 44-45).

360. Ms. Joe states that use of a market-sensitive approach is consistent with the economic logic underlying use of the Commission's market-sensitive methodology for eliminating low outliers benchmarked to the fluctuating Moody's index of public utility bond yields. The 13.3 percent growth rate and the 17.7 percent high-end DCF result at issue in Opinion No. 489 were determined to be high outliers in 2004. (Exhibit S-1, at 45).

361. Ms. Joe has states she then applied both Staff's high outlier market-sensitive test applicable to a diverse group of electric utilities as well as Dr. Woolridge's broader market-sensitive test for high outliers. Ms. Joe states the Staff test involves calculating the median or midpoint (depending on whether it involves a single electric utility or a diverse group of electric utilities) ROE of a "maximum" proxy group as a benchmark against which to test unsustainably high growth rates. It is premised on the fact that the DCF model may not produce logical results when "g" the earnings growth rate exceeds "k" the required return on equity in the standard DCF model discussed earlier, where:

$$P = D/(k-g)$$

362. Mathematically, a "g" that is greater than "k" in the formula will produce a negative denominator and therefore an indicated P (stock price) result that is negative. (Exhibit S-1, at 46-47).

363. Ms. Joe goes on to say that the "maximum" proxy group is calculated as the proxy group after elimination of all low outliers. In the case of determining an ROE for a single electric utility, the median of this upwardly skewed "maximum" proxy group is calculated based on the traditional blended average ROE calculated from the high-end and low-end DCF results for each remaining proxy company. This "maximum" proxy group median "k" is compared to the high-end growth rate "g" for each individual proxy company in the "maximum" proxy group. If a company's high-end "g" is greater than the maximum group's median "k", then it should be eliminated as a high outlier, subject, however, to consideration for where there is a "natural break" in the high-end growth rates "g" among the maximum proxy group. (Exhibit S-1, at 47).

364. Ms. Joe states that in the case of establishing an ROE for a diverse group of electric utilities, as here, the midpoint is substituted for the median as the benchmark. The Commission has stated that the midpoint is best representative of all the DCF results for a diverse group of electric utilities, rather than the median. (Exhibit S-1, at 47).

365. Ms. Joe states the high outlier approach is similar to the Commission's low-outlier test by recognizing direct evidence of market conditions and consistency in growth rate trends. By using a "maximum" proxy group her approach has a bias toward generously including rather than excluding companies with high "g" growth rates. Ms. Joe states that a version using the median as the benchmark was used by Staff for determination of an ROE for a single electric utility in *Golden Spread,* Opinion No. 501 at paragraphs 57 and 62, where Trial Staff's DCF analysis was adopted. (Exhibit S-1, at 48).

366. Ms. Joe applied Dr. Woolridge's test for high outliers. She states Dr. Woolridge calibrated the relationship between the Commission's previously stated high outlier benchmarks and the 30 year public utility bond yield at the time those benchmarks were established. The precedent benchmarks were established in the November 3 RTO Order, where the Commission found that a growth rate of 13.3 percent and a DCF result of 17.7 percent were excludable on the grounds that they were high outliers that did not meet the test of economic logic. Dr. Woolridge further calculated that the 13.3 percent growth rate and the 17.7 percent DCF result were, respectively, 2.35 and 3.12 times the then 30-year public utility bond yield. He then applied the same ratios to the 30-year public utility bond yield at the time of writing his testimony to determine updated high outlier growth rate and DCF result benchmarks. (Exhibit S-1, at 48-49).

367. Ms. Joe eliminated all low outliers (Exelon, PPL, Public Service Enterprise Group) from her proxy group. She then calculated the midpoint "k" based on the residual members of her proxy group (the "maximized proxy group"). This midpoint "k" high outlier benchmark is equal to 9.66 percent as shown in her DCF results summary in Exhibit No. S-2 at, page four. She then compared this midpoint "k" of the maximized proxy group against

the high growth rates of the proxy members and found that the high growth rates (as shown on the right side of Exhibit No. S-2 at page 4) did not exceed the 9.66 percent midpoint "k" for the maximized proxy group. Therefore, her high outlier test shows no high outliers in her proxy group. (Exhibit S-1, at 49-50).

368. In her second high outlier test using Dr. Woolridge's methodology, she calculated a high outlier growth rate "g" of 10.71 percent and a high outlier DCF result of 14.23 percent based on Dr. Woolridge's calibrated multiples of the average December 2012 30-year public utility bond yield of 4.56. Her results using the Woolridge test are shown in her Exhibit No. S-2, at page four. (Exhibit S-1, at 50).

369. Ms. Joe concludes there are no high outliers in her proxy group for the diverse group of TOs in ISO-NE. Ms. Joe's zone of reasonableness is 6.82 percent to 12.51 percent with a midpoint of 9.66 percent. She then spends some time addressing the reasonableness of her recommendation as compared to the other experts. (Exhibit S-1, at 51-74).

370. Ms. Joe does not agree with the proxy groups proposed by Drs. Avera, Dr. Woolridge, and Dr. Wilson. She states that all of them chose a national proxy group characterized by what they refer to as the Commission's "comparable risk band" of corporate credit ratings which includes electric utilities with ICRs that are no more than one notch above or one notch below the credit ratings of the ISO-NE TOs, i.e., in this case a five-notch span of credit ratings from A to BBB-. (Exhibit S-1, at 51).

371. Ms. Joe states that Dr. Avera's "National Group" includes 41 companies and Dr. Woolridge's "Electric Proxy Group" includes 34 companies. Dr. Wilson adopted Dr. Avera's earlier filed October 20, 2011, national proxy group of 38 utilities. (Exhibit S-1, at 51-52).

372. The difference between Dr. Avera's November 20, 2012, 41-company group and his October 20, 2011, 38-company group adopted by Dr. Wilson is that Dr. Avera's more recent November 20, 2012 filing includes the addition of NorthWestern Corporation which was newly listed by Value Line in the intervening period. It also adds El Paso Electric Company, Empire District Electric, Exelon Corporation, Northeast Utilities, and PNM Resources. It excludes three companies included in the earlier filing, CMS Energy, Entergy Corporation, and ITC Holdings, for unknown reasons. Dr. Avera also excluded Duke Energy in both the October 20, 2011 filing and the November 20, 2012 filing. (Exhibit S-1, at 51-52).

373. Ms. Joe states further that Dr. Woolridge's proxy group of 34 companies excludes seven companies included among Dr. Avera's 41 companies: Centerpoint Energy, Integrys Energy Group, Otter Tail Corporation, PPL Corporation, Public Service Enterprise Group, Sempra Energy, and Vectren Corporation. (Exhibit S-1, at 52).

374. Ms. Joe understands Dr. Avera's and Dr. Woolridge's intent in forming their proxy groups was to capture all electric utilities with investment grade credit ratings of A to BBB-. The difference is that Dr. Woolridge eliminated some companies considered by Value Line

as electric utilities but which did not meet his criterion of being designated electric utilities with at least 50 percent revenues attributable to electric operations. (Exhibit S-1, at 52).

375. Furthermore, Ms. Joe states that although the Commission rejected a geographic proxy group criterion in favor of a national proxy group in the *Southern California Edison* 2010 Order, that finding does not apply to the ISO-NE RTO-wide ROE determination, which she believes should be based on the proxy group methodology established in Opinion No. 489. She cites to *Southern California Edison* 2010 Order, at P 29 and *Southern California Edison Company*, 139 FERC ¶ 61,042 at PP 34-35 (2012). First, the *Southern California Edison* 2010 Order dealt with an ROE determination for a single electric utility, not a diverse group of electric utilities, as here. Second, as the Commission recognized in *Atlantic Path 15, LLC*, ultimately the question of whether a regional proxy group or national proxy group should be used depends on the facts and circumstances of each case. (Exhibit S-1, at 52-53). She cites to *Atlantic Path 15, LLC*, 133 FERC ¶ 61,153 at P 12 and 14 (2010). (Exhibit S-1, at 53).

376. In addition, she points out that the MISO's current single RTO-wide Base ROE for the diverse group of electric utilities within MISO was established using a starting proxy group universe composed of the MISO RTO transmission members themselves, citing to, *Midwest Independent System Operator, Inc*., 100 FERC ¶ 61,292 at PP 9, 12 (2002). (Exhibit S-1, at 53).

377. Ms. Joe states that Dr. Avera supports his 5-notch (A to BBB-) credit rating national proxy group as being consistent with the approach the Commission took in the *Southern California Edison* 2010. (Exhibit No. NET-300, at 25). Dr. Woolridge cites to *Tallgrass Transmission, LLC*, 125 FERC ¶ 61,248 at P 77 (2008). However, in her view, both of those cases dealt with the establishment of an ROE for a single electric utility of average risk, not determination of a single RTO-wide ROE for a diverse group of electric utilities, as here. (Exhibit S-1, at 53-54).

378. Ms. Joe then states the "one notch away" guideline is only a "rule of thumb" and not a requirement in any proceeding, even when establishing an ROE for a single electric utility. The purpose of the one-notch credit rating band is to set forth a maximum outer limit to which proxy selections should adhere. It does not dictate a minimum limit for proxy selection. The rationale for a maximum outer limit rule is that it is an easy and useful administrative guideline to provide for assembling a sufficient number of proxy members to constitute a statistically reliable sample for DCF analysis, while also reasonably meeting the standard of "comparable risk." In this instant proceeding, there is no need to expand the credit rating band of proxy group selection. The witnesses' 41, 34, and 38 company proxy groups are needlessly excessive, in her view. (Exhibit S-1, at 54).

379. Ms. Joe states that this approach produces these witnesses' three, very similar five-notch credit rating span national proxy groups. As shown in her Exhibit No. S-2, that span equates to 100 percent of the total pool of publicly traded investment grade electric utilities and electric power merchants qualified for DCF analysis, and the Commission does

not allow non-investment 'junk' grade companies rated BB+ and below in DCF analyses. (Exhibit S-1, at 43).

380. She notes that below Table No. 4 and Exhibit No. S-2 display the comparative credit rating distribution of the target ISO-NE TOs to investment grade electric utilities, and then all electric utilities in the United States. (Table No. 4 ICRs of All Traded/Rated U.S. Electric/Power Companies):

1. Credit rating distribution of ISO-NE TOs

S&P ICR	*Electric Utilities*	*Percent*
A-	5	83.3%
BBB+	0	--
BBB	1	16.7%
	6	100.0%

2. Credit ratings of Trial Staff Final Proxy Group (adjusted for outliers)

S&P ICR	*Electric/Power utilities*	*Percent*
A-	4	44.4%
BBB+	2	22.2%
BBB	2	22.2%
BBB-	1	11.1%
	9	100.0%

3. Credit rating distribution of All Traded Investment Grade S&P Electric utilities/Power Merchants

S&P ICR	*Electric/Power utilities*	*Percent*
A	1	2.3%
A-, BBB+	17	39.6%
BBB	16	37.2%
BBB-	9	20.9%
	43*	100.0%

*Includes Dr. Avera's 41 proxy companies (Exh. No. NET-304 at 10/31/12) plus Duke Energy and ITC Holdings.

4. Credit rating distribution of All Traded S&P Electric utilities/Power Merchants

S&P ICR	*Electric/Power Utilities*	*Percent*
A	1	2.2%
A-	7	15.2%
BBB+	10	21.7%
BBB	16	34.8%
BBB-	9	19.6%
Non-investment grade:		
BB+	2	4.3%
BB-	1	2.2%
Total	46**	100.0%

(** Includes Dr. Avera's 41 proxy companies plus Duke Energy, ITC Holdings, and the 3 non-investment grade (junk) rated electric utilities/power merchants which are NV Energy, AES Corp. and Puget Energy; S&P Issuer Rankings: United State. Regulated Water, Gas, and Electric Utilities, Strongest to Weakest, 10/22/12; S&P Issuer Rankings: U.S. Merchant Power Companies, Strongest to Weakest, 10/26/12).

(Exhibit S-1, at 57-58).

381. Ms. Joe further states that in her opinion, if the Base ROE is selected on the basis of an appropriate measure of central tendency, the sheer number of non-comparable BBB and BBB- companies in the Avera, Woolridge, and Wilson proposed proxy groups would inappropriately skew the measure of central tendency. As shown in the Table, 83.3 per cent of the rated target ISO-NE TOs have an A- S&P credit rating. In contrast, a larger national proxy group of all investment grade electric utilities and power merchants would include BBB and BBB- companies, which are 58.1 percent of all investment grade electric utilities/power merchants in the United States. Ms. Joe's point is that when a measure of central tendency is used, it is critical that the proportional distribution of credit ratings in the proxy group reasonably compare to the proportional distribution of credit ratings in the diverse group of electric utilities targeted for establishment of the ROE. (Exhibit S-1, at 59).

382. Ms. Joe argues her regional proxy group of publicly traded companies has a credit rating distribution more closely comparable to the credit rating distribution of the target ISO-NE TOs themselves than the credit rating distribution of the entire investment grade electric utility industry, In her view, it is a superior proxy group in comparison to the overly broad national proxy groups submitted by the other expert witnesses in this proceeding. (Exhibit S-1, at 59).

383. Ms. Joe also states that Dr. Avera only excluded two out of the 43 total investment grade electric utilities. He excluded Duke Energy only because the Value Line data available at the time of his analysis produced spurious results. (Exhibit No. NET-300). He excluded ITC Holdings for unknown reasons. By forming a proxy group of the entire

investment grade electric industry, Dr. Avera obtains a proxy group where 56.1 percent (23/41; see Exhibit No. NET-302) of his proxy group companies have S&P ICRs of BBB and BBB-. As Ms. Joe previously discussed, this is not comparable in risk to the ISO-NE TOs, 83.3 percent of which display much higher A- credit ratings. (Exhibit S-1, at 60).

384. Furthermore, Ms. Joe states that Drs. Avera and Wilson did not use any other risk factors to form their national proxy groups. She indicates that Dr. Woolridge used a 50 percent regulated electric revenue screening criterion, with revenues sourced from AUS Utilities Reports. She states that she did not know how AUS Utilities Reports develops this data, but noted this revenue data is inconsistent with SEC 10-K annual revenue data for at least the Public Service Enterprise Group. She additionally indicates that Dr. Woolridge lists three other "risk metrics" (Value Line beta, Safety Rank, and Financial Strength) in his Exhibit No. SC-110 at page 3, but he does not use any of these risk metrics to eliminate non-comparable companies from his conceptualized national electric utility proxy group. (Exhibit S-1, at 60-61).

385. Ms. Joe goes on to state that a large, five-notch credit rating band national proxy group with a maximized number of companies can produce misleading results and destroy the efficacy of eliminating outliers, in her opinion. Inclusion of superfluous and inappropriate proxy members can distort the zone of reasonableness and measure of central tendency by inappropriately influencing the "natural break point" in eliminating high and low outliers in a proxy group. (Exhibit S-1, at 61).

386. Ms. Joe asserts that acceptance of the five-notch credit rating national proxy group could lead to inherently illogical economic results, such as the equalization of the MISO Base ROE with the ISO-NE Base ROE. Specifically, if a proxy group of nearly 100 percent of the entire electric industry was accepted in this case, then it would be inconsistent to reject it in similar situations such as the single ROE for the diverse electric utilities in MISO. Carrying that thought to its logical conclusion, it is tantamount to saying that all electric utilities in ISO-NE, MISO, NYISO, and PJM have the same just and reasonable single Base ROE. Ms. Joe suggests that result is illogical on its face and is not reasonable. In fact, the Commission has already summarily rejected importing the MISO benchmark ROE for ISO-NE in Opinion No. 489. (Exhibit S-1, at 61-62).

387. Ms. Joe states that this result that ISO-NE, MISO, PJM and NYISO have the same Base ROE would be possible under Drs. Avera and Woolridge's approach. That is, if a five-notch credit rating national proxy group (i.e., all investment grade electric utilities) is used, and if the DCF analysis for all RTOs were performed at the same time, all the low outliers would be the same and the upper boundary of the zone of reasonableness would be the same under this broad proxy group strategy. Ms. Joe also states that the only way to avoid that economically illogical result is to argue in favor of a differentiated result from the identical proxy group for MISO, ISO-NE, PJM, and NYISO on the basis of qualitative risk factors. The sheer number of companies in a maximized, all-encompassing electric industry proxy group would make this a needlessly tortuous exercise and could lead to extended litigation, in her opinion. (Exhibit S-1, at 62).

388. Ms. Joe additionally argues that in this proceeding, most ratepayers affected by the outcome of this case are customers of A- or BBB+ rated TOs. She notes that in Exhibit No. S-2 at page 8, the estimated RNS revenue requirements and transmission miles associated with each target ISO-NE TO in early 2012, is presented. This data suggests that 82 percent to 88 percent of the dollars paid by electric ratepayers in ISO-NE are associated with ISO-NE TOs with an average A- to BBB+ credit ratings (average of both S&P and Moody's credit ratings as shown on that exhibit). Only approximately 1.6 percent to 6.4 percent of the dollars paid in rates are associated with the facilities of TOs with a BBB credit rating. In her view, there are no ISO-NE TOs with credit ratings below BBB. Fairness to consumers requires that they pay for no more than the cost of capital associated with the appropriate risk level of the enterprise. These are S&P credit ratings at December 31, 2012. (Exhibit No. S-3; Exhibit S-1, at 63-64).

389. Ms. Joe believes that at minimum, all the companies with A and BBB- credit ratings as well as predominantly gas utilities should be eliminated because they do not accurately reflect the ISO-NE TOs' risk levels. This would reduce those national proxy groups to a three-notch credit rating span of A-, BBB+, and BBB. These are the credit ratings of the ISO-NE TOs. This reduction would still produce a national proxy group which is riskier in profile than the targeted ISO-NE TOs because the risk profile of the targeted ISO-NE TOs is dominantly A-. The companies that would be eliminated on credit rating grounds (S&P credit ratings at December 31, 2012) are:

1	Ameren	BBB-
2.	Black Hills Corp	BBB-
3.	CMS Energy	BBB-
4.	Edison International	BBB-
5.	Empire District Electric	BBB-
6.	FirstEnergy	BBB-
7.	Hawaiian Electric	BBB-
8.	Otter Tail Corp	BBB-
9.	PNM Resources	BBB-
10.	Southern Company	A

(Exhibit S-1, at 63-64).

390. Additionally, Ms. Joe asserts that Dr. Avera erroneously excludes Duke Energy and Dr. Woolridge excludes Public Service Enterprise Group from their respective regional proxy groups. Ms. Joe states that Duke Energy is a BBB+ rated PJM RTO transmission owner which ceased to be in merger status with Progress Energy on July 2, 2012. She notes further that Dr. Avera states that he eliminated Duke Energy from his November 20, 2012 filed proxy group (with a six month DCF analysis ending October 31, 2012) because of "apparent inconsistencies in the data reported by Value Line that resulted in a distorted br+sv growth rate of approximately 60%." Ms. Joe indicates she found no such inconsistencies in

the November 23, 2012, Value Line data for Duke Energy. Value Line data produce a br+sv growth rate of 3.83 percent for her period of analysis. (Exhibit S-1, at 64-65).

391. Ms. Joe notes that Duke Energy had a three for one reverse stock split on July 3, 2012, one day after its merger. The stock price low and high are widely disparate in early July 2012. (July 2012 is within her six month period of analysis.) However, the low recorded stock price for July reflects a trade at the price level before the reverse split. She also states that her research indicates that the adjusted closing stock price for the month of July reflects the reverse split and it is clear to her that the July low trade needs to be multiplied by three to be consistent with the other post-reverse-split market data in order to accurately calculate the dividend yield. (Exhibit S-1, at 65).

392. Ms. Joe argues that Dr. Woolridge eliminated Public Service Enterprise Group because he incorrectly states that only 44 percent of its revenues are from regulated electric operations. Dr. Woolridge applied a minimum 50 percent regulated electric revenue screening criterion to his national proxy group. She opines that the 2011 SEC 10-K (latest available 10-K) indicates that the regulated combined electric and gas operations of Public Service Electric and Gas Company (PSE&G) contributed $7,325 million or about 66 percent of Public Service Enterprise Group's (PSEG) annual operating revenues. There is no available data in the SEC 10-K or in any quarterly 2012 10-Q report that splits the utility's electric and gas operations. She believes that it is true that the 2011 SEC 10-K also indicates that PSE&G's electric and gas utility only contributed about 35 percent of PSEG's annual net income. The dominant net income contributor is PSEG's unregulated merchant energy subsidiary. (Exhibit S-1, at 65-66).

393. Ms. Joe states that PSEG is not classified as a regulated utility by S&P. Rather, it is included on S&P's roster of Merchant Power Companies. While this alone might be sufficient grounds to exclude PSEG from DCF proxy groups targeting predominantly regulated electric utilities, the specific circumstances of this case deals with finding a single ROE for a diverse group of ISO-NE TOs. PSEG is a PJM TO with 1,357 electric network transmission miles and 2.2 million electric customers, according to Ms. Joe. (Exhibit S-1, at 66).

394. Ms. Joe further states that PSEG was included in the proxy group establishing the existing ISO-NE RTO-wide Base ROE, as noted in Opinion No. 489. In the specific circumstances of this case which deals with establishment of an ROE for a diverse group of TOs rather than a single electric utility, as a PJM TO PSEG's regulated electric operation seems to her to have a valuable nexus to the integrated northeastern electric utilities market and should be included in her proxy group. (Exhibit S-1, at 66-67).

395. Ms. Joe states further that neither Duke Energy nor Public Service Enterprise Group sets the boundaries of her zone of reasonableness. Therefore, they do not influence her calculation of the midpoint. According to Ms. Joe, her regional proxy group of northeastern utilities represents the interests of every transmission owner with an existing or, in the case of existing PJM and NYISO transmission owners, likely potential stake in the ISO-NE Base

ROE, consistent with their existing and potential investments in transmission in the region. This, in combination with the objective independent credit risk ratings of the proxy members, produces a Staff proxy group which more accurately captures the risk profile of the ISO-NE TOs, in her opinion. (Exhibit S-1, at 67).

396. The credit rating distribution of Ms. Joe's proxy group (not adjusted for outliers) is shown below:

Table. No. 5 Credit rating distribution of Staff Proxy Group:

S&P ICR	*ISO-NE, PJM, NYISO TOs*	*Percent*
A-, BBB+	6	50.0%
BBB	5	41.7%
BBB-	1	8.3%
Total	12	100.0%

(Exhibit S-1, at 68).

397. The majority of Ms. Joe's regional proxy group has, in her view, credit ratings A- and BBB+ and more closely captures the risk level of the target ISO-NE TOs. Her final proxy group as adjusted for outliers (and thereby including only DCF results contributing to her zone of reasonableness) is even more closely aligned with the risk profile of the ISO-NE TOs. She notes that as shown in Exhibit No. S-2 at page 6 at "No. 2 Credit Rating Distribution of Staff's Final Proxy Group (adjusted for outliers)", the credit rating distribution of her final proxy group adjusted for outliers shows that 66.6 percent of her proxy group is composed of companies with A- or BBB+ credit ratings. (Exhibit S-1, at 68-69).

398. Although lower credit ratings are included in the proxy group composition, they are proportionate to the actual risk levels of other market players in the highly integrated northeastern energy market. By including only existing market players in the region, the nuances of comprehensive business and financial risk captured in their stock prices and actual market growth rate data are inherent in the Staff DCF results. In her opinion, such nuances of business and financial risk would not be captured by the relatively crude credit rating classification scheme alone. Market data from superfluous mid-western, southern, and western U.S. electric utilities are not included in her DCF analysis and therefore, they do not obscure the natural break points in the outlier screening process or produce misleading DCF results, as seen in the other experts' reports. (Exhibit S-1, at 68-69).

399. Ms. Joe opines that the northeastern electric utility proxy group has a clear nexus to the business risk profile of the ISO-NE TOs and the financial risk profile is inherently accurate in reflecting the actual market-based DCF results associated with the market players. That cannot be said of other witnesses' overly broad and indiscriminate national proxy groups which encompass virtually the entire electric industry. (Exhibit S-1, at 69).

400. Ms. Joe continues to heavily criticize Dr. Avera's opinions and notes that he recommends continuation of the existing 11.14 percent Base ROE, despite achieving only a midpoint value of 10.6 percent in his own DCF analysis. He erroneously states that current bond yields are anomalous and not representative of forecasted market conditions, and therefore, his DCF results are understated. He maintains that the "anomalous" current low interest rates justify setting the Base ROE above the midpoint of his DCF results (midway between his midpoint of 10.6 percent and the upper boundary of his zone of reasonableness of 15.2 percent). He maintains that alternative methods of analysis corroborate his conclusions, which she disagrees with. (Exhibit S-1, at 69-76).

401. Moreover, in her view, Dr. Avera improperly eliminated only the low DCF value for some proxy members without eliminating also the high DCF value for those proxy companies. In particular, Dr. Avera's DCF results for Empire District Electric, Great Plains Energy, and Hawaiian Electric are inaccurate and his exclusion of Edison International as a low outlier is inappropriate. She calculates that revision of these errors produces a midpoint ROE between 8.75 percent or 9.33 percent for his DCF period of analysis which ended October 31, 2012. (Exhibit S-1, at76).

402. She believes Dr. Avera apparently has violated his own proxy group screening criterion that claims to use market data estimates from at least two independent industry analysts. She asserts Dr. Avera incorrectly contends that his proxy group low outliers are "abnormally low and do not reflect investor needs or expectations, and therefore improperly skew the results downward" and he recommends that the ROE should be set in the upper zone of reasonableness instead of at the midpoint. Ms. Joe states that Commission precedent requires both the high-end and the low-end DCF value of the same proxy company to be eliminated if just one of those values is identified as an outlier because inclusion of either one of those values could distort the proxy group results. (Exhibit S-1, at 77).

403. In summary, she finds that Dr. Avera's failure to use current IBES growth rate data or a suitable substitute, the recent unreliability of the company's dividend when the DCF model theory requires stable dividends, and the company's BBB- ICR which renders it non-comparable in risk to the ISO-NE TOs, are all grounds for disqualifying Dr. Avera's DCF results for Empire District Electric. (Exhibit S-1, at 78).

404. Moreover, in her opinion, Dr. Avera's second highest DCF result of 14.8 percent for Great Plains Energy is based on incorrect data. Dr. Avera retrieved his IBES growth rate estimate of 10.5 percent on November 5, 2012, a date outside his period of analysis ending October 31, 2012. The correct IBES mean growth rate estimate for October 31, 2012 for Great Plains Energy is 5.25 percent and was based on two contributing analysts. This is a major difference from the growth rate used by Dr. Avera and it distorts his DCF results. Correcting this input error produces a Great Plains Energy high-end DCF result of 9.55 percent. (Exhibit S-1, at 79).

405. Additionally, Ms. Joe agrees with Dr. Wilson that there is substantial doubt that Hawaiian Electric's dividend yield and earnings growth rate are sustainable. For 2007, 2008,

2009, 2010, and 2011, Hawaiian Electric's dividend payout as a percentage of earnings were 120 percent , 116 percent, 137 percent, 102 percent, and 86 percent. Obviously, a company which pays out more in dividends than it makes in earnings cannot sustain that practice in the long run, in her view. The lowering of the payout to 86 percent in 2011 in combination with a consistent strategy of raising money by issuing more common stock every year is how Hawaiian Electric has supported its high dividend payout ratio in recent years. However, raising a little new common equity every year also appears to be unsustainable in her view. While Hawaiian Electric's common shares have increased between 2007 and 2011, the number of its shareholders has steadily declined. Low retained earnings act as a damper on future earnings growth rates. (Exhibit S-1, at 79-80).

406. Ms. Joe believes application of a market-sensitive test for growth rate outliers and high-end DCF results would demonstrate that Hawaiian Electric's current indicated high growth rate is unsustainable and that its high-end DCF result is a high outlier that does not meet the test of economic logic. She has not applied her own recommended market-sensitive methodology for identifying high outliers, due to the time-consuming nature of such a task using Dr. Avera's 41-company national proxy group and inadequately researched analyst growth rate estimates. However, Ms. Joe notes that Dr. Woolridge's reasonable, objective test for high outliers would eliminate Dr. Avera's high-end DCF result of 12.8 percent for Hawaiian Electric. (Exhibit S-1, at 80-81).

407. Also, Dr. Avera rounded the IBES growth rate for Hawaiian Electric to 7.9 percent. This should be revised to 7.85 percent to produce a high-end DCF result of 12.75 percent instead of Dr. Avera's 12.8 percent. See actual IBES growth rate estimate at Exhibit No. S-2 at page 17. This is consistent with Commission practice of establishing allowable ROEs to two decimal places.

408. Therefore, Ms. Joe believes Hawaiian Electric should be eliminated as a high outlier because (1) its credit rating of BBB- is not comparable in risk to that of the ISO-NE TOs whose credit ratings are dominantly A- and it has no natural risk nexus to the northeastern electric utilities; and (2) Hawaiian Electric's high 7.85 percent growth rate appears to be unsustainable. (Exhibit S-1, at 81).

409. Moreover, Ms. Joe states that Edison International's low-end DCF result is not less than 100 basis points above the Moody's Bond Yield for Baa utility bonds during Dr. Avera's six month period of analysis. Commission policy, in her view, is to eliminate low outliers which are not at least about 100 basis points higher than the comparably rated Moody's Bond Yield average for the six months of DCF analysis. This guideline is to be applied with consideration of where there is a "natural break point" in the distribution of DCF results. Dr. Avera eliminated Edison International as a low outlier according to his calculated 5.9 percent low-end DCF result, but retained Cleco Corporation with a low-end DCF result of 6.0 percent. Ms. Joe sees no "natural break" between 5.9 percent and 6.0 percent. Edison International should form the lower boundary of Dr. Avera's zone of reasonableness at 5.9 percent, in her view. (Exhibit S-1, at 82).

410. Ms. Joe argues that correcting the errors, she calculates Dr. Avera's zone of reasonableness for his six months period of analysis ending October 31, 2012 as 5.9 percent to 12.75 percent with a midpoint of 9.33 percent if Hawaiian Electric is retained in the National Proxy Group. If Hawaiian Electric is excluded, then Dr. Avera's zone of reasonableness would be 5.9 percent to 11.6 percent with a midpoint of 8.75 percent. In the latter case, PNM Resources would form the upper boundary. (Exhibit S-1, at 82-83).

411. Ms. Joe states that this analysis is only correcting Dr. Avera's results but that she is not endorsing these results as she has not reviewed all members of his proxy group and she has many additional issues with his proxy group selection. Ms. Joe states that a proper DCF analysis should be based on internally consistent, synchronized market data. Dr. Avera's six month period of analysis is based on dividend yield data for his period of analysis ending October 31, 2012. Accordingly, he should have used IBES growth rate data as of October 31, 2012, and not the November 5, 2012 IBES data that he actually used. She goes on to state her additional criticisms of dr. Avera's reports. (Exhibit S-1, at 84-86).

412. Ms. Joe additionally takes exception to Dr. Avera's proposal to place the Base ROE between his midpoint and upper boundary of the zone of reasonableness. She notes that his rationale is that his low-end numbers are abnormally low in this economic climate. Dr. Avera misreads the decision in Opinion 445 which he cites to support his proposal. In fact, the Commission has stated that a practice of setting aside claimed "unique" economic circumstances, such as Dr. Avera's "abnormally low" DCF results, could "undermine the Commission's ability to efficiently apply objective standards for establishing just and reasonable ROEs." In her opinion, Opinion No. 445 placed the ROE halfway between the midpoint and the upper boundary of the zone of reasonableness because the Commission believed that the target electric utility was riskier than the proxy group used based on several risk factors. She does not feel that is the situation here. (Exhibit S-1, at 87).

413. She notes that in *Golden Spread,* Opinion No. 501 at paragraph 60, the Commission rejected a party's attempt to invoke Opinion No. 445 as precedent for placing its base ROE in the upper half of the zone of reasonableness because its S&P credit rating was lower than three out of four of the proxy members. In that case, the Commission stated that numerous other risk factors in addition to credit ratings were considered in Opinion No. 445, but in *Golden Spread* no party had made such showing of higher risk based on the multiple risk factors. Likewise, she believes Dr. Avera has made no such showing that the ISO-NE TOs are riskier than his National Group. Even the lone risk metric he uses, credit ratings, are far riskier for his proxy group than for the ISO-NE TOs. The lower risk of the ISO-NE TOs would, if anything, warrant placing their ROE in the lower half of the zone of reasonableness, in her view. (Exhibit S-1, at 87-88).

414. Ms. Joe further states that all of the alternative methods Dr. Avera uses to "corroborate" his findings have been rejected by the Commission in the past. Nothing in Dr. Avera's testimony warrants changing that now, in her view, and she spends some time describing how his benchmarks for corroboration have been previously rejected by the Commission in earlier cases. (Exhibit S-1, at 88-100).

415. Of further significance, Ms. Joe notes that Dr. Avera states that the Commission has established a clear policy of considering a 13.3 percent growth rate and 17.7 percent DCF result as the "threshold" for identifying extreme outliers in a DCF analysis. She disagrees with this opinion. The Commission has stated that a 13.3 percent growth rate and 17.7 percent DCF result are extreme high outliers but to her knowledge it has never stated that this is the exact cut-off limit for exclusion of high outlier results. (Exhibit S-1, at 102).

416. Ms. Joe asserts that a market-sensitive test for high outliers is consistent with the rationale and rate-making principles underlying the Commission's established test for low outliers. The Commission's low outlier test, namely that low-end DCF results are not economically logical if the low-end DCF result is less than about 100 basis points above the cost of debt, is a market-sensitive test in which the low-outlier cut-off level is established in each rate-making case in accordance with current bond yield values. It is founded on the recognition that the reasonableness of DCF results can only be measured within the context of changing current market conditions. Likewise, a market-sensitive high outlier threshold should change with market conditions, in her view. (Exhibit S-1, at 102-103).

417. It is Ms. Joe's understanding that the Commission's rate-making decisions should be based on reasoned decision-making and not arbitrary precepts. A market-sensitive high outlier test echoes a principle underlying the already established market-sensitive low outlier test. In her opinion, establishing a high outlier threshold that is fixed for eternity contradicts fundamental economic principles that recognize changing market dynamics. (Exhibit S-1, at 103).

418. Moreover, according to Ms. Joe, Dr. Avera states that Dr. Woolridge's high outlier value of 12.46 percent is downwardly biased and that an upward adjustment of about 150 basis points should be added to his own calculated implied equity risk premium of 11.27 percent from the 2004 *Bangor Hydro-Electric* decision because "risk premiums implied by the Commission's ROEs for electric utilities move inversely with changes in bond yields." Dr. Avera calculates an implied upper-end high outlier DCF value of 17.59 percent in his Exhibit No. NET-314. She believes this analysis is flawed because Dr. Avera derived his 149 basis point premium from the allowable (including settlement cases) ROEs for electric utilities in Exhibit No. NET-306. (Exhibit S-1, at 103-104).

419. Ms. Joe states that a flotation adder adjusts an ROE upward in order to compensate for the expenses incurred in issuing common stock. Dr. Avera has not adequately supported the addition of a flotation adder for the ISO-NE Base ROE. Commission precedent requires a demonstration that there is actual test period evidence that such costs can be expected to be incurred and that common stock can be expected to be issued in the near term. Dr. Avera provides no such demonstration in her view. (Exhibit S-1, at 104).

420. Furthermore, Ms. Joe states that Dr. Avera's estimate of an appropriate flotation cost and incremental ROE adder are also not adequately supported. Dr. Avera estimates that an average flotation cost percentage is in the range of 3.6 percent to 10 percent, which when applied to his "representative" dividend yield for a utility of 4.5 percent implies a flotation

cost adjustment of 16 to 45 basis points. Dr. Avera cites as a source for his estimates Dr. Roger A. Morin's book *New Regulatory Finance*, Public Utilities Reports, Inc. at page 323 (2006). In fact, in this book, Dr. Morin states that seasoned utility common stock offerings indicate an average flotation cost of 4.92 percent but that the cost actually varies between 2.31 percent to 7.68 percent depending on the dollar size of the stock issuance. Since Dr. Avera did not support with test period evidence the actual immediacy or size of a stock offering by the seasoned ISO-NE TO parent corporations, he provides insufficient data upon which to adequately estimate the flotation cost from his cited source, in Ms. Joe's opinion. (Exhibit S-1, at 104-105).

421. She opines further that the Commission uses the following precise formula to estimate a flotation cost adder:

> k = fs/(1+s) where: k = flotation cost adjustment to required rate of return f = industry average flotation cost as a percentage of offering price s = the proportion of new common equity expected to be issued annually to total common equity. (Exhibit S-1, at 105).

422. Ms. Joe opines that Dr. Avera has offered no estimate of "s" in the above equation. (Exhibit S-1, at 105).

423. Ms. Joe further disagrees that Opinion No. 445 establishes a "guideline threshold" standard that would support placing the ISO-NE Base ROE at the midpoint in the upper half of the appropriate zone of reasonableness. Dr. Avera states that the 11.14 percent existing Base ROE falls within the "guideline threshold" standard of placing the ROE in the upper half of the zone of reasonableness as applied in Opinion No. 445. He is mistaken that Opinion No. 445 provides such a "guideline threshold" applicable to this proceeding. In Opinion No. 445, the Commission placed the Base ROE within the upper half of the zone of reasonableness because the target electric utility was more risky than the proxy group. As she has shown in a comparison of credit ratings for the ISO-NE TOs relative to her proxy group and the entire electric industry as expressed in Dr. Avera's proxy group, the ISO-NE TOs are less risky than either of these proxy groups, in her view. Furthermore, Dr. Avera himself offers no evidence that would support a theory that the ISO-NE TOs are more risky than his own proxy group. (Exhibit S-1, at 105-106).

424. Ms. Joe states she does not believe that the current low interest rate environment justifies continuation of the existing 11.14 percent Base ROE. She disagrees with Dr. Avera who she says testifies that the existing Base ROE of 11.14 percent should be continued and that placement in the upper half of a DCF analysis is appropriate because current low interest rates yield understated DCF results. Ms. Joe spends some time discussing why she disagrees with Dr. Avera, and addresses her disagreements with NETO witness Ms. Lapson. (Exhibit S-1, at 106).

425. According to Ms. Joe Ms. Lapson proposes that a higher ROE than what is indicated by the Commission's DCF methodology should be approved because the DCF results are

distorted by the "abnormally" current low interest rate environment. Additionally Ms. Lapson argues that because the DCF model signals low results, the Commission should continue the existing Base ROE or set the ROE in the upper range of DCF results; modify the DCF results to be more in line with ROEs authorized by state utility commissions in the last two years; and set the Base ROE at a level without consideration of the fact that incentive adders attach to the Base ROE. (Exhibit S-1, at 107).

426. Ms. Joe disagrees and opines that Ms. Lapson's proposed standard would infuse circularity in setting current ROEs based on past ROEs and inappropriately ignores the *Bluefield* observation that "[a] rate of return may be reasonable at one time, and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally." She goes on and discusses other fundamental philosophical disagreements she has with Ms. Lapson and how she deviates from established FERC precedent. (Exhibit S-1, at 107-108; 107-114).

427. Of additional significance, when examining Ms. Lapson to the Complainants' experts, Ms. Joe states that Dr. Wilson adopted the 38-member national proxy group used by Dr. Avera in his October 20, 2011 filing, which she disagrres with. (Exhibit No. EMC-1). She also takes specific issue with Dr. Wilson's upper boundary of zone of reasonableness established by Sempra Energy on the grounds that it is predominantly a gas company and not an electric utility. However, she believes the Complainants' experts come closer to her analysis when determining the bottom line ROE and believes their work corroborates her analysis which she believes is the correct one in this case. (Exhibit S-1, at 110-127).

428. Ms. Joe recommends a Base ROE is 9.66 percent based on the midpoint of her DCF analysis which has a zone of reasonableness of 6.82 percent to 12.51 percent. Her proxy group, methods, and procedures are consistent with the precedent in Opinion No. 489 that established the existing ISO-NE RTO-wide Base ROE, in her view. That precedent continues to make sense today for a single RTO-wide Base ROE for this diverse group of electric utilities, in Ms. Joe's opinion. (Exhibit S-1, at 129).

429. Ms. Joe states that all witnesses' DCF analyses, including hers, will be updated in April 2013 to provide the Commission with respective updated DCF analyses over a uniform period of analysis. However, her methodology will not change. (Exhibit S-1, at 129).

D. Respondents' Cross Answering Testimony

1. Dr. Avera

430. Dr. Avera's cross-answering testimony addresses the direct and answering testimony of Ms. Joe, and was filed along with Ms. Lapson's testimony on February 12, 2013. Dr. Avera concludes that the 9.66% ROE recommended by Ms. Joe is based on a flawed analysis and should be rejected. Dr. Avera states that Ms. Joe's recommended ROE is insufficient to meet established regulatory standards and would undermine the Commission's policy objectives. Dr. Avera shows that Ms. Joe's recommended ROE is inadequate and

would deny the NETOs the opportunity to attract capital at a reasonable cost. As a result, Ms. Joe's recommended ROE violates the fundamental tenets of the *Hope* and *Bluefield* cases decided by the Supreme Court, in his view. (Exhibit NET 500, at 2-4).

431. Dr. Avera further states that because competition for capital is intense, utilities such as the NETOs must be granted the opportunity to earn an ROE comparable to contemporaneous returns available from alternative investments if they are to maintain their financial flexibility and ability to attract capital. Ms. Joe does not apply this standard in setting the NETOs ROE. (Exhibit NET 500, at 5).

432. Dr. Avera states that Ms. Joe describes the savings to ratepayers from setting the ROE at a low level, but this is not a relevant consideration, in his view. The point of the ROE analysis is to set the ROE at a level that meets the requirements of investors, and is sufficient to attract capital so that utilities can invest in required infrastructure. The huge dollar benefits achieved by recent transmission investments by the NETOs far outweigh Ms. Joe's savings calculations, and these savings to customers were achieved in large part because of the Commission's supportive ROE policies. Continued investment is required to increase efficiency, ensure reliability, and address congestion, and Ms. Joe's short-sighted focus would undermine investors' willingness to supply the capital that is necessary to achieve these goals, according to Dr. Avera. (Exhibit NET 500, at 6-13).

433. Dr. Avera states that Ms. Joe erroneously relies on a regional proxy group to determine the ROE. Her regional proxy group departs from current Commission policy and apart from references to old proceedings, she has provided no support for her reliance on geography as a measure of comparable investment risk. (Exhibit NET 500, at 14-18).

434. Dr. Avera states, in addition, Ms. Joe's use of a regional proxy group is inconsistent with the realities faced by investors in the capital markets because the NETOs must compete for capital with other utilities (and companies in other sectors) throughout the nation. Ms. Joe's regional proxy group also fails to capture the range of risks associated with the NETOs, many of which are small utilities that lack credit ratings or publicly traded common stock. She also fails to explain why her proxy group does not include utilities in the MISO and SPP RTOs, which the Commission has already found to be of comparable risk to those in her proxy group. (Exhibit NET 500, at 19-24).

435. Moreover, Dr. Avera opines that Ms. Joe's credit ratings comparisons ignore the fundamental principles applicable to a proceeding in which the Commission must establish an ROE for a diverse group of utilities in an RTO, as opposed to an ROE for a single utility. Her credit rating analysis fails to consider the risks of a diverse group of utilities, as Commission precedent requires in this situation. Ms. Joe's characterization of the risks that investors associate with the NETOs is inaccurate because she ignores the range of risks that is relevant in establishing an RTO-wide ROE. Finally, Ms. Joe recommends changes to the Commission's standard practice in setting credit risk bands that have no economic or logical justification. (Exhibit NET 500, at 25-28; 40-41).

436. Dr. Avera argues that Ms. Joe's various arguments to eliminate selected companies with DCF estimates at the high end of the range from Dr. Avera's National Group are baseless. First, she creates a new test of high end "outliers" that does not make economic sense and is inconsistent with DCF theory. She claims that a new test is required because of the recession but ignores the fact that the Commission has used its existing test consistently throughout the recession. That established test still applies because it is designed to eliminate economically irrational results, not to pre-judge the outcome of the DCF analysis by driving out all of the companies at the high end of the DCF range. (Exhibit NET 500, at 36-39; 59-62; 70-72).

437. Dr. Avera states further that Ms. Joe presents company-specific arguments that are directed to excluding two of the three companies at the high end of the DCF range, Empire District and Hawaiian Electric. Both of these companies belong in the proxy group because they are primarily electric utilities and they have size and other characteristics comparable to the NETOs. These companies pass the screening criteria that the Commission traditionally uses in establishing proxy groups, and they both have been included in electric utility proxy groups used by the Commission to set electric transmission rates in the past two years. (Exhibit NET 500, at 42-51).

438. Dr. Avers asserts that there is no "mismatch" of growth rates and dividend yields in his DCF analysis as Ms. Joe contends. The five-day difference between data points used in Dr. Avera's analysis is inconsequential and reflects the use of the latest available data from Commission-approved sources. In any event, Ms. Joe's claim about a data mismatch is inconsistent with her own past analyses and others by the Staff that have included much greater timing disparities, in his view. He argues that his application of the DCF model is entirely consistent with what the Commission has accepted in past cases. (Exhibit NET 500, at 48-54).

439. Dr. Avera also responds to a number of other incorrect assertions by Ms. Joe regarding, according to him: (1) the br + sv growth calculation in the FERC DCF methodology; (2) the alleged effect of stock price volatility on Dr. Avera's results; (3) Dr. Avera's use of alternative benchmarks (such as risk premium analysis, non-utility proxy groups, CAPM and expected earnings) to evaluate a fair ROE from within the DCF range; and (4) Dr. Avera's growth rate for Great Plains Energy. (Exhibit NET 500, at 76-89).

440. He also addresses her failure to consider expected market trends in evaluating DCF results to establish a just and reasonable ROE. This is critically important at this time, in his view, in light of the unique credit conditions currently prevailing in the market as a result of the United States Government's extraordinary policies in response to the recession, and expectations for higher capital costs going forward. (Exhibit NET 500, at 90-91; 93).

2. Ms. Lapson

441. Ms. Lapson also responds to the Direct and Answering Testimony of Ms. Joe. In the first section of her testimony, she states she demonstrates that Ms. Joe's testimony overstates

the credit quality of the New England Transmission Owners as a group by ignoring the presence of unrated and presumably lower rated entities among the NETOs and by drawing conclusions based only upon the ratings of a single rating agency, not considering the lower ratings of individual NETOs by a second major rating agency. While Ms. Joe asserts that the predominant rating of the NETOs as a group is A-, Ms. Lapson explains that the most common ratings of the NETO group are unrated and either BBB or BBB+, depending on the method used to combine ratings. A more accurate representation of the credit quality of the NETOs is "lower than BBB+" or "approximately BBB." (Exhibit NET 600, at 7-25).

442. Ms. Lapson further states that, building upon her incorrect representation of the NETOs' credit ratings, Ms. Joe's testimony portrays the NETOs as being of higher credit quality (lower risk) than is actually the case. As a result, Ms. Joe draws faulty conclusions about proxy groups and constituent companies in proxy groups. Ms. Lapson's testimony shows that Dr. Avera's National Proxy Group has a similar credit risk profile as the NETOs as a group. She asserts further that Ms. Joe inaccurately faults the National Proxy Group for including utilities with BBB and BBB- ratings, which Ms. Joe incorrectly characterizes as below the supposedly high credit quality of the NETOs. Furthermore, Ms. Joe's assertion that her regional proxy group is a better proxy based upon the evidence of credit ratings is not accurate. Also, Ms. Joe is incorrect in suggesting that the supposedly lower risk of the NETOs as a group would justify a return on equity ("ROE") finding below the mid-point of the range of reasonableness and rules out a finding above the mid-point, as advocated by Dr. Avera. (Exhibit NET 600, at 8-11).

443. Moreover, Ms. Lapson states that Ms. Joe testifies that a regional proxy group is the "best, most comparable proxy group." Ms. Lapson testifies, however, that investors are not limited to investments in geographically adjacent states. The NETOs compete in the capital markets against a much broader group of national and, in some cases, international companies, and it is appropriate for the Commission to use a national proxy group. Ms. Joe justifies the regional proxy group in preference to Dr. Avera's National Proxy Group based on incorrect information about credit ratings and false conclusions about the risk profile of the NETOs and the National and Regional Proxy Groups, according to Ms. Lapson. (Exhibit NET 600, at 26-29).

444. Because of its small sample size and the disqualification of regional companies that failed various screens, the Regional Proxy Group that Ms. Joe uses is overly constrained and not representative of the utility equities that investors typically consider comparable investment alternatives to the NETOs. Ms. Joe's proxy group is weighted toward companies with high market capitalization and is not representative of the risk profile of companies with smaller market capitalization or lack of access to public equity market, as is the case for five out of nine of the NETO parents, in her view. (Exhibit NET 600, at 26-29).

445. Ms. Lapson notes that Ms. Joe finds fault with her testimony in several areas on the grounds that it is not based upon citations from journals, newspapers, or academic sources to support her points. Ms. Lapson explains that the basis for her expert testimony is her experience as a participant in the capital markets and investment business for over 40 years,

focused on interacting with investors in utility securities, performing credit ratings of utilities, and arranging and structuring financing for utility projects. (Exhibit NET 600, at 29-31).

446. Regarding the market distortions brought about by the current ultra-low interest rate environment, Ms. Joe and Ms. Lapson are in agreement that interest rates are at extremely low levels, and that Federal Reserve market interventions have resulted in unusual market conditions. Ms. Lapson states that Ms. Joe's view is that the Commission should lower the NETOs' base ROE based on the resulting market signals, without regard to the implications for future investment in electric transmission. Ms. Lapson's testimony states that materially lower base ROEs combined with more sparing application of incentive ROEs for future projects will reduce access to capital for new electric transmission, not only for the NETOs but also for utility transmission owners throughout the nation. (Exhibit NET 600, at 31-33).

447. Ms. Lapson further states that Ms. Joe's testimony dismisses evidence offered by Ms. Lapson and by Dr. Avera regarding materially higher risk premiums associated with the current abnormally low interest rate environment. As Ms. Lapson explains, information about risk premiums is of major importance to investors and portfolio managers and makes up a substantial stream of academic research on finance. Very high risk premiums currently prevailing in the market provide evidence that indicate that investors perceive elevated risk and require compensation for that risk in the form of higher spreads for taking risk. Ms. Joe dismisses that market-derived information because it is not consistent with the results of the discounted cash flow DCF model. It is precisely because this market-derived information is at odds with relatively low returns currently indicated by the DCF model that the Commission should consider this evidence in conjunction with and as a check upon DCF model results, according to Ms. Lapson. (Exhibit NET 600, at 33-37).

448. Ms. Lapson also states that Ms. Joe dismisses the evidence she provided regarding ROE determinations in state jurisdictions over a recent 24-month period. Ms. Lapson testifies, however, that investors regularly compare returns across jurisdictions, and such comparisons are an important consideration in their investment decisions. If FERC sets transmission ROEs at a level below state-approved ROEs, it will send a strong negative signal on transmission investments that will not be missed by the investment community or by utilities that have to decide where and how to employ capital, in her view. (Exhibit NET-600, at 37-39).

449. Ms. Lapson further states that Ms. Joe fails to consider the impact of a low base ROE decision on the FERC's public policy objective of promoting increased investment in transmission assets to modernize the electric grid. In fact, the base ROEs authorized by FERC since the beginning of the "modern era" of electric transmission in 2005 have provided an effective incentive for the capital markets to fund electric transmission investments in increased amounts. Ms. Joe instead recommends that the Commission cut the base ROE by 150 basis points and "let the chips fall where they may." Ms. Lapson testifies that that is a short-sighted approach that does not fully reflect the public policy benefits of enhanced electric transmission infrastructure. Benefits to the public include lower

congestion and reliability uplift costs, higher levels of reliability, and transmission capacity to transport renewable energy to markets. (Exhibit NET 600, at 39-43).

450. Ms. Lapson additionally notes that she has testified that reducing the base ROE for electric transmission below the level of investor expectations would have the effect of raising the cost of capital for FERC-jurisdictional transmission. The reason for this is that the lower authorized ROE will cause investors to reduce the valuation of utilities that invest in transmission. Ms. Joe asserts that this is a speculative hypothesis, but in fact it is well grounded in corporate finance theory and in market experience, according to Ms. Lapson. (Exhibit NET 600, at 43-45).

451. Finally, Ms. Lapson states that Ms. Joe proposes both to limit the information available to the Commission to set the electric transmission ROE of the NETOs to nothing more than the Commission's DCF model and to constrain the DCF results by the selection of a limited and unrepresentative proxy group. Ms. Lapson testifies that the Commission needs broader information, including information about ROEs allowed in recent state cases to companies that compete with the NETOs for capital, data about risk premiums, access to broader proxy groups and alternate economic and market scenarios. These topics belong in the broader focus of the Commissioners in making a decision in this proceeding, as these matters influence investor sentiment and the ability of electric transmission owners all over the United States to fund the modernization of the national transmission grid, in her view. (Exhibit NET 600, at 45-46).

E. Complainants' Rebuttal Testimony

1. Dr. Woolridge

452. Dr. Woolridge, provided additional testimony in rebuttal which was submitted on February 27, 2013. In his testimony Dr. Woolridge reviews and critique the testimony of NETO witnesses Dr. William E. Avera and Ms. Ellen Lapson, as well as the testimony of Commission Trial Staff Witness Ms. Sabina U. Joe. He organized his testimony as follows:

(a) Capital Market Conditions and the Base Level ROE of 11.14%;

(b) ROE Estimation Process and Inputs;

(c) Dr. Avera's Utility DCF Results;

(d) Dr. Avera's Non-Utility DCF Results;

(e) Dr. Avera's CAPM Results;

(f) Dr. Avera's Risk Premium Approach;

(g) Dr. Avera's Reference to Flotation Costs;

(h) Ms. Lapson's Analysis of NETOs Credit Ratings;

(i) NETOs' Assessment of Authorized ROEs;

(j) NETOs' Discussion of Transmission Incentives; and

(k) Response to Staff Witness Sabina U. Joe.

(Exhibit SC-200, at 1-2).

453. He testified further that the Commission initially established a base-level ROE for New England Transmission Owners through its Opinion No. 489.[31] The Commission initially set the base-level ROE at 10.2% based on data through December of 2004. This figure was subsequently adjusted upwards to 10.4% to reflect a modified calculation of the *Value Line* projected earned rate of return on equity.[32] Upon rehearing, and as updated for changing market conditions as indicated by the change in ten-year Treasury yields, he notes that the Commission increased the base-level ROE for the NETOs to 11.14%. (Exhibit SC-200, at 2-3).

454. In Dr. Woolridge's view, the financial crisis and economic recession impacted financial institutions and capital markets, opining that the slowdown in the economy and the historically low interest rates are below those experienced at the time of the Commission issued Opinion No. 489. In his view, the current base level ROE of 11.4% does not reflect this decline and is therefore not just and reasonable. Dr. Woolridge also states that Dr. Avera's testimony ignores data demonstrating the decline in interest rates. Instead, he erroneously testified that interest rates are about to rise. He opines further hat predictions about how interest rates might change in the future amount to noise, not useful information. He states further that Dr. Avera has a long track record of predicting increases in long-term utility bonds and other such financial market indicators, and demonstrates that Dr. Avera also has a long track record of erring to the high side. (Exhibit SC-200, at 3).

455. In discussing the base level ROE for transmission investment, Dr. Woolridge asserts that both Dr. Avera and Ms. Lapson make policy arguments for incentivizing transmission investment and sending "signals" about New England's transmission construction program that is not relevant to this case. This case, in his view, concerns the base-level ROE is just and reasonable, not whether or in what circumstances incentives should be added to the base. The Commission should set an ROE that is just and reasonable now, and not for some uncertain time in the future, according to Dr. Woolridge. Moreover, the question is not whether the existing base-level ROE of 11.14% is within a "zone" of reasonableness, but whether it exceeds the Commission's single best current estimate of the relevant capital cost. In his view, Ratepayers deserve that best estimate, not a decision that an excessive rate that will collect very substantial overcharges is "close enough." (Exhibit SC-200, at 6).

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[31] *Bangor Hydro-Electric Co.*, Opinion No. 489, 117 FERC ¶ 61,129 (2006).

[32] *Bangor Hydro-Electric Co., order on rehearing*, 122 FERC ¶ 61,265 (2008) (Opinion No. 489-A).

456. Dr. Woolridge opines that the Commission's clear and longstanding preference is to set the ROE based primarily on the results of a DCF analysis of comparable electric utilities, and there is a value to sticking with a single, consistent methodology over time. In implementing the Commission's DCF analysis, and as explained in his direct testimony, Dr. Woolridge notes that it is necessary to: (1) identify a group of proxy electric utilities; (2) calculate Implied Costs of Equity ("ICOEs") for the proxy utilities using six months of dividends and stock prices and employing a DCF growth rate which is the average of analysts' projected long-term EPS growth rates and the br + sv method; (3) discard outliers on the high and low ends of the array of ICOE results for the proxy utilities; and (4) establish the base-level ROE from the remaining array of ICOEs. (Exhibit SC-200, at 7).

457. He does not look to other methods to confirm the results of his DCF study, nor to support reliance on his version of a DCF analysis instead of other witnesses' DCF analyses. He further testified that all of the DCF analyses presented by the witnesses in this case to date — his and those of witnesses Avera, Joe, and Wilson — have all produced generally similar results that point to the conclusion that the existing Base ROE is too high.

458. Dr. Woolridge additionally criticized Dr. Avera's national proxy group of forty-one electric utilities. These are listed in Exhibit No. NET-304. His selection criteria, which are listed on pages 25-26 of his testimony, include electric utilities covered by *Value Line* that pay a dividend that has not been cut in the last six months, are not involved in major merger and acquisition activity, have consensus earnings growth rate forecasts from IBES, are covered by at least two industry analysts, and have S&P Corporate Credit Ratings ("CCR") from A to BBB-. The CCRs for the NETOs range from A- on the high end to BBB on the low end. Dr. Woolridge believes this is erroneous. (Exhibit SC-200, at 8).

459. His primary dispute with Dr. Avera's group is that, unlike his, Dr. Avera's proxy group includes a number of electric utilities that receive less than 50% of their revenues from regulated electric utility operations. That means that Dr. Avera's proxy group includes companies that are not predominantly electric utilities. Dr. Avera's rationale for including them in his proxy group is that *Value Line* classifies these companies as electric utilities. However, the process used by *Value Line* to classify companies as being within a specific industry is not known. *Value Line* has to classify each of the many exchange-traded companies on which it reports into a limited number of categories; it has no "none of the above" category, and would have difficulty finding subscribers for information were it to use such a catch-all. Presumably, according to Dr. Woolridge, *Value Line* looks primarily to whatever established category it views as representing the largest share of each company, even if that share is simply the largest small slice among many. (Exhibit SC-200, at 8-9).

460. Several of the proxy companies included by Dr. Avera have a percentage of regulated electric revenues that is too small to suggest they are primarily electric utilities despite their *Value Line* industry label. Of particular note are CenterPoint Energy (33%), Exelon (46%), Integrys Energy (31%), PPL Corp., (48%), Public Service Enterprise Group (44%),

SEMPRA (33%) and Vectren (27%), all of which receive less than 50% of their revenues from regulated electric utility operations. These utilities have other business activities which may have an effect on their level of business risk. In his view, the utilities in the proxy group should be predominantly electric utilities and he believes Commission agrees with this position. (Exhibit SC-200, at 8-9).

461. For example, he notes that in the most recent hearing on NETOs' ROE, a major issue concerned whether UGI was properly included in the proxy group, given its extensive non-electric operations. The Presiding Judge found that UGI was not an appropriate proxy, and the basis for that finding was that electric operations represented a small share of UGI's customer base and revenues, not any labeling by *Value Line*.[33] The Commission agreed, according to Dr. Woolridge. (Exhibit SC-200, at 8-9).

462. Dr. Woolridge also notes that Dr. Avera only screened for dividend cuts over the previous six months. One member of his proxy group, Empire District Electric (EDE), suspended its dividend in 2011 in response to tornado damage in its service territory. Empire reinstated its dividend in 2012, but at a lower quarterly payment level than was previously paid. As he indicated in his direct testimony, Dr. Woolridge opines that if a company has cut its dividend in the recent past, investors are likely to question whether or not the company will continue to pay and grow its dividend in the future. Furthermore, as none of the NETOs have cut their dividend in the recent past, the proxy group companies should not include those who have cut their dividend. (Exhibit SC-200, at 10). (Exhibit SC-200, at 10).

463. Dr. Woolridge observes further that the Commission has traditionally filtered ICOEs for outliers. The Commission's policy on low-end outliers was indicated in its April 15, 2010 *SoCal Edison* decision, in which FERC indicated that, "it is reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more."[34] Both Dr. Avera and he have used this approach. However, Dr. Avera testified that this approach results in a downward bias in the DCF ICOEs because of his belief that interest rates will rise in the future. In his view, since the Commission is seeking here to develop a current, base-level ROE for the NETOs, that process does not include speculating as to future interest rates and capital costs. Moreover, allowing 100 basis points of "headroom" above the average bond yield, and applying it to the lower result for each proxy, already accounts for any reasonable concern that the test for low-end outliers exclude unreliable ICOEs, in his opinion. (Exhibit SC-200, at 12).

464. With respect to high-end outliers, Dr. Woolridge explains that Commission policy calls for excluding DCF results from companies for which the high-end DCF results are illogically high. However, unlike the bond yield plus 100 basis points test for excluding low-end outliers, he is not aware of any specific Commission policy for quantifying how the

[33] *Bangor Hydro-Electric Company, et. al.*, 111 FERC ¶63,048 at P 58-61 (2005).

[34] *So. Cal. Ed.*, 131 FERC P 61020, at P 56 (2010).

exclusion level for high-end outliers varies with current economic conditions. In 2004 in Docket No. ER04-157 (where the existing 11.14% base-level ROE was subsequently established), he notes that the Commission concluded that, based on capital market conditions at that time, the DCF results for one proxy company (PPL) were unsustainable and should be excluded. At that time, the PPL growth component found to be unsustainable was 13.3%, and the total DCF result that was also excluded was 17.7%. *ISO New England et al. vs. New England Power Pool et al.,* 109 FERC ¶61,147 at P 205 (2004). Dr. Avera has elected to employ the high-end ICOE filter of a DCF growth rate of 13.3% and/or an ICOE of 17.7%. He disagrees with these inclusions. (Exhibit SC-200, at 12-13).

465. Dr. Woolridge believes that this high-end filter is outdated because capital market conditions are much different today than they were eight years ago. Consequently, Dr. Woolridge adjusted the high-end filter that was established in Docket No. ER04-157 to reflect the change in yields on long-term utility bonds.[35] This adjustment led to a high-end filter to exclude DCF results if they have a growth component of 9.36% or more, or if the total DCF result is 12.46% or more. In addressing Staff witness Joe, Dr. Woolridge notes that she also opined that his market-sensitive methodology for eliminating high-end outliers is "reasonable" and "objective." He indicates that Ms. Joe's high end outlier filter would eliminate ICOEs for which the underlying growth rate exceeds her 9.66% midpoint finding. (Exhibit SC-200, at 13).

466. Dr. Woolridge further observes that Dr. Avera's ICOEs are provided in his Exhibit No. SC-203 and that these results come from Exhibit NET-304. Based on these results, Dr. Avera concludes that the appropriate range of ICOEs is 6.0% to 15.2%, with a midpoint of the range of 10.6%. This range uses both the high and the low ICOE for each of his companies, after eliminating five low-end DCF results, but failing to eliminate any of the high-end DCF results. Dr. Woolridge points out that Dr. Avera's findings are significant because they clearly demonstrate that even under his skewed analysis the NETOs' current base ROE is excessive. (Exhibit SC-200, at 14).

467. Dr. Woolridge testified further that he has six issues with Dr. Avera's approach and calculations including how he addresses the following issues, which dr. Woolridge criticizes in detail: (1) the asymmetric elimination of outliers; (2) the use of two DCF observations per company, as opposed to one average DCF figure; (3) the high-end filter; (4) the measure of central tendency; (5) a national versus regional proxy group; and (6) the zone of reasonableness. (Exhibit SC-200, at 14).

[35] He cites to See Exhibit SC-100 at 33, where the average yield for thirty-year public utility bonds at that time was 5.67%, the growth component and total DCF result for the excluded company amounted to that average bond yield multiplied by 2.35 and by 3.12, respectively. Applying the same ratios to the comparable current average bond yield of 3.99% suggests that under current financial market conditions, DCF results should be excluded if they include a growth component of 9.36% or more, or if the total DCF result is 12.46% or more.

468. Dr. Woolridge notes that of significance in his analysis is that he believes he has previously shown how Dr. Avera's use of the midpoint of the range distorted his DCF results. Dr. Avera has himself presented the median of a national proxy group as the basis for his recommended Base ROE for use in a New England transmission rate, and the Commission relied upon that recommendation. FERC's order in *Northern Pass Transmission LLC*, Docket No. ER11-2377, 134 FERC ¶ 61,095 (Feb. 11, 2011) looked to the *median* of a national proxy group, as presented by Dr. Avera, to establish the base ROE (10.4%) for that New England transmission project. (Exhibit SC-200, at 19).

469. Dr. Woolridge observes further that at pages 67-68 of Exhibit No. NET-500, Dr. Avera uses an example of five observations to suggest that the median is a poor measure of central tendency. What his example actually demonstrates is that virtually any measure of central tendency can be distorted with a small number of observations. In contrast, Dr. Woolridge states that he has have used 29 (blended) and 58 (unblended) ICOEs. (Exhibit SC-200, at 19).

470. He further disagrees with Staff witness Ms. Joe about her use of a regional proxy group. Ms. Joe limits her proxy group to transmission-owning electric utilities located in the ISO-NE, PJM, and NYISO RTO regions. She argues that the regional group better represents the risk profile of the NETOs. However, a regional proxy limits the number of possible proxy companies, and results in the proxy group being dominated by the NETOs. In accordance with the Commission's directives in *Atlantic Path 15*, 133 FERC ¶ 61,153, at P 13 (2010); and *Potomac-Appalachian Transmission Highline, L.L.C.*, 133 FERC ¶ 61,152 (2010) ("*PATH Rehearing Order*"), he believes that a national proxy group provides an appropriate basis from which to estimate the ROE for an RTO region's transmission owners. (Exhibit SC-200, at 19-20).

471. Dr. Woolridge further observes that Dr. Avera erroneously argues (at pages 81-83 of his testimony) that the NETOs' current base-level ROE of 11.14% is within the upper end of his "zone of reasonableness," which has an upper bound of 15.2%, and is supported by his RPM and CAPM equity cost rates. As such, he claims that his results support continuation of the 11.14% base-level ROE even though his midpoint of the range is 10.6%. Dr. Woolridhe opines that while that ROE itself overstates the appropriate base-level ROE for the NETOs, he agrees with Staff Witness Joe that there has been no showing in this case that the base ROE should be set above the center of the array of ICOEs.[36] (Exhibit SC-200, at 20-21).

472. Dr. Woolridge is severely critical of Dr. Avera's DCF results. He states that Dr. Avera's DCF data and results as well as alternative results based on one (averaged) versus two (low and high) results per company, Columns A, B, and C, employed two results per company, and did not eliminate the high DCF result when the low DCF result failed the

[36] Dr. Woolridge cites to Exhibit S-1.

low-end filter value (none of his high DCF results were above his high-end filter value). These results show his low and high DCF results of 6.0% and 15.2%, as well as the midpoint of the range of 10.6%, is skewed. The median and mean of his results are 8.7% and 8.9%. Had he followed the previous Commission guidelines and used only one result per company, he would have reported low and high DCF results of 7.2% and 11.1%, a midpoint of the range of 9.2% and median and mean results of 8.9% and 8.9%. Columns L, M, and N provide, in accord with FERC precedent, Dr. Avera's results with high DCF results eliminated in instances in which the low DCF result failed the low-end filter value. (Exhibit SC-200, at 21-22).

473. These summary financial results are identical to the first case. Columns Y, X, and Z provide Dr. Avera's DCF results with EDE, GXP, and HE eliminated by the revised high-end filter of 12.46% and PPL's high DCF figure eliminated because its low-end DCF result is below the low-end filter value. Using an updated high-end filter results in a more symmetric elimination of high DCF results and therefore provides a much more consistent indication of the range of the DCF ROE results. Using one result per company, the low and high DCF results are 7.2% and 10.0%, the midpoint is 8.6%, the mean is 8.7%, and the median is 8.9%. Using two DCF results per company, the low and high DCF results are 6.0% and 11.6%, the midpoint is 8.8%, and the median and mean are both 8.7%. (Exhibit SC-200, at 22). Dr. Woolridge comes up with several conclusions from Dr. Avera's DCF results:

a. The median and mean DCF results are better measures of central tendency for his national proxy group DCF results. These medians and means, using both one and two DCF results per company, are in the 8.7% to 8.9% range. The midpoint of the range is significantly affected by the 15.2% long-tail DCF result for EDE, a company that he mentioned earlier should be eliminated because it omitted and cut its dividend in the last two years.

b. Using one blended DCF result per company (the average), versus two DCF results (low and high), significantly reduces the midpoint of the range because of the distortion caused by one long-tail DCF result. The midpoint using Dr. Avera's results and one blended DCF per company provides a range of 7.2% to 11.1% and a midpoint of 9.2%.

c. The results (shown in Columns X, Y, and Z of Exhibit No. SC-203), using an updated high-end filter of 12.46%, and eliminating the high DCF result for PPL because its low DCF is below the low-end filter value, provide median, mean, and midpoint measures in the 8.6% to 8.8% range using both one blended as well as two DCF results per company. (Exhibit SC-200, at 22-23).

474. Dr. Woolridge further asserts that Dr. Avera claims that his data shows an appropriate DCF result of 10.6%. This claim is not consistent with his data, andsuffer from numerous methodological flaws. He has used two DCF results per company, he does not eliminate

high DCF results when low DCF results fail the low-end filter values (PPL), he uses an outdated high-end filter value of 17.3%, which results in several high DCF results distorting the range of outcomes (EDE, GXP, HE), and he uses the midpoint of the distorted range when the median and mean are much better indicators of central tendency. A more realistic interpretation of his DCF results suggests an appropriate base-level ROE of 8.6% to 8.9%, according to Dr. Woolridge. (Exhibit SC-200, at 23).

475. Dr. Woolridge further criticizes Dr. Avera's DCF application to the non-utility proxy group. Dr. Avera has estimated an equity cost rate for the NETOs using a proxy group of 13 non-utility companies. These companies, which are listed in Exhibit NET-308, include Abbott Labs, AT&T, Coca-Cola, General Mills, McDonald's, PepsiCo, WalMart. (Exhibit SC-200, at 24).

476. In Dr. Woolridge's opinion, these are not appropriate comparisons because of the many significant and substantive differences between the companies. The financial profiles of Dr. Avera's non-utility group are quite different from the NETOs. While many of these companies are large and successful, their lines of business are vastly different from the electric utility business and they do not operate in a highly regulated environment. In Exhibit SC-205, Dr. Woolridge provides assorted financial statistics for Dr. Avera's non-utility proxy group. The current dividend yield for the group is 2.39%, which is about 200 BPs below Dr. Avera's utility proxy group. Most significantly, the average current ROE for the group is 35.9%, and includes companies like Colgate-Palmolive with a ROE of 102.4% and Kellogg with a current ROE of 69.9%. The current market-to-book ratio is 6.8X, versus a market-to-book ratio of about 1.50X for electric utilities. (Exhibit SC-200, at 24).

477. In discussing Dr. Avera's CAPM approach, Dr. Woolridge states that in Exhibit NET-310, Dr. Avera applies the CAPM method to his utility group. For the group, he calculates a CAPM equity cost rate using the current long-term Treasury bond yield of 2.8% and a projected bond yield of 4.6%. A market risk premium is computed for each risk-free rate, and both are based on an expected stock market return of 12.9%. He uses the betas for each utility. He also adds a size adjustment premium that ranges from -0.38% to 1.77% to each CAPM equity cost rate based on each utility's market capitalization. His CAPM equity cost rates using current and projected bond yields are 10.7% and 11.5%. (Exhibit SC-200, at 25). The primary errors in Dr. Avera's CAPM analysis according to Dr. Woolridge are: (1) the expected market return used to compute the equity risk premium; and (2) the size adjustment. (Exhibit SC-200, at 25-26).

478. Dr. Avera develops an expected market risk premium by: (1) applying the DCF model to the S&P 500 to get an expected market return; and (2) subtracting the risk-free rate of interest. Dr. Avera's estimated market return of 12.9% for the S&P 500 equals the sum of the dividend yield of 2.6% and expected EPS growth rate of 10.3%. The expected EPS growth rate is the average of the expected EPS growth rates from IBES. The primary error in this approach is his expected DCF growth rate. The expected EPS growth rates of Wall Street

analysts are upwardly biased. In addition, the projected growth rate is inconsistent with economic and earnings growth in the United States. (Exhibit SC-200, at 26).

479. According to Dr. Woolridge, a long-term EPS growth rate of 10.3% is not consistent with historic as well as projected economic and earnings growth. Moreover, the long-term economic, earnings, and dividend growth rate in the U.S. has only been in the 5% to 7% range. Dr. Woolridge performed a study of the growth in nominal GDP, S&P 500 stock price appreciation, and S&P 500 EPS and DPS growth since 1960. The results are provided on page one of Exhibit No. SC-206 and set forth in the table below: (Exhibit SC-200, at 26-27).

GDP, S&P 500 Stock Price, EPS, and DPS Growth
1960-Present

No nominal GDP	6.80%
S&P S&P 500 Stock Price	6.21%
S&P S&P 500 EPS	6.98%
S&P S&P 500 DPS	5.18%
Aver average	6.29%

480. The results are presented graphically on page two of Exhibit No. SC-206. In sum, the historical long-run growth rates for GDP, S&P EPS, and S&P DPS are in the 5% to 7% range. Dr. Woolridge asserts that by comparison, Dr. Avera's long-run growth rate projection of 10.3% is vastly overstated. These estimates suggest that companies in the United States would be expected to: (1) increase their EPS growth rate by over 50% in the future and (2) maintain that growth indefinitely in an economy that is expected to grow at about one-half of Dr. Avera's projected growth rates. (Exhibit SC-200, at 27).

481. The more recent trends suggest lower future economic growth than the long-term historic GDP growth. The historic GDP growth rates for 10-, 20-, 30-, 40-, 50-, and 60-year periods are presented in Panel A of page 3 of Exhibit No. SC-206. These figures suggest that nominal GDP growth in recent decades has slowed and that a figure in the range of 4.0% to 5.0% is more appropriate today for the U.S. economy. These figures indicate that Dr. Avera long-term growth EPS growth rate of 10.9% is significantly inflated, according to Dr. Woolridge. (Exhibit SC-200, at 27-28).

482. Moreover, there are several forecasts of annual GDP growth that are available from economists and government agencies. These are listed in Panel B of page three of Exhibit SC-206. The mean 10-year nominal GDP growth forecast (as of February 2013) by economists in the recent *Survey of Professional Forecasters* is 4.8%. The Energy Information Administration (EIA), in its projections used in preparing *Annual Energy Outlook*, forecasts long-term GDP growth of 4.8% for the period 2009-2035. The Congressional Budget Office, in its forecasts for the period 2012 to 2022, projects a nominal GDP growth rate of 4.8%. These projections of nominal GDP growth provide additional evidence that

Dr. Avera's long-term EPS growth rate of 10.3% is highly overstated. (Exhibit SC-200, at 28).[37]

483. Of further significance is Dr. Woolridge's discussion pertaining to estimating the equity cost rate. He believes there are errors in using historical market returns to compute risk premiums. With respect to the small firm premium, he observes that Richard Roll (1983) found that one-half of the historic return premium for small companies disappears once biases are eliminated and historic returns are properly computed. The error arises from the assumption of monthly portfolio rebalancing and the serial correlation in historic small firm returns.[38] (Exhibit SC-200, at 34).

484. He notes further In a more recent paper, Ching-Chih Lu (2009) estimated the size premium over the long-run. Lu acknowledges that many studies have demonstrated that smaller companies have historically earned higher stock market returns. However, Lu highlights that these studies rebalance the size portfolios on an annual basis. This means that at the end of each year the stocks are sorted based on size, split into deciles, and the returns are computed over the next year for each stock decile. This annual rebalancing creates the problem. Using a size premium in estimating a CAPM equity cost rate requires that a firm carry the extra size premium in its discount factor for an extended period of time, not just for one year, which is the presumption with annual rebalancing. Through an analysis of small firm stock returns for longer time periods (and without annual rebalancing), Lu finds that the size premium disappears within two years. (Exhibit SC-200, at 36).

485. Dr. Woolridge believes Dr. Avera erred by treating FERC allowed returns as equity return of a risk premium comparison. Even if it had been implemented correctly, such an approach would amount to a study of Commission behavior, not a study of investor behavior. It doesn't make sense to find the cost of equity in a new proceeding like this one by studying the outcome of other cases, according to Dr. Woolridge. Such an approach is circular. It would tend to perpetuate any past errors, and over time could become entirely disconnected from financial market realities. Moreover, even if such a circular approach were appropriate,

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[37] Dr. Woolridge additionally discusses his views regarding published research on the link between economic and earnings growth and equity returns; and certain studies relied upon by Dr. Avera pertaining to CAPM, of which Dr. Woolridge is critical. (Exhibit SC-200, at 28-30). Moreover, be rebuts Dr. Avera's assertion that he uses a historical risk premium analysis in his CAPM. He cites numerous studies to address Dr. Avera's conclusions regarding long term growth forecasts, and future earnings projections. He is also very critical of Dr. Avera's size adjustment to his CAPM equity cost rates. (Exhibit SC-200, at 31-35).

[38] Dr. Woolridge cites to Richard Roll, "On Computing Mean Returns and the Small Firm Premium," *Journal of Financial Economics*, pp. 371-86, (1983).

there would be no reason to rely on the returns allowed for other companies, with their own particular risks, instead of simply adjusting the outcome of Docket No. ER04-157, which at least was specific to New England, to account for current bond yields, according to Dr. Woolridge. (Exhibit SC-200, at 37).

486. According to Dr. Woolridge, a basis for such a comparison is shown in Exhibit NET-314, although it is not implemented properly there. He states that in Opinion No. 489 and Docket No. ER04-157, the ROE was initially set at 10.4%, and was then increased by 74 bps to track a 74 bps increase in 10-year treasury yields during the course of that proceeding. Exhibit NET-314 shows that from the six-month study period that was relied upon in setting the 10.4% and the May-October 2012 yields on BBB utility bonds declined by 160 bps. His updated analysis and his opinion shows a decline in long-term BBB utility bond yields since the ER04-157 study period from 6.04% to 3.96% for a decline of 208 BPs. (Exhibit SC-200, at 38).

487. Moreover, according to Dr. Woolridge, the Commission's longstanding updating policy and practice relies on a 1:1 correspondence between changes in bond yields on 10-year treasury bonds and changes in the cost of equity. In his view, the 10.4% ROE found in Opinion No. 489 would have been increased by only about 5 bps, rather than 74 bps, as used by Dr. Avera's 14:1 ratio, so the existing Base ROE should be about 10.45% instead of the current 11.14%. (Exhibit SC-200, at 29).

488. Dr. Woolridge believes there are two factors which may have contributed to Dr. Avera's erroneous finding of a 14:1 relationship between bond yield changes and ROE changes upon which Dr. Avera's current analysis relies. First, the bond-equity rate differentials in Dr. Avera's risk premium analysis provide a study of Commission behavior, not investor behavior. Due to institutional practices not directly related to a particular utility's current cost of capital, ROEs filed with and accepted by regulatory commissions may be "sticky." That is, they may represent an informal averaging of the current ROE for the subject utility with ROEs previously set for that utility or others. For example, Dr. Woolridge asserts that a utility may propose to extend to a new rate an ROE that was recently found to be appropriate for that utility for a different service. (Exhibit Sc-200, 39-40).

489. While a new ROE showing may technically be required, customers are less likely to protest the ROE than if it goes up substantially. If ROEs never changed, the corollary would be that for every one BP decrease in bond yields, the spread between the decreasing bond yield and the constant ROE would increase by that same one BP. Likewise, for every one BP bond yield increase, the bond yield-ROE spread would decrease by an equal, offsetting amount. (Exhibit Sc-200, 39-40).

490. Dr. Woolridge also states that Exhibit NET-306 at page five demonstrates this nonsensical result. The imputed ROEs at pages one and two of Exhibit NET-306 are virtually identical, despite large assumed differences in the bond yield environment. As between the "current bond yields" and "projected bond yields" versions of the study, the

imputed ROEs differ by only 12-17 BPs, even though their respective bond yields differ by 184-241 BPs. (Exhibit SC-200, at 40).

491. The second factor involves timing issues in the risk premium study. In his view, the study relies on comparing the ROE accepted or approved in certain recent FERC dockets to (b) the average BBB utility bond yields and 10-year Treasury yields on the dates that the study associates with each of those dockets. The difference between (a) and (b) is deemed a "risk premium." The date assigned by the exhibit to each docket is critical to its calculation, because it is that date that determines what date's BBB utility and Treasury bond yields are subtracted from the ROE that it accepts or approves to identify a purported risk premium. But the exhibit's assignment of dates to dockets is internally inconsistent and meaningless, in his view. (Exhibit SC-200, at 40-41).

492. If purely random dates were assigned to each docket, one would expect to find zero correlation between the Commission's allowed ROE in a given docket and the bond yield on an unrelated, random date. Moreover, Dr. Woolridge asserts that if a regression analysis, such as that performed in Exhibit NET-306, page 5, were then applied to data sets with such zero correlation, one would expect to find that no matter how much bond yields changed, there would be no predictable tandem change in ROEs. Although the dates in Exhibit NET-306 are not purely random, they have no substantial relationship to capital market conditions on those dates. The relevant dates appear in the left column of Exhibit NET-306, pages three-four. (Exhibit SC-200, at 41).

493. Dr. Woolridge asserts that the ROE for which Dr. Avera gives that date is simply the standard 12.38% MISO ROE that has been in place for over a decade, since it was established in 2002, in Docket No. ER02-485. Dr. Avera acknowledges the fact that this Docket involved only the "continued use" of a longstanding MISO standard ROE later in his testimony (at page 109), but he nonetheless includes that docket on Exhibit NET-306. He should not have, according to Dr. Woolridge. In the June 2012 DATC Midwest Holdings order, the Commission did not make any finding about the current cost of equity. It simply found that "[t]he Commission has approved a single base ROE for transmission-owning members of MISO, and protestors have not demonstrated why DATC should not also be entitled to the same treatment if it becomes [a] transmission-owning member of Midwest ISO." (Exhibit SC-200, at 42).[39]

494. Dr. Woolridge also provides several criticisms of Ms. Lapson's testimony regarding NETO bond ratings. At Exhibit NET-400, page 24, NETO Witness Lapson states that in Exhibits NET-402 and NET-403, she "excluded several cases in which the Commission applied an ROE from an earlier decision to the current case" in order to "ma[k]e the results

[39] Dr. Woolridge additionally criticizes Dr. Avera's use of examples from other RTOs, particularly settled cases and distinguishes the factual backgrounds for citing such cases. (Exhibit SC-200, at 41-43).

more reflective of the most recent trends." In his view, Dr. Avera obviously did not apply that same standard in preparing his Exhibit NET-306. Dr. Woolridge goes on to discuss other analytical errors he believes Dr. Avera has made in his testimonials. (Exhibit SC-200, at 46-49).

495. In Exhibit No. S-1, pp. 55-60, and in Exhibit S-2, pp.6-8, Staff witness Ms. Joe provides an assessment of the bond ratings of the NETOs. He states that she draws the following conclusion: "the data suggests that 82 percent to 88 percent of the dollars paid by electric ratepayers in ISO-NE are associated with ISONE TOs with an average A- to BBB+ credit ratings (average of both S&P and Moody's credit ratings concludes that the NETOs on that exhibit). (Exhibit SC-200, at 46-49).

496. Only approximately 1.6 percent to 6.4% of the dollars paid in rates are associated with the facilities of TOs with a BBB credit rating." She further concludes that the risk profile of the targeted ISO-NE TOs is dominantly A-. Based on this analysis, Ms. Joe concludes that the risk profile of Dr. Avera's proxy group is higher than the risk profile of the NETOs. In response to Ms. Joe's analysis, NETO witness Lapson provides an alternative analysis of the NETO bond ratings. Her analysis is provided in Exhibit NET-600, pp. 7-26, and Exhibit Nos. NET-601, NET-602, NET-603, and NET-604. She claims that Ms. Joe errs by drawing conclusions based only upon the ratings of a single rating agency, and by not considering the lower ratings of individual NETOs by a second major rating agency. (Exhibit SC-200, at 48).

497. Dr. Woolridge states that Ms. Lapson's cross-answering testimony purports to show that the credit rating representative of NETOs overall is BBB or lower. However, in his view, Ms. Lapson's study and analysis are erroneous for several reasons: (1) Ms. Lapson presumes that if a company does not have an S&P or Moody's rating, the company should be rated BBB or lower; (2) According to Staff's testimony, the only significant NETO (>5% of collective Pool Transmission Facility Annual Transmission Revenue Requirement) that has neither an S&P or Moody's rating is Vermont Transco. However, Vermont Transco does have a bond rating; and (3) Ms. Lapson purports to show both the "average" of S&P and Moody's ratings for each proxy company operating subsidiary that has both, and a "lower of" method. But when Ms. Lapson "averages" two adjacent letter ranks, she shows the average as being the lower of, and then assigns a numerical equivalent based on the lower rating categories. (Exhibit SC-200, at 48-49).

498. According to Dr. Woolridge, Ms. Lapson has provided no empirical evidence to suggest that unrated companies would be rated BBB or lower. Even if this unproven assertion were correct, it would have little impact on the NETO's overall credit rating. In his view, the NETOs with unrated debt have a low percentage of the ISO-NE revenue requirement. Additionally, Dr. Woolridge comments that In Ms. Lapson's study, she used the "lower of" method of assigning numerical ranks, but when she averaged two adjacent letter ranks, she assigned a numerical equivalent based on the lower rating category. For example, NSTAR's ratings from S&P and Moody's are A- and A respectively. Ms. Lapson "averages" those ratings and arrives at an A- rating. She converts letters to numbers via A=6,

A-=7. She does the conversion after the averaging the letters, not before. Consequently, Ms. Lapson's "average" for NSTAR is 7, not 6.5. This provides a lower overall average credit rating. (Exhibit SC-200, at 49-50).

499. Dr. Woolridge updated and corrected Ms. Lapson's credit rating study. This is provided on Exhibit No. SC-207. In this exhibit, he used the updated data from the July 31, 2012 annual informational filing to FERC by the New England TO Administrative Committee, which annually resets the revenue requirements. He also corrected the numerical rating scheme to account for the lower of numerical ratings used by Ms. Lapson. In addition, he broke down the NU data into CLP, PSNH, and Western Massachusetts Electric Co. amounts and percentages. This has no effect on the regional equivalent aggregate bond rating because all three companies have the same Moody's bond rating. (Exhibit SC-200, at 50-51).

500. He also assigned an A bond rating for Vermont Transco. Based on the updated transmission revenue requirements and corrections, and using the "average" method, the regional equivalent aggregate numerical bond rating is 7.53, which equates to an A-/BBB+ rating. This analysis conservatively includes the bond rating of NU's subsidiaries, even though Moody's basis for assigning them a lower bond rating than their parent is that the parent may extract equity from its subsidiaries, and thus is not an indicator of risk to equity investors.[40] (Exhibit SC-200, at 50-51).

501. Dr. Woolridge asserts his updated and corrected study supports Staff Witness Joe's study which shows that the average credit rating of the NETOs is primarily A- and discredits Ms. Lapson's study, which indicated that the average credit rating of the NETOs is primarily BBB. Hence, according to Dr. Woolridge, there is no basis for Ms. Lapson's statement that Dr. Avera's lowly rated proxy companies such as Empire District (BBB-) and Hawaiian (BBB-) represent the credit worthiness and investment risk of the NETOS. (Exhibit SC-200, at 51).

502. Dr. Woolridge further states that in Exhibits NET-402 and NET-403, Ms. Lapson provides a study of state-authorized ROEs for electric utilities from 10/1/2010 through 9/20/1012. She also defends her study on pages 37-39 of Exhibit No. Net-600. From this study, she concludes that NETO's current base-level ROE of 11.14% "is not unjust nor unreasonable, from a financial market perspective." (page 27 of Exhibit No. NET-400). He disagrees with the use of this study. The first issue is that these ROEs are dated. The economic environment has changed over the past two years. Interest rates and capital costs have declined significantly, especially over the past year. (Exhibit SC-200, at 51-52).

[40] Dr. Woolridge cites to Moody's Investors Service, Moody's downgrades NSTAR, NSTAR Electric, and Connecticut Light & Power; affirms NU and its other subsidiaries, April 9, 2012, p.1.

503. The average authorized state-level ROEs in the last quarter of Ms. Lapson's study are about 10.0%. However, even these figures are dated. Her data on regulatory decisions ends on September 30, 2012. Hence, according to Dr. Woolridge, given the lag between when testimony and cost of capital positions are developed, hearings are held, and decisions are eventually rendered, it is unlikely that these decisions reflect the decline in interest rates in mid-2012. (Exhibit SC-200, at 51-52).

504. Dr. Woolridge also finds fault with other aspects of Ms. Lapson's study including her use of other settlements between the parties. Based on his experience, settlements usually involve compromises on overall rate making issues, including rate design, expenses, depreciations, adjustments and riders, and other items. As such, settlements are the result of compromise on ratemaking issues, including the ROE, and have limited relevance. Another issue involves the context of state-jurisdictional authorized ROEs. These rates occur in context of stated and not formula rates. Hence, according to Dr. Woolridge, these rates cover risks such as customer default, weather changes to load, and other factors that do not apply to transmission formula rates. (Exhibit SC-200, at 52-53).

505. Furthermore, Dr. Woolridge takes issue with Ms. Lapson who states that the current return should be retained, even though she concedes that it lies "in the higher end of the FERC DCF model range," because it "encourage[s] investment in modernizing the transmission grid." Similarly, Dr. Avera testimony calls for "rate incentives for transmission or other investment to alleviate congestion on the grid, including new transmission technologies." (Exhibit SC-200, at 53).

506. In Dr. Woolridge's opinion, the purpose of this proceeding is to identify the cost of equity capital invested by the respondents in the New England transmission system. If the cost is covered — if the allowed base-level ROE is aligned with the risk of such capital investment — then, essentially by definition, investors are being offered an adequately attractive risk/reward proposition. He states that if the base-level ROE is set too high, then investors will be over-compensated for both old and new investment. DCF analysis of comparable proxies is the Commission's best available instrument for finding what return level will prove sufficiently attractive. Whether the Commission should also apply incentives on top of a cost-based ROE is a policy issue beyond the scope of his testimony. (Exhibit SC-200, at 54-55).

507. Regulatory commissions, in his view, have a long history of resetting ROEs, up or down, when their established analytical instruments indicate that the cost of equity capital has changed. They did so even when the entirety of vertically integrated utilities' investment recovery was rate-regulated. Applying those tools to the relatively small share of the respondents' asset base that is subject to this Commission's transmission rate regulation is not radical. It is regulatory business as usual and a reassuring signal of continuity. (Exhibit SC-200, at 54-55).

508. Additionally, as he has indicated in his testimonials, the DCF results of all the various witnesses in this proceeding, suggest that the base-line ROE is too high. In fact, properly evaluated, the DCF results all point to a base-level ROE in the range of 8.5% to 9.0%. He notes that this statement is supported by the DCF analysis contained in a report by R.W. Baird, an investment firm that was provided as part of Ms. Lapson's work papers. This report is entitled "Transmission ROEs – the More We Dig, the More Pressure We See," is dated April 30, 2012 and is attached as Exhibit SC-208. In the report, a FERC-DCF analysis is performed with mean, median, and midpoint results of 8.85%, 8.87%, and 8.35%. (Exhibit SC-200, at 55-57).

509. These DCF results point to an ICOE that is in the range of 200 to 250 basis points below the current 11.14% figure. To suggest that the current base-line ROE number is still appropriate, Dr. Avera, with the support of Ms. Lapson, uses some improper proxy companies and an outdated high-end outlier filter in his DCF analysis, speculates about future interest rates and capital costs, and offers a zone of reasonableness that he supports through flawed CAPM, risk premium, and expected earnings approaches as well as the ICOE results for an inappropriate non-utility proxy group. (Exhibit SC-200, at 55-57).

510. In his opinion, the Commission's objective should be to determine that appropriate ROE number, and not to ensure that the outcome matches investment analyst predictions made without reference to the evidence of record, or worry about what future investors might think, as advocated by Ms. Lapson. (Exhibit SC-200, at 55-57).

511. Regarding Ms. Joe's testimony, Dr. Woolridge states that he has five issues with Staff Witness Joe's testimony and addresses those issues in his testimony. These include: (1) the regional versus the national proxy group; (2) the range of the issuer credit ratings; (3) the measure of central tendency in determining a DCF ROE; (4) her calculation of the sv term for Northeast Utilities; (5) the synchronization of IBES estimates and dividend yields. (Exhibit SC-200, at 57). Dr. Woolridge provides a detailed analysis of his differences with Ms. Joe's conclusions and analysis. (Exhibit SC-200, at 57-64).

2. Dr. Wilson

512. EMCOS witness Dr. Wilson filed rebuttal testimony on February 27, 2013. (Exhibit EMC-3). He states that he previously testified in this case (Exhibit EMC-1) that the NETOs currently allowed return on equity (ROE) capital has become excessive because of the substantial reduction in money costs that has occurred since its establishment. Dr. Wilson testified initially that under present financial and economic conditions an appropriate ROE for the NETOs is in the 8.2 to 8.7 percent range.

513. In this rebuttal testimony, Dr. Wilson responds to the testimony and cross answering testimony that was filed in this case by NETOs witnesses Dr. Avera and Ms. Lapson on November 20, 2012 and February 12, 2013, respectively. In contrast to these NETO witnesses, Dr. Wilson opines that as capital costs and other utility service costs rise and fall

over time, it is essential for regulators to make corresponding rate adjustments in order to fulfill the two key regulatory obligations of consumer protection and fair compensation for regulated utilities. (Exhibit EMC-3, at 2-3).

514. Dr. Wilson further argues that the NETOs' witnesses' contentions that current low interest rates are not normal or sustainable are not a reasonable basis for ratemaking at the present time. In his view, the rate on ten-year Treasuries, which was above 3.5 percent in early 2011, declined to less than 2 percent by the late summer and fall of that year and has remained in the 2 percent range for the last year and half. While no one can predict that money costs will remain at today's low levels indefinitely, it is clear that the United States economic recovery policy is to sustain low interest rates for the foreseeable future and that reducing the NETOs' allowed ROE to current money cost levels is now long overdue. (Exhibit EMC-3, at 3-5).

515. Dr. Wilson also disputes Dr. Avera's contentions that savings to ratepayers through a lower ROE is not a legitimate consideration in establishing a fair ROE and that the reasonable determination of a fair ROE is not predicated on any notion of costs or savings to customers. Instead, as Dr. Wilson asserts that public utility regulation over the past century has been founded on the principle of "just and reasonable" rates, which always involves the consideration of costs to and protection of consumers. (Exhibit EMC-3, at 6-7).

516. In further support of his recommended ROE allowance of 8.3 to 8.7 percent Dr. Wilson presents a comprehensive evaluation of comparable earnings by electric utilities. In presenting this analysis he explains that when actual or forecasted comparable earnings are considered as a guide to an appropriate ROE allowance, they must be evaluated in conjunction with actual or forecasted stock prices in order to constitute a legitimate market-based evaluation of the cost of equity capital. This is in contrast to the NETOs witnesses' comparable earnings testimony, which improperly ignores related stock market pricing. (Exhibit EMC-3, at 7-15).

517. Finally, Dr. Wilson explains that Dr. Avera failed to properly exclude outliers in his DCF analysis. While he excluded five low value results from his analysis he excluded no high value results. Most significantly, he improperly included Empire District Electric Company in his revised DCF calculations, even though Empire District had not been included in his original analysis in this case (Exhibit NETO-104) and the Company's calculated DCF result was 25 percent higher than any of the other forty-one companies in the analysis. (Exhibit EMC-3, at 17-19). Dr. Wilson also reviews a number of other reasons why Empire District Electric Company should have been excluded as an outlier, (Exhibit EMC-3, at 19-20), including:

> a. The Company is much smaller than the other National Proxy Group companies, with only 166,000 electric customers and less than $1.0 billion of market capitalization.

> b. Its stock price of about $22 has been stagnant in the $20 to $25 range for fifteen years, over which period it has had less than a 1.0 percent earnings per share growth rate and a dividend decline. Also, its stock price is forecasted to remain in that same range out to at least 2017, its return on equity capital has been (and is expected to be) in the 7 to 8 percent range over that period, and its dividends are not expected to recover to the level maintained until the Company's dividend omission in 2011.
>
> c. Dr. Avera's aberrant earnings growth forecast for Empire District Electric reflects only one analyst's outdated opinion that was offered more than a year ago, and when the Company began paying dividends again in 2012 (after omitting them in 2011) those payments were at a significantly lower rate than they were for the last fifteen years.
>
> d. Finally, Empire District itself refutes Dr. Avera's earnings growth estimate for the Company. According to the Company's earnings guidance, issued on February 14, 2013, Empire District projects earnings per share for 2013 in the range of $1.26 to $1.43, compared to actual earnings per share in 2011 of $1.31.

(Exhibit EMC-3, at 20-25).

518. Assuming that the upper end of this guidance is achieved, that would represent an annual growth rate of about 4.5 percent. This growth rate, in his view, is well above the Company's actual average historic per share earnings growth over the past fifteen years, which has been 0.42 percent. (Exhibit EMC-3, at 23).

519. Of particular note, Dr. Wilson goes into great detail as to how he disagrees with certain aspects of Dr. Avera's methodology. For instance, because Dr. Avera's midpoint DCF result depends entirely on only two calculated values (the highest single company and lowest single company calculated values) it is critically important in his view, for him to retain at least one very high value (and to exclude all very low values) in his analysis. This he has not done and he objects whenever it is suggested that one of his high values should be removed as an outlier (or that one of the low values that he removes should be retained). Dr. Wilson asserts that in Exhibit No. NET-304, Dr. Avera removed five of his forty-one companies as "low" outliers and none as "high" outliers. By doing this, he retained a single lowest value of 6.0 percent and a single highest value of 15.2 percent, resulting in a midpoint of 10.6 percent, which he designated as his estimated cost of equity capital for comparable electric utilities and for the NETOs, according to Dr. Wilson. (Exhibit EMC-3, at 16-17).

520. In contrast, he prepared an update of Dr. Avera's Exhibit No. NET-304. This update is presented in Exhibit No. EMC-5. As shown there, by excluding all of the low outliers selected by Dr. Avera and also excluding only one high outlier, the remaining high and low

values become 12.3 percent and 5.8 percent, respectively, with a new midpoint of 9.05 percent. (Exhibit EMC-3, at 17).

521. Dr. Wilson further testifies that as shown in Exhibit No. EMC-5, the averages for all of the low and high values are 6.7 percent and 10.0 percent, respectively, with a midpoint of 8.4 percent. Likewise the median low and high values are 7.7 percent and 9.7 percent, with a midpoint of 8.7 percent. While h recognizes that the Commission has often relied on single company high and low values to determine the appropriate midpoint, great caution is required with that approach so as to avoid the sort of simple manipulation and misrepresentation of the comparable company population that is evident in Dr. Avera's analysis in this case. (Exhibit EMC-3, at 18).

522. Furthermore, Dr. Wilson contends that Dr. Avera responded to a suggestion by Staff witness Ms. Joe in this case that broader central tendency measures such as median values are particularly appropriate when very large comparable utility groups, such as Dr. Avera's national proxy group. This objection by Dr. Avera is misplaced and reflects a basic misunderstanding of Ms. Joe's unexceptionable statistical point, according to Dr. Wilson. He points out that as a group becomes larger there is greater likelihood that single values drawn from the group will do a poor job of reflecting what the group, as a whole, represents. There is also a greater chance that it will contain an extreme outlier value, the observation of which will misrepresent and "skew" the truth about the group as a whole. Thus, by constructing a very large national group rather than a smaller regional group, Dr. Avera increases the likelihood of getting an outlier like Empire District Electric into the group and of skewing the end result by basing the cost of capital conclusion on only the single highest and single lowest values in the group. (Exhibit EMC-3, at 19).

523. Dr. Wilson also argues that Empire was not even included in Dr. Avera's original analysis in this case (see Exhibit NETO-104), and appears to have been added in Exhibit No. NET-304 to ensure a sufficiently high end for Dr. Avera's midpoint calculation, according to Dr. Wilson. As shown in Exhibit No. EMC-5, without Empire District's 15.3 percent high end result, the next highest single company DCF value is 12.3 percent. (Exhibit EMC-20).

524. Dr. Wilson also asserts there are several additional important reasons for this exclusion. For instance, Empire District Electric Company is a small investor-owned electric, gas and water utility operating out of Joplin, Missouri. It is much smaller than Dr. Avera's other National Proxy Group companies, with a much smaller stock market following. Empire District has only 166,000 electric customers and less than $1.0 billion of market capitalization. Its stock price of about $22 has been stagnant in the $20 to $25 range for fifteen years (with a brief spike to $29 in 2000 and a brief dip to $12 in 2009), over which period it has had less than a 1.0 percent earnings per share growth rate and a dividend decline. Its stock price is forecasted to remain in that same range out to at least 2017 and dividends are not expected to recover to the level achieved in 1996 and maintained until the Company's dividend omission in 2011. (Exhibit EMC-3, at 20-22).

525. He states that Empire District Electric's return on equity capital has been (and is expected to be) in the 7 to 8 percent range with a dividend payout in the 70 to 80 percent range. These are clearly not facts consistent with a reasonable earnings per share growth expectation for Empire District Electric Company of more than 10 percent per year, according to Dr. Wilson. (Exhibit EMC-3, at 20-22).

526. In summary, Dr. Wilson concludes that to allow Dr. Avera's skewed and clearly unreliable high DCF result for Empire District Electric, which is premised on an entirely implausible long term earnings growth rate of more than 10 percent per year, to control the ROE determination in this case, would fatally disserve the purposes and policies underlying the use of discounted cash flow analysis to determine just and reasonable returns. (Exhibit EMC-3, at 23-24).

F. ROE Updates

1. Dr. Woolridge

527. Dr. Woolridge provides an update of his FERC Discounted Cash Flow Model ("DCF") analysis. Applying the same selection criteria he applied earlier, he has updated his proxy group of publicly-held electric utility companies ("Electric Proxy Group"). The updated Electric Proxy Group includes thirty-four companies. (Exhibit SC-300, at 1).

528. In contrast to the proxy group Dr. Woolridge used when he filed testimony on October 1, 2012, Exelon and OGE have been screened out of the proxy group in this update. Exelon was screened out because its percentage of regulated electric revenues fell below 50%. OGE was screened out due to merger and acquisition activity. (Exhibit SC-300 at 3). Northwestern and NV Energy now qualify for the proxy group. Previously, the bonds of Northwestern were not rated and NV Energy had a below investment grade bond rating. Northwestern now has an S&P Corporate Credit Rating ("CCR") of BBB, and on February 20, 2013 NV Energy's CCR was raised to BBB-. (Exhibit SC-300, at 3).

529. Using the FERC DCF model and updated dividend yields and I/B/E/S and br*sv growth rates, Dr. Woolridge has computed the Implied Costs of Equity ("ICOEs") for the updated Electric Proxy Group. He has also addressed several data issues relating to the publication dates of the *Value Line Investment Survey* for the electric utilities. He also updated and applied his high-end and low-end filters based on the current market interest rates. The ICOEs as updated are provided in Exhibit SC-301. (Exhibit SC-300, at 4).

530. Dr. Woolridge states that the median, mean, and midpoint of the array of the ROE values for the Electric Proxy Group using the FERC DCF model are 8.9%, 8.8%, and 9.0%, respectively. He states that the median, mean, and midpoint of the array of the ROE values which use two (high and low) DCF ICOE results per company values are 8.9%, 8.8%, and 9.3%, respectively. Given these results, Dr. Woolridge believes that an ROE of 8.9% is appropriate. (Exhibit SC-300, at 8-9).

2. Dr. Wilson

531. Dr. Wilson's updated testimony did not include an explanatory narrative. Dr. Wilson's updated ROE analysis uses a proxy group that includes forty-one companies. Dr. Wilson's ROE analysis using the FERC DCF model shows that the median, mean, and midpoint of the array of ROE values are 8.5%, 8.24%, and 8.95% respectively. (Exhibit EMC-53). His ROE analysis using the Expected Earning Approach shows that the median, mean, and midpoint of the array of ROE values are 7.5%, 7.5%, and 7.3% respectively. (Exhibit EMC-52).

3. Dr. Avera

532. Dr. Avera has updated the DCF analyses presented in Exhibit Nos. NET-304 and NET-305 to reflect the most current data available concerning dividend yields and growth expectations. (Exhibit NET-700, at 1). He has also updated his analyses of alternative ROE benchmarks based on: (1) application of the risk premium approach based on allowed ROEs for electric utilities under the jurisdiction of the FERC; (2) reference to the ROEs approved by the Commission for natural gas pipelines; (3) DCF estimates for a low-risk group of non-utility firms; and, (4) application of the Capital Asset Pricing Model ("CAPM") using forward-looking estimates; and (5) expected returns for electric utilities. These results were presented in Exhibits NET-306, NET-307, NET-308, NET-309, NET-310, and NET-311 to his direct testimony. (Exhibit NET-700, at 2).

533. Dr. Avera's original analyses were based on a proxy group composed of 41 companies, which he referred to as the "National Group." In his updated analysis, he reapplied the same proxy group screening criteria used in his original analyses and identified on pages 25-26 of Exhibit NET-300. In so doing, Dr. Avera updated his proxy group evaluation to incorporate revisions to the corporate credit ratings published by Standard & Poor's Corporation ("S&P"). In addition to changes in corporate credit ratings, his updated analyses also reflect the fact that data published in the Value Line Investment Survey ("Value Line") for Duke Energy consider the impact of its completed merger with Progress Energy. Considered together, incorporating these updates resulted in an updated National Group composed of 44 utilities, which are identified on Exhibit NET-701, along with the corresponding corporate credit ratings. (NET-700, at 3-4).

534. Dr. Avera calculated the dividend yields based on data for the six months ending March 31, 2013. For the growth rates, he relied on the most recent data available at the time he prepared his updated analyses. Dr. Avera states that, as shown in Exhibit No. NET-702, after reflecting current information, the costs of equity for the National Group implied by the Commission's DCF method ranged from a low of –0.07% to a high of 12.2%. (Exhibit NET-700, at 4).

535. Dr. Avera's ROE analysis for the National Proxy Group using the FERC DCF Model resulted in an adjusted DCF zone of reasonableness of 7.3% to 12.2%, with a midpoint of 9.8%. Dr. Avera maintains that the fact that current unprecedented low interest rates are not expected to continue, together with data showing the required equity risk premium above utility bonds has increased in this abnormal environment, means that the midpoint of the DCF range understates investors' required return, warranting an ROE from the upper half of the zone of reasonableness. The midpoint of the upper half of his updated DCF zone is 11.0%. (Exhibit NET-700, at 8). The midpoint for his traditional DCF analysis is 9.2%. (Exhibit NET-702).

536. Dr. Avera's ROE analysis for the National Proxy Group using the Expected Earnings Approach resulted an adjusted range of reasonableness of 8.1% to 16.1%, with a midpoint of 12.1%. (Exhibit NET-700, at 14).

537. Dr. Avera explains that these updated results are incorporated in his testimony to reflect the most current information now available concerning the inputs to the Commission's DCF model and his alternative ROE benchmarks. He states further that the findings and conclusions of his earlier filed testimony remain unchanged. The results of his updated evaluation continue to support his conclusion that that the 11.14% base ROE currently approved for the NETOs falls within the DCF zone and remains just and reasonable. Dr. Avera contends that the results also indicate conclusively that the midpoint of the Commission's DCF range remains downward biased and insufficient to meet regulatory standards or established policy goals. (Exhibit NET-700, at 15-16).

538. On April 26, 2013, the NETOs moved to file a supplement to their updated DCF analysis based on a significant change that came to light shortly after they filed their update. In particular, a recent analyst report shows the growth earnings rate projection for a proxy group member, UIL Holdings, moved from 4.1% to 8.07% , making UIL rather than Public Service Company of New Mexico, the high end of Dr. Avera's national proxy group. The result adds 50 basis points to Dr. Avera's ROE opinions, with his traditional DCF analysis now at 9.7%, and his modified DCF analysis using projected forecast yields, at 10.3% (NET Exhibit 702 updated). Complainants and Staff objected to admission of this evidence. However, the undersigned, after hearing oral argument by the parties, rejected the objections and admitted the evidence into the record at the pre-hearing conference on May 1, 2013.

4. Ms. Joe

539. Ms. Joe's updated DCF analysis using market data for the six month period ending March 31, 2013, results in her recommended base ROE equal to the midpoint value of 8.93 percent within a zone of reasonableness of 6.12 percent to 11.74 percent, as shown on page 1 of Exhibit No. S-6. Ex. S-5 at 2. Ms. Joe states that her midpoint result is based on an appropriate comparable-risk proxy group and provides a fair and reasonable base ROE that fairly balances the Commission objectives of protecting ratepayers from excessive rates

while fairly compensating equity investors and ensuring optimal transmission investment for the benefit of the public. (Exhibit S-5, at 2).

540. Ms. Joe explains that her updated proxy group consists of eleven transmission-owning risk-comparable electric utilities in the ISO-NE, PJM, and NYISO RTOs as shown on page 2 of Exhibit S-6. Ms. Joe states that this is the same group of electric utilities used in her previously filed testimony except that she eliminated Exelon because it no longer met her criterion of having no announced dividend cuts during the three years preceding the end of her period of analysis. Exelon has announced that it will cut its dividend by 41 percent in the second quarter of 2013. (Exhibit S-5, at 2-3).

541. Ms. Joe states that in selecting her proxy group she reviewed again both the Standard and Poors' and Moody's credit ratings of both the ISO-NE target TOs and her proxy group for the updated market period of analysis. She maintains that her proxy group continues to be highly comparable to the diverse target ISO-NE TOs, both in quality and the proportionate distribution of the span of that credit rating risk quality. (Exhibit S-5, at 3).

542. Ms. Joe states that her updated DCF results provide a fair and reasonable RTO-wide base ROE for the ISO-NE transmission owners. She explains that Local Network Service which is primarily distribution service would receive a midpoint base ROE of 8.93 percent, Regional Network Service would receive an ROE of 9.43 percent, and the incentive transmission projects would receive ROEs between 9.93 and 11.74 percent, which are all in the upper ranges of the zone of reasonable results. Ms. Joe states that the financial integrity of the ISO-NE transmission owners would be maintained, they would be able to attract equity capital favorably, if needed at all, and equity investors would be fairly compensated commensurate with the risks they undertake and their required returns in light of investment opportunities in alternative, comparable risk enterprises. (Exhibit S-5, at 6).

543. Ms. Joe states that aside from her updated recommended ROE and zone of reasonable results, there are no other modifications to her conclusions and recommendations presented in her earlier filed testimony. (Exhibit S-5, at 7).

IV. SUMMARY OF FINDINGS

544. The undersigned finds the current base ROE of 11.14% is not just and reasonable. The undersigned agrees with the NETOs that two defined time periods are appropriate when determining a new base ROE and finds that the just and reasonable ROE for the refund period of 10.6% and for the prospective period of 9.7% are the just and reasonable ROEs in this case.[41] In general, the undersigned finds the opinions of Ms. Joe, Dr. Woolridge and Dr. Wilson, to be probative to corroborate the finding that the current 11.14% ROE is no longer just and reasonable. To other issues, the undersigned finds the testimony of Ms. Joe to be probative that the Complainants' experts' methodologies differed too greatly from

[41] This is an alternative position offered by the NETOs. *See* NETO IB, at 19.

Commission precedent to be more useful in this case, as well as Dr. Avera's opinion on this issue. (HR. TR. Vol., at 1016-1018; Exhibit S-1, at 125-133). Dr. Woolridge initially recommended use of the median instead of the midpoint and Dr. Wilson recommended a figure at the bottom of the range of reasonableness.[42] These recommendations are given little weight as to what a new just and reasonable ROE is for the NETOs. The undersigned further finds the testimony of Dr. Avera using his traditional DCF analysis approach to be highly probative in establishing the new just and reasonable ROEs for the respective time periods, and adopts the methodology he used in this case for purposes of this decision, including his proxy group selection, dividend yields and growth rates calculations. Ms. Joe's testimony is sufficiently probative to serve as corroborating evidence, but the undersigned finds adoption and use of a national proxy group is appropriate in this case. The following specific findings should be read cumulatively. Analysis set forth in footnotes in this decision should be read as part of this decision.

V. FINDINGS

Issue I. (General)

A. What policy objectives should be taken into account in determining the just and reasonable RTO-wide ISO-NE Base ROE in this proceeding?

545. The undersigned finds policy objectives should be left to the discretion of the Commission. In reaching the findings herein as directed by the Commission involving the issues relevant to this case, the undersigned has followed relevant legal precedent including the two Supreme Court cases recognized and cited by the parties in this proceeding, which acknowledge the balancing interests of ratepayers and the need for investment; *Bluefield Water Works & Improvement Co. v. Public Service Commission*, 262 U.S. 679 (19230 and *Federal Power Commission v. Hope Natural Gas Co*., 320 U.S. 591 (1944). Moreover, a recent case from the District of Columbia Circuit Court of Appeals, re-affirms the Commission use of the traditional DCF analysis. *See So. Cal. Edison Co. v. FERC*, No. 11-1471 (D.C. Cir. May 10, 2013).[43]

[42] Staff IB, at 22.

[43] *See* EMC IB, at 28, acknowledging Commission precedent is to use DCF analysis to determine a just and reasonable ROE.

B. What is the applicable burden of proof, and has it been met?

546. All parties acknowledge that the burden of proof is on Complainants and Staff pursuant to Section 206 of the Federal Power Act, 16 U.S.C. Sec. 824e, to establish that the current ROE is unjust and unreasonable. That burden has been met and is discussed in the undersigned's findings pertaining to ROE below, as well as the undersigned's findings pertaining to establishing the appropriate and just and reasonable ROE.[44]

C. Should the existing RTO-wide ISO-NE Base ROE be retained if it is within the zone of reasonableness?

547. The undersigned rejects the NETOs' position that the current ROE of 11.14% should be retained merely because it falls within the broad range zone of reasonableness of the experts' DCF analysis. A bright line litmus test of this sort is contrary to FERC precedent and is simply illogical when applied to the facts of this case. The undersigned adopts the Staff and Complainants' position on this issue and finds the Commission has previously rejected this argument in *Bangor Hydro-Electric Co.*, 122 FERC ¶ 61,038 (2008).[45] All of the evidence in this case including expert opinions offered by Ms. Joe, Dr. Woolridge and Dr. Wilson, as well as the more traditional DCF analysis offered by the NETOs' expert, Dr. Avera, supports the finding that the ROE of 11.14% is no longer just and reasonable. Dr. Avera concedes that current 10 year United States Treasury bond yields are well below 2%, a substantial change from market conditions when the 11.14% ROE was established.[46]

D. Should the RTO-wide ISO-NE Base ROE be set at the Commission's current best estimate of the cost of equity capital for ISO-NE transmission facilities?

548. See cumulative answers. The undersigned agrees with the NETOs to the extent that the new just and reasonable base ROE should be based upon the appropriate market conditions available within the relevant time periods, which include the refund and

[44] Staff PRE-HR BR, at 5-6; Staff IB, at 10-19; Staff RB, at 13-14; CP PRE-HR BR, at 6; CP IB, at 7: NETO PRE-HR BR, at 9; NETO IB, at 6; EMC IB, at 8-9.

[45] Staff's PRE-HR BR, at 7; Staff IB, at 14; Staff RB, at 16 (NETOs cite no case nor precedent to establish ROE is granted default status merely because it may fall within the broad and general zone of reasonableness); CP PRE-HR BR, at 6-7; CP IB, at 8; EMC RB, at 12-14. The arguments of Staff are persuasive on this issue and are adopted by the undersigned. *See* Staff RB, at 16-22. See also CP RB, at 10-18 (creating a zone of immunity for NETOs would be bad precedent).

[46] In Opinion 489, the Commission added 74 basis points to the ROE by administrative notice because the 10 year Treasury bond yields had risen from 4.2% to 5%. Dr. Avera testified at the hearing on May 9, 2013 that the 10 year Treasury bond yields were less than 1.80%. (Hr. Tr. Vol. 7, at 853). Current market conditions obviously no longer support the 11.14% ROE.

prospective periods, as discussed more fully below, but agrees with Staff, EMC, and Complainants, and finds the traditional DCF analysis as set by firm Commission precedent should be followed in this case, and that any deviation, or adoption of alternative methodology must necessarily come from the Commission.[47] Market conditions are considered within the DCF analysis.

549. The NETOs argue that the traditional DCF methodology has understated the NETOs true cost of equity in these unusual financial and economic times, arguing that alternate methods should be considered by the Commission. These arguments are rejected in this decision, but the Commission is free to consider any policy changes it believes are warranted to address the NETOs' arguments.

550. The NETOs' also argue that while their expert Dr. Avera does a traditional DCF analysis, he additionally performs numerous alternative analysis, including a CAPM Approach, Risk Premium Approach, Expected Earnings Approach, and modified DCF analysis, and other approaches as outlined in his testimony, and concludes that the current DCF method will understate the NETOs' cost of equity due to the prevailing unusual economic conditions caused in particular by the Federal government's imposition of historical low interest rates through the Federal Reserve Board. (Exhibit NET-300; NETO PRE-HR BR, at 13). The Complainants, EMC, and Staff argue to the contrary that the ROE should be established pursuant to traditionally recognized and adopted Commission DCF analysis precedent, and as indicated, the undersigned agrees, for purposes of this decision. Again, the undersigned finds that any deviation from Commission precedent, exceptions to, or exemptions made, must necessarily come from the Commission itself.[48]

551. Aside from his initial opinion that because the current ROE is within the broad range zone of reasonableness used in his DFC analysis it continues to be just and reasonable, the undersigned finds the testimony and analysis of Dr. Avera to be highly probative and well-reasoned, and supported by the evidence. However, the undersigned's findings are based upon the traditional DCF analysis offered by Dr. Avera, as set by firm Commission precedent, not upon his alternative methodologies. The Commission may raise or lower the ROE upon consideration of new alternative methods, or upon updating, as it deems appropriate.[49]

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[47] NETO PRE-HR BR, at 12; NETO IB, at 8; Staff IB, at 68-69; EMC IB, at 28.

[48] NETO PRE-HR BR, at 13; NETO IB, at 2-5, 106-119; Staff IB, at 68-72; CP IB, at 52-65.

[49] In addressing what the undersigned perceives as some of the most contentious arguments involving the legal sufficiency of the evidence in this case, the undersigned finds the traditional DCF analysis offered by Dr. Avera to be persuasive, and adopts his use of a national proxy group in this particular case on the basis that the current financial and market conditions are better served by use of a more diverse national proxy group, noting that

Complainants' expert, Dr. Woolridge, also found it necessary to use a national proxy group. (HR. TR., Vol., at 867). Although Opinion 489 happened to involve use of a regional proxy group, the Commission did not expressly prohibit use of a national proxy group under appropriate circumstances. Furthermore, the Commission has found national proxy groups use to be preferred since its Opinion 489 was issued, although those subsequent cases involve single companies, the trend has been in that direction. The undersigned further finds the NETOs' argument that since several of the NETOs do not have S&P financial ratings and/or Moody's ratings two notches lower than other S&P ratings, and that the national proxy group is therefore more reflective and comparable to the NETOs' situation, rather than the regional proxy group offered by Ms. Joe, also to be very persuasive (as well as the other arguments the NETOs offer in support of a national proxy group). *See* NETO IB, at 44. Ms. Joe's regional proxy group in this case is given moderate probative weight and serves as persuasive corroborating evidence to Dr. Avera's analysis and further provides substantial support that the current ROE of 11.14% is now unjust and unreasonable. Moreover, especially pertaining to the updated ROE evidence as was presented by all parties in this case pursuant to the procedural scheduling order, Ms. Joe's ROE updated analysis (9.01%,) as applied to the prospective period, is substantially close to Dr. Avera's traditional DCF analysis (ROE of 9.2%). These proposed ROE figures were calculated before inclusion of the supplemental evidence offered by the NETOs roughly two days after submission of the supplemental calculations and include new growth figures for a proxy group member, UIL. After which, if considered and factored into Ms. Joe's analysis, the ROEs of Ms. Joe and Dr. Avera are substantially similar; with Ms. Joe reaching an ROE of 9.6%, (HR. TR. Vol. 8, at 1031), and Dr. Avera at 9.7%. (Exhibits S-6; NET-700, 702, 703, 710-712; HR. TR., Vol. 8, at 1031). In fact, if using the mid-point, even Dr. Wilson comes much closer to Dr. Avera's ROE. *See* EMC IB, at 11. The Complainants also seem to accept Ms. Joe's analysis and conclusion of her 9.01% as an appropriate ROE (and as indicated it rises to approximately 9.6 % when calculating the new UIL growth rate. *See* CP IB, at 79). All in all, despite their multi-level criticism of each other's methodology, when examining the traditional DCF analysis of all the experts and when using the mid-point (instead of the median or some other point), the results are fairly close, as to the prospective period. That being said, the undersigned finds the updated and supplemental evidence offered by the NETOs pertaining to the increased growth rate of UIL Holding Company to be probative and finds it should be factored into to the DCF analysis. As indicated, this bumps up all the ROE results offered by the experts, for the prospective period. The new growth rate is substantiated not only from the IBES data provided by Dr. Avera through the Yahoo website, but by Ms. Joe as well through the Reuters' "RED" analysis. The undersigned finds sufficient market corroboration to support use of the 8.07% UIL growth rate, and finds it would be prejudicial to the NETOs not to consider it. The undersigned therefore finds these later updated ROEs opinions to be persuasive evidence, and adopts the 9.7% ROE update proposed by Dr. Avera in his traditional DCF analysis for the prospective period. As indicated, the undersigned also adopts the higher 10.6% ROE proposed by Dr. Avera initially for the locked in/refund periods discussed further in this decision, based upon his traditional DCF analysis. (Exhibit NET 702, at 2-updated; Exhibit NET 304).

Issue 2. DCF Methodology and Supporting Commission Precedent

A. What are the appropriate proxy group screening criteria and proxy group members?

552. In general, the theoretical DCF analysis standard is succinctly and fairly accurately described in both Staff's and the NETOs' Pre-Hearing and Initial Briefs.[50] However, as indicated above, as applied to this case, the undersigned adopts the traditional DCF analysis offered by Dr. Avera for his original and updated ROE opinions, calculations, and methodology, and his use of the national proxy group for this particular proceeding. The undersigned finds all of Dr. Avera's six proxy group screening criteria are appropriate for use in this case: inclusion as an electric utility in Value Line; six months of dividends without a dividend cut; no ongoing merger and acquisition ("M&A") activity; corporate credit ratings one notch above and below the subject utilities; five-year growth rates from IBES; and electric utilities covered by at least two industry analysts (where possible). These screening criteria have been used by the Commission in previous cases, and are appropriate for use in this case.[51]

553. There are four proxy groups proposed in this case. The undersigned finds Dr. Avera's proxy group substantially complies with Commission precedent.[52] The NETOs argue that

[50] Staff PRE-HR BR, at 10-18; Staff IB, at 24-32, 33-42, 47; NETO IB, at 38-100. Although Dr. Avera has several disagreements with Ms. Joe's summary of what exactly is the Commission's precedent pertaining to DCF analysis and her calculations in this case, as noted in his testimony (Exhibit NET 500, at 34-71), the main thrust of the differences in her reaching an initial recommended ROE of about 94 basis points lower than Dr. Avera's initial opinion (as applied to the locked-in period) is because of her use of a regional instead of a national proxy group. (HR. TR. Vol. 7, at 862-863). The Commission has clearly more recently favored use of national proxy groups, and the undersigned finds use of a national proxy group is appropriate in this case. (NETO RB, at 23-26).

[51] *See RITELine Illinois, LLC*, 137 FERC ¶ 61,039 at P 68 (2011) ("*RITELine*") (currently paying dividends, corporate credit ratings one notch above and below target, available IBES and Value Line data, no recent M&A activity); *N. Pass Transmission, LLC*, 134 FERC ¶ 61,095 at P 46 (2011); *S. Cal. Edison Co.*, 131 FERC ¶ 61,020 at P 51.

[52] *See Atlantic Path 15, LLC*, 122 FERC ¶ 61,135 at P 20 (2008), *order on reh'g*, 133 FERC ¶ 61,153 (2010). In *Atlantic Path 15*, the proxy group included utilities with a "Thompson Financial First Call growth rate," which Atlantic Path 15 witness Coyne stated he accessed using *Yahoo! Finance*. (HR.TR. Vol. 7, 802:21-803:2; 805:1-5). *Yahoo! Finance* is the source of the IBES five-year growth rate data relied upon by the Commission. (Exhibit S-1, at 35-36; S-17; Exhibit NET-500 at 43-44; HR. TR. Vol. 7, 804-20-805:5). *See also S. Cal. Edison Co.*, 131 FERC ¶ 61,020 at PP 32, 51 (2010) (using same proxy group criteria as Dr. Avera except $1 billion of minimum revenues, which is inapplicable here given the NETOs' sizes).

Ms. Joe's, Dr. Woolridge's, and Dr. Wilson's proxy groups, in contrast, are all unusable and deviate from Commission policy. The undersigned finds these arguments to be persuasive to varying degrees as to Dr. Woolridge and Dr. Wilson. Obviously, the distinguishing factor with Ms. Joe is her use of a regional proxy group, which the undersigned finds under-valued her proposed ROE analysis. These key deficiencies, as alleged by the NETOs, are as follows (NETO RB, at 20-22): The regional proxy group, sponsored by Ms. Joe:

a. excludes comparable utilities based on geography alone, despite the fact that the Commission switched to national proxy groups in 2010, and since that time has never rejected a national proxy group;

b. relies primarily on companies that are vastly larger than most of the NETOs and whose utility businesses are housed and do business in other geographic regions (Making them not true regional proxy group members);

c. disregards the Commission's well-established comparable band test (the "one notch rule") for assembling a proxy group;

d. excludes a utility from the proxy group if her background investigation of the IBES growth rate for the utility using proprietary data fails to satisfy Ms. Joe's new requirements which were never before imposed by the Commission; and,

e. requires each proxy group member to have paid dividends for three years without any cuts, in reliance on *Golden Spread*, when just two years ago the Commission rejected this argument and criticized Staff for making this very same contention about *Golden Spread*.

554. The proxy group, sponsored by Dr. Woolridge:

a. was assembled using the screening criteria that Dr. Woolridge uses in state ROE proceedings, but which are foreign to the FERC jurisdiction, including;

b. requires that a proxy group company be included in the monthly industry publication from *AUS Utility Reports*, a proxy group screening criterion that the FERC has never used;

c. requires that a proxy group company derive at least 50% of its revenues from regulated electric utility operations, a proxy group screening criterion that the FERC has never used; and,

d. requires that each proxy group company be followed by multiple financial services companies, a proxy group screening requirement that the FERC has never used;

e. uses the same three-year dividend requirement advocated by Ms. Joe, addressed above, which the Commission has expressly disavowed.

555. The proxy group sponsored by Dr. Wilson:

a. populates whatever proxy group Dr. Avera used in his prior round of testimony with new data, but without screening the proxy group using the screening data available at the time of his testimony, thereby producing hybrid analyses that are of no value, since the proxy group composition also changes as the data change. (NETO RB, at 20-22).

556. Since the undersigned finds that a national proxy group will more accurately reflect an appropriate DCF analysis as applied to establishing an ROE for the NETOs, in this particular case and at this particular time, Ms. Joe's opinions pertaining to the new ROE are given only moderate probative weight, since she used a regional proxy group. However, as noted, at least as pertaining to the prospective period, Ms. Joe's regional proxy group and analysis offers some probative corroborating evidence which the undersigned finds has value in this case. As stated, the undersigned finds the regional proxy group offered by Ms. Joe provides sufficient corroborating evidence to support the finding that the current ROE is not just and reasonable and that the new ROE for the prospective period of 9.7% is the just and reasonable ROE. In fact, Dr. Avera testified that he used all of Ms. Joe's proxy group members in his national proxy group and found them to be acceptable. (HR. TR. Vol. 7, at 862-863). Accordingly, the undersigned finds Dr. Avera's traditional DCF analysis substantially followed established Commission DCF criteria and analysis, in the methods reflected in his Exhibits NET 304 & 702 (updated). This includes adoption of his opinions for ROEs of 10.6% for the locked in/refund period and 9.7% for the prospective period. (Exhibits NET 304; NET 702, at 2-updated). These ROEs of 10.6% and 9.7% are Dr. Avera's hard numbers, based upon his traditional DCF analysis, and is substantially consistent with established Commission precedent. (HR. TR. Vol. 7, at 857). In this regard, the undersigned adopts Dr. Avera's proxy group members and finds his screening criteria to be appropriate as applied to this case.[53]

557. The undersigned further agrees with the NETOs that it appears as though the Commission has since 2010 favored national versus regional proxy groups.[54] There have not been any new diverse utility cases to which this policy in favor of national proxy groups could be applied prior to the present case, but the rationale for using a national proxy group here is just as compelling and the undersigned finds that in these volatile economic times use of a national proxy group is the prudent choice.

[53] NETO RB, at 20-36.

[54] NETO RB, at 23.

558. The undersigned further finds Dr. Woolridge's and Dr. Wilson's methodology, including their proxy group selection process, deviate more substantially from the Commission's more traditional DCF analysis for the reasons asserted by Dr. Avera and Ms. Joe in their testimonials, including Dr. Woolridge's initial opinion to use the median instead of a mid-point in his zone of reasonableness to assess ROE for a diverse group of electric utilities as the NETOs. (Exhibit S-1, 130-139; NET-300, at 117-125). Moreover, Dr. Wilson's analysis was based upon cherry-picking Dr. Avera's proxy group, rather than selecting his own, and is therefore of limited value. As indicated, Dr. Woolridge's and Dr. Wilson's analyses and opinions are found to be probative to corroborate use of a national proxy group and for the ultimate issue that the current 11.14% ROE is unjust and unreasonable. Little weight is given to their opinions as to what a new just and reasonable ROE should be.[55]

B. How should the dividend yields be calculated?

559. See cumulative answers.[56] The dividend yield is one of two components in the DCF calculation (DCF cost of equity = dividend yield + growth). The undersigned finds that consistent with Commission precedent, Dr. Avera calculated the average high and low dividend yield for each member of his proxy group for the six-month period preceding his DCF analysis. (Exhibit NET-300, at 30). For his November 20, 2012 DCF analysis, he used dividend yield data for the six-month period ending October 2012, and for his April 17, 2013 and April 26, 2013 DCF analyses he used dividend yield data for the six-month period ending March 2013. (Exhibit NET-300, at 30; Exhibit NET-304, note (a); Exhibit NET-702 updated, note (a)). He then correctly increased these yields by one-half of the high and low growth rates to convert them to adjusted dividend yields. (Exhibit NET-300, at 30). This conforms to Commission practice.[57] Ms. Joe calculated her dividend yields the same way. (Exhibit S-1, at 40-41).

560. The six-month period that Dr. Avera used to calculate the dividend yields in his November 20, 2012 testimony is contemporaneous with the fifteen-month refund period, and therefore these dividend yields should be used for the base ROE analysis for the Refund Period. The dividend yields that Dr. Avera calculated in his April 26, 2013 testimony represent the latest monthly dividend yields available to him at the time he prepared his testimony shortly before the hearing, and should be used for the Base ROE analysis for the prospective period (subject to updating by the Commission). The NETOs further argue that

[55] The undersigned further adopts the rationale and rebuttal positions offered by Dr. Avera and the NETOs involving the proxy group selection process involving other arguments raised by the Complainants and Staff including: comparable risk band, dividend payments, two industry analyst, source of revenue, and risk assessment. (*See* NETO RB, at 23-35).

[56] NETO RB, at 36-44.

[57] *Pepco Holdings, Inc.*, 124 FERC ¶ 61,176 at P 119 (2008).

none of the dividend yield calculations included in the other parties' base ROE updates are appropriate for the refund period, as they only cover the last three (Dr. Avera, Dr. Woolridge and Dr. Wilson) or two (Ms. Joe) months of this period, and include three (Dr. Avera, Dr. Woolridge and Dr. Wilson) or four (Ms. Joe) months that are not even part of the refund period. (NETO IB, at 65-66).

561. As noted above, both Dr. Avera and Ms. Joe calculated their dividend yields in accordance with Commission policy,[58] where the high dividend yield and the low dividend yield are calculated for each month of the six-month dividend yield period. The high dividend yield for a given month is equal to the current annualized dividend divided by the lowest stock price on any day in the month, while the low dividend yield for a given month is equal to the current annualized dividend divided by the highest stock price on any day in the month. The high dividend yield for the six-month dividend yield period is then equal to the average of the six monthly high dividend yields, and the low dividend yield is equal to the average of the six monthly low dividend yields. (Exhibit S-1, at 40-41; Exhibit NET-300 at 30).

562. The NETOs also persuasively argue that the Complainants recognize that their methodology for calculating the dividend yield has a serious methodological error. The NETOs argue Dr. Woolridge did not use the Commission's long-standing methodology for calculating the dividend yield, which is to determine the average low and high dividend yields during the most recent six-month period,[59] and as a result, all of Dr. Woolridge's dividend yields, and thus his DCF results, are fatally defective. The undersigned finds there is merit to this argument.

563. Furthermore, the undersigned rejects Staff's synchronization of dividend yields and growth rate data argument it raised in its Briefs and finds NETOs' position in rebuttal to be persuasive. The NETOs argue that Dr. Avera's April 26, 2013 testimony used updated IBES growth rate projections from April 23, 2013. Staff asserts that use reflects "a mismatch between updated analyst growth rate estimates and lagging dividend yield inputs that are based on data ending March 30, 2013." (Staff IB, at 33). Staff notes that when Dr. Avera used April 23, 2013 growth rate estimates, he failed to include "similarly updated dividend yields," arguing that Dr. Avera should have updated his dividend yields through April 23,

[58] *Appalachian Power Co.*, 83 FERC ¶ 61,335 at 62,350 (1998).

[59] *See* NETO RB, at 39-44; *Appalachian Power Co.*, 83 FERC ¶ 61,335 at 62,350 (1998). In that case the Commission cited to *Orange & Rockland Utils., Inc.*, Op. No. 314, 44 FERC ¶ 61,253 at 61,953 & n.17, *on reh'g,* Op. No. 314-A, 45 FERC ¶ 61,252 (1988), for its policy that dividend yields should be based upon the average high and low dividend yield for the six-month period.

2013, the date Dr. Avera acquired his growth rate data.[60] The NETOs argue that the focus of this argument is UIL Holdings, for which the IBES growth rate changed just prior to April 23, 2013.[61]

564. The NETOs argue that Staff is mistaken. The universal practice at the Commission is to use the most recent growth rate data available at the time of the DCF analysis in conjunction with the most recent *month-ending* dividend yield data.[62] The undersigned agrees. The Commission has not followed the practice advocated by Staff, nor did any other witness in this case.

C. How should the growth rate(s) be calculated?

1. What, if any, source(s) of analysts' long-term growth rate forecasts should be relied upon?

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[60] Dr. Avera used IBES growth rates from April 23, 2013 and Value Line growth rates from February 1, 2013 through March 29, 2013. (Exhibit NET-711 at 1-55; Exhibit Net-712, at 54-100; Exhibit NET-702 Updated, Note (d)).

[61] The NETOs assert that Ms. Joe's January 18, 2013 testimony argued that the IBES growth rate data must be acquired on the date that the six-month dividend period ends. (Exhibit S-1, at 79). In that situation, the NETOs argue she proposed the opposite remedy from that which she proposes with respect to Dr. Avera's April 23, 2013 DCF analysis: she argued that the IBES data used in Dr. Avera's November 20, 2012 analysis should be *back-dated* to the end of the six-month dividend period, rather than that the six-month dividend period should be *updated* to the IBES acquisition date. (Exhibit S-1, at 79). In that situation, back-dating the IBES data decreased the growth rate for Great Plains Energy from 10.5% to 5.25%. (Exhibit S-1, at 79). The NETOs continue to assert that had she sought the same remedy for Dr. Avera's November 20, 2012 testimony as she seeks for his April 26, 2013 testimony (updating the dividend yield period to the date that Dr. Avera acquired the IBES data), the midpoint of Dr. Avera's DCF results would have increased by ten basis points. (Exhibit NET-500, at 54).

[62] *See, e.g., PJM Interconnection, L.L.C.*, 139 FERC ¶ 61,068 at P 84 (2012) (utilizing six-month data ending October 2011); *So. Cal. Edison Co.*, 139 FERC ¶ 61,042 at P 27 (2012) (utilizing six-month data ending September 30, 2008); *SFPP, LP*, 137 FERC ¶ 61,220 at PP 257-58 (2011) (utilizing six-month data ending on September 30, 2010 and only considering alternative six-month periods which utilized month-end data); *RITELine*, 137 FERC ¶ 61,039 at P 68 (utilizing six-month period ending May 2011); *Portland Nat. Gas*, 134 FERC ¶ 61,129 at PP 162, 246 (2011) (utilizing six-month period ending in April 2009); *N. Pass Transmission, LLC*, 134 FERC ¶ 61,095 at P 46 (utilizing six-month period ending November 2010); *S. Cal. Edison Co.*, 133 FERC ¶ 61,269 at P 23 (2010) (utilizing six-month period ending September 2010).

2. How, where used, should the fundamental growth rate (br+sv) be calculated?

565. See cumulative answers.[63] In his November 20, 2012 testimony, Dr. Avera used growth rates from 2012 (Exhibit NET-304), and these are appropriate for the base ROE for the refund period. The growth rate estimates in Dr. Avera's April 26, 2013 testimony represent his latest growth rate estimates prior to the hearing, and should be used for the base ROE analysis for the prospective period (subject to updating in accordance with Commission policy).

566. The undersigned agrees with the NETOs and finds that the Commission has relied upon IBES growth rate projections in its DCF analysis. Consistent with this policy, Dr. Avera used the five-year IBES growth rate forecasts published by *Yahoo! Finance* as the source of the analysts' long-term growth rate forecasts. (Exhibit NET-300, at 31, 33; Exhibit NET-304; Exhibit NET-500, at 53; Exhibit NET-710, at 4). *Yahoo! Finance* is the source of the IBES growth rates that the Commission has relied upon for many years. (Exhibit NET-500 at 58; Exhibit S-1, at 35-36). Dr. Wilson and Dr. Woolridge relied upon *Yahoo! Finance* as well (Exhibit SC-100, at 30; Exhibit EMC-2). Moreover, Ms. Joe acknowledged that she exclusively used *Yahoo! Finance* for her growth estimates in the two prior cases in which she testified as Staff's ROE witness. (HR. TR. Vol. 8, at 913).

567. Moreover, the undersigned rejects the Complainants' and Staff's arguments contesting the specific growth rates for certain proxy group members including Empire District, Great Plains Energy, UIL Holding and Hawaiian Electric for the reasons set forth in NETOs' Reply Brief. (NETO RB, at 74-84).

568. The undersigned further finds that Dr. Avera calculated the sustainable (fundamental) growth rate for his proxy groups using the Commission's standard "br+sv" formula. (Exhibit NET-300, at 31; HR TR. Vol. 7, at 863-864). The resulting growth rates are shown in Exhibit NET-305 and Exhibit NET-703. The NETOs argue correctly that all expert witnesses used this same "br+sv" formula in their calculations as well. (*See* Exhibit S-1 at 42; Exhibit SC-315, at A10; Exhibit EMC-2). The NETOs also argue that Ms. Joe incorrectly calculated the "s" component by utilizing the historical rather than projected market-to-book ratio. More specifically, she explained that "'s' is the average annual expected growth rate of common shares multiplied by P/B where 'P' is the simple average of stock prices observed over the six month period of analysis and 'B' is the midpoint book value of common shares during the six month period of analysis." (Exhibit S-1, at 42).

569. The NETOs assert that the purpose of the "sv" component is to capture the impact of future sales of common stock at a price above, or below, book value. (Exhibit NET-500, at 69; NETO IB, at 85-87). In order to reflect expectations over the future horizon, the percent of new common stock equity ("s") should be calculated as the product of the projected

[63] NETO RB, at 44-53.

market-to-book ratio and growth in common shares outstanding. (Exhibit NET-500, at 69-70). They assert that Ms. Joe has a timing mismatch in her calculation because, instead of incorporating the expected market-to-book ratio corresponding to Value Line's forecasts, her analysis used data that is three to five years removed. (Exhibit NET-500, at 70). This approach is at odds with Commission precedent, according to the NETOs.[64]

570. In a case setting the ROE for the MISO transmission owners for hearing, the Commission noted that the analysis correctly used "predominately forward-looking growth projection data, and not historical data".[65] Ms. Joe seemingly did agree while on the witness stand during cross-examination that the growth rate the Commission requires is a five-year forward growth rate "both for BR+SV and for the analyst growth estimates". (HR. TR. Vol. 8, at 960). The NETOs assert that it is unknown how much Ms. Joe's error affected her results, but in any event, since the undersigned accepts Dr. Avera's proposed ROEs, it is insignificant for purposes of this decision. (NETO IB, at 86-87).

D. What are the high-end and low-end outliers for the proxy group, and what DCF results, if any, should be excluded as a consequence?

571. See cumulative answers.[66] The undersigned finds Dr. Avera's criteria for applying high and low outliers in this case substantially complies with Commission precedent as pertaining to his traditional DCF.

572. All parties agree that Commission precedent requires the exclusion of cost of equity results in the proxy group where such cost of equity estimates fail "fundamental tests of reasonableness and economic logic."[67] The Commission has repeatedly applied the same high end outlier test since 2004, holding that a company's results should be excluded from the range of reasonableness if its cost of equity estimate (i.e., its DCF result) is at or above 17.7% and its growth rate is at or above 13.3%.[68]

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[64] *Midwest Indep. Transmission Sys. Operator, Inc.*, 100 FERC ¶ 61,292 at PP 13, 17.

[65] *Id*. at P 17.

[66] NETO RB, at 53-63.

[67] *Se, So. Cal. Edison Co.*, 131 FERC ¶ 61,020 at P 57; *ISO New England, Inc.*, 109 FERC ¶ 61,147 at P 205.

[68] *See ITC Holdings Corp.*, 121 FERC ¶ 61,229 at PP 28, 42 (2007); *Potomac-Appalachian Transmission Highline LLC*, 122 FERC ¶ 61,188 at P 100 (2008), *order on reh'g*, 133 FERC ¶ 61,152 at PP 20, 40, 64 (2010) ("*PATH*"); *S. Cal. Edison Co.*, 131 FERC ¶ 61,020 at P 57; *So. Cal. Edison Co*., 139 FERC ¶ 61,042 at PP 54, 60; *RITELine*, 137 FERC ¶ 61,039 at PP 68-73; *N. Pass Transmission LLC*, 134 FERC ¶ 61,095 at PP 46, 52-54.

573. The methodology that the Commission has employed to eliminate low-end outliers has evolved somewhat over time, but in recent years, the Commission has held that "it is reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more".[69] The Commission also noted that its approach to eliminating low-end outliers "gives the Commission flexibility to exclude from the proxy group companies whose low-end ROE is somewhat above the average bond yields, but is still sufficiently low that an investor would consider the stock to 'yield essentially the same return'."[70] The Commission has not established an economic rationale in support of a strict use of a 100 basis point test tied to historical bond yields, so the undersigned agrees that flexible application of the low end outlier test is appropriate.[71]

E. What other issues related to the DCF methodology should be considered?

574. See cumulative answers.

575. While the undersigned rejects the alternative financial models offered by Dr. Avera in finding the just and reasonable ROE for this proceeding on the basis that such models do not conform to Commission precedent, nor to any of the other modified notions of the DCF analysis such as the one offered by Dr. Avera at Exhibit NET 702, at 1, updated, using forecasted bond yields, the undersigned nevertheless further observes that the Commission at its discretion may consider the use of the alternative methodologies in this particular case if it finds it is necessary to adjust the ROE to meet the legal and policy considerations set forth in the *Hope* and *Bluefield*, if and when the Commission updates and/or modifies ROE.[72]

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[69] *So. Cal. Edison Co.*, 131 FERC ¶ 61,020 at P 55.

[70] *Id.* (citing *S. Cal Edison Co.*, 92 FERC ¶ 61,070 at 61,266).

[71] While Staff has a valid point that Dr. Avera should have retained Edison International's 5.9% cost of equity estimate from his November 2012 DCF analysis the undersigned finds the arguments of the NETOs that economic conditions provided Dr. Avera a sound basis for utilizing- some flexibility in his decision to exclude that company, to be persuasive. (Exhibit NET RB, at 59-60; Staff IB, at 44-45). The undersigned further rejects the NETOs position that for the prospective period, a targeted adjustment to the low- end outlier test to reflect the current volatile economic climate should be made by adopting 100 basis points over the relevant average projected utility bond yields for 2013-2017 as the threshold for eliminating low-end outliers. The undersigned agrees with the position of Staff, EMC and the Complainants that the use of projected bond yields in Dr. Avera's "modified" DCF analysis for the projected period is too speculative. (*See* Staff IB, at 44-46; CP IB, at 33, EMC IB, at 22-23; NETO RB, at61; Exhibit NET-700, at 5-8). Accordingly, the undersigned accepts only Dr. Avera's traditional DCF analysis.

[72] *Bluefield Water Works & Improvement Co. v. Public Service Commission*, 262

576. In this regard, the undersigned finds the testimony of Ms. Lapson and Dr. Avera that if ROE is set substantially below 10% for long periods (although Ms. Lapson's testimony seems to allow for some broader range), it could negatively impact future investment in the NETOs. (HR. TR., Vol. 7, at 855-856; HR. TR. Vol. 5, at 536), to have moderate probative value. If transmission investment is substantially limited in the future, it will have a negative impact upon operational needs, reliability, and ultimately ratepayers' future costs.

Issue 3. Other Considerations in Setting the RTO-wide ISO-NE Base ROE

A. What financial models other than the traditional DCF analysis should be used in evaluating the RTO-wide ISO-NE Base ROE, what are the results of those models, and what weight should be accorded those results?

577. See cumulative answers.[73]

B. In determining the just and reasonable RTO-wide ISO-NE Base ROE, what is Commission policy, and what, if any, changes in Commission policy are appropriate?

578. See cumulative answers. Commission policy is a matter of record and within the sole province of the Commission.[74]

C. What is the impact of current capital markets on the ROE calculation?

579. See cumulative answers.

580. The ultimate issue is the just and reasonable ROE for this proceeding and market conditions are relevant in formulating the appropriate ROE according to established Commission precedent.

D. For what time period(s) does the RTO-wide ISO-NE Base ROE determined in this proceeding apply, and what ROE analysis or analyses is or are applicable to those time period(s)?

581. See cumulative answers.

U.S. 679 (19230 and *Federal Power Commission v. Hope Natural Gas Co*., 320 U.S. 591 (1944).

[73] DCF analysis is firm Commission precedent and consistent with long-standing ratemaking principles. Staff RB, at 54.

[74] As indicated, Commission policy requires the use of traditional DCF analysis. EMC RB, at 30.

582. The NETOS argue that if the undersigned finds the NETOs' current base ROE is unjust and unreasonable, the undersigned will have to choose a new base ROE from a point within the zone of reasonableness. According to the NETOs, the new base ROE established in this case will have to apply to two different time periods. First, Section 206 establishes a 15-month refund period, which ended on December 31, 2012. The base ROE established for this "locked-in" period must be based on the cost of equity evidence that applies to that time period, i.e., the DCF and other analyses submitted in the first round of testimony in 2012.[75]

583. Second, at the end of this case, a new base ROE will be established that will be in effect prospectively from the date of the Commission's order fixing the new rate. The base ROE established for this period must be based on the updated DCF and other financial analysis proposals submitted on April 17 and April 26, 2013, according to the NETOs.[76]

584. Staff and Complainants argue that only one updated ROE should be established and used for the entire period, with this being the ROE calculated on the lower and latest data.[77]

585. The undersigned finds the arguments for the NETOs that a separate higher ROE is appropriate for the locked in/refund period to be persuasive. Although this was not done in the previous case in Opinion 489, this issue was apparently not litigated, nor considered by the Commission. The NETOs argued exactly this position at the hearing. (HR. TR. Vol. 8, at 893-896). Staff seems to agree that this issue is an issue of first impression and the cases cited by the EMC in its Initial Brief to support a contrary position are not on point.[78] The DCF analysis and data for the period October 1, 2011 through December 2012, as supported by Dr. Avera's traditional DCF analysis, clearly support a higher ROE, in this case, of 10.6%. This defined refund period should be representative of what the true ROE was when calculating refunds, otherwise it would allow for a windfall and a return of excessive refunds, based upon supporting data which did not exist at the time. The lower ROE of 9.7% should then be utilized for the prospective period (a reduction of some 144 basis points). (Exhibit NET-702, at 2, updated).

Issue 4. ROE Determination

A. What is the zone of reasonableness for purposes of this proceeding?

586. See cumulative answers.

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[75] NETO PRE-HR BR, at 3-4; NETO IB, at 8-10.

[76] *Id.*

[77] CP PRE-HR BR, at 35; CP IB, at 4; Staff PRE-HR BR, at 33; Staff IB, at 87.

[78] Staff IB, at 72-73; EMC IB, at 32-33.

587. The undersigned adopts the zone of reasonableness as offered by Dr. Avera based upon his traditional DCF analysis. His calculations propose a zone of reasonableness of from 6.0%-15.2% for his traditional DCF analysis for the refund period and from 6.1% through 13.2% for his updated traditional DCF analysis, for the prospective period. (Exhibit NET 304; Exhibit NET 702, at 2-updated; NETO IB, at 10; NETO RB, at 104).

B. Is the existing RTO-wide ISO-NE Base ROE unjust and unreasonable, and what criteria are applicable to making this determination?

588. See cumulative answers.

589. The undersigned finds the current 11.14% ROE to be unjust and unreasonable.[79]

C. If the existing RTO-wide ISO-NE Base ROE is unjust and unreasonable, what is the just and reasonable Base ROE?

590. The just and reasonable ROE for the locked in/refund period is 10.6% and for the subsequent prospective period, 9.7%, subject to further updating or modification by the Commission.

591. Dr. Avera's November 2012 DCF results, using the Commission's methodology, show that the allowed base ROE for the fifteen-month locked-in refund period would be 10.6%, assuming that the base ROE is set at the midpoint between the high and low end.[80]

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[79] Complainants persuasively argue that even accepting Dr. Avera's calculations, a base ROE of 9.7% -10.3% relating to the prospective period is unjust and unreasonable. CP RB, at 1-3.

[80] The undersigned accepts Dr. Avera's explanation and inclusion of his high end proxy group members in his initial DCF analysis, finding he sufficiently answered criticisms from Staff pertaining to inclusion of Empire District especially, the highest end member, as well as the others. The undersigned finds that the Empire District short dividend cut was not due to a systemic problem, as testified to by Dr, Avera, and un-rebutted by the other parties. Since the DCF model is forward looking and since dividends were re-started, the undersigned finds Ms. Joe's criticisms for use of Empire District are not well founded. Likewise, the undersigned rejects her additional criticisms pertaining to Dr. Avera's high end proxy group members. (Exhibit NET 500, at 60). The undersigned finds Dr. Avera has sufficiently responded to the criticisms surrounding his selection of proxy group members, including the timing arguments alleged by Ms. Joe and has provided a reasonable basis to support his inclusion of his proxy group members. Additionally, Ms. Joe adopts her own deviation from traditional DCF analysis and recommends use of her own market sensitive methodology for identifying high end outliers. However, she did not apply it to Dr. Avera's proxy group members. (Exhibit S-1, at 80). All things considered, for the DCF model to work properly there needs to be appropriate high end proxy group members as well as low end members.

However, the NETOs assert that because of the distorting effects of historically low interest rates (due in part to the Federal government's unprecedented intervention in the capital markets), which directly affect the low end values in the FERC electric DCF analysis, Dr. Avera recommends that the ROE be set halfway between the midpoint and high end of the zone, which the Commission has done before. That would put the base ROE above the current base ROE of 11.14%, and no change would be required for the locked-in period. As indicated already, the undersigned rejects this argument.[81]

592. The weight of the evidence including Dr. Avera's own calculations and traditional DCF analysis, as corroborated by Ms. Joe, Dr. Woolridge and Dr. Wilson, all support a finding that the 11.14% ROE is no longer just and reasonable. Even most of Dr. Avera's alternative financial methodologies establish that 11.14% is too high.[82]

593. The NETOs further argue that Dr. Avera's updated DCF results (including the April 26, 2013 supplement), show that the allowed base ROE for the prospective period would be 9.7% if current bond yields are used to set the low-end value, and 10.3% if forecast bond yields are used to set the low-end value. The undersigned rejects the higher proposed 10.3% ROE on the basis of Ms. Joe's testimony, who opines that using forecast bond yields, is not consistent with Commission precedent. (HR. TR., Vol. 8, at 1022).

594. Dr. Avera also shows that if various alternative models to set allowed ROEs are used, the resulting ROEs fall in a range approximately between 10.5% and 12%. These alternative methodologies confirm, according to the NETOs, that his recommendation is correct, and that the much lower DCF results being reported by witnesses for the Complainants, EMCOS, and Staff are not valid.[83] As discussed above, the undersigned does not adopt these alternative methodologies in this proceeding.

595. Furthermore the undersigned observes that all expert witnesses in this proceeding, including Staff, deviated somewhat from a 100% strict conformance to traditional DCF analysis to the Commission's methodology for a variety of reasons, including making good faith assumptions to adopt Commission holdings and precedent from single utility cases to a

[81] The undersigned observes that while Staff does not agree with Dr. Avera's proposed ROEs of 10.6% and 9.7% (9.2% prior to considering UIL's newest growth rate), which the undersigned adopts in this case, Staff does acknowledge that Dr. Avera's methodology for reaching these ROEs are based upon the traditional DCF analysis adopted by the Commission. (*See* Staff PRE-HR BR, at 7, 19, & 24).

[82] NETO PRE-HR BR, at 26-27; NETO IB, at 119.

[83] NETO PRE-HR BR, at 4-5; NETO IB, at 106-120.

case such as this which involves the diverse NETOS, and to make pragmatic adjustments to the DCF economic analysis theory during a rather volatile and unstable economic period.[84]

596. However, in attempting to conform to the recognized DCF analysis to the extent possible, the undersigned finds the national proxy group to be a better method for determining a just and reasonable ROE in this proceeding, but finds Ms. Joe's regional proxy group provided substantial probative value to corroborate the findings in this decision, and to substantially corroborate Dr. Avera's ultimate opinions in establishing a just and reasonable ROE, for the prospective period.[85]

597. The undersigned further adopts the findings of fact and conclusions of law as proposed by the parties, which are set forth in Attachment A to this decision, and which are incorporated herein by reference.[86]

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[84] Staff accurately notes that there are very few diverse utility ROE cases. *See* Staff IB, at 22, n.16, where Staff observes the Commission has only twice before determined RTO-wide base ROEs for a diverse group of transmission owners.

[85] Although Ms. Joe's initial analysis of 9.66% for an ROE is lower than Dr. Avera's initial ROE of 10.6% (for the locked-in period), as indicated, in determining the ROE for the prospective period and when considering the supplemental evidence for the UIL increased growth rate, Ms. Joe's calculations reach a comparable 9.6% ROE, to Dr. Avera's 9.7%, for the prospective period. (HR. TR. Vol. 8, at 1031). The undersigned finds the supplemental evidence (relevant portions contained in Exhibits NET 700, 702, updated, 710-712) to be significant and probative. While Complainants and Staff challenged its lateness by two days, contended that it was probably supported by only one analyst, and that an additional RED report indicated a possible second analyst report of 4% growth, which should have been averaged with the 8.07 % growth rate; the undersigned rejects those arguments and finds the evidence is reliable. The undersigned finds counsel for the NETOs effectively made his point during cross examination of Ms. Joe that it was more likely than not that the 4% figure she referred to and relied upon to lower the growth rate by averaging, was more probable than not, an older stale report and not a new report predicting 4% growth. (HR. TR. Vol., at 973-989). In fact, whether only one or two analyst predicted the 8.07% growth rate for UIL, the undersigned finds it is significant that it was reported in both RED and IBES, and that sufficient financial confirmation was available to utilize this information in Dr. Avera's updated ROE analysis. (NET Exhibit 712, at 96; S-49, at 6). Moreover, proxy group screening criteria acknowledged by Ms. Joe to be Commission precedent does not require independent confirmation of estimated growth data by two independent analysts, but only to the extent possible. The undersigned finds the two separate sources to be sufficient confirmation for use in this proceeding, and that it would be prejudicial to the NETOs if it were not considered with all of the other economic data. (Staff PRE-HR BR, at 14).

[86] The adopted findings and conclusions offered by the parties should be read in conjunction with the above findings reached in the body of this decision, and are meant to

ORDER

The omission from discussion in this Initial Decision of any argument, testimony or exhibit, raised or offered by the parties at the hearing or in their briefs, does not mean that it has not been considered; rather, it has been evaluated and found to either lack merit or significance, or has been raised sufficiently in another context or by another party, such that inclusion would only tend to lengthen this Initial Decision without altering its substance or effect. Accordingly, all arguments, testimony and evidence made by the participants that were not specifically discussed and/or adopted by this decision, have been considered and rejected, or deemed not significant or repetitive.

IT IS ORDERED, subject to review by the Commission on exceptions or on its own motion, as provided by the Commission's Rules of Practice and Procedure, that within thirty (30) days of the issuance of the Final Order in this proceeding, all parties shall take appropriate action to implement all the rulings in this decision.

CERTIFICATION OF INITIAL DECISION

Pursuant to Rule 708(b)(3) of the Rules of Practice and Procedure, 18 C.F.R. Sec. 385.708(b)(3), the undersigned hereby certifies the Initial Decision to the Commission. The record will be identified in a supplemental certification and sent to the Commission forthwith.

Michael J. Cianci, Jr.
Presiding Administrative Law Judge

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provide clarification. The undersigned observes that many of the proposed findings were written in an adversarial manner or subject to differing interpretations, repetitive, or unnecessary, overly broad, and in some instances could not be adopted due to the phrasing of a sentence or single word. Moreover, any perceived differences between the findings in the body of the decision and the adopted findings and conclusions offered by the parties are unintentional, and the findings in the body of the decision should be read to control. Additionally, as to the NETOs proposed findings and conclusions, the undersigned uses *italic* font where necessary to add clarifying language.

ATTACHMENT A

Complainants' Proposed Findings and Conclusions:

1. This proceeding concerns the RTO-wide ISO-NE base Return on Equity, not incentive ROE adders.

3. The evidence of record demonstrates that the existing 11.14% base ROE has become unjust and unreasonable and that the just and reasonable, cost-based ROE is lower.

5. The base ROE should be set using the Commission's discounted cash flow (DCF) methodology.

EMC's Proposed Findings and Conclusions:

1. Sections 205 and 206 of the Federal Power Act (16 U.S.C. §§ 824d, 824e) require that all rates be just and reasonable.

2. This Commission must weigh the interests of the NETOs' investors against the protection of the New England consumers against excessive rates. *Pac. Gas & Elec. Co. v. FERC*, 306 F. 3d 1112, 1116 (D.C. Cir. 2002); *see also Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944); *see also Bluefield Waterworks and Improvement Co. v. Public Serv. Comm'n of West Virginia*, 262 U.S. 679, 692 (1923).

3. The existing 11.14 percent ROE may have been just and reasonable under previous market conditions, but it is unjust and unreasonable under the market conditions that currently prevail. *Bluefield Waterworks and Improvement Co. v. Public Serv. Comm'n of West Virginia*, 262 U.S. 679, 693 (1923).

7. The Commission's preference for the DCF methodology is clear, and must be respected. *S. Cal. Edison Co.*, 92 FERC ¶ 61,070, 61,261 n. 25 (2000); *Consumers Energy Co.*, 85 FERC ¶ 61,100, 61,361 (1998)

8. Commission precedent appears to support the use of a national proxy group when setting an RTO-wide ROE. *S. Cal. Edison Co.*, 131 FERC ¶ 61,020 at P 29 (2010); *Potomac-Appalachian Transmission Highline, LLC*, 133 FERC ¶ 61,152 at PP59-61 (2010).

Trial Staff's Proposed Findings and Conclusions:

1. The base ROE must fairly balance both shareholder and ratepayer interests.

3. The burden of proof is on the Complainants and Trial Staff, and they have met that burden.

4. Substantial evidence shows that the NETOs' existing base ROE is unjust and unreasonable.

8. The existing base ROE should not be retained merely because it falls near the upper end of the zone of reasonableness.

24. The Commission has consistently rejected the use of financial models other than the traditional DCF analysis.

66. Flotation costs should not be considered in setting the base ROE in this proceeding.

68. The Commission's standards for a just and reasonable base ROE in this proceeding dictate the use of the DCF methodology.

69. There has not been a case establishing an RTO-wide base ROE since Opinion No. 489.

73. Dr. Avera's proposal to adjust the Commission's methodology for establishing low end outliers based on projected bond yields is inconsistent with long-established Commission policy and rate-making principles reflected in precedent.

78. Since the current base ROE was established in *Bangor Hydro,* the market has been characterized by declining Treasury bond yields and public utility bond yields.

89. NETOs currently retain incentives, including a 50 basis point adder for RTO membership, and 150 to 175 basis points incentive adders for specific transmission projects that are not at issue in this proceeding.

92. The Commission has used the term "locked-in period" to refer to two situations that do not apply to the refund period in this proceeding.

97. The existing RTO-wide ISO-NE base ROE is unjust and unreasonable.

The NETOs Proposed Findings and Conclusions:

7. This is a Complaint proceeding under Section 206 of the FPA. FPA Section 206, 16 U.S.C. § 824e.

8. The Section 206 burden of proof to show that the existing base ROE is "unjust, unreasonable, unduly discriminatory, or preferential" is on those parties challenging the NETOs' existing base ROE. (FPA Section 206, 16 U.S.C. § 824e).

19. The DCF model consists of two parts: a dividend yield, which is directly observable, and a growth rate, which must be inferred from market data. (NET-300 at 28-30).

20. *In this case, under these circumstances,* the DCF model must be applied to a sufficiently large group of comparable companies to ensure that it fairly reflects investors' required returns on equity. (NET-300 at 25).

22. Dr. Avera's proxy group screening criteria are consistent with Commission precedent and create a proxy group that is of comparable risk to the NETOs. (NET-300 at 25-29).

23. Dr. Avera's proxy group in his November 20, 2012 testimony should be used to determine the ROE for the Refund Period. (NET-700 at 2-3).

24. Dr. Avera's proxy group in his April 26, 2013 testimony should be used to determine the ROE for the Prospective Period. (NET-700 at 2-3).

25. The use of a national proxy group is consistent with Commission precedent and reflects the market in which the NETOs compete for capital. (*Atlantic Path 15 LLC*, 133 FERC ¶ 61,153 at PP 14, 16 (2010); NET-500 at 29).

26. *In this case, under these circumstances*, the use of bond ratings one notch above and one notch below the utilities under consideration as a proxy group criterion is consistent with Commission precedent and provides an appropriate risk screen. (*Southern California Edison Co.*, 131 FERC ¶ 61,120 at PP 43, 50-51 (2010); NET-500 at 29-34).

27. *In this case, under these circumstances*, the requirement that utilities have paid common dividends for six months without a dividend cut as a proxy group criterion is consistent with Commission precedent and provides an appropriate proxy group screening criterion. (*RITELine Ill. LLC*, 137 FERC ¶ 61,039 at P 68 (2011); *Northern Pass Transmission*, 134 FERC ¶ 61,095 at P 46 (2011); *Atlantic Path 15, LLC*, 122 FERC ¶ 61,135 at P 20 (2008); *Westar Energy, Inc.*, 122 FERC ¶ 61,268 at P 95 (2008); *Public Service Electric and Gas Co.*, 129 FERC ¶ 61,300 at P 29 (2009); NET-500 at 43; NET-300 at 117).

31. Ms. Joe's proxy group is comprised of utilities that have a much larger capitalization than the NETOs, and large capitalization companies are generally of lower risk than small-

and mid-capitalization companies. (NET-IBR-1; Tr. 875:17-876:2; 932:21-937:22; 998:15-21; NET-300 at 68; Tr. 860:18-861:1).

34. Dr. Woolridge's requirements that a proxy group member be included in AUS Utilities Reports, derive at least 50% of its revenues from electric utility operations, and be followed by multiple financial service companies are inconsistent with Commission precedent and do not represent appropriate risk screening factors. (NET-300 at 112-116; *Pepco Holdings, Inc.*, 124 FERC ¶ 61,167 at P 118 (2008); *Pepco Holdings, Inc.*, 125 FERC ¶ 61,130 at P 93 (2008)).

35. Dr. Wilson's DCF analyses combine previously screened proxy groups with data from a later period, producing hybrid analyses that are of *little probative* value. (NET-300 at 117-118).

36. Empire District, Great Plains Energy, and Hawaiian Electric are appropriately included in the proxy group, and Ms. Joe's, Dr. Woolridge's and Dr. Wilson's arguments to the contrary should be rejected. (NET-300 at 40, 117, 122-125; NET-500 at 14-29, 42-52).

37. *In this case, under these circumstances*, in preparing a DCF analysis, the high and low dividend yield should be calculated by determining the high and low dividend yield for each month of the six-month dividend period, and then averaging the six high dividend yields to produce the high dividend yield and averaging the six low dividend yields to produce the low dividend yield. (*Appalachian Power Co.*, 83 FERC ¶ 61,335 at 62,350 (1998); NET-300 at 30; S-1 at 40-41; Tr. 207:11-208:1).

38. Dr. Avera properly calculated the dividend yields in his DCF analysis. (*Appalachian Power Co.*, 83 FERC ¶ 61,335 at 62,350 (1998); NET-300 at 30).

39. Dr. Avera's dividend yields in his November 20, 2012 testimony should be used to determine the ROE for the Refund Period. (NET-700 at 2-3).

40. Dr. Avera's dividend yields in his April 26, 2013 testimony should be used to determine the ROE for the Prospective Period. (NET-700 at 2-3).

42. Dr. Avera's April 26, 2013 update of his DCF analysis updated the elements of the calculations consistent with Commission precedent, and does not represent selective updating. (Tr. 791:15-792:1; 851:6-16).

43. *In this case, under these circumstances*, in preparing a DCF analysis, the dividend yields should be calculated for the most recent six calendar month period preceding the analysis. (*PJM Interconnection, L.L.C.*, 139 FERC ¶ 61,068 at P 84 (2012); *S. Cal Edison*, 139 FERC ¶ 61,042 at P 27 (2012); *SFPP, LP*, 137 FERC ¶ 61,220 at PP 257-58 (2011); *RITELite Illinois, LLC*, 137 FERC ¶ 61,039 at P 68 (2011); *Portland Nat. Gas Trans. Sys.*, 134 FERC ¶ 61,129 at PP 162, 246 (2011); *N. Pass Trans. LLC*, 134 FERC ¶ 61,095 at P 46 (2011); *S. Cal. Edison*, 133 FERC ¶ 61,269 at P 23 (2010); Tr. 791:15-792:1; 851:6-16).

44. Dr. Avera's growth rates in his November 20, 2012 testimony should be used to determine the ROE for the Refund Period, *in accordance with the findings in this Initial Decision*. (NET-700 at 2-3).

45. Dr. Avera's growth rates in his April 26, 2013 testimony should be used to determine the ROE for the Prospective Period, *in accordance with the findings in this Initial Decision* (NET-700 at 2-3).

46. Dr. Avera correctly calculated the growth rates in his November 20, 2012 and April 26, 2013 testimony. (NET-300 at 31, 133; NET-500 at 53; NET-702 Updated at 4).

47. The Commission *has relied* upon *Yahoo! Finance* for the IBES analysts' long-term growth rate forecasts. (NET-300 at 31, 133; NET-500 at 53; NET-702 updated at 4).

49. The IBES growth rates that Dr. Avera relied upon for Empire District and Great Plains Energy were appropriate and consistent with Commission precedent. (NET-500 at 44-46, 53-59).

50. In preparing a DCF analysis, the Commission does not *necessarily* require that the analysts' long-term growth rate forecasts be acquired on the last day of the period used to calculate the dividend yields, nor is this necessary in order to properly calculate the DCF results, *in this case, under these circumstances*. (NET-500 at 53-59; SC-200 at 64).

52. The analysts' long-term growth rate that should be used for UIL Holdings for the Prospective Period is the 8.07% figure published on *Yahoo! Finance* and relied upon by Dr. Avera. (NET-710 at 4-7).

53. The analysts' long-term growth rate that should be used in Dr. Wilson' DCF analysis for PNM Resources for the Prospective Period is 9.3% rather than the 7.2% used in Dr. Wilson's analysis. (Tr. 317:16-318:14; NET-702 updated).

54. Dr. Avera *properly* calculated the sustainable (fundamental) growth rate for his proxy groups using the Commission's standard "br+sv" formula and used numbers taken from that part of the Value Line sheet that are projections. (NET-300 at 31).

55. Ms. Joe's calculation of the "s" component of the fundamental growth rate for her proxy groups incorrectly used historical rather than projected costs. (NET-500 at 69-70; *Midwest Independent Transmission System Operator, Inc.*, 100 FERC ¶ 61,292 at PP 13, 17 (2002)).

56. *A* Commission's test, *used in the past,* for eliminating high-end outliers from a DCF proxy group range of reasonableness is to exclude cost of equity results that are at or above 17.7% and that are based on growth rates at or above 13.3%. (*ISO New England, Inc.*, 109 FERC ¶ 61,147 at P 205; *Bangor Hydro-Electric Co.*, 117 FERC ¶ 61,129 at PP 24-25; *ITC Holdings Corp.*, 121 FERC ¶ 61,229 at PP 28, 42; *Potomac-Appalachian Transmission Highline LLC*, 122 FERC ¶ 61,188 at P 100; *Potomac-Appalachian Transmission Highline LLC*, 133 FERC ¶ 61,152 at PP 20, 40, 64; *S. Cal. Edison Co.*, 131 FERC ¶ 61,020 at P 57;

S. Cal. Edison Co., 139 FERC ¶ 61,042 at PP 54, 60; *RITELine Ill., LLC*, 137 FERC ¶ 61,039 at PP 68-73; *N. Pass Transmission LLC*, 134 FERC ¶ 61,095 at PP 46, 52-54).

57. The cost of equity results and growth rates for Empire District, Great Plains Energy, and Hawaiian Electric in Dr. Avera's November 2012 DCF analysis are all at least 2.5% below the 17.7% cost of equity result/13.3% growth rate threshold used by the Commission to exclude high-end outliers. (NET-300 at 38-39; NET-304).

58. The cost of equity results and growth rates for UIL Holdings and PNM Resources in Dr. Avera's April 2013 updated DCF analysis are at least 4% below the 17.7% cost of equity result/13.3% growth rate threshold used by the Commission to exclude high-end outliers. (NET-710 at 6-7; NET-702-updated).

63. The Commission has held *in previous decisions* that it is reasonable to exclude any cost of equity estimate that fails to exceed the average bond yield by about 100 basis points or more. (*So. Cal Edison Co.*, 131 FERC ¶ 61,020 at P 55).

64. The Commission's approach to eliminating low-end outliers "gives the Commission flexibility to exclude from the proxy group companies whose low-end ROE is somewhat above the average bond yield, but is still sufficiently low that an investor would consider the stock to 'yield essentially the same return.'" (*S. Cal Edison Co.*, 131 FERC ¶ 61,020 at P 55 (citing *S. Cal Edison Co.*, 92 FERC ¶ 61,070 at 61,266)).

65. Dr. Avera's November 2012 DCF analysis (the appropriate analysis to use for the Refund Period) excluded results that failed to exceed the relevant utility bond yield by about 100 basis points. (NET-300 at 34-35). Because Moody's monthly yields of triple-B utility bonds averaged approximately 4.8% over the six-month DCF analysis period ending October 2012, Dr. Avera *properly, in this case, under these circumstances*, eliminated as outliers low-end cost-of-equity estimates up to 5.9%. (NET-300 at 35; NET-304).

78. The Commission has rejected arguments that the use of formula rates by utilities requires downward adjustments to ROEs. (*Va. Elec. & Power Co.*, 123 FERC ¶ 61,098 at PP 56-57, 58-68 (2008); *Green Power Express, LP*, 127 FERC ¶ 61,031 at P 81 (2009); *PJM Interconnection, L.L.C.*, 137 FERC ¶ 61,253 at PP 54, 60, 62 (2011)).

128. The Commission's May 3, 2012, hearing order in this proceeding established a refund effective date of October 1, 2011 in this proceeding, so the statutory fifteen-month refund period in this case runs from October 1, 2011 to December 31, 2012. (*Martha Coakley, Massachusetts Attorney General, et al. v. Bangor Hydro-Electric Co., et al.*, 139 FERC ¶ 61,090 at P 1; Trial Staff Prehearing Br. at 31).

131. Consistent with ratemaking principles, the base ROE for the Refund Period *should, in this case, under these circumstances*, be decided on the basis of the NETOs' cost of capital during the Refund Period and the base ROE for the Prospective Period *should* be decided on the basis of the latest data available in the record, *according to established DCF analysis and Commission precedent as determined in this Initial Decision)*.

132. The record in this proceeding shows that there was a significant change in the cost of equity between late 2012 and April 2013. (Compare NET-304 to NET-702 updated at 2; Compare S-2 at 4 to S-6 at 1).

135. The zone of reasonableness for the Refund Period is 6.0% to 15.2%. (NET-300 at 44; NET-304).

136. The zone of reasonableness for the Prospective Period is 7.3% to 13.2% using projected bond yields for the low-end threshold and 6.1% to 13.2% using historical bond yields for the low-end threshold. (NET-702 Updated; NET-710 at 5). *The undersigned finds the zone of reasonable should be 6.1% to 13.2% and that historical bond yields should be used.*

Document Content(s)