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September 30, 2011

VIA ELECTRONIC FILING

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1-A
Washington, DC 20426

**Re: Martha Coakley, Attorney General of the Commonwealth of
Massachusetts, et al. v. Bangor Hydro-Electric Company, et al.,
Docket No. EL11-____-000**

Dear Secretary Bose:

Pursuant to sections 206 and 306 of the Federal Power Act (“FPA”)¹ and Rule 206 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (“Commission”),² Martha Coakley, Attorney General of the Commonwealth of Massachusetts (“Massachusetts Attorney General”), Connecticut Public Utilities Regulatory Authority (“CT-PURA”), Massachusetts Department of Public Utilities (“Mass DPU”), New Hampshire Public Utilities Commission, Connecticut Office of Consumer Counsel, Maine Office of the Public Advocate, George Jepsen, Attorney General of the State of Connecticut, New Hampshire Office of the 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 (collectively, the “Complainants”) hereby file a complaint (“Complaint”) against Bangor Hydro-Electric Company (“BHE”); Central Maine Power Company (“CMP”); New England Power Company d/b/a National Grid; New Hampshire Transmission LLC d/b/a NextEra (“NHT”); NSTAR Electric and Gas Corporation (“NSTAR”); Northeast Utilities Service Company (“NUSCO”), on behalf of its operating company affiliates: The Connecticut Light and Power Company (“CL&P”), Western

¹ 16 U.S.C. §§ 824e and 825e.

² 18 C.F.R. § 385.206 (2010).

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Massachusetts Electric Company (“WMECO”), and Public Service Company of New Hampshire (“PSNH”); The United Illuminating Company (“UI”); Unital Energy Systems, Inc. and Fitchburg Gas and Electric Light Company (“Unital”); Vermont Transco, LLC (“Vermont Transco”) (collectively, “New England Transmission Owners” or “TOs”) and ISO New England Inc.³ (“ISO-NE”) seeking an order to reduce the 11.14 percent base return on equity (“Base ROE”) used in calculating formula rates for transmission service under the ISO-NE Open Access Transmission Tariff (“OATT”) to a just and reasonable level at 9.2 percent.

Please find the following materials attached hereto:

- Complaint;
- Exhibit C-1: Testimony of J. Randall Woolridge;
- Exhibit C-2: Testimony of Frederick R. Plett;
- Exhibit C-3: Letter sent to the ISO-NE Participating Transmission Owners Administrative Committee;
- Exhibit C-4: Service List; and
- Exhibit C-5: Form of Notice.

Should you have any questions or concerns, please do not hesitate to contact me.

Respectfully Submitted,

/s/ David A. Cetola

David A. Cetola

Assistant Attorney General

Massachusetts Attorney General

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cc: service list

³ As discussed in the Complaint, the TOs are the real parties in interest, but transmission charges are collected through ISO-NE’s tariff.

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Martha Coakley, Attorney General of the)
Commonwealth of Massachusetts,)
Connecticut Public Utilities Regulatory Authority,)
Massachusetts Department of Public Utilities,)
New Hampshire Public Utilities Commission,)
George Jepsen, Attorney General of the State of)
Connecticut,)
Connecticut Office of Consumer Counsel,)
Maine Office of the Public Advocate,)
New Hampshire Office of the 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)
Industrial Energy Consumer Group,)
Complainants,)
v.)
Bangor Hydro-Electric Company,)
Central Maine Power Company,)
New England Power Company)
d/b/a National Grid,)
New Hampshire Transmission LLC d/b/a NextEra,)
Northeast Utilities Service Company, on behalf of)
its operating company affiliates: The Connecticut)
Light and Power Company, Western)
Massachusetts Electric Company, and Public)
Service Company of New Hampshire,)

Docket No. EL11-____-000

NSTAR Electric & Gas Corporation,)
 The United Illuminating Company,)
 Unitil Energy Systems, Inc. and Fitchburg Gas and)
 Electric Light Company,)
 Vermont Transco, LLC; and)
 ISO New England Inc.,)
 Respondents.)

(filed September 30, 2011)

COMPLAINT OF THE ATTORNEY GENERAL OF THE COMMONWEALTH OF MASSACHUSETTS, CONNECTICUT PUBLIC UTILITIES REGULATORY AUTHORITY, MASSACHUSETTS DEPARTMENT OF PUBLIC UTILITIES, NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION, ATTORNEY GENERAL OF THE STATE OF CONNECTICUT, CONNECTICUT OFFICE OF CONSUMER COUNSEL, MAINE OFFICE OF THE PUBLIC ADVOCATE, NEW HAMPSHIRE OFFICE OF THE 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 CHALLENGING BASE RETURN ON EQUITY

Pursuant to sections 206 and 306 of the Federal Power Act (“FPA”)¹ and Rule 206 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (“Commission” or “FERC”),² Martha Coakley, Attorney General of the Commonwealth of Massachusetts (“Massachusetts Attorney General”), Connecticut Public Utilities Regulatory Authority (“CT PURA”), Massachusetts Department of Public Utilities (“Mass DPU”), New Hampshire Public Utilities Commission (“NH PUC”), George Jepsen, Attorney General of the State of Connecticut (“Connecticut Attorney General”), Connecticut Office of Consumer Counsel, Maine Office of the Public

¹ 16 U.S.C. §§ 824e and 825e.

² 18 C.F.R. § 385.206 (2010).

Advocate, New Hampshire Office of the Consumer Advocate, (“NH OCA”), Rhode Island Division of Public Utilities and Carriers, Vermont Department of Public Service (“VDPS”), Massachusetts Municipal Wholesale Electric Company (“MMWEC”), Associated Industries of Massachusetts, The Energy Consortium, Power Options, Inc., and the Industrial Energy Consumer Group (“IECG”) (collectively, the “Complainants”) hereby file this complaint against Bangor Hydro-Electric Company (“BHE”); Central Maine Power Company (“CMP”); New England Power Company d/b/a National Grid; New Hampshire Transmission LLC d/b/a NextEra (“NHT”); NSTAR Electric and Gas Corporation (“NSTAR”); Northeast Utilities Service Company (“NUSCO”), on behalf of its operating company affiliates: The Connecticut Light and Power Company (“CL&P”), Western Massachusetts Electric Company (“WMECO”), and Public Service Company of New Hampshire (“PSNH”); The United Illuminating Company (“UI”); Unital Energy Systems, Inc. and Fitchburg Gas and Electric Light Company (“Unital”); Vermont Transco, LLC (“Vermont Transco”) (collectively, “New England Transmission Owners” or “TOs”) and ISO New England Inc.³ (“ISO-NE” or “ISO”) seeking an order to reduce the 11.14 percent base return on equity (“Base ROE”) used in calculating formula rates for transmission service under the ISO-NE Open Access Transmission Tariff (“OATT”) to a just and reasonable level at 9.2 percent.⁴

As discussed below, the Base ROE currently reflected in the ISO-NE OATT formula rates is unjust and unreasonable. The Complainants request that the Commission: (1) institute paper hearing procedures to investigate the Base ROE and

³ As discussed, *infra*, the TOs are the real parties in interest, but transmission charges are collected through the ISO’s tariff.

⁴ The OATT is Section II of ISO-NE Inc. Transmission, Markets and Services Tariff, FERC Tariff No. 3 (“ISO Tariff”).

establish a just and reasonable equity return to be reflected in rates for transmission service provided by the New England Transmission Owners under the ISO-NE OATT; (2) establish the earliest possible refund effective date (*i.e.*, the date of this Complaint), consistent with Commission policy; and (3) direct ISO-NE to make refunds reflecting the difference between transmission rates reflecting an 11.14 percent Base ROE and rates reflecting a just and reasonable Base ROE.

I. COMMUNICATIONS

All correspondence and communications to the Complainants in this docket should be addressed to the following individuals, whose names should be entered on the official service list⁵ maintained by the Secretary in connection with these proceedings:

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⁵ The Complainants request a waiver of Rule 203(b)(3) to allow the inclusion of more than two persons on the official service list on the grounds that the Complainants comprise separate parties, each represented by their own counsel.

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II. THE PARTIES

A. Complainants

1. The Massachusetts Attorney General is the chief legal officer of the Commonwealth of Massachusetts and is authorized by common law and by statute to institute such proceedings before state and federal courts, tribunals and commissions as she may deem to be in the public interest.⁶ The Massachusetts Attorney General is further authorized by statute to intervene on behalf of Massachusetts ratepayers in proceedings before the Federal Energy Regulatory Commission.⁷

2. The Connecticut Public Utilities Regulatory Authority (“CT PURA”), formerly the Connecticut Department of Public Utility Control, files this notice of intervention in this proceeding. CT PURA operates within the Connecticut Department of Energy and Environmental Protection, the state public utility commission charged *inter alia* with regulating electric and gas companies and setting retail rates for electricity and gas used within the state. CT PURA, like the FERC, must balance the interests of utilities providing electricity and gas services with ratepayers who must pay a fair price.

CT PURA is also charged with ensuring that there is adequate and reliable gas and electricity service in Connecticut. CT PURA is authorized by General Statutes of

⁶ MASS. GEN. LAWS c. 12, § 10; *Feeney v. Commonwealth*, 373 Mass. 359, 366 N.E.2d 1262, 1266 (1977); *Secretary of Administration and Finance v. Attorney General*, 367 Mass. 154, 163, 326 N.E.2d 334, 338 (1977).

⁷ MASS. GEN. LAWS, c. 12, § 11E.

Connecticut § 16-6a to participate in proceedings before federal agencies and courts on matters affecting utility services rendered or to be rendered in Connecticut.

3. The Mass DPU is the agency of the Commonwealth of Massachusetts charged with general regulatory supervision over gas and electric companies in Massachusetts and has jurisdiction to regulate rates or charges for the sale of electric energy and natural gas to consumers. Massachusetts General Laws c. 164, § 76 et seq. Therefore, the Mass DPU is a “state commission” as defined by 16 U.S.C. § 796(15) and 18 C.F.R. § 1.101(k).

4. The NHPUC is the state agency charged under New Hampshire law with the general supervision of all public utilities in the state. N.H. Rev. Stat. Ann. §§ 362:2 and 374:3. The NHPUC is also empowered to confer or cooperate with other state and federal agencies on matters relating to its supervision of utilities. *Id.* at § 363:18. The NHPUC is further granted authority under New Hampshire law to investigate all existing or proposed interstate rates, fares charges, classifications and related rules and regulations where any act thereunder may take place within the state. *Id.* at § 363:22-23. The NHPUC is therefore, a "state commission" as defined by Commission regulations. 18 C.F.R. §1.101(k).

5. The Connecticut Attorney General is an elected Constitutional Officer empowered to represent the interests of the people of the State of Connecticut and the State of Connecticut. Conn. Const., Amend. I; Conn. Gen. Stat. § 3-125; *Commission on Special Revenue v. Freedom of Information Commission*, 174 Conn. 308, 319-19 (1978). Among the Connecticut Attorney General’s responsibilities are interventions in various types of proceedings to protect the State, the public interest and the people of the State of

Connecticut, and assuring the enforcement of a variety of laws of the State of Connecticut, including Connecticut's Unfair Trade Practices Act and Antitrust Act, so as to promote the benefits of competition and to assure the protection of Connecticut's consumers from anti-competitive abuses. The Connecticut Attorney General's request for leave to intervene in this proceeding is in furtherance of these overall responsibilities.

6. The Connecticut Office of Consumer Counsel is an independent agency of the State of Connecticut and is the statutory advocate for Connecticut consumers in utility matters (including the electric industry).

7. The Maine Public Advocate is charged by Maine statute to represent the interests of consumers of utility services pursuant to 35-A M.R.S.A. Sections 1701 *et. seq.*, and is authorized to intervene in federal proceedings "in which the subject matter of the action affects the consumers of any utility doing business in this State" pursuant to 35-A M.R.S.A. Section 1702(5).

8. The NH OCA is an independent agency of the State of New Hampshire that is charged by statute with representing the interests of residential customers of regulated utilities, including customers of electric utilities. *See* NH RSA 363:28.

9. The Rhode Island Division of Public Utilities and Carriers (along with the Public Utilities Commission) maintains "the exclusive power and authority to supervise, regulate, and make orders governing the conduct of companies offering to the public in intrastate commerce energy . . . for the purpose of increasing and maintaining the efficiency of such companies, according desirable safeguards and convenience to their employees and to the public, and protecting them and the public against improper and unreasonable rates, tolls, charges..." G.L. § 39-1-1(c). Moreover, pursuant to Rhode

Island law, the Division is statutorily mandated to represent the interests of Rhode Island consumers in proceedings before the Commission. G.L. § 39-1-29 provides: “The administrator shall represent the state in proceedings before the agencies of the federal government on all matters affecting public utility services rendered or to be rendered in this state...” G.L. § 39-1-29 additionally requires specific participation by the Division in proceedings affecting or relating to regional transmission issues in an effort to promote the “coordination of power systems to achieve low . . . transmission costs and possible regionalization of regulation.”

10. VDPS is charged, through the Director for Public Advocacy, to represent the interests of the public in utility matters before the Vermont Public Service Board as well as before the Commission. *See* Vt. Stat. Ann. tit. 30, § 2(b) (1997). As the State of Vermont’s public advocate, VDPS has an affirmative duty to protect the interests of Vermont consumers of electricity in securing reliable, safe, reasonably priced power. VDPS has participated in Commission proceedings on behalf of Vermont ratepayers in numerous dockets.

11. MMWEC is a political subdivision of the Commonwealth of Massachusetts and a Participant in the New England Power Pool (“NEPOOL”) engaged, *inter alia*, in the procurement and development of bulk power supply resources for its twenty (20) municipally-owned electric system members and others. *See* Mass. St. 1975, c. 775. In the exercise of its statutory powers, MMWEC acquires electric energy and ancillary services from the wholesale markets administered by the ISO.

12. Associated Industries of Massachusetts, Inc. (“AIM”), Massachusetts’ largest nonpartisan association of Massachusetts’ employers, was founded in 1915 and is

incorporated in Massachusetts under Chapter 180 of the General Laws, and designated under the Internal Revenue Code (26 U.S.C. §501 (c)(6)) as a not-for-profit entity. AIM's mission is to promote the well-being of its members and their employees and the prosperity of the Commonwealth of Massachusetts by: improving the economic climate of Massachusetts; proactively advocating fair and equitable public policy; and providing relevant, reliable information and excellent services. AIM does not issue stock or any other form of securities and does not have any parent corporation. AIM is governed by a self-perpetuating Board of Directors.

13. The Energy Consortium ("TEC") is a non-profit association of commercial, industrial, institutional and governmental large energy users in Massachusetts. TEC has been focused on energy regulatory matters for over 35 years. It advocates positions that promote fair and cost-based energy rates, diversified supply, and reliable service for its member organizations, their employees, and all Massachusetts ratepayers.

14. Power Options, Inc. is a not-for-profit energy purchasing consortium formed in 1996 to assist nonprofit organizations and government entities in the Commonwealth. Its over 500 nonprofit members include hospitals and healthcare systems, colleges and universities, community and human service agencies, K-12 public and private schools, museums, as well as municipalities and housing authorities, which collectively have approximately 215 MWs of peak load, or about 5% of the competitive load in the state.

15. The IECG is a Maine-based non-profit trade association formed for the purpose of representing the interests of industrial energy consumers before regulatory and legislative bodies.

B. Respondents

16. The New England Transmission Owners are owners of transmission facilities in the New England region, the operation of which is overseen by ISO-NE pursuant to the ISO-NE OATT. The TOs recover their transmission revenue requirements for regional and local service pursuant to provisions of the ISO-NE OATT, as described above. Under Article 3 of the Transmission Operating Agreement (“TOA”) between the ISO-NE and the TOs, the New England Transmission Owners retain authority to make filings relating to their revenue requirements. ISO-NE collects the TO revenue requirements and disburses these monies to the TOs in accordance with the governing tariffs and agreements. Accordingly, the New England Transmission Owners are the real parties in interest for purposes of this Complaint.⁸

17. BHE, a Maine corporation, is an electric utility primarily engaged in the transmission and distribution of electric energy and related services in Maine. It is an indirect, wholly-owned subsidiary of Emera, Inc., a publicly-traded utility holding company headquartered in Halifax, Nova Scotia, Canada. BHE has a principal place of business of 970 Illinois Avenue (P.O. Box 932), Bangor, Maine 04401.

18. CMP, a Maine corporation, is an electric transmission and distribution utility operating in Maine. CMP has a principal place of business of 83 Edison Drive,

⁸ See, e.g., *NSTAR Elec. & Gas Corp. v. FERC*, 481 F.3d 794, 803-804 (D.C. Cir. 2007); *NRG Power Marketing, Inc. v. New York Ind. Sys. Operation, Inc.*, 91 FERC ¶ 61,346 at p. 62,165 (2000).

Augusta, Maine 04336. CMP is a subsidiary of Iberdrola USA, which in turn is a wholly-owned subsidiary of Iberdrola S.A., a corporation organized under the laws of the Kingdom of Spain.

19. CL&P, PSNH, and WMECO are public utility subsidiaries of Northeast Utilities Service Company (“NUSCO”), a Massachusetts business trust and public utility holding company. The transmission facilities are owned by CL&P, PSNH, and WMECO and are used to provide Regional Network Service and Local Network Service under the ISO-NE OATT. NUSCO has a principal place of business at 107 Selden Street, Berlin, Connecticut 06037.

20. New England Power Company is a transmission operating subsidiary of National Grid, a public utility holding company. National Grid’s subsidiaries, Narragansett and Massachusetts Electric Company have entered into Integrated Facilities Agreements with NEP pursuant to which costs of all National Grid transmission facilities in New England are combined for recovery from transmission customers under the ISO-NE OATT. National Grid has a principal place of business at 40 Sylvan Road, Waltham, Massachusetts 02451.

21. NSTAR Electric Company is a public utility subsidiary of NSTAR, a registered holding company, and owns and operates transmission facilities in the Commonwealth of Massachusetts. NSTAR Electric has a principal place of business at 800 Boylston Street, Boston, Massachusetts 02199.

22. UI is a wholly-owned subsidiary of UIL Holdings Corporation and is engaged in the purchase, transmission, distribution, and sale of electricity for residential,

commercial, and industrial purposes in Connecticut. UI has a principal place of business at 157 Church Street (P.O. Box 1564), New Haven, Connecticut 06506.

23. Unitil Energy Systems, Inc. and Fitchburg Gas and Electric Light Company are wholly-owned subsidiaries of Unitil Corporation, a public utility holding company. Unitil has a principal place of business at 6 Liberty Lane West, Hampton, New Hampshire 03842.

24. NHT, a Delaware limited liability company, is a wholly-owned subsidiary of U.S. Transmission Holdings, LLC (“USTH”), which in turn is a wholly-owned subsidiary of FPL Group Resources, LLC (“FPL Group Resources”). FPL Group Resources is a wholly-owned subsidiary of FPL Group Capital Inc (“FPL Group Capital”), which in turn is a wholly-owned subsidiary of FPL Group. FPL Group Capital also owns NextEra Energy Resources, LLC (“NextEra”) (f/k/a FPL Energy, LLC). NextEra was formed in 1998 to aggregate FPL Group’s existing merchant power businesses. NextEra owns, develops, constructs, manages and operates independent power projects that sell energy, capacity, and ancillary services in a number of domestic electricity markets outside of Florida. NHT has a principal place of business at 700 Universe Boulevard, Juno Beach, Florida 33408.

25. Vermont Transco is a Vermont limited liability corporation that owns high voltage electric transmission facilities in Vermont.⁹ Vermont Transco has a principal place of business at 366 Pinnacle Ridge Road, Rutland, VT.

⁹ On June 30, 2006, Vermont Electric Power Company, Inc. (“VELCO”) contributed substantially all of its operating assets to Vermont Transco, in exchange for 2.4 million Class A Membership Units and Vermont Transco’s assumption of VELCO’s debt. Vermont Transco is governed by an Amended and Restated Operating Agreement by and among VELCO, Green Mountain Power Corporation (“GMP”), Central Vermont Public Service Corporation (“CVPS”) and most of Vermont’s other electric utilities (the “Vermont Transco Operating Agreement.”).

26. ISO-NE is a non-profit Delaware corporation that serves as the regional transmission organization (“RTO”) for New England. ISO-NE has a principal place of business at One Sullivan Road, Holyoke, Massachusetts 01040. ISO-NE administers the New England energy markets and operates the New England bulk power system pursuant to the ISO NE Transmission, Markets and Services Tariff and the TOA with the Transmission Owners. As noted above, the Complainants have named ISO-NE as a respondent only because the New England Transmission Owners’ revenue requirements are passed to ratepayers through ISO-NE’s tariff.

III. INTRODUCTION

27. The New England Transmission Owners recover their transmission revenue requirements through formula rates included in the ISO-NE OATT. The rates for Regional Network Service (“RNS”) and certain other services are calculated annually using a formula rate for all Pool Transmission Facilities (“PTF”) in ISO-NE.¹⁰ The rates for Local Network Service (“LNS”) are established through formulas in LNS schedules for the individual TOs under Schedule 21 of the ISO-NE OATT. The RNS and LNS revenue requirements for all the New England Transmission Owners are calculated using a single Base ROE.¹¹ The Base ROE is fixed and, consistent with Commission policy, does not change year-to-year as do most other formula rate inputs. The fixed ROE may

¹⁰ See ISO-NE OATT at Attachment F; *see also, e.g.*, Docket No. RT04-2-000, “Annual Informational Filing Regarding ISO Tariff Charges in Effect as of June 1, 2010 Pursuant to Docket Nos. RT04-2-000, *et al.*” (July 30, 2010) (accepted by unreported Letter Order dated October 12, 2010).

¹¹ See *ISO New England Inc.*, 106 FERC ¶ 61,280 at PP 232-250 (2004); *Bangor Hydro-Electric 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).

only be changed through a filing under FPA section 205 or section 206, or by the Commission acting *sua sponte* under FPA section 206 to order a change.¹²

28. The current Base ROE is 11.14 percent, a figure which was established in the *Bangor Hydro* proceeding based on market information from 2004, updated for bond yield information through August 2006.¹³ On top of the Base ROE, the Commission has granted a 50 basis point adder in RNS rates for RTO participation, but this adder does not extend to LNS rates.¹⁴ New ISO-NE-planned PTF facilities completed as of December 31, 2008 have been granted a 100 basis point ROE adder.¹⁵ Transmission owners may seek ROE adders and other incentives for post-2008 transmission projects under FERC Order No. 679 on a case-by-case basis, including adders for using “advanced technologies” and the potential for inclusion of up to 100% of construction work in progress (“CWIP”) in rate base.¹⁶ This Complaint only challenges the Base ROE and does not address any incentive adders applicable to the New England Transmission Owners’ rates.

29. Due to changes in the capital markets since the *Bangor Hydro* proceeding, the 11.14 percent Base ROE is no longer just and reasonable. The attached testimony

¹² See *Bangor Hydro-Electric Co.*, 120 FERC ¶ 61,093 at P 4, n.13 (2007). In originally proposing the fixed ROE, the TOs pointed out that the Commission has previously allowed changes to be made to a formula rate solely to change ROE. *Bangor Hydro-Electric Co.*, Docket No. ER04-157-000, “Joint ROE Filing of New England Transmission Owners Under the RTO New England Open Access Transmission Tariff” at 6, n.8 (November 4, 2003) (citing *Arizona Pub. Serv. Co.*, 78 FERC ¶ 61,083 at p. 61,305 (1997); *Ocean State Power*, 63 FERC ¶ 61,072 (1993); *Yankee Atomic Elec. Co.*, Op. No. 285, 40 FERC ¶ 61,372 (1987)) (“ER04-157 Application”).

¹³ See Opinion No. 489 at PP 79-81, *reh’g*, 122 FERC ¶ 61,265 at PP 30-34.

¹⁴ See *ISO New England Inc.*, 106 FERC ¶ 61,280 at P 247.

¹⁵ See *Bangor Hydro*, 122 FERC ¶ 61,265 at P 51.

¹⁶ *Promoting Transmission Investment through Pricing Reform*, Order No. 679, 71 FR 43294 (Jul. 31, 2006), FERC Stats. & Regs. ¶ 31,222 at P 43 (2006), *order on reh’g*, Order No. 679-A, 72 FR 1152 (Jan. 10, 2007), FERC Stats. & Regs. ¶ 31,236, *order on reh’g*, 119 FERC ¶ 61,062 (2007).

and exhibits of J. Randall Woolridge, Ph. D, Professor of Finance at the Pennsylvania State University in University Park, Pennsylvania, demonstrate that the current Base ROE is excessive and that a just and reasonable Base ROE for the New England Transmission Owners under current market conditions does not exceed 9.2 percent.

30. Based on this evidence, this Complaint, at a minimum, provides sufficient evidence both to demonstrate that the existing Base ROE is unjust and unreasonable and thus, the Commission should institute an investigation, and to find that the Base ROE proposed by the Complainants is just and reasonable. Furthermore, this investigation should utilize a paper hearing process. The Commission routinely decides complex and controversial cases on the basis of the record in a paper hearing, including determination of an appropriate base ROE for transmission service.¹⁷

IV. DISCUSSION

A. Applicable Standards

31. All rates for jurisdictional service under the FPA must be just and reasonable.¹⁸ Where a complainant challenges a previously-approved rate under section 206 of the FPA and proposes a new one, the Commission has indicated that complainants must satisfy a two-part burden of proof by showing that: (1) the existing rate is unjust and unreasonable; and (2) a proposed replacement rate is just and reasonable.¹⁹ As the United States Court of Appeals for the District of Columbia Circuit has recently explained,

¹⁷ See, e.g., *Southern Cal. Edison Co.*, 131 FERC ¶ 61,020 (2010); *Northern Natural Gas Co.*, 125 FERC ¶ 61,127 at P 13 (2008); *Nevada Power Co. and Sierra Pacific Power Co. v. Enron Power Marketing, Inc.*, 125 FERC ¶ 61,312 at P 29, n.67 (2008); *Southern Cal. Edison Co.*, 92 FERC ¶ 61,070 (2000).

¹⁸ 16 U.S.C. §§ 824d and 824e.

¹⁹ See, e.g., *Louisiana Pub. Serv. Comm'n v. Entergy Corp.*, 132 FERC ¶ 61,003 at P 28 (2010).

however, a complainant need not propose a new just and reasonable rate. Under FPA section 206, a complainant need only demonstrate that the existing rate is unjust and unreasonable; it is up to the Commission to determine the new just and reasonable rate.²⁰ Regardless of the exact parameters of the evidentiary burdens under section 206, this Complaint, at a minimum, provides sufficient evidence both to institute an investigation into the justness and reasonableness of the Base ROE and to find that the new rate proposed in this Complaint is just and reasonable.

32. A just and reasonable rate of return for a utility is one that does not exceed the level required to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital, and must be commensurate with returns on investments in enterprises with comparable risks.²¹ The Commission has a well-developed policy for establishing a just and reasonable base ROE for transmission service, based on applying a discounted cash flow (“DCF”) analysis to a proxy group of comparable risk companies.²² As described below, the Complainants have applied the Commission’s well-established ROE methodology to identify the appropriate Base ROE under current conditions for the New England Transmission Owners.

33. The New England Transmission Owners argued in the *Bangor Hydro* proceeding that it is appropriate to consider a single Base ROE for all of the TOs given that “[m]any of the risks that affect the cost of capital for the New England Transmission

²⁰ *Maryland Public Serv. Comm’n v. FERC*, 632 F.3d 1283, 1285, n. 1 (D.C. Cir. 2011).

²¹ *See Federal Power Comm’n v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944); *Bluefield Water Works & Improvement Co. v. Public Serv. Comm’n*, 262 U.S. 679, 692-93 (1923).

²² *See, e.g., Northern Pass Transmission LLC*, 134 FERC ¶ 61,095 (2011); *Potomac Appalachian Transmission Highline, L.L.C. (“PATH”)*, 133 FERC ¶ 61,152 (2010); *Atlantic Path 15, LLC*, 133 FERC ¶ 61,153 (2010); *Southern Cal. Edison*, 131 FERC ¶ 61,020 (2010); *Golden Spread Elec. Coop.*, 123 FERC ¶ 61,047 (2008).

Owners will be the same,”²³ and they will “compete with each other and with transmission owners elsewhere for the same limited pool of capital in order to finance new transmission construction, and should be permitted to offer comparable returns to potential providers of equity capital to the transmission sector.”²⁴ The outcome of *Bangor Hydro* was a single Base ROE of 11.14 percent applicable to all of the TOs. Accordingly, this Complaint is focused on two issues: (i) whether the current Base ROE of 11.14 percent remains just and reasonable for application to all of the TOs, and (ii) if not, what Base ROE should take its place.

B. Complainants’ ROE Analysis

34. In order to determine whether the current Base ROE of 11.14 percent remains just and reasonable, Professor Woolridge performed a DCF analysis in compliance with the Commission’s current policies.²⁵ Professor Woolridge’s analysis shows that applying the Commission’s DCF model to determine a just and reasonable ROE, the zone of reasonableness has a range between 7.0 percent and 11.4 percent. The midpoint of this range is 9.2 percent and the median is 9.4 percent.²⁶

35. In accordance with Commission policy, Professor Woolridge began his analysis by selecting a group of proxy companies with risk profiles representative of the risks of the New England Transmission Owners. Pursuant to *Atlantic Path 15, LLC*,

²³ ER04-157-000 Application at 12.

²⁴ *Id.*

²⁵ Exh. C-1 at 26-37. The signatory state public utility commissions support the DCF analysis prepared for the purpose of following Commission’s DCF methodology established in Opinion No. 445, but do not necessarily endorse such methodology for use in their own state proceedings.

²⁶ *Id.* at 37; Exh. JRW-8 at 1.

Professor Woolridge selected a national group of electric utilities²⁷ that met the following criteria: (1) listed as an Electric Utility or Combination Electric and Gas Company in *AUS Utility Reports*; (2) listed as an Electric Utility in the Standard Edition of the *Value Line Investment Survey*; (3) has at least 50% regulated electric revenues; (4) has at least a three-year history of paying dividends, with no dividend cuts;²⁸ (5) is not involved in a merger or acquisition (as an acquirer or target);²⁹ (6) has an investment grade bond rating by Moody's and/or Standard & Poor's;³⁰ and (7) has published analysts' EPS growth rate estimates from at least two different online financial information services (Zack's, Yahoo, and Reuters).³¹ This yielded a proxy group of twenty-eight electric utilities.³²

36. Consistent with the Commission's view that corporate credit ratings are an appropriate comparison for representative risk,³³ Professor Woolridge compared the Standard & Poor's ("S&P") corporate credit ratings of his prospective proxy companies to the corporate credit ratings of the New England Transmission Owners (to the extent they receive such ratings). Professor Woolridge determined that the S&P ratings for the New England Transmission Owners range from A+ to BBB.³⁴ The ratings for the proxy

²⁷ The Commission recently held that the proxy group need not be limited to utilities in the same geographic area. Rather, "[i]n assessing whether a filing company's proposed proxy group is appropriate, the Commission's obligation is to ensure that the proposed proxy group consists of companies with comparable risks to those facing the applicant." *Atlantic Path 15, LLC*, 133 FERC ¶ 61,153 at P 13.

²⁸ See *Atlantic Path 15, LLC*, 122 FERC ¶ 61,135, at P 20 (2008).

²⁹ See *id.*; *Southern Cal. Edison*, 131 FERC ¶ 61,020 at P 52.

³⁰ See *Southern Cal. Edison*, 131 FERC ¶ 61,020 at P 52.

³¹ See *Pepco Holdings, Inc.*, 124 FERC ¶ 61,176, at P 92 (2008).

³² Exh. C-1 at 12.

³³ See, e.g., *Northern Pass*, 134 FERC ¶ 61,095 at P 52; *PATH*, 133 FERC ¶ 61,152 at P 63.

³⁴ Exh. C-1 at 13; JRW-4 at 2.

group range between AA– to BBB–, with a median rating of BBB+. ³⁵ This comports with the Commission’s credit rating screen setting a comparative risk band between one rating level higher and lower than the ratings of the utilities in question. ³⁶

37. Professor Woolridge further assessed the riskiness of the proxy group by using three risk measures reported by *Value Line*: Beta, Safety, and Financial Strength. ³⁷ These measures are similar among the TOs and the proxy group utilities.

38. The selection of the proxy group is consistent with the Commission’s established rules, and the selected proxy group utilities are comparable in risk to the TOs.

39. Professor Woolridge excluded three outliers from the final proxy group. Entergy Corporation had a low end cost of equity estimate of 5.6 percent and Great Plains Energy Incorporated had a low end cost of equity estimate of 6.2 percent. ³⁸ The Commission has found 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.” ³⁹ Since both of these companies’ low end costs of equity fail to exceed the average bond yield by 100 basis points, Professor Woolridge properly excluded these two low end outliers. ⁴⁰

³⁵ Exh. C-1 at 13; JRW-4 at 1.

³⁶ *Southern Cal. Edison*, 131 FERC ¶ 61,020 at P 52.

³⁷ *See id.*

³⁸ Exh. C-1 at 34-35; JRW-8 at 1.

³⁹ *Southern Cal. Edison*, 131 FERC ¶ 61020 at P 56; *see also Northern Pass Transmission LLC*, 134 FERC ¶ 61,095 at P 53.

⁴⁰ Exh. C-1 at 35.

Pursuant to Commission precedent, Professor Wooldridge also removed the corresponding high-end cost of equity for these two outliers.⁴¹

40. Professor Woolridge also eliminated one high-end cost of equity outlier. Hawaiian Electric Industries, Inc. (“Hawaiian”) has a high end cost of equity estimate of 13.7 percent.⁴² Hawaiian’s high end cost of equity estimate was 190 basis points above the cost of equity of any other company in the proxy group.⁴³ Pursuant to Commission precedent, it is appropriate to exclude Hawaiian as an extreme outlier.⁴⁴ If Hawaiian is not excluded, Professor Woolridge’s DCF analysis would lead to an unreliable ROE that would skew the final results.

41. Besides its status as an extreme outlier, there are other compelling reasons that warrant excluding Hawaiian from the proxy group. As Professor Woolridge explains, Hawaiian Electric Industries is a holding company for Hawaiian Electric Company.⁴⁵ Almost half of the holding company’s earnings come from banking, which had significant loan write-offs over the last three years.⁴⁶ Commission precedent calls for removing companies from the proxy group whose primary business are not utility

⁴¹ *Southern Cal. Edison*, 131 FERC ¶ 61020 at P 59 (“As we stated in Opinion No. 489, the use of only one end of the DCF calculation would skew the Commission's DCF method. Therefore, when we eliminate either the high-end or low-end ROE outlier of a company, we have also eliminated the corresponding low-end or high-end ROE of that company.”) (internal citations omitted).

⁴² JRW-8 at 1.

⁴³ *Id.* at 1, 5.

⁴⁴ The Commission has accepted a proxy group that removed an extreme high-end outlier where the subject company had a high-end implied cost of equity that was 160 basis over any other utility in the proxy group. See *Northern Pass Transmission LLC*, 134 FERC ¶ 61,095 at PP 46 and 53; see also *Virginia Electric and Power Company*, 123 FERC ¶ 61,098, at P 61 (2008); *ISO New England Inc.*, 109 FERC ¶ 61147, at P 205 (2004).

⁴⁵ Exh. C-1 at 36, n. 18.

⁴⁶ *Id.*

operations because they are not of comparable risk to electric transmission companies.⁴⁷ Therefore, excluding Hawaiian from the proxy group in the instant case is appropriate.

42. Additionally, Hawaiian should be excluded from the proxy group since it does not operate in the continental United States and may be considered to have a different risk exposure than those companies that operate within the continental United States.⁴⁸ Given its location, Hawaiian has no back up in the case of the loss of generation or transmission and system assets (such as storm recovery personnel, trucks, and mobile generators).⁴⁹

43. Finally, Hawaiian is being forced into significant investment in renewables to replace its oil generation.⁵⁰ As a result, the holding company's bond ratings are some of the lowest in the electric industry (Standard & Poor's rating: BBB-; and Moody's rating: Baa2).⁵¹ Hawaiian's 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.⁵² Thus, Hawaiian has a significantly different risk profile than the New England Transmission Owners and should be excluded from the proxy group.

⁴⁷ Opinion No. 489 at P 38 (excluding a company from the proxy group which was primarily involved in the natural gas business); *Consumers Energy Company*, 98 FERC P 61,333, at 62,410-11 (2002) (Commission upheld Initial Decision's exclusion of several companies from the proxy group because they "carried 'baggage' of significant non-electric business.")

⁴⁸ See *Southern Cal. Edison*, Docket No. ER09-1534-001, Prepared Direct and Answering Testimony of Commission Staff Witness Robert J. Keyton, Exhibit S-7 ("Keyton Testimony") at 14 (filed August 25, 2010) (excluding Hawaiian because it does not operate in the continental United States).

⁴⁹ Exh. C-1 at 36, n. 18.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

44. By excluding Hawaiian, Professor Woolridge ensured that the resulting proxy group is of comparable risk to the New England Transmission Owners.⁵³

45. Professor Woolridge derives stockholders' required rate of return for the proxy group using FERC's constant-growth DCF model, estimating investors' expected growth rate by using a combination of historical and projected growth rates.⁵⁴ The growth rate data include *Value Line's* historical and projected estimates for earnings per share, dividends per share, book value per share, internal growth rates as measured by *Value Line's* average projected retention rate and return on shareholders' equity, as well as earnings per share forecasts by Wall Street analysts.⁵⁵ Based on this analysis, Professor Woolridge confirms that the DCF-derived equity cost rate is 9.2 percent.

46. As a supplemental check on the reasonableness of his DCF-based conclusions, Professor Woolridge also evaluates the Base ROE through Capital Asset Pricing Model ("CAPM") analysis.⁵⁶ He finds that CAPM analysis indicates an equity cost rate lower than his DCF-derived recommendation, and concludes from his analysis that his DCF-derived recommendation is not unreasonably low.⁵⁷

C. The Current 11.14 Percent Base ROE under the ISO-NE Tariff Is Unjust And Unreasonable

47. The DCF analysis performed by Professor Woolridge shows that as a result of significantly changed economic circumstances since the Base ROE was

⁵³ See *Virginia Electric and Power Company*, 123 FERC ¶ 61,098 at P 61 (proxy group should be of comparable risk to applicant); *Atlantic Path 15, LLC*, 133 FERC ¶ 61,153 at P 13.

⁵⁴ Exh. C-1 at 22 – 37.

⁵⁵ Exh. C-1 at 28 – 37.

⁵⁶ Exh. C-1 at 37 – 50.

⁵⁷ Exh. C-1 at 50.

established in *Bangor Hydro*: (1) the current 11.14 percent Base ROE is unjust and unreasonable; and (2) the just and reasonable Base ROE is no higher than 9.2 percent. Because the formula rates under the ISO-NE OATT are intended to track the TOs' current costs, the revenues generated by this excessive fixed Base ROE go straight to the New England Transmission Owners' bottom line at the expense of customers.

48. It is possible that parties opposed to adjusting the Base ROE will argue that, because the current base ROE of 11.14 percent is just within Professor Woolridge's proxy group zone of reasonableness under the Commission's DCF model, the Commission should decline to find that the current Base ROE is unjust and unreasonable. As the Commission has observed, however, not every point within the DCF range would necessarily result in just and reasonable rates and requiring the Commission to find as such "would leave no room for the Commission to exercise its judgment in determining the just and reasonable rate."⁵⁸

49. Moreover, the Commission does not set the *Base* ROE at the upper end of the zone of reasonableness. Under its DCF model, the Commission sets the appropriate Base ROE at the center midpoint of a properly-derived range of DCF results.⁵⁹ It would not be reasonable simply to retain the current Base ROE on the grounds that it is "in the same ballpark" as Professor Woolridge's range. Putting aside questions about how best to measure central tendency, the Commission generally sets base ROEs at the center of

⁵⁸ See *Bangor Hydro-Electric Co.*, 122 FERC ¶ 61,038 at PP 10-16 (2008).

⁵⁹ In setting the base ROE for a single transmission owner, the Commission has found that the best measure of the center of the range is the median. See, e.g., *Atlantic Grid Operations A LLC*, 135 FERC ¶ 61,144 P 91 (2011) (finding that "the median of the DCF analysis is appropriate for establishing the base ROE," and citing cases). In certain cases involving multiple transmission owners in an RTO, the Commission has located the center at the midpoint. See, e.g., *Midwest Independent Transmission System Operator, Inc.*, Order on Remand, 106 FERC ¶ 61,302, at P 11 (2004).

the range for a reason. Absent evidence to the contrary, the utility is assumed to be of average risk compared to the proxy group. Here, there is no reason to conclude that New England Transmission Owners as a group are riskier than those in Professor Woolridge’s proxy group.⁶⁰

50. Further, retaining the current Base ROE would result in a substantial overpayment to the TOs by New England consumers relative to Professor Woolridge’s recommended ROE. The Complainants calculate that, assuming a forecasted 2011 investment base of \$6.309 billion,⁶¹ New England electric consumers would be required to overcompensate New England Transmission Owners by \$113 million annually under the current 11.14 percent Base ROE, compared to rates using the recommended ROE of 9.2 percent.⁶² With New England’s Pool Transmission Facility investment base expected to increase to approximately \$11.474 billion by 2015,⁶³ that overpayment would increase to \$206 million annually.⁶⁴ These overpayments are unjust and unreasonable, because they are in excess of what is “reasonably sufficient to assure confidence in the financial soundness of the utility [or, in this case, utilities] and should be adequate under efficient and economical management, to maintain and supports its credit, and enable it to raise the money necessary for the proper discharge of its public duties.”⁶⁵ As the Supreme Court has made clear, not even “a little unlawfulness is permitted” in setting jurisdictional

⁶⁰ *FPC v. Texaco, Inc.*, 417 U.S. 380, 399 (1974).

⁶¹ Exhibit C-2 at 4.

⁶² *Id.* This analysis does not include the amounts that are charged by New England Transmission Owners under their Local Network Service tariffs.

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm’n of W. Va.*, 262 U.S. 679, 692 – 693 (1923).

rates.⁶⁶ We submit respectfully that rates incorporating the existing base ROE are leading to far more than “a little” overpayment.

51. Finally, Professor Woolridge’s analysis of the proxy group would reset the zone of reasonableness for the New England Transmission Owners. The Commission has used upper end of the zone as the boundary to cap the overall ROE (base ROE plus incentives) awarded to the New England Transmission Owners’ transmission projects.⁶⁷ Reestablishing the zone of reasonableness is imperative to ensure that ROE awards for future transmission projects are just and reasonable.

D. The Commission Should Institute an Investigation Regarding the ISO-NE Base ROE through a Paper Hearing

52. The analysis performed by the Complainants, at a minimum, provides sufficient information to show that the current Base ROE under the ISO-NE OATT is unjust and unreasonable. Accordingly, the Commission should institute a proceeding under section 206 of the FPA to investigate whether the Base ROE is excessive and to determine a just and reasonable Base ROE.

53. The Complainants request that the Commission conduct such investigation through “paper hearing” procedures. The Commission routinely decides complex and controversial cases on the basis of the record in a paper hearing when such a process is sufficient to resolve all issues of material fact.⁶⁸ Notably, the Commission has used paper

⁶⁶ *FPC v. Texaco, Inc.*, 417 U.S. 380, 399 (1974).

⁶⁷ *See The United Illuminating Company*, 119 FERC ¶ 61,182, at P 73 (2007) (“The resulting ROE, however, will be capped at the top of the zone of reasonable returns established in Opinion No. 489.”), *reh’g denied*, 126 FERC ¶ 61,043 (2009); *see also NSTAR Electric Company*, 125 FERC ¶ 61,313, at PP 8, 81-82 (2008); *Maine v. FERC*, 454 F.3d 278, 288 (2006).

⁶⁸ *See, e.g., Northern Natural Gas Co.*, 125 FERC ¶ 61,127 at P 13 (2008); *Nevada Power Co. and Sierra Pacific Power Co. v. Enron Power Marketing, Inc.*, 125 FERC ¶ 61,312, at P 29, n.67 (2008).

hearings to determine an appropriate base ROE for transmission service,⁶⁹ and even where the Commission has established full evidentiary hearings on ROE issues, it has rejected arguments that establishing an ROE always requires such trial-type procedures.⁷⁰

54. In numerous recent decisions addressing ROEs for electric transmission companies or projects, the Commission has clarified and refined its ROE policy to such a degree that a trial-type evidentiary hearing is not necessary to address the issue. The Commission has addressed issues such as whether given companies are appropriately included in the proxy group based on a written record, that has not included either discovery or cross-examination. Likewise, the Commission's application of the DCF analysis is essentially mechanical and is (or should be) based on public information that can be readily verified (or discredited) by the other paper hearing participants and the Commission.⁷¹ Here, a paper hearing would be sufficient for the parties to develop the record on the appropriate Base ROE based on the Commission's well-articulated policies for calculating ROE. Importantly, a paper hearing would facilitate an earlier Commission decision and expedite relief to customers in New England who are currently paying transmission rates reflecting an excessive Base ROE.⁷²

E. The Commission Should Establish the Earliest Possible Refund Effective Date

55. In cases where the Commission institutes an investigation on a complaint under section 206 of the FPA, section 206(b) requires the Commission to establish a

⁶⁹ See, e.g., *Southern Cal. Edison Co.*, 131 FERC ¶ 61,020.

⁷⁰ See *PATH*, 133 FERC ¶ 61,152 at P 54.

⁷¹ See *id.* at P 55, n.83.

⁷² Alternatively, if the Commission is not inclined to grant relief to the Complainants on the basis of the pleadings, we ask that this matter be set for an evidentiary hearing.

refund effective date that is no earlier than the date the complaint was filed, but no later than five months after the filing date.⁷³ The Commission's general policy is to set the refund effective date at the earliest possible date, *i.e.*, the date a complaint is filed.⁷⁴ Consistent with its general policy, the Commission should establish the filing date of this Complaint as the refund effective date in its investigation of the Base ROE in order to provide maximum protection to consumers.⁷⁵

V. RULE 206 REQUIREMENTS

56. The Complainants hereby provide the further information required by Rule 206.⁷⁶

A. Good Faith Estimate of Financial Impact or Harm (Rule 206(b)(4)).

57. As described above and in Exhibit SC-2, the Complainants estimate that reducing the Base ROE from 11.14 percent to a just and reasonable level of 9.2 percent would reduce Regional Network Service transmission costs in New England by approximately \$113 million annually. Reducing the Base ROE would also reduce Local Network Service costs.

⁷³ 16 U.S.C. § 824e(b).

⁷⁴ *See, e.g., Old Dominion Electric Cooperative and North Carolina Electric Membership Corporation v. Virginia Electric and Power Company*, 133 FERC ¶ 61,009 at P 36 (2010) (citing *Seminole Elec. Coop., Inc. v. Fla. Power & Light Co.*, 65 FERC ¶ 61,413, at p. 63,139 (1993); *Canal Elec. Co.*, 46 FERC ¶ 61,153, at p. 61,539, *reh'g denied*, 47 FERC ¶ 61,275 (1989)).

⁷⁵ *See id.*

⁷⁶ 18 C.F.R. § 385.206 ("Rule 206").

B. Operational or Nonfinancial Impacts (Rule 206(b)(5))

58. The Complainants are not aware of any specific practical, operational or nonfinancial impacts resulting from the excessive Base ROE.

C. Whether the Matters are Pending in Any Other FERC Proceeding or Other Forum (Rule 206(b)(6))

59. The matters raised in this Complaint are not currently pending in any other Commission proceeding or in any other proceeding to which any of the Complainants is a party.

D. Documents Supporting the Complaint (Rule 206(b)(8))

60. In support of this Complaint, the Complainants have included the testimony and supporting exhibits and workpapers of J. Randall Woolridge, Ph. D, Professor of Finance at The Pennsylvania State University in University Park, Pennsylvania.⁷⁷ In addition, the Complainants have attached the testimony and supporting exhibits of Frederick R. Plett,⁷⁸ which calculates the estimated impact of an ROE reduction on customers' RNS transmission costs in New England.

E. Alternative Dispute Resolution (Rule 206(b)(9))

61. Prior to filing this Complaint, the Complainants contacted the ISO-NE Participating Transmission Owners Administrative Committee ("PTO AC"), which includes the New England Transmission Owners, and notified the PTO AC that the Complainants intended to file a complaint pursuant to FPA section 206 challenging the

⁷⁷ See Exh. C-1.

⁷⁸ See Exh. C-2.

Base ROE reflected in the rates of the New England Transmission Owners. The Complainants indicated that they would entertain a prompt proposal by the TOs to reduce the Base ROE to a reasonable level in lieu of litigating the issue at FERC. The Complainants also explained that any delay in submitting the complaint would have to be of limited duration since refund protection could not be secured until a complaint was filed and a refund effective date established.⁷⁹

62. The Complainants concluded that it was unlikely that alternative dispute resolution (“ADR”) procedures under the Commission’s supervision would successfully resolve the issues raised in the Complaint – at least not until after a complaint had been filed and FERC had established a refund effective date. The Complainants would be willing to engage in ADR procedures for a limited time frame after the refund effective date is established. While the Complainants hope this matter can be resolved through settlement, they are mindful that unproductive settlement discussions could serve to delay the adjustment of the Base ROE to a just and reasonable level.

VI. SERVICE AND NOTICE

63. In accordance with Rule 206(c), the Complainants have served a copy of this Complaint upon each of the Respondents simultaneous with the filing of the Complaint. The Complainants have also served copies of the Complaint upon all state utility commissions in New England, as well as the New England Conference of Public Utilities Commissioners (“NECPUC”) and the New England States Committee on Electricity (“NESCOE”).⁸⁰ In addition, the Complainants have asked ISO-NE to

⁷⁹ A copy of the letter sent to the PTO AC is attached hereto as Exh. C-3.

⁸⁰ The complete list of parties that the Complainants served this Complaint is attached as Exh. C-4.

distribute the Complaint to the New England Power Pool member e-mail distribution lists. Attached hereto as Exhibit C-5 is a Form of Notice suitable for publication in the *Federal Register* in accordance with Rule 206(b)(10).

VII. CONCLUSION

Based on the foregoing, the Complainants request the Commission to: (1) institute paper hearing procedures to investigate the Base ROE used in calculating the transmission revenue requirements for the New England Transmission Owners for service under the ISO-NE OATT and establish a just and reasonable base return on equity; (2) establish the earliest possible refund effective date (*i.e.*, the date of this complaint), consistent with Commission policy; and (3) direct ISO-NE to make refunds reflecting the difference between transmission rates reflecting an 11.14 Base ROE and rates reflecting a just and reasonable Base ROE.

Respectfully submitted,

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EXHIBIT No. C-1

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Martha Coakley, Attorney General of the Commonwealth of Massachusetts, et al.)	
)	
)	Docket No. EL11-__-000
v.)	
)	
Bangor Hydro-Electric Company, et al.)	

TESTIMONY OF J. RANDALL WOOLRIDGE

1 **Q. PLEASE STATE YOUR FULL NAME, ADDRESS, AND**
2 **OCCUPATION.**

3 A. My name is J. Randall Woolridge, and my business address is 120 Haymaker
4 Circle, State College, PA 16801. I am a Professor of Finance and the
5 Goldman, Sachs & Co. and Frank P. Smeal Endowed University Fellow in
6 Business Administration at the University Park Campus of the Pennsylvania
7 State University. I am also the Director of the Smeal College Trading Room
8 and President of the Nittany Lion Fund, LLC. A summary of my educational
9 background, research, and related business experience is provided in
10 Appendix A.

11

12 **I. SUBJECT OF TESTIMONY AND SUMMARY OF**
13 **RECOMMENDATIONS**
14

15 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
16 **PROCEEDING?**

17 A. I have been asked by the Martha Coakley, Attorney General of the
18 Commonwealth of Massachusetts (“Massachusetts Attorney General”),
19 Connecticut Public Utilities Regulatory Authority (“CT PURA”),
20 Massachusetts Department of Public Utilities (“Mass DPU”), New Hampshire
21 Public Utilities Commission (“NH PUC”), George Jepsen, Attorney General
22 of the State of Connecticut (“Connecticut Attorney General”), Connecticut

1 Office of Consumer Counsel, Maine Office of the Public Advocate, New
2 Hampshire Office of the Consumer Advocate, (“NH OCA”), Rhode Island
3 Division of Public Utilities and Carriers, Vermont Department of Public
4 Service (“VDPS”), Massachusetts Municipal Wholesale Electric Company
5 (“MMWEC”), Associated Industries of Massachusetts, The Energy
6 Consortium, Power Options, Inc., and the Industrial Energy Consumer Group
7 (“IECG”) (collectively, the “Complainants”) to prepare a study on the
8 appropriate base-level return on equity (“ROE”) applicable to the New England
9 Transmission Owners (“TOs”). These TOs include Bangor Hydro Electric
10 Company (Emera), Central Maine Power Company, NSTAR Electric & Gas
11 Corporation, New Hampshire Transmission LLC (NextEra), Northeast
12 Utilities Service Company, The United Illuminating Company, New England
13 Power Company (National Grid), Unitil Energy Systems, Inc. and Fitchburg
14 Gas and Electric Light Company (Unitil), and Vermont Transco (Vermont
15 Electric Power Company).

16
17 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

18 A. First I will review my ROE recommendation for the TOs. Second, I provide an
19 assessment of capital costs in today’s capital markets. Third, I discuss my proxy
20 group of electric utilities for estimating the ROE for the TOs. Fourth, I discuss
21 the concept of the cost of equity capital, and then estimate the equity cost rate for
22 the TOs. I have a table of contents just after the title page for a more detailed

1 outline.

2 **Q. PLEASE DISCUSS THE MOTIVATION FOR YOUR TESTIMONY**
3 **REGARDING THE APPROPRIATE ROE FOR THE TOS.**

4 A. In Opinion No. 489, the Federal Energy Regulatory Commission (“FERC”)
5 established a base-level ROE for New England Transmission Owners of
6 10.2%.¹ The 10.2% represented the midpoint of the range of ROEs which the
7 Commission determined to be in a zone of reasonableness with a low-end
8 ROE of 7.3% and a high-end ROE of 13.1%. This analysis employed the six-
9 month average dividend yield for the period July through December 2004.
10 The midpoint of 10.2% was subsequently adjusted upwards to 10.4% to
11 reflect an alternative measure of *Value Line*’s projected return on equity.²

12 The Commission has traditionally required updated data to reflect
13 changing market conditions for the period subsequent to the date of an
14 Opinion. The Commission has endorsed the use of the monthly yields on ten-
15 year constant maturity U.S. Treasury Bonds as an indicator of capital market
16 trends.³ In Opinion No. 489, for the six-month period July 2004 through
17 December 2004, the average monthly yield on these bonds was 4.2%. Upon
18 rehearing, the updated bond yield data for the period March 2006 through

¹ *Bangor Hydro-Electric Co.*, Opinion No. 489, 117 FERC ¶ 61,129 (2006).

² *Bangor Hydro-Electric Co.*, *order on rehearing*, 122 FERC ¶ 61,265 (2008) (Opinion No. 489 Rehearing Order).

³ *See, e.g., Union Electric Company*, Opinion No. 279, 40 FERC ¶ 61,046 (1987), *order on rehearing*, Opinion No. 279-A, 41 FERC ¶ 61,343 (1987).

1 August 2006 produced an average monthly yield of 5.0%. The Commission
2 adjusted the base-level ROE for the going-forward period by 74 basis points
3 to reflect changing market conditions. Therefore, the base-level ROE for the
4 TOs, adjusted for changing market conditions, was set at 11.14% (10.4% +
5 0.74%).

6 **Q. HOW DO THESE CAPITAL COST INDICATORS COMPARE TO**
7 **CURRENT MARKET CONDITIONS?**

8 A. The bubble in the housing market and the subsequent financial crisis and
9 economic recession has had a profound impact on financial institutions and
10 capital markets. In response, the U.S. government has employed aggressive
11 fiscal and monetary policies. In the capital markets, one impact has been the
12 lower yields on the obligations of the U.S. Treasury. These yields today are
13 somewhat below those at the time of the Opinion No. 489 and the rehearing
14 update noted above. Panel A of Exhibit JRW-2 shows the yields on ten-year
15 Treasury bonds for the periods July, 2004 – December, 2004, March, 2006 –
16 August 2006, and April – September 2011. The average ten-year Treasury
17 yields for these three periods are 4.24%, 4.98%, and 2.88%, respectively.
18 These yields indicate that capital costs are lower than at the time of Opinion
19 No. 489. Panel B of Exhibit JRW-2 shows the yields on thirty-public utility
20 bonds for the same three periods -- July, 2004 – December, 2004, March,
21 2006 – August 2006, and April, 2011 – September 2011. The average yields

1 for these three periods are 5.67%, 6.15%, and 5.24%, respectively. These
2 yields also indicate a decline in utility capital costs, albeit not as large as the
3 change indicated by the Treasury data.

4 **Q. BASED ON THESE DATA AND YOUR EQUITY COST RATE STUDY,**
5 **WHAT IS YOUR OPINION WITH RESPECT TO THE**
6 **COMMISSION'S BASE-LEVEL ROE FOR THE NEW ENGLAND**
7 **TRANSMISSION OWNERS?**

8 A. Based on these data and my equity cost rate study, it is my opinion that the
9 current base-level ROE of 11.14% is in excess of what the standards set forth by
10 the Supreme Court in the *Bluefield*⁴ and *Hope*⁵ deem necessary to: (1) maintain
11 the financial integrity of the utility, (2) enable the company to attract new
12 capital, and (3) provide a return to common equity that is commensurate with
13 returns on investments in other utilities of corresponding risk.

14 **Q. PLEASE REVIEW YOUR RECOMMENDATIONS REGARDING THE**
15 **APPROPRIATE ROE FOR THE TOS.**

16 A. I have applied the Discounted Cash Flow Model (“DCF”) and the Capital
17 Asset Pricing Model (“CAPM”) to a proxy group of publicly-held electric
18 utility companies (“Electric Proxy Group”). The Electric Proxy Group
19 includes twenty-eight companies. Consistent with recent Commission’s

⁴ *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm’n*, 262 U.S. 679 (1923).

⁵ *FPC v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

1 findings, this group is comprised of utilities throughout the U.S. and is not
2 limited to the Northeast. I have presented DCF results using the Commission's
3 approach. I have also presented a CAPM analysis, but do not give these
4 results any weight in the determination of an appropriate base ROE for the
5 TOs. I have concluded that the appropriate equity cost rate for the TOs is
6 9.20% for the TOs.

10 II. CAPITAL COSTS IN TODAY'S MARKETS

11 Q. PLEASE DISCUSS CAPITAL COSTS IN U.S. MARKETS.

12 A. Long-term capital cost rates for U.S. corporations are a function of the
13 required returns on risk-free securities plus a risk premium. The risk-free rate
14 of interest is the yield on long-term U.S Treasury yields. The yields on ten-
15 year U.S. Treasury bonds from 1953 to the present are provided on page 1 of
16 Exhibit JRW-3. These yields peaked in the early 1980s and have generally
17 declined since that time. In the summer of 2003, these yields hit a 60-year
18 low at 3.33%. They subsequently increased and fluctuated between the 4.0%
19 and 5.0% levels over the next four years in response to ebbs and flows in the
20 economy. Ten-year Treasury yields began to decline in mid-2007 at the
21 beginning of the current financial crisis. In 2008 Treasury yields declined to
22 below 3.0% as a result of the expansion of the mortgage and subprime market

1 credit crisis, the turmoil in the financial sector, the government bailout of
2 financial institutions, and the economic recession. Overall, these economic
3 developments led investors to seek out low risk investments. These yields
4 have been in the 3.0% range in recent months.

5 Panel B on page 1 of Exhibit JRW-3 shows the differences in yields
6 between ten-year Treasuries and Moody's Baa rated bonds since the year
7 2000. This differential primarily reflects the additional risk required by bond
8 investors for the risk associated with investing in corporate bonds. The
9 difference also reflects, to a much lesser degree, yield curve changes over
10 time. The Baa rating is the lowest of the investment grade bond ratings for
11 corporate bonds. The yield differential hovered in the 2.0% to 3.0% area
12 until 2005, declined to 1.5% until late 2007, and then increased significantly
13 in response to the current financial crisis. This differential peaked at 6.0% at
14 the height of the financial crisis in November of 2008, due to tightening in
15 credit markets, which increased corporate bond yields and the "flight to
16 quality," which decreased treasury yields. The differential declined
17 significantly in 2009, and has remained in the 2.5% to 3.0% range over the
18 past two years.

19 As previously noted, the risk premium is the return premium required
20 by investors to purchase riskier securities. The risk premium required by
21 investors to buy corporate bonds is observable based on yield differentials in
22 the markets. The equity risk premium is the return premium required to

1 purchase stocks as opposed to bonds. The equity risk premium is not readily
2 observable in the markets (as are bond risk premiums) since expected stock
3 market returns are not readily observable. As a result, equity risk premiums
4 must be estimated using market data. There are alternative methodologies to
5 estimating the equity risk premium, and the alternative approaches and equity
6 risk premium results are subject to much debate. One way to estimate the
7 equity risk premium is to compare the mean returns on bonds and stocks over
8 long historical periods. Measured in this manner, the equity risk premium has
9 been in the 5-7% range. However, studies by leading academics indicate the
10 forward-looking equity risk premium is actually in the 4.0% to 5.0% range.
11 These lower equity risk premium results are in line with the findings of equity
12 risk premium surveys of CFOs, academics, analysts, companies, and financial
13 forecasters.

14
15 **Q. PLEASE DISCUSS THE FINANCIAL CRISIS AND THE RESPONSE**
16 **OF THE U.S. GOVERNMENT.**

17 A. The mortgage crisis, subprime crisis, credit crisis, economic recession and the
18 restructuring of financial institutions have had tremendous global economic
19 implications. This issue first surfaced in the summer of 2007 as a mortgage
20 crisis. It expanded into the subprime area in late 2008 and led to the collapse
21 of certain financial institutions, notably Bear Stearns, in the first quarter of
22 2008. Commodity and energy prices peaked and then began to decline in the

1 summer of 2008, as the crisis in the financial markets spread to the global
2 economy. The turmoil in the financial sector peaked in September of 2008
3 with the failure of several large financial institutions, Bank of America's
4 buyout of Merrill Lynch, and the government takeover of Fannie Mae and
5 Freddie Mac.

6 The spillover to the economy has been ongoing. According to the
7 National Bureau of Economic Research ("NBER"), the economy slipped into
8 a recession in the 4th quarter of 2007. The NBER has indicated that the
9 recession ended in the 2nd quarter of 2009. Nonetheless, significant economic
10 problems persist, with relatively high unemployment, large government
11 budget deficits, continued housing market issues, and uncertainty about future
12 economic growth.

13
14 **Q. PLEASE DESCRIBE HOW THE CRISIS HAS IMPACTED THE**
15 **FINANCIAL MARKETS.**

16 A. United States Treasury Rates declined to levels not seen since the 1950s. This
17 reflects the "flight to quality" in the credit markets, as investors have sought
18 out low risk investments, and the massive monetary stimulus provided by the
19 Federal Reserve Board. The credit market for corporate and utility debt
20 experienced higher rates during the financial crisis. The short-term credit
21 markets were hit with credit issues, leading to the demise of several large
22 financial institutions. The primary indicator of the short-term credit market is

1 the London Interbank Offered Rate (“LIBOR”). LIBOR peaked in the third
2 quarter of 2008 at 4.75%. It subsequently declined to below 0.5% as the
3 short-term credit markets opened up. LIBOR and short-term U.S. Treasury
4 rates have remained at very low levels.

5 The long-term credit market has improved significantly. The credit
6 crisis was associated with concerns among credit providers – mainly financial
7 institutions – in terms of making loans and investing in bonds due to the
8 overleveraging and perceived weakness of the economy. Panel A of page 2 of
9 Exhibit JRW-3 provides the yields on A, BBB+, and BBB rated public utility
10 bonds. These yields peaked in November 2008, declined by about 200 to 300
11 basis points (“BPs”) through the summer of 2010, and have since increased
12 about 50 to 75 BPs. For example, the yields on ‘A’ rated utility bonds, which
13 peaked at over 7.50% in November of 2008, declined to 5.0% as of last
14 summer, and now are in the 5.75% range. Panel B of page 2 of Exhibit
15 JRW-3 provides the yield spreads on A, BBB+, and BBB rated public utility
16 bonds relative to Treasury bonds. These yield spreads increased dramatically
17 in the third quarter of 2008 during the peak of the financial crisis and have
18 since decreased to pre-crisis levels. For example, the yield spread between 30-
19 year, ‘A’ rated utility bonds and 30-Year Treasury bonds, increased from
20 1.5% to 3.5% in November of 2008. This yield spread decreased to below
21 1.5% as of the summer of 2009, and has remained in this area since that time.

22 In sum, while the economy continues to face significant problems, the

1 aggressive actions of the government and Federal Reserve have had a large
2 effect on the credit markets. The capital costs for utilities, as measured by the
3 yields on 30-year utility bonds, have declined to pre-financial crisis levels.
4

5 **III. PROXY GROUP SELECTION**

6
7 **Q. PLEASE DESCRIBE YOUR APPROACH TO DEVELOPING A FAIR**
8 **RATE OF RETURN RECOMMENDATION FOR THE TOS.**

9 A. To develop a fair rate of return recommendation for the TOs, I have evaluated
10 the return requirements of investors on the common stock of a proxy group of
11 publicly-held electric utility companies (“Electric Proxy Group”).
12

13 **Q. PLEASE DESCRIBE YOUR PROXY GROUP OF ELECTRIC UTILITY**
14 **COMPANIES.**

15 A. My Electric Proxy Group consists of twenty-eight electric utility companies.
16 These companies met the following selection criteria: (1) listed as a Electric
17 Utility or Combination Electric and Gas Company in *AUS Utility Reports*; (2)
18 listed as a Electric Utility in the Standard Edition of the *Value Line Investment*
19 *Survey*; (3) at least 50% regulated electric revenues; (4) Pays dividends, with no
20 dividend cuts in the last two years; (5) not involved in a merger or acquisition (as
21 an acquirer or target); (6) an investment grade bond rating by Moody’s and/or
22 Standard & Poor’s; and (7) analysts’ EPS growth rate estimates from at least two

1 different online financial information services (Zack's Yahoo, and Reuters).
2 Summary financial statistics for the Electric Proxy Group are listed in Exhibit
3 JRW-4.⁶ The median operating revenues and net plant for the group are
4 \$3,982.1 million and \$8,578.7 million, respectively. On average, the group
5 receives 79% of revenues from regulated electric operations, has a current
6 common equity ratio of 46.0% and an earned ROE equity of 10.4%, and sells at
7 a market-to-book ratio of 1.41X.

8
9 **Q. IS THE SELECTION OF YOUR ELECTRIC PROXY GROUP**
10 **CONSISTENT WITH PRIOR COMMISSION GUIDELINES?**

11 A. Yes. The companies in the group are primarily electric utilities as indicated
12 by the percent of regulated electric revenue (at least 50%). The selection
13 process includes a national group of electric utilities, which is consistent with
14 the Commission's recent findings that geographic proximity is not necessarily
15 a determining factor in evaluating risk.⁷ Page 2 of Exhibit JRW-4 provides
16 the S&P corporate credit ratings of the New England TOs. These ratings
17 range from A+ on the high end to BBB on the low end. According to the
18 Commission's credit rating screen or "comparable risk band" approach,
19 reference companies may be included with ratings that are one "notch" higher

⁶ I present both the means and medians for the financial data in the Exhibits. However, due to the presence of outliers, I use the median as the measure of central tendency.

⁷ *Atlantic Path 15*, 133 FERC ¶ 61,153, at P 13 (2010); "FERC Clarifies ROE Policy for Electric Transmission Projects," *Federal Energy Regulatory Commission News* (Nov. 18, 2010); *Potomac-Appalachian Transmission Highline, L.L.C.*, 133 FERC ¶ 61,152 (2010) ("PATH Rehearing Order").

1 or lower than the corporate ratings of the utility at issue, within the investment
2 grade ratings scale.⁸ Accordingly, the range for the group is AA- to BBB-,
3 with a median rating of BBB+. The median for the TOs is BBB+. On page 4
4 of Exhibit JRW-4, I have assessed the riskiness of the TOs and the Electric
5 Proxy Group using three different risk measures published by *Value Line*.
6 These measures include Beta, Safety, and Financial Strength. These measures
7 are all very similar for the TOs and the Electric Proxy Group.

8 Overall, the selection of the Electric Proxy Group is consistent with
9 Commission proxy group guidelines and is comparable in risk to the TOs.

11 **V. THE COST OF COMMON EQUITY CAPITAL**

13 **A. Overview**

14 **Q. WHY MUST AN OVERALL COST OF CAPITAL OR FAIR RATE OF** 15 **RETURN BE ESTABLISHED FOR A PUBLIC UTILITY?**

16 A. In a competitive industry, the return on a firm's common equity capital is
17 determined through the competitive market for its goods and services. Due to
18 the capital requirements needed to provide utility services and to the economic
19 benefit to society from avoiding duplication of these services, some public
20 utilities are monopolies. It is not appropriate to permit monopoly utilities to
21 set their own prices because of the lack of competition and the essential nature

⁸ *Tallgrass Transmission, LLC*, 125 FERC ¶ 61,248 at P 77 (2008).

1 of the services. Thus, regulation seeks to establish prices that are fair to
2 consumers and, at the same time, are sufficient to meet the operating and
3 capital costs of the utility (i.e., provide an adequate return on capital to attract
4 investors).

5 **Q. PLEASE PROVIDE AN OVERVIEW OF THE COST OF CAPITAL IN**
6 **THE CONTEXT OF THE THEORY OF THE FIRM.**

7 A. The total cost of operating a business includes the cost of capital. The cost of
8 common equity capital is the expected return on a firm's common stock that
9 the marginal investor would deem sufficient to compensate for risk and the
10 time value of money. In equilibrium, the expected and required rates of return
11 on a company's common stock are equal.

12 Normative economic models of the firm, developed under very
13 restrictive assumptions, provide insight into the relationship between firm
14 performance or profitability, capital costs, and the value of the firm. Under
15 the economist's ideal model of perfect competition where entry and exit is
16 costless, products are undifferentiated, and there are increasing marginal costs
17 of production, firms produce up to the point where price equals marginal cost.
18 Over time, a long-run equilibrium is established where price equals average
19 cost, including the firm's capital costs. In equilibrium, total revenues equal
20 total costs, and because capital costs represent investors' required return on

1 the firm's capital, actual returns equal required returns, and the market value
2 and the book value of the firm's securities must be equal.

3 In the real world, firms can achieve competitive advantage due to
4 product market imperfections. Most notably, companies can gain competitive
5 advantage through product differentiation (adding real or perceived value to
6 products) and by achieving economies of scale (decreasing marginal costs of
7 production). Competitive advantage allows firms to price products above
8 average cost and thereby earn accounting profits greater than those required to
9 cover capital costs. When these profits are in excess of that required by
10 investors, or when a firm earns a return on equity in excess of its cost of
11 equity, investors respond by valuing the firm's equity in excess of its book
12 value.

13 James M. McTaggart, founder of the international management
14 consulting firm Marakon Associates, has described this essential relationship
15 between the return on equity, the cost of equity, and the market-to-book ratio
16 in the following manner:⁹

17 Fundamentally, the value of a company is determined
18 by the cash flow it generates over time for its owners,
19 and the minimum acceptable rate of return required by
20 capital investors. This "cost of equity capital" is used
21 to discount the expected equity cash flow, converting it
22 to a present value. The cash flow is, in turn, produced
23 by the interaction of a company's return on equity and
24 the annual rate of equity growth. High return on equity
25 (ROE) companies in low-growth markets, such as

⁹ James M. McTaggart, "The Ultimate Poison Pill: Closing the Value Gap," *Commentary* (Spring 1988), p. 2.

1 Kellogg, are prodigious generators of cash flow, while
2 low ROE companies in high-growth markets, such as
3 Texas Instruments, barely generate enough cash flow to
4 finance growth.

5 A company's ROE over time, relative to its cost of
6 equity, also determines whether it is worth more or less
7 than its book value. If its ROE is consistently greater
8 than the cost of equity capital (the investor's minimum
9 acceptable return), the business is economically
10 profitable and its market value will exceed book value.
11 If, however, the business earns an ROE consistently
12 less than its cost of equity, it is economically
13 unprofitable and its market value will be less than book
14 value.

15 As such, the relationship between a firm's return on equity, cost of
16 equity, and market-to-book ratio is relatively straightforward. A firm that
17 earns a return on equity above its cost of equity will see its common stock sell
18 at a price above its book value. Conversely, a firm that earns a return on
19 equity below its cost of equity will see its common stock sell at a price below
20 its book value.

21 **Q. PLEASE PROVIDE ADDITIONAL INSIGHTS INTO THE**
22 **RELATIONSHIP BETWEEN RETURN ON EQUITY AND MARKET-**
23 **TO-BOOK RATIOS.**

24 A. This relationship is discussed in a classic Harvard Business School case study
25 entitled "A Note on Value Drivers." On page 2 of that case study, the author
26 describes the relationship very succinctly:¹⁰

¹⁰ Benjamin Esty, "A Note on Value Drivers," Harvard Business School, Case No. 9-297-082, April 7, 1997.

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

6		
7	<u><i>Profitability</i></u>	<u><i>Value</i></u>
8	<i>If ROE > K</i>	<i>then Market/Book > 1</i>
9	<i>If ROE = K</i>	<i>then Market/Book = 1</i>
10	<i>If ROE < K</i>	<i>then Market/Book < 1</i>

11 To assess the relationship by industry, as suggested above, I have
12 performed a regression study between estimated return on equity and market-
13 to-book ratios using natural gas distribution, electric utility and water utility
14 companies. I used all companies in these three industries that are covered by
15 *Value Line* and have estimated return on equity and market-to-book ratio data.
16 The results are presented in Panels A-C of Exhibit JRW-5. The average R-
17 squares for the electric, gas, and water companies are 0.65, 0.60, and 0.92,
18 respectively.¹¹ This demonstrates the strong positive relationship between
19 ROEs and market-to-book ratios for public utilities.

20 **Q. WHAT FACTORS DETERMINE INVESTORS' EXPECTED OR**
21 **REQUIRED RATE OF RETURN ON EQUITY?**

22 A. The expected or required rate of return on common stock is a function of
23 market-wide as well as company-specific factors. The most important market

¹¹ R-square measures the percent of variation in one variable (e.g., market-to-book ratios) explained by another variable (e.g., expected return on equity). R-squares vary between zero and 1.0, with values closer to 1.0 indicating a higher relationship between two variables.

1 factor is the time value of money as indicated by the level of interest rates in
2 the economy. Common stock investor requirements generally increase and
3 decrease with like changes in interest rates. The perceived risk of a firm is the
4 predominant factor that influences investor return requirements on a
5 company-specific basis. A firm's investment risk is often separated into
6 business and financial risk. Business risk encompasses all factors that affect a
7 firm's operating revenues and expenses. Financial risk results from incurring
8 fixed obligations in the form of debt in financing its assets.

9 **Q. HOW DOES THE INVESTMENT RISK OF UTILITIES COMPARE**
10 **WITH THAT OF OTHER INDUSTRIES?**

11 A. Due to the essential nature of their service as well as their regulated status,
12 public utilities are exposed to a lesser degree of business risk than other, non-
13 regulated businesses. The relatively low level of business risk allows public
14 utilities to meet much of their capital requirements through borrowing in the
15 financial markets, thereby incurring greater than average financial risk.
16 Nonetheless, the overall investment risk of public utilities is below most other
17 industries.

18 Exhibit JRW-6 provides an assessment of investment risk for 100
19 industries as measured by beta, which according to modern capital market
20 theory, is the only relevant measure of investment risk. These betas come
21 from the *Value Line Investment Survey* and are compiled annually by Aswath

1 Damodoran of New York University.¹² The study shows that the investment
2 risk of utilities is very low. The average betas for electric, water, and gas
3 utility companies are 0.75, 0.70, and 0.65, respectively. The betas for utilities
4 are in the lowest ten percent of all industries covered by *Value Line*. These are
5 well below the *Value Line* average of 1.15. As such, the cost of equity for
6 utilities is among the lowest of all industries in the U.S.

7 **Q. HOW CAN THE EXPECTED OR REQUIRED RATE OF RETURN ON**
8 **COMMON EQUITY CAPITAL BE DETERMINED?**

9 A. The costs of debt and preferred stock are normally based on historical or book
10 values and can be determined with a great degree of accuracy. The cost of
11 common equity capital, however, cannot be determined precisely and must
12 instead be estimated from market data and informed judgment. This return to
13 the stockholder should be commensurate with returns on investments in other
14 enterprises having comparable risks.

15 According to valuation principles, the present value of an asset equals
16 the discounted value of its expected future cash flows. Investors discount
17 these expected cash flows at their required rate of return that, as noted above,
18 reflects the time value of money and the perceived riskiness of the expected
19 future cash flows. As such, the cost of common equity is the rate at which

¹² Available at <http://www.stern.nyu.edu/~adamodar>.

1 investors discount expected cash flows associated with common stock
2 ownership.

3 Models have been developed to ascertain the cost of common equity
4 capital for a firm. Each model, however, has been developed using restrictive
5 economic assumptions. Consequently, judgment is required in selecting
6 appropriate financial valuation models to estimate a firm's cost of common
7 equity capital, in determining the data inputs for these models, and in
8 interpreting the models' results. All of these decisions must take into
9 consideration the firm involved as well as current conditions in the economy
10 and the financial markets.

11 **Q. HOW DO YOU PLAN TO ESTIMATE THE COST OF EQUITY**
12 **CAPITAL FOR THE COMPANY?**

13 A. I rely primarily on the DCF model to estimate the cost of equity capital.
14 Given the investment valuation process and the relative stability of the utility
15 business, I believe that the DCF model provides the best measure of equity
16 cost rates for public utilities. I have employed the FERC DCF methodology
17 in the testimony. I have also performed a CAPM study, but I give these
18 results no weight because I believe that risk premium studies, of which the
19 CAPM is one form, provide a less reliable indication of equity cost rates for
20 public utilities.

1 A. Yes. Virtually all investment firms use some form of the DCF model as a
2 valuation technique. One common application for investment firms is called
3 the three-stage DCF or dividend discount model (“DDM”). The stages in a
4 three-stage DCF model are presented in Exhibit JRW-7. This model presumes
5 that a company’s dividend payout progresses initially through a growth stage,
6 then proceeds through a transition stage, and finally assumes a steady-state
7 stage. The dividend-payment stage of a firm depends on the profitability of its
8 internal investments, which, in turn, is largely a function of the life cycle of
9 the product or service.

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

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

18 3. Maturity (steady-state) stage: Eventually the company reaches a
19 position where its new investment opportunities offer, on average, only
20 slightly attractive returns on equity. At that time its earnings growth rate,
21 payout ratio, and return on equity stabilize for the remainder of its life. The

1 constant-growth DCF model is appropriate when a firm is in the maturity stage
2 of the life cycle.

3 In using this model to estimate a firm's cost of equity capital,
4 dividends are projected into the future using the different growth rates in the
5 alternative stages, and then the equity cost rate is the discount rate that equates
6 the present value of the future dividends to the current stock price.

7 **Q. HOW DO YOU ESTIMATE STOCKHOLDERS' EXPECTED OR**
8 **REQUIRED RATE OF RETURN USING THE DCF MODEL?**

9 A. Under certain assumptions, including a constant and infinite expected growth
10 rate, and constant dividend/earnings and price/earnings ratios, the DCF model
11 can be simplified to the following:

12
$$P = \frac{D_1}{k - g}$$

13
14
15

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

21
$$k = \frac{D_1}{P} + g$$

22
23
24

1 **Q. IN YOUR OPINION, IS THE CONSTANT-GROWTH DCF MODEL**
2 **APPROPRIATE FOR PUBLIC UTILITIES?**

3 A. Yes. The economics of the public utility business indicate that the industry is
4 in the steady-state or constant-growth stage of a three-stage DCF. The
5 economics include the relative stability of the utility business, the maturity of
6 the demand for public utility services, and the regulated status of public
7 utilities (especially the fact that their returns on investment are effectively set
8 through the ratemaking process). The DCF valuation procedure for companies
9 in this stage is the constant-growth DCF. In the constant-growth version of
10 the DCF model, the current dividend payment and stock price are directly
11 observable. However, the primary problem and controversy in applying the
12 DCF model to estimate equity cost rates entails estimating investors' expected
13 dividend growth rate.

14 **Q. WHAT FACTORS SHOULD ONE CONSIDER WHEN APPLYING**
15 **THE DCF METHODOLOGY?**

16 A. One should be sensitive to several factors when using the DCF model to
17 estimate a firm's cost of equity capital. In general, one must recognize the
18 assumptions under which the DCF model was developed in estimating its
19 components (the dividend yield and expected growth rate). The dividend
20 yield can be measured precisely at any point in time, but tends to vary
21 somewhat over time. Estimation of expected growth is considerably more

1 difficult. One must consider recent firm performance, in conjunction with
2 current economic developments and other information available to investors,
3 to accurately estimate investors' expectations.

4 **Q. PLEASE DISCUSS EXHIBIT JRW-8.**

5 A. My DCF analysis is provided in Exhibit JRW-8. The DCF summary is on
6 page 1 of this Exhibit, and the supporting data and analysis for the dividend
7 yield and expected growth rate are provided on the following pages of the
8 Exhibit.

9 **B. FERC DCF Model**

10
11 **Q. PLEASE DISCUSS YOUR APPLICATION OF THE COMMISSION'S**
12 **DCF MODEL.**

13 A. I have performed a DCF analysis using the Commission's DCF approach. In
14 this application, the dividend yield is computed as the average low and high
15 indicated dividend yields for each utility during the six months ending
16 September 2011.

17 **Q. PLEASE DISCUSS THE APPROPRIATE ADJUSTMENT TO THE**
18 **SPOT DIVIDEND YIELD.**

19 A. According to the traditional DCF model, the dividend yield term relates to the
20 dividend yield over the coming period. As indicated by Professor Myron
21 Gordon, who is commonly associated with the development of the DCF model

1 for popular use, this is obtained by (1) multiplying the expected dividend over
2 the coming quarter by 4 and (2) dividing this dividend by the current stock
3 price to determine the appropriate dividend yield for a firm, that pays
4 dividends on a quarterly basis.¹³

5 In applying the DCF model, some analysts adjust the current dividend
6 for growth over the coming year as opposed to the coming quarter. This can
7 be complicated because firms tend to announce changes in dividends at
8 different times during the year. As such, the dividend yield computed based
9 on presumed growth over the coming quarter as opposed to the coming year
10 can be quite different. Consequently, it is common for analysts to adjust the
11 dividend yield by some fraction of the long-term expected growth rate.

12
13 **Q. GIVEN THIS DISCUSSION, WHAT ADJUSTMENT FACTOR WILL**
14 **YOU USE FOR YOUR DIVIDEND YIELD?**

15 A. I will adjust the dividend yield by one-half (1/2) the expected growth so as to
16 reflect growth over the coming year. This is consistent with the
17 Commission's approach.¹⁴ The DCF equity cost rate (K) is computed as:

18
19
20

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

¹³ *Petition for Modification of Prescribed Rate of Return*, Federal Communications Commission, Docket No. 79-05, Direct Testimony of Myron J. Gordon and Lawrence I. Gould at 62 (April 1980).

¹⁴ Opinion No. 414-A, *Transcontinental Gas Pipe Line Corp.*, 84 FERC ¶61,084 (1998)

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Q. PLEASE DISCUSS THE COMMISSION’S COMPUTATION OF THE DCF GROWTH RATE COMPONENT.

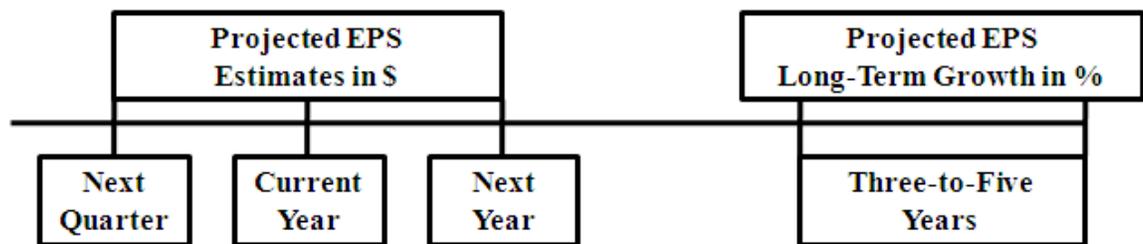
A. The Commission’s DCF approach uses two measures of projected growth. These include: (1) the projected EPS growth as forecasted by Wall Street analysts; and (2) sustainable growth, as measured by the sum of internal growth (the retention rate times expected ROE) and external growth (the percent of equity expected to be issued times the equity accretion ratio).

Q. PLEASE DISCUSS THE SERVICES THAT PROVIDE ANALYSTS’ EPS FORECASTS.

A. Analysts’ EPS forecasts for companies are collected and published by a number of different investment information services, including Institutional Brokers Estimate System (“IBES), Bloomberg, FactSet, Zacks, First Call and Reuters, among others. These services solicit and publish the EPS forecasts of analysts of investment and financial service firms and publish the average EPS estimates for future quarterly and annual time periods as well as the average long-term EPS growth rate forecasts.

Q. PLEASE PROVIDE AN EXAMPLE OF THESE EPS FORECASTS.

1 A. The following example provides the EPS forecasts compiled by Reuters for
 2 ALLETE Resources. The EPS estimates are in dollars and cents per share, and
 3 the services report the high, low and mean of the estimates collected for analysts.
 4 The long-term projected EPS growth rate is expressed in percentage terms. As
 5 shown in the figure below, the projected EPS near-term estimates are usually
 6 provided for the next quarter, the current fiscal year, and the next fiscal year.
 7 The long-term projected EPS growth rate is for a three-to-five year time period.



8
9
10 Consensus Earnings Estimates
 11 ALLETE, Inc
 12 www.reuters.com
 13 August 5, 2011

	# of Estimates	Mean	High	Low
Earnings (per share)				
Quarter Ending Sep-11	4	0.54	0.57	0.51
Quarter Ending Dec-11	4	0.80	0.85	0.55
Year Ending Dec-11	4	2.50	2.80	2.45
Year Ending Dec-12	4	2.82	2.85	2.60
LT Growth Rate (%)	4	5.75	8.00	5.00

15
16

17 These figures can be interpreted as follows. The top line shows that four
 18 analysts provided EPS estimates for the quarter ending September 2011. The

1 mean, high and low estimates are \$0.54, 0.57, and \$0.51, respectively. The
2 second line shows the quarterly EPS estimates for the quarter ending
3 December 2011. Lines three and four show the annual EPS estimates for the
4 fiscal years ending December 2011 and 2012. The quarterly and annual EPS
5 forecasts in lines 1-4 are expressed in dollars and cents. The long-term
6 growth rate is expressed as a percent. For ALLETE, four analysts have
7 provided long-term EPS growth rate forecasts, with mean, high and low
8 growth rates of 5.75%, 8.00%, and 5.00%.

9
10 **Q. WHICH OF THESE EPS FORECASTS IS USED IN DEVELOPING A**
11 **DCF GROWTH RATE?**

12 A. The DCF growth rate is the long-term projected growth rate in EPS, DPS, and
13 BVPS. Therefore, in developing an equity cost rate using the DCF model, the
14 projected long-term growth rate is the projection used in the DCF model.

15
16 **Q. PLEASE DISCUSS THE ISSUES IN USING THE EPS FORECASTS OF**
17 **WALL STREET ANALYSTS IN ARRIVING AT A DCF GROWTH**
18 **RATE?**

19 A. There are several issues with using the EPS growth rate forecasts of Wall
20 Street analysts as DCF growth rates. First, the appropriate growth rate in the
21 DCF model is the dividend growth rate, not the earnings growth rate.
22 Nonetheless, over the very long-term, dividend and earnings grow at a similar

1 growth rate. Second, and most significantly, it is well-known that the long-
2 term EPS growth rate forecasts of Wall Street securities analysts are overly
3 optimistic and upwardly biased. This has been demonstrated in a number of
4 academic studies over the years. Hence, using these growth rates as a DCF
5 growth rate will provide an overstated equity cost rate. This issue is discussed
6 at length in Appendix B of this testimony.

7
8 **Q. PLEASE DISCUSS THE DIFFERENT SOURCES OF ANALYSTS’**
9 **LONG-TERM EPS GROWTH RATE FORECASTS**

10 A. Thompson Reuters, based in New York, is a major provider of investment
11 information and publishes analysts’ EPS forecasts under different names,
12 including IBES, First Call, and Reuters. Bloomberg, FactSet, and Zacks are
13 independently owned and publish their own set of analysts’ EPS forecasts for
14 companies. As far as I am aware, none of these services reveal: (1) the analysts
15 who are solicited for forecasts; or (2) the actual analysts who actually provide
16 the EPS forecasts that are used in the compilations published by the services.
17 IBES, Bloomberg, FactSet, and First Call are fee-based services. These services
18 usually provide detailed reports and other data in addition to analysts’ EPS
19 forecasts. Thompson Reuters and Zacks do provide limited EPS forecasts data
20 free-of-charge on the internet. Yahoo finance (<http://finance.yahoo.com>) lists
21 Thompson Reuters as the source of its summary EPS forecasts. The Reuters
22 website (www.reuters.com) also publishes EPS forecasts from Thompson

1 Reuters, but with more detail. Zacks (www.zacks.com) publishes its summary
2 forecasts on its website. Zacks estimates are also available on other websites,
3 such as msn.money (<http://money.msn.com>). As such, Thompson Reuters and
4 Zacks are the ultimate sources of EPS forecasts that are provided free-of-charge
5 at different sites on the internet.

6 **Q. WHAT ARE YOUR OBSERVATIONS ON THE ALTERNATIVE**
7 **SOURCES OF ANALYSTS' LONG-TERM EPS GROWTH RATE**
8 **FORECASTS?**

9 A. Based on my review of previous cases, it appears that the Commission has
10 accepted analyses that use the long-term EPS growth rate forecasts as
11 published by IBES in developing a DCF equity cost rate. However, it is my
12 experience that there is not one single figure that represents analysts'
13 projected EPS growth rate for a company. Page 2 of Exhibit JRW-8 provides
14 analysts' projected EPS growth rates for the proxy group companies as
15 published by Reuters, Yahoo, and Zacks. These are the primary providers of
16 analysts' EPS growth rate forecasts available free-of-charge on the internet.
17 As previously indicated, IBES is not a free service. These data were collected
18 on August 30, 2011. Of the twenty-eight companies, only two (Avista and
19 IDACORP) have the same growth rate forecast from the three services. In
20 addition, only seven of the companies have the same growth rate forecasts
21 from Yahoo and Reuters, both of which have Thompson Reuters as the source
22 of projected long-term earnings growth rate forecasts.

1

2 **Q. BASED ON THIS DISCUSSION, WHAT MEASURE OF ANALYSTS’**
3 **LONG-TERM EPS GROWTH RATE FORECASTS ARE YOU USING?**

4 A. I am using the average of the three services – Yahoo, Zacks, and Reuters – as
5 the measure of analysts’ projected long-term EPS growth rate forecast.

6

7 **Q. PLEASE REVIEW THE SUSTAINABLE GROWTH RATE.**

8 A. The second growth rate is FERC’s measure of sustainable growth. The
9 sustainable growth rate is calculated as:

10

$$g = br + sv$$

11

where:

12

b = expected retention ratio;

13

r = expected earned rate of return;

14

s = percent of equity expected to be issued on an annual
basis as new common stock;

15

16

v = equity accretion ratio.

17

18

The calculation of the sustainable growth (“g”) rate is provided on pages 3
19 and 4 of Exhibit JRW-8. On page 3 of Exhibit JRW-8, the expected retention
20 ratio (“b”) and the expected return on equity (“r”) are calculated and then
21 averaged using *Value Line* data for 2011, 2012, and 2014-2016 period. The
22 expected retention ratio is based on *Value Line*’s projected EPS and DPS. The
23 average values for r are then adjusted by the ‘Adjustment Factor’ since *Value*
24 *Line*’s expected earned rate of return on equity is based on end-of-year figure
25 equity.¹⁵ The Adjustment Factor is calculated as $((2*(1+5\text{-yr Change in$

¹⁵ *Bangor Hydro Electric Company*, 122 FERC 61,265 (2008).

1 Equity)/(2+5-yr Change in Equity)). The 5-Year Change in Equity is
2 computed using *Value Line*'s actual 2010 and projected 2015 equity ratios and
3 total capital figures (see page 4 of Exhibit JRW-8).

4 The computation of the sv growth factor is shown on page 4 of Exhibit
5 JRW-8. The percent of common equity expected to be issued annually as new
6 common stock ("s") is computed as the product of the projected market-to-
7 book ratio and *Value Line*'s projected growth in common shares. The equity
8 accretion rate ("v") is computed as 1 minus the inverse of the projected
9 market-to-book ratio (1-B/M).

10 **Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE**
11 **COMMISSION'S DCF MODEL?**

12 A. The DCF results employing the Commissions DCF approach are presented in
13 Exhibit JRW-8. Page 1 of Exhibit JRW-8 provides the summary results. The
14 average of analysts' projected EPS growth rates from Yahoo, Reuters, and
15 Zacks are shown on page 2 of Exhibit JRW-8. Pages 2 and 3 shows the data
16 and calculations used to compute the sustainable growth rate.

17
18 **Q. PLEASE DISCUSS YOUR UNDERSTANDING OF THE**
19 **COMMISSION'S POLICY OF ELIMINATING EXTREME OUTLIERS**
20 **IN THE DCF RESULTS.**

1 A. It is my understanding that the Commission has a policy of applying a test of
2 reasonableness and eliminating extreme DCF equity cost rate outliers.

3 The Low and High DCF equity cost rates from page 1 Exhibit JRW-8
4 are shown as a histogram on page 5 of the Exhibit. A visual review of the Low
5 and High DCF equity cost rates suggest that there may be two low-end
6 outliers and one high-end outlier.

7 The Commission's policy on low-end outliers was indicated in its
8 April 15, 2010 decision involving *SoCal Edison*. In *SoCal Edison*, FERC
9 indicated that, "it is reasonable to exclude any company whose low-end ROE
10 fails to exceed the average bond yield by about 100 basis points or more."¹⁶
11 FERC also further provided guidance on applying this methodology: "As we
12 stated in Opinion No. 489, the use of only one end of the DCF calculation
13 would skew the Commission's DCF method. Therefore, when we eliminate
14 either the high-end or low-end ROE outlier of a company, we have also
15 eliminated the corresponding low-end or high-end ROE of that company."¹⁷

16 The Table below provides the yields on 30-year term A, BBB+, and
17 BBB rated utility bonds. These data suggest that the prospective yield on
18 utility bonds with a rating similar to the proxy group (A-/BBB+) is in the
19 5.0% range. Given this figure, and FERC's bond yield plus 100 basis point

¹⁶ *So. Cal. Ed.*, 131 FERC P 61020, at P 56 (2010).

¹⁷ *Southern Cal. Edison*, 131 FERC P 61020 at P. 59.

1 threshold for the low-end outliers, the elimination the low-end DCF results for
2 Entergy (5.6%) and Great Plains Energy (6.2%) is supported.

	A	BBB+	BBB
	Rated	Rated	Rated
9/16/11	4.53	4.86	5.15
9/9/11	4.45	4.77	5.05
9/2/11	4.49	4.82	5.13
8/26/11	4.66	4.94	5.25
Average	4.53	4.85	5.14

3
4 With respect to high-end outliers, I am not aware of any specific Commission
5 policy such as the bond yield plus 100 basis points for the low-end outliers.
6 However, symmetry as well as the visual evidence on page 5 of Exhibit JRW-
7 8 would suggest that the DCF result of 13.7% for Hawaiian Electric Industries
8 is a high-end outlier. This figure is 190 basis points above the next-highest
9 DCF observation. As such, the DCF equity cost rate should be eliminated as a
10 high-end outlier.¹⁸

11

¹⁸ There are other reasons why Hawaiian Electric Industries should be eliminated from the proxy group. Hawaiian Electric Industries is the holding company for Hawaiian Electric Company. Almost half of the holding company's earnings come from banking which had significant loan write-offs over the last three 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.

1 market or systematic risk, which is measured by a firm's beta. The only risk
2 that investors receive a return for bearing is systematic risk.

3 According to the CAPM, the expected return on a company's stock,
4 which is also the equity cost rate (K), is equal to:

$$5 \quad K = (R_f) + \beta * [E(R_m) - (R_f)]$$

6 Where:

- 7 • K represents the estimated rate of return on the stock;
- 8 • $E(R_m)$ represents the expected return on the overall stock market.
9 Frequently, the "market" refers to the S&P 500;
- 10 • (R_f) represents the risk-free rate of interest;
- 11 • $[E(R_m) - (R_f)]$ represents the expected equity or market risk premium—
12 the excess return that an investor expects to receive above the risk-free rate for
13 investing in risky stocks; and
- 14 • $Beta$ —(β) is a measure of the systematic risk of an asset.

15 To estimate the required return or cost of equity using the CAPM
16 requires three inputs: (1) the risk-free rate of interest (R_f); (2) the beta (β); and
17 (3) the expected equity or market risk premium $[E(R_m) - (R_f)]$. R_f is the easiest
18 of the inputs to measure – it is the yield on long-term U.S. Treasury bonds. β ,
19 the measure of systematic risk, is a little more difficult to measure because
20 there are different opinions about what adjustments, if any, should be made to
21 historical betas due to their tendency to regress to 1.0 over time. And finally,
22 an even more difficult input to measure is the expected equity or market risk
23 premium ($E(R_m) - (R_f)$). I will discuss each of these inputs below.
24

25 **Q. PLEASE DISCUSS EXHIBIT JRW-9.**

1 A. Exhibit JRW-9 provides the summary results for my CAPM study. Page 1
2 shows the summary of the results, and pages 2-11 contain the supporting data.

3 **Q. PLEASE DISCUSS THE RISK-FREE INTEREST RATE.**

4 A. The yield on long-term U.S. Treasury bonds has usually been viewed as the
5 risk-free rate of interest in the CAPM. The yield on long-term U.S. Treasury
6 bonds, in turn, has been considered to be the yield on U.S. Treasury bonds
7 with 30-year maturities.

8 **Q. WHAT RISK-FREE INTEREST RATE ARE YOU USING IN YOUR**
9 **CAPM?**

10 A. I am using the yields on 30-year Treasury bonds. The yield on 30-year Treasury
11 bonds has been in the 3.5% to 4.5% range over the last six months. As of late
12 August 15, 2011, the rate on 30-year U.S. Treasury Bonds was 3.41%. Given
13 the current and recent range of yields, I will use 4.00%, as the risk-free rate, or
14 R_f , in my CAPM.

15

16 **Q. WHAT BETAS ARE YOU EMPLOYING IN YOUR CAPM?**

17

18 A. Beta (β) is a measure of the systematic risk of a stock. The market, usually
19 taken to be the S&P 500, has a beta of 1.0. The beta of a stock with the same
20 price movement as the market also has a beta of 1.0. A stock whose price
21 movement is greater than that of the market, such as a technology stock, is

1 riskier than the market and has a beta greater than 1.0. A stock with below
2 average price movement, such as that of a regulated public utility, is less risky
3 than the market and has a beta less than 1.0. Estimating a stock's beta involves
4 running a linear regression of a stock's return on the market return.

5 As shown on page 3 of Exhibit JRW-9, the slope of the regression line
6 is the stock's β . A steeper line indicates the stock is more sensitive to the
7 return on the overall market. This means that the stock has a higher β and
8 greater than average market risk. A less steep line indicates a lower β and less
9 market risk.

10 Numerous online investment information services, such as Yahoo and
11 Reuters, provide estimates of stock betas. Usually these services report
12 different betas for the same stock. The differences are usually due to: (1) the
13 time period over which the β is measured and (2) any adjustments that are
14 made to reflect the fact that betas tend to regress to 1.0 over time. In
15 estimating an equity cost rate for the Electric Proxy Group, I am using the
16 betas for the companies as provided in the *Value Line Investment Survey*. As
17 shown on page 3 of Exhibit JRW-9, the median beta for the companies in the
18 Electric Proxy Group is 0.70.

19 **Q. PLEASE DISCUSS THE ALTERNATIVE VIEWS REGARDING THE**
20 **EQUITY RISK PREMIUM.**

1 A. The equity or market risk premium - $(E(R_m) - R_f)$ - is equal to the expected
2 return on the stock market (e.g., the expected return on the S&P 500 $(E(R_m))$)
3 minus the risk-free rate of interest (R_f) . The equity premium is the difference
4 in the expected total return between investing in equities and investing in
5 “safe” fixed-income assets, such as long-term government bonds. However,
6 while the equity risk premium is easy to define conceptually, it is difficult to
7 measure because it requires an estimate of the expected return on the market.

8 **Q. PLEASE DISCUSS THE ALTERNATIVE APPROACHES TO**
9 **ESTIMATING THE EQUITY RISK PREMIUM.**

10 A. Page 4 of Exhibit JRW-9 highlights the primary approaches to, and issues in,
11 estimating the expected equity risk premium. The traditional way to measure
12 the equity risk premium was to use the difference between historical average
13 stock and bond returns. In this case, historical stock and bond returns, also
14 called *ex post* returns, were used as the measures of the market’s expected
15 return (known as the *ex ante* or forward-looking expected return). This type
16 of historical evaluation of stock and bond returns is often called the “Ibbotson
17 Approach” after Professor Roger Ibbotson, who popularized this method of
18 using historical financial market returns as measures of expected returns.
19 Most historical assessments of the equity risk premium suggest an equity risk
20 premium of 5-7% above the rate on long-term U.S. Treasury bonds.
21 However, this can be a problem because: (1) *ex post* returns are not the same

1 as *ex ante* expectations; (2) market risk premiums can change over time,
2 increasing when investors become more risk-averse and decreasing when
3 investors become less risk-averse; and (3) market conditions can change such
4 that *ex post* historical returns are poor estimates of *ex ante* expectations.

5 The use of historical returns as market expectations has been
6 criticized in numerous academic studies.¹⁹ The general theme of these studies
7 is that the large equity risk premium discovered in historical stock and bond
8 returns cannot be justified by the fundamental data. These studies, which fall
9 under the category “Ex Ante Models and Market Data,” compute *ex ante*
10 expected returns using market data to arrive at an expected equity risk
11 premium. These studies have also been called “Puzzle Research” after the
12 famous study by Mehra and Prescott in which the authors first questioned the
13 magnitude of historical equity risk premiums relative to fundamentals.²⁰

14 In addition, there are a number of surveys of financial professionals
15 regarding the equity risk premium. There have been several published surveys
16 of academics on the equity risk premium. *CFO Magazine* conducts a quarterly
17 survey of CFOs, which includes questions regarding their views on the current
18 expected returns on stocks and bonds. Usually over 500 CFOs participate in
19 the survey.²¹ Questions regarding expected stock and bond returns are also

¹⁹ The problems with using *ex post* historical returns as measures of *ex ante* expectations will be discussed at length later in my testimony.

²⁰ R. Mehra and Edward Prescott, “The Equity Premium: A Puzzle,” *Journal of Monetary Economics* (1985).

²¹ See www.cfosurvey.org.

1 included in the Federal Reserve Bank of Philadelphia’s annual survey of
2 financial forecasters, which is published as the *Survey of Professional*
3 *Forecasters*.²² This survey of professional economists has been published for
4 almost 50 years. In addition, Pablo Fernandez conducts occasional surveys of
5 financial analysts and companies regarding the equity risk premiums they use
6 in their investment and financial decision-making.

7 **Q. PLEASE PROVIDE A SUMMARY OF THE EQUITY RISK PREMIUM**
8 **STUDIES.**

9 A. Derrig and Orr (2003), Fernandez (2007), and Song (2007) have completed
10 the most comprehensive reviews to date of the research on the equity risk
11 premium.²³ Derrig and Orr’s study evaluated the various approaches to
12 estimating equity risk premiums as well as the issues with the alternative
13 approaches and summarized the findings of the published research on the
14 equity risk premium. Fernandez examined four alternative measures of the
15 equity risk premium – historical, expected, required, and implied. He also
16 reviewed the major studies of the equity risk premium and presented the

²²Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters*, (February 11, 2011). The *Survey of Professional Forecasters* was formerly conducted by the American Statistical Association (“ASA”) and the National Bureau of Economic Research (“NBER”) and was known as the ASA/NBER survey. The survey, which began in 1968, is conducted each quarter. The Federal Reserve Bank of Philadelphia, in cooperation with the NBER, assumed responsibility for the survey in June 1990.

²³ See Richard Derrig and Elisha Orr, “Equity Risk Premium: Expectations Great and Small,” Working Paper (version 3.0), Automobile Insurers Bureau of Massachusetts, (August 28, 2003); Pablo Fernandez, “Equity Premium: Historical, Expected, Required, and Implied,” IESE Business School Working Paper, (2007); Zhiyi Song, “The Equity Risk Premium: An Annotated Bibliography,” CFA Institute, (2007).

1 summary equity risk premium results. Song provides an annotated
2 bibliography and highlights the alternative approaches to estimating the equity
3 risk summary.

4 Page 5 of Exhibit JRW-9 provides a summary of the results of the
5 primary risk premium studies reviewed by Derrig and Orr, Fernandez, and
6 Song, as well as other more recent studies of the equity risk premium. In
7 developing page 5 of Exhibit JRW-9, I have categorized the studies as
8 discussed on page 4 of Exhibit JRW-9. I have also included the results of the
9 “Building Blocks” approach to estimating the equity risk premium, including
10 a study I performed, which is presented in Appendix C. The Building Blocks
11 approach is a hybrid approach employing elements of both historic and *ex*
12 *ante* models.

13 **Q. PLEASE DISCUSS PAGE 5 OF EXHIBIT JRW-9.**

14 A. Page 5 of Exhibit JRW-9 provides a summary of the results of the equity risk
15 premium studies that I have reviewed. These include the results of: (1) the
16 various studies of the historical risk premium; (2) *ex ante* equity risk premium
17 studies; (3) equity risk premium surveys of CFOs, Financial Forecasters,
18 analysts, companies and academics; and (4) the Building Block approaches to
19 the equity risk premium. There are results reported for over thirty studies, and
20 the median equity risk premium is 4.61%.

21

1 **Q. PLEASE HIGHLIGHT THE RESULTS OF THE MORE RECENT**
2 **RISK PREMIUM STUDIES AND SURVEYS?**

3 A. The studies cited on page 5 of Exhibit JRW-9 include all equity risk premium
4 studies and surveys I could identify that were published over the past decade
5 and that provided an equity risk premium estimate. Most of these studies were
6 published prior to the financial crisis of the past two years. In addition, some
7 of these studies were published in the early 2000s at the market peak. It
8 should be noted that many of these studies (as indicated) used data over long
9 periods of time (as long as fifty years of data), so they were not estimating an
10 equity risk premium as of a point in time (e.g., the year 2001). To assess the
11 effect of the earlier studies on the equity risk premium, on page 6 of Exhibit
12 JRW-9, I have reconstructed page 5 of Exhibit JRW-9, but I have eliminated
13 all studies dated before January 2, 2010. The median for this subset of studies
14 is 5.10%.

15
16 **Q. GIVEN THESE RESULTS, WHAT EQUITY RISK PREMIUM ARE**
17 **YOU USING IN YOUR CAPM?**

18 A. I am using the median equity risk premium for the 2010-11 studies and
19 surveys, which is 5.10%.

20
21 **Q. HOW DOES YOUR *EX ANTE* EQUITY RISK PREMIUM COMPARE**
22 **TO THE EQUITY RISK PREMIUMS USED BY CFOS?**

1 A. In the previously referenced 2011 CFO survey conducted by *CFO Magazine*
2 and Duke University, and dated June 2011, the expected 10-year equity risk
3 premium was 3.4%. As such, my market risk premium is higher than the CFO
4 market risk premium.

5

6 **Q. HOW DOES YOUR *EX ANTE* EQUITY RISK PREMIUM COMPARE**
7 **TO THE EQUITY RISK PREMIUMS OF PROFESSIONAL**
8 **FORECASTERS?**

9 A. The financial forecasters in the previously referenced Federal Reserve Bank of
10 Philadelphia survey project both stock and bond returns. As shown on Panels
11 D and E of page 8 of Exhibit JRW-9, the mean long-term expected stock and
12 bond returns were 7.37% and 4.50%, respectively. This provides an *ex ante*
13 equity risk premium of 2.87%. My market risk premium is higher than the
14 market risk premium of financial forecasters.

15

16 **Q. HOW DOES YOUR *EX ANTE* EQUITY RISK PREMIUM COMPARE**
17 **TO THE EQUITY RISK PREMIUMS OF FINANCIAL ANALYSTS**
18 **AND COMPANIES?**

19 A. Pablo Fernandez recently published the results of a 2011 survey of financial
20 analysts and companies. This survey included 6,014 responses. The median
21 equity risk premium employed by both U.S. analysts and companies was 5.0%

1 and 5.2%, respectively. My market risk premium is in line with the market
2 risk premium of analysts and companies.

3
4 **Q. HOW DOES YOUR EX ANTE EQUITY RISK PREMIUM COMPARE**
5 **TO THE EQUITY RISK PREMIUMS USED BY THE LEADING**
6 **CONSULTING FIRMS?**

7 A. McKinsey & Co. is widely recognized as the leading management consulting
8 firm in the world. It published a study entitled “The Real Cost of Equity” in
9 which the McKinsey authors developed an *ex ante* equity risk premium for the
10 U.S. In reference to the decline in the equity risk premium, as well as what is
11 the appropriate equity risk premium to employ for corporate valuation
12 purposes, the McKinsey authors concluded the following:

13 We attribute this decline not to equities becoming less
14 risky (the inflation-adjusted cost of equity has not
15 changed) but to investors demanding higher returns in
16 real terms on government bonds after the inflation
17 shocks of the late 1970s and early 1980s. We believe
18 that using an equity risk premium of 3.5 to 4 percent in
19 the current environment better reflects the true long-
20 term opportunity cost of equity capital and hence will
21 yield more accurate valuations for companies.²⁴

22 As such, my market risk premium is higher than the market risk premium of
23 McKinsey & Co.
24
25

²⁴ Marc H. Goedhart, *et al.*, “The Real Cost of Equity,” *McKinsey on Finance* (Autumn 2002), p. 15.

1 **Q. HAS MCKINSEY REAFFIRMED ITS OPINION ON THE EQUITY**
2 **RISK PREMIUM IN LIGHT OF THE FINANCIAL CRISIS?**

3 A. Yes. As previously discussed, McKinsey has published a study in which they
4 reaffirm their estimate of the equity risk premium in light of the financial
5 turmoil of the past two years.²⁵

6 **Q. WHAT EQUITY COST RATE IS INDICATED BY YOUR CAPM**
7 **ANALYSIS?**

8 A. The results of my CAPM study for the proxy group are provided below:

$$K = (R_f) + \beta * [E(R_m) - (R_f)]$$

	Risk-Free Rate	Beta	Equity Risk Premium	Equity Cost Rate
Electric Proxy Group	4.0%	0.70	5.10%	7.6%

10 These results are summarized on page 1 of Exhibit JRW-9.

11
12
13
14
15
16
17
18
19

V. EQUITY COST RATE SUMMARY

²⁵Richard Dobbs, Bin Jang, and Timothy Koeller, “Why the Crisis Hasn’t Shaken the Cost of Capital,” *McKinsey Quarterly* (December 2008), pp. 1-6.

1 **Q. PLEASE SUMMARIZE YOUR EQUITY COST RATE STUDY.**

2 A. The results for my DCF and CAPM analyses for the Electric Proxy Group are
3 indicated below:

	DCF	CAPM
Electric Proxy Group	9.2%	7.6%

4 **Q. GIVEN THESE RESULTS, WHAT IS YOUR ESTIMATED EQUITY**
5 **COST RATE FOR THE GROUP?**

6 A. Given these results, I conclude that the appropriate equity cost rate for Electric
7 Proxy Group in the 7.6% to 9.2% range. However, since I rely on FERC's
8 DCF model, I am using the upper end of the range as the equity cost rate.
9 Therefore, I am recommending an equity cost rate of 9.2% for the TOs.

10 **Q. PLEASE INDICATE WHY A 9.20% RETURN IS APPROPRIATE FOR**
11 **THE TOS AT THIS TIME.**

12 A. Based on the capital market data I have reviewed as well as my equity cost
13 rate study, it is my opinion that a base-level ROE of 9.20% is adequate to
14 meet the standards set forth by the Supreme Court in the *Bluefield* and *Hope*
15 which indicate that the ROE should allow a utility to: (1) maintain the
16 financial integrity of the utility, (2) enable the company to attract new capital,
17 and (3) provide a return to common equity that is commensurate with returns
18 on investments in other utilities of corresponding risk. There are several
19 indicators supporting this observation. First, as shown on in Exhibit JRW-6,

1 the electric utility industry is one of the lowest risk industries as measured by
2 *Value Line*'s beta. As such, this industry has the lowest cost of equity capital
3 in the U.S. according to the CAPM. Second, as shown in Exhibit JRW-3,
4 capital costs for utilities, as indicated by long-term bond yields, have declined
5 to their pre-financial crisis levels. Third, the 9.20% figure is supported by the
6 application of the FERC DCF model to the proxy group of electric utilities.
7 As such, the 9.20% figure is consistent with FERC ROE standards. Finally,
8 while the financial markets have recovered somewhat in the past two years,
9 the economy has not. The economic times are still viewed as being difficult,
10 with over nine percent unemployment. As a result, interest rates and inflation
11 are at relatively low levels, and hence the expected returns on financial assets
12 – from savings accounts to Treasury bills to common stocks – are low.
13 Therefore, in my opinion, a 9.20% return is an appropriate base-level ROE for
14 the TOs.

15 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

16 A. Yes.

17

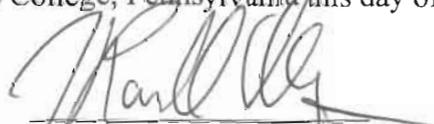
**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Martha Coakley, Attorney General of the)
Commonwealth of Massachusetts, et al.)
) Docket No. EL11-__-000
v.)
)
Bangor Hydro-Electric Company, et al.)

VERIFICATION

Commonwealth of Pennsylvania)
) ss. _____
County of Centre)

I, J. Randall Woolridge, am submitting this testimony in the above-captioned proceeding for Martha Coakley, Attorney General of the Commonwealth of Massachusetts. My business address is 120 Haymaker Circle, State College, PA 16801. I submit this verification to verify that the Prepared Direct Testimony of J. Randall Woolridge was prepared by me, with the assistance of others working under my direction and supervision, and that the contents are true to the best of my knowledge, information and belief. Executed in State College, Pennsylvania this day of September 27, 2011.



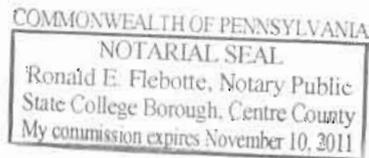
J. Randall Woolridge

SUBSCRIBED AND SWORN to before me
on this 27th of September, 2011.



Notary Public

My commission expires: 11-10-2011



Appendix A
Educational Background, Research, and Related Business Experience
J. Randall Woolridge

J. Randall Woolridge is a Professor of Finance and the Goldman, Sachs & Co. and Frank P. Smeal Endowed Faculty Fellow in Business Administration in the College of Business Administration of the Pennsylvania State University in University Park, PA. In addition, Professor Woolridge is Director of the Smeal College Trading Room and President and CEO of the Nittany Lion Fund, LLC.

Professor Woolridge received a Bachelor of Arts degree in Economics from the University of North Carolina, a Master of Business Administration degree from the Pennsylvania State University, and a Doctor of Philosophy degree in Business Administration (major area-finance, minor area-statistics) from the University of Iowa. At Iowa he received a Graduate Fellowship and was awarded membership in Beta Gamma Sigma, a national business honorary society. He has taught Finance courses at the University of Iowa, Cornell College, and the University of Pittsburgh, as well as the Pennsylvania State University. These courses include corporation finance, commercial and investment banking, and investments at the undergraduate, graduate, and executive MBA levels.

Professor Woolridge's research has centered on the theoretical and empirical foundations of corporation finance and financial markets and institutions. He has published over 35 articles in the best academic and professional journals in the field, including the *Journal of Finance*, the *Journal of Financial Economics*, and the *Harvard Business Review*. His research has been cited extensively in the business press. His work has been featured in the *New York Times*, *Forbes*, *Fortune*, *The Economist*, *Financial World*, *Barron's*, *Wall Street Journal*, *Business Week*, *Washington Post*, *Investors' Business Daily*, *Worth Magazine*, *USA Today*, and other publications. In addition, Dr. Woolridge has appeared as a guest to discuss the implications of his research on CNN's *Money Line*, CNBC's *Morning Call* and *Business Today*, and Bloomberg's *Morning Call*.

Professor Woolridge's popular stock valuation book, *The StreetSmart Guide to Valuing a Stock* (McGraw-Hill, 2003), was released in its second edition. He has also co-authored *Spinoffs and Equity Carve-Outs: Achieving Faster Growth and Better Performance* (Financial Executives Research Foundation, 1999) as well as a textbook entitled *Basic Principles of Finance* (Kendall Hunt, 2011). Dr. Woolridge is a founder and a managing director of www.valuepro.net - a stock valuation website.

Professor Woolridge has also consulted with and prepared research reports for major corporations, financial institutions, and investment banking firms, and government agencies. In addition, he has directed and participated in over 500 university- and company- sponsored professional development programs for executives in 25 countries in North and South America, Europe, Asia, and Africa.

Dr. Woolridge has prepared testimony and/or provided consultation services in the following cases:

Pennsylvania: Dr. Woolridge has prepared testimony on behalf of the Pennsylvania Office of Consumer Advocate in the following cases before the Pennsylvania Public Utility Commission; Bell Telephone Company (R-811819), Peoples Natural Gas Company (R-832315), Pennsylvania Power Company (R-832409), Western Pennsylvania Water Company (R-832381), Pennsylvania Power Company (R-842740), Pennsylvania Gas and Water Company (R-850178), Metropolitan Edison Company (R-860384), Pennsylvania Electric Company (R-860413), North Penn Gas Company (R-860535), Philadelphia Electric Company (R-870629), Western Pennsylvania Water Company (R-870825), York Water Company (R-870749), Pennsylvania-American Water Company (R-880916), Equitable Gas Company (R-880971), the Bloomsburg Water Co. (R-891494), Columbia Gas of Pennsylvania, Inc. (R-891468), Pennsylvania-American Water Company (R-90562), Breezewood Telephone Company (R-901666), York Water Company (R-901813), Columbia Gas of Pennsylvania, Inc. (R-901873), National Fuel Gas Corporation (R-911912), Pennsylvania-American Water Company (R-911909), Borough of Media Water Fund (R-912150), UGI Utilities, Inc. - Electric Utility Division (R-922195), Dauphin Consolidated Water Supply Company - General Waterworks of Pennsylvania, Inc. (R-932604), National Fuel Gas Corporation (R-932548), Commonwealth Telephone Company (I-

Appendix A
Educational Background, Research, and Related Business Experience
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920020), Conestoga Telephone and Telegraph Company (I-920015), Peoples Natural Gas Company (R-932866), Blue Mountain Consolidated Water Company (R-932873), National Fuel Gas Corporation (R-942991), UGI - Gas Division (R-953297), UGI - Electric Division (R-953534), Pennsylvania-American Water Company (R-973944), Pennsylvania-American Water Company (R-994638), Philadelphia Suburban Water Company (R-994868;R-994877;R-994878; R-9948790), Philadelphia Suburban Water Company (R-994868), Wellsboro Electric Company (R-00016356), Philadelphia Suburban Water Company (R-00016750), National Fuel Gas Corporation (R-00038168), Pennsylvania-American Water Company (R-00038304), York Water Company (R-00049165), Valley Energy Company (R-00049345), Wellsboro Electric Company (R-00049313), National Fuel Gas Corporation (R-00049656), T.W. Phillips Gas and Oil Co. (R-00051178), PG Energy (R-00061365), City of Dubois Water Company (Docket No. R-00050671), R-00049165), York Water Company (R-00061322), Emporium Water Company (R-00061297), Pennsylvania-American Water Company (R-00072229), UGI Central Penn Gas (Docket No. R-2008-2079675), Columbia Gas of Pennsylvania, Inc. (R-2009-2149262), Pennsylvania-American Water Company – Claysville, Clarion, Northeast, and Coatesville (R-2010-2166210, R-2010-2166208, R-2010-2166212, and R-2010-2166214), Peoples Natural Gas Company (Docket No. R-2010-2201702), City of Lancaster Water Fund (Docket No. 2010-2179103).

New Jersey: Dr. Woolridge prepared testimony for the New Jersey Department of the Public Advocate, Division of Rate Counsel: New Jersey-American Water Company (R-91081399J), New Jersey-American Water Company (R-92090908J), and Environmental Disposal Corp. (R-94070319).

Alaska: Dr. Woolridge prepared testimony for Attorney General’s Office of Alaska: Golden Heart Utilities, Inc. and College Utilities Corp. (Water Public Utility Service TA-29-118 and Sewer Public Utility Service TA-82-97), Anchorage Water and Wastewater Utility (TA-106-122), Anchorage Water and Wastewater Utility (TA-08-157 and TA-08-158), Municipal Light & Power (TA304-121).

Arizona: Dr. Woolridge prepared testimony for Utility Division staff of the Arizona Corporation Commission, Arizona Public Service Company (Docket No. E-01345A-06-0009).

Hawaii: Dr. Woolridge prepared testimony for the Hawaii Office of the Consumer Advocate: East Honolulu Community Services, Inc. (Docket No. 7718).

Delaware: Dr. Woolridge prepared testimony for the Delaware Division of Public Advocate: Artesian Water Company (R-00-649). Dr. Woolridge prepared testimony for the staff of the Public Service Commission: Artesian Water Company (R-06-158).

Ohio: Dr. Woolridge prepared testimony for the Ohio Office of Consumers’ Council: SBC Ohio (Case No. 02-1280-TP-UNC R-00-649), Cincinnati Gas & Electric Company (Case No. 05-0059-EL-AIR), Dominion East Ohio Company (Case No. 07-829-GA-AIR), Cleveland Electric Illuminating Company and Toledo Edison Company (Case No. 08-935-EL-SSO), Columbia Gas of Ohio, Inc. (Case No. 08-0072-GA-AIR), and Columbus Southern Power Company (Case No. 08-917-EL-SSO).

Texas: Dr. Woolridge prepared testimony for the Atmos Cities Steering Committee: Mid-Texas Division of Atmos Energy Corp. (Docket No. 9670), Atmos Pipeline LLC (GUD No. 10000).

New York: Dr. Woolridge prepared testimony for the County of Nassau in New York State: Long Island Lighting Company (PSC Case No. 942354).

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Florida: Dr. Woolridge prepared testimony for the Office of Public Counsel in Florida: Florida Power & Light Co. (Docket No. 050045-EL), Tampa Electric Company (Docket No 080317-EI), Peoples Gas Company (Docket No 080318-GU), Florida Power & Light Co. (Docket Nos. 080677-EI & 090130-EI), and Progress Energy Florida, (Docket No. 090079-EI).

Nebraska: Dr. Woolridge prepared testimony for the Office of Public Advocate: Source Gas Distribution Co. (Docket No. NG-0060), Black Hills (Docket No. NG-0061), SourceGas Distribution Company (Docket No. NG-0060).

Indiana: Dr. Woolridge prepared testimony for the Indiana Office of Utility Consumer Counsel (OUCC) in the following cases: Southern Indiana Gas and Electric Company (IURC Cause No. 43111 and IURC Cause No. 43112), and Northern Indiana Public Service Company (IURC Cause No. 43526).

Oklahoma: Dr. Woolridge prepared testimony for the Oklahoma Industrial Energy Companies (OIEC) in the following cases: Public Service Company of Oklahoma (Cause No. PUD 200600285), Oklahoma Gas & Electric Company (Cause No. PUD 200700012).

Connecticut: Dr. Woolridge prepared testimony for the Office of Consumer Counsel in Connecticut: United Illuminating (Docket No. 96-03-29), Yankee Gas Company (Docket No. 04-06-01), Southern Connecticut Gas Company (Docket No. 03-03-17), the United Illuminating Company (Docket No. 05-06-04), Connecticut Light and Power Company (Docket No. 05-07-18), Birmingham Utilities, Inc. (Docket No. 06-05-10), Connecticut Water Company (Docket No. 06-07-08), Connecticut Natural Gas Corp. (Docket No. 06-03-04), Aquarion Water Company (Docket No. 07-05-09), Yankee Gas Company (Docket No. 06-12-02), Connecticut Light and Power Company (Docket No. 07-07-01), the United Illuminating Company (Docket No. 08-07-03), Connecticut Natural Gas Corp. (Docket No. 08-12-06), Southern Connecticut Gas Company (Docket No. 08-12-06), Connecticut Water Company (Docket No. 09-12-11), Connecticut Light and Power Company (Docket No. 09-12-05), Yankee Gas Company (Docket No. 10-12-02).

California: Dr. Woolridge prepared testimony for the Office of Ratepayer Advocate in California: San Gabriel Valley Water Company (Docket No. 05-08-021), Pacific Gas & Electric (Docket No. 07-05-008), San Diego Gas & Electric (Docket No. 07-05-007), Southern California Edison (Docket No. 07-05-003), California-American Water Company (Docket No. 08-05-003), Golden State Water Company (Docket No. 08-05-004), and California Water Service Company (Docket No. 08-05-002), California Water Utilities (Valencia, San Jose, San Gabriel, Park Valley, and Suburban (Docket No. 09-06-005).

Colorado: Dr. Woolridge prepared testimony for the Office of Consumer Counsel in Colorado: Public Service Company of Colorado (Docket No. 09AL-299E), and Public Service Company of Colorado (Docket No. 08S-520E).

South Carolina: Dr. Woolridge prepared testimony for the Office of Regulatory Staff in South Carolina: South Carolina Electric and Gas Company (Docket No. 2005-113-G), Carolina Water Service Co. (Docket No. 2006-87-WS), Tega Cay Water Company (Docket No. 2006-97-WS), United Utilities Companies, Inc. (Docket No. 2006-107-WS).

Missouri: Dr. Woolridge prepared testimony for the Department of Energy in Missouri: Kansas City Power & Light Company (Case No. ER-2006-0314). Dr. Woolridge prepared testimony for the Office of Attorney General of Missouri: Union Electric Company (CASE NO. ER-2007-0002).

Kentucky: Dr. Woolridge prepared testimony for the Office of Attorney General in Kentucky: Kentucky-American Water Company (Case No. 2004-00103), Union Heat, Light, and Power Company (Case No. 2004-00042), Kentucky Power Company (Case No. 2005-00341), Union Heat, Light, and Power Company (Case No. 2006-00172), Atmos Energy Corp. (Case No. 2006-00464), Columbia Gas Company (Case No. 2007-00008), Delta Natural Gas Company

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(Case No. 2007-00089), Kentucky-American Water Company (Case No. 2007-00143), Columbia Gas Company (Case No. 2009-00141), Kentucky-American Water Company (Case No. 2010-00136), Kentucky Utilities and Louisville Gas & Electric (Case No. 2009-00549 and Case No. 2009-00548).

Massachusetts: Dr. Woolridge prepared testimony for the Office of Attorney General: National Grid (Docket No. D.P.U. 09-39), National Grid (Docket No. D.P.U. 10-55), New England Gas Company (D.P.U. 10-114), Western Massachusetts Electric Company (D.P.U. 10-70), Fitchburg Gas and Electric Light Company (D.P.U. 11-01).

Washington, D.C.: Dr. Woolridge prepared testimony for the Office of the People's Counsel in the District of Columbia: Potomac Electric Power Company (Formal Case No. 939), Potomac Electric Power Company (Formal Case No. 1036), Washington Gas Light Company (Formal Case No. 1054).

Washington: Dr. Woolridge consulted with trial staff of the Washington Utilities and Transportation Commission on the following cases: Puget Energy Corp. (Docket Nos. UE-011570 and UG-011571); and Avista Corporation (Docket No. UE-011514).

Kansas: Dr. Woolridge prepared testimony on behalf of the Kansas Citizens' Utility Ratepayer Board in the following cases: Western Resources Inc. (Docket No. 01-WSRE-949-GIE), UtiliCorp (Docket No. 02-UTCG701-CIG), and Westar Energy, Inc. (Docket No. 05-WSEE-981-RTS).

Utah: Dr. Woolridge prepared testimony on behalf of the Utah Committee on Consumer Services (CCS) in the following case: Questar Gas Company (Docket No. No. 07-057-13).

FERC: Dr. Woolridge has prepared testimony on behalf of the Pennsylvania Office of Consumer Advocate in the following cases before the Federal Energy Regulatory Commission: National Fuel Gas Supply Corporation (RP-92-73-000) and Columbia Gulf Transmission Company (RP97-52-000).

Vermont: Dr. Woolridge prepared testimony for the Department of Public Service in the Central Vermont Public Service (Docket No. 6988) and Vermont Gas Systems, Inc. (Docket No. 7160).

Appendix B
The Research on Analysts' Long-Term EPS Growth Rate Forecasts

1 **Q. PLEASE REVIEW THE ACADEMIC RESEARCH ON THE ACCURACY**
2 **OF ANALYSTS' NEAR-TERM EPS ESTIMATES AND LONG-TERM EPS**
3 **GROWTH RATE FORECASTS.**

4 A. There is a long history of studies that evaluate how well analysts forecast near-term
5 EPS estimates and long-term EPS growth rates. Most of the early studies evaluated
6 the accuracy of earnings forecasts for the next quarter or the next year. These
7 studies document that analysts make overly optimistic EPS earnings forecasts
8 (Stickel (1990); Brown (1997); Chopra (1998)).¹ Harris (1999) published the first
9 study examining the accuracy of long-term EPS growth rate forecasts.² He
10 evaluated the accuracy of analysts' long-term EPS forecasts over the 1982-1997
11 time-period. He concluded the following: (1) the accuracy of analysts' long-term
12 EPS forecasts is very low; (2) a superior long-run method to forecast long-term
13 EPS growth is to assume that all companies will have an earnings growth rate
14 equal to historic GDP growth; and (3) analysts' long-term EPS forecasts are
15 significantly upwardly biased, with forecasted earnings growth exceeding actual
16 earnings growth by seven percent per annum. Subsequent studies by DeChow, P.,
17 A. Hutton, and R. Sloan (2000), and Chan, Karceski, and Lakonishok (2003) also

¹ S. Stickel, "Predicting Individual Analyst Earnings Forecasts," *Journal of Accounting Research*, Vol. 28, 409-417, 1990. Brown, L.D., "Analyst Forecasting Errors: Additional Evidence," *Financial Analysts Journal*, Vol. 53, 81-88, 1997, and Chopra, V.K., "Why So Much Error in Analysts' Earnings Forecasts?" *Financial Analysts Journal*, Vol. 54, 30-37 (1998).

² R.D. Harris, "The Accuracy, Bias, and Efficiency of Analysts' Long Run Earnings Growth Forecasts," *Journal of Business Finance & Accounting*, pp. 725-55 (June/July 1999).

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The Research on Analysts' Long-Term EPS Growth Rate Forecasts

1 conclude that analysts' long-term EPS growth rate forecasts are overly optimistic
2 and upwardly biased.³

3 More recent studies have shown that the optimistic bias tends to be larger
4 for longer-term forecasts and smaller for forecasts made nearer to the EPS
5 announcement date. Richardson, Teoh, and Wysocki (2004) report that the
6 upward bias in earnings growth rates declines in the quarters leading up to the
7 earnings announcement date.⁴ They call this result the "walk-down to beatable
8 analyst forecasts." They hypothesize that the walk-down might be driven by the
9 "earning-guidance game," in which analysts give optimistic forecasts at the start
10 of a fiscal year, then revise their estimates downwards until the firm can beat the
11 forecasts at the earnings announcement date.

12 In sum, there have been many studies of analysts' earnings forecasts. The
13 studies conclude (almost unanimously) that analysts' earnings forecasts of short-
14 term earnings estimates and long-term earnings growth rates are overly optimistic.
15 In terms of analysts' projections of long-term earnings growth, all previous
16 studies have come to this conclusion.

³ P. DeChow, A. Hutton, and R. Sloan, "The Relation Between Analysts' Forecasts of Long-Term Earnings Growth and Stock Price Performance Following Equity Offerings," *Contemporary Accounting Research* (2000) and K. Chan, L., Karceski, J., & Lakonishok, J., "The Level and Persistence of Growth Rates," *Journal of Finance* pp. 643–684, (2003).

⁴ S. Richardson, S. Teoh, and P. Wysocki, "The Walk-Down to Beatable Analyst Forecasts: The Role of Equity Issuance and Insider Trading Incentives," *Contemporary Accounting Research*, pp. 885–924, (2004).

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The Research on Analysts' Long-Term EPS Growth Rate Forecasts

1 **Q. PLEASE DISCUSS YOUR STUDY OF THE ACCURACY OF ANALYSTS'**
2 **LONG-TERM EARNINGS GROWTH RATES.**

3 A. To evaluate the accuracy of analysts' EPS forecasts, I have compared actual 3-5
4 year EPS growth rates with forecasted EPS growth rates on a quarterly basis over
5 the past 20 years for all companies covered by the I/B/E/S data base. In Panel A
6 of page 1 of Exhibit JRW-10, I show the average analysts' forecasted 3-5 year
7 EPS growth rate with the average actual 3-5 year EPS growth rate for the past
8 twenty years.

9 The following example shows how the results can be interpreted. For the
10 3-5 year period prior to the first quarter of 1999, analysts had projected an EPS
11 growth rate of 15.13%, but companies only generated an average annual EPS
12 growth rate over the 3-5 years of 9.37%. This projected EPS growth rate figure
13 represented the average projected growth rate for over 1,510 companies, with an
14 average of 4.88 analysts' forecasts per company. For the entire twenty-year
15 period of the study, for each quarter there were on average 5.6 analysts' EPS
16 projections for 1,281 companies. Overall, my findings indicate that forecast errors
17 for long-term estimates are predominantly positive, which indicates an upward
18 bias in growth rate estimates. The mean and median forecast errors over the
19 observation period are 143.06% and 75.08%, respectively. The forecasting errors
20 are negative for only eleven of the eighty quarterly time periods: five consecutive
21 quarters starting at the end of 1995 and six consecutive quarters starting in 2006.
22 As shown in Panel A of page 1 of Exhibit JRW-10, the quarters with negative
23 forecast errors were for the 3-5 year periods following earnings declines

Appendix B
The Research on Analysts' Long-Term EPS Growth Rate Forecasts

1 associated with the 1991 and 2001 economic recessions in the U.S. Thus, there is
2 evidence of a persistent upward bias in long-term EPS growth forecasts.

3 The average 3-5 year EPS growth rate projections for all companies
4 provided in the I/B/E/S database on a quarterly basis from 1988 to 2008 are
5 shown in Panel B of page 1 of Exhibit JRW-10. In this graph, no comparison to
6 actual EPS growth rates is made, and hence, there is no follow-up period.
7 Therefore, since companies are not lost from the sample due to a lack of follow-
8 up EPS data, these results are for a larger sample of firms. Analysts' forecasts for
9 EPS growth were higher for this larger sample of firms, with a more pronounced
10 run-up and then decline around the stock market peak in 2000. The average
11 projected growth rate hovered in the 14.5%-17.5% range until 1995 and then
12 increased dramatically over the next five years to 23.3% in the fourth quarter of
13 the year 2000. Forecasted EPS growth has since declined to the 15.0% range.

14 **Q. IS THE UPWARD BIAS IN ANALYSTS' GROWTH RATE FORECASTS**
15 **GENERALLY KNOWN IN THE MARKETS?**

16 A. Yes. Page 2 of Exhibit JRW-10 provides an article published in the *Wall Street*
17 *Journal*, dated March 21, 2008, that discusses the upward bias in analysts' EPS
18 growth rate forecasts.⁵ In addition, a recent *Bloomberg Businessweek* article also
19 highlighted the upward bias in analysts' EPS forecasts, citing a study by McKinsey

⁵ Andrew Edwards, "Study Suggests Bias in Analysts' Rosy Forecasts," *Wall Street Journal* (March 21, 2008), p. C6.

Appendix B
The Research on Analysts' Long-Term EPS Growth Rate Forecasts

1 Associates. This article is provided on pages 3 and 4 of Exhibit JRW-10. The
2 article concludes with the following:⁶

3 ***The bottom line:** Despite reforms intended to improve Wall Street research, stock
4 analysts seem to be promoting an overly rosy view of profit prospects.*

5
6
7 **Q. PLEASE ADDRESS THE ISSUE REGARDING THE SUPERIORITY OF**
8 **ANALYSTS' EPS FORECASTS OVER HISTORIC AND TIME-SERIES**
9 **ESTIMATES OF EPS GROWTH?**

10 A. As highlighted by the classic study by Brown and Rozeff (1976) and the other
11 studies that followed, analysts' forecasts of quarterly earnings estimates are superior
12 to the estimates derived from historic and time-series analyses.⁷ This is often
13 attributed to the information and timing advantage that analysts have over historic
14 and time-series analyses. However, more recently Bradshaw, Drake, Myers, and
15 Myers (2009) discovered that time-series estimates of annual earnings are more
16 accurate over longer horizons than analysts' forecasts of earnings. As the authors
17 state, "These findings suggest an incomplete and misleading generalization about
18 the superiority of analysts' forecasts over even simple time-series-based earnings
19 forecasts."⁸

⁶ Roben Farzad, 'For Analysts, Things are Always Looking Up,' *Bloomberg Businessweek* (June 14, 2010), pp. 39-40.

⁷ L. Brown and M. Rozeff, "The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings," *The Journal of Finance* 33 (1): pp. 1-16 (1976).

⁸ M. Bradshaw, M. Drake, J. Myers, and L. Myers, "A Re-examination of Analysts' Superiority Over Time-Series

Appendix B
The Research on Analysts' Long-Term EPS Growth Rate Forecasts

1 With respect to long-term earnings growth, analysts' forecasts of long-term
2 growth have not been found to be superior to other historic growth rate measures.
3 Harris (1999) concluded that historic GDP growth was superior to analysts'
4 forecasts for long run earnings growth. These results are supported by empirical
5 results of Chan, Karceski, and Lakonishok (2003).

6 **Q. WHAT IMPACT HAVE NEW STOCK MARKET AND REGULATORY**
7 **DEVELOPMENTS HAD ON ANALYSTS' EPS GROWTH RATE**
8 **FORECASTS?**

9 A. Analysts' EPS growth rate forecasts have subsided somewhat since the stock
10 market peak of 2000. Two regulatory developments over the past decade have
11 potentially impacted analysts' EPS growth rate estimates. First, Regulation Fair
12 Disclosure ("Reg FD") was introduced by the Securities and Exchange
13 Commission ("SEC") in October of 2000. Reg FD prohibits private
14 communication between analysts and management so as to level the information
15 playing field in the markets. With Reg FD, analysts are less dependent on gaining
16 access to management to obtain information and therefore, are not as likely to
17 make optimistic forecasts to gain access to management. Second, the conflict of
18 interest within investment firms with investment banking and analyst operations
19 was addressed in the Global Analysts Research Settlements ("GARS"). GARS,
20 as agreed upon on April 23, 2003, between the SEC, NASD, NYSE and ten of the
21 largest U.S. investment firms, includes a number of regulations that were

Forecasts," Workings paper, (1999), <http://ssrn.com/abstract=1528987>.

Appendix B
The Research on Analysts' Long-Term EPS Growth Rate Forecasts

1 introduced to prevent [investment bankers](#) from pressuring [analysts](#) to provide
2 favorable projections.

3 The impact of these regulatory developments on the accuracy of short-
4 term EPS estimates was addressed in a recent study by Hovakimian and
5 Saenyasiri (2009).⁹ They investigate analysts' forecasts of annual earnings for the
6 following time periods: (1) the time prior to Reg FD (1984-2000); (2) the time
7 period after Reg FD but prior to GARS (2000-2002);¹⁰ and (3) the time period
8 after GARS (2002-2006). For the pre-Reg FD period, Hovakimian and Saenyasiri
9 find that analysts generally make overly optimistic forecasts of annual earnings.
10 The forecast bias is higher for early forecasts and steadily declines in the months
11 leading up to the earnings announcement. The results are similar for the time
12 period after Reg FD but prior to GARS. However, the bias is lower in the later
13 forecasts (the forecasts made just prior to the announcement). For the time period
14 after GARS, the average forecasts declined significantly, but a positive bias
15 remains. In sum, Hovakimian and Saenyasiri find that: (1) analysts make overly
16 optimistic short-term forecasts of annual earnings; (2) Reg FD had no effect on
17 this bias; and (3) GARS did result in a significant reduction in the bias, but
18 analysts' short-term forecasts of annual earnings still have a small positive bias.

⁹ A. Hovakimian and E. Saenyasiri, "Conflicts of Interest and Analysts Behavior: Evidence from Recent Changes in Regulation," *Financial Analysts Journal* (July-August, 2010), pp. 96-107.

¹⁰ Whereas the GARS settlement was signed in 2003, rules addressing analysts' conflict of interest by separating the research and investment banking activities of analysts went into effect with the passage of NYSE and NASD rules in July of 2002.

Appendix B
The Research on Analysts' Long-Term EPS Growth Rate Forecasts

1 Whereas Hovakimian and Saenyasiri evaluated the impact of regulations
2 on analysts' short-term EPS estimates, there is little research on the impact of Reg
3 FD and GARS on the long-term EPS forecasts of Wall Street analysts. My study
4 with Patrick Cusatis did find that the long-term EPS growth rate forecasts of
5 analysts did not decline significantly and have continued to be overly-optimistic
6 in the post Reg FD and GARS period.¹¹ Analysts' long-term EPS growth rate
7 forecasts before and after GARS are about two times the level of historic GDP
8 growth. These observations are supported by a *Wall Street Journal* article entitled
9 “Analysts Still Coming Up Rosy – Over-Optimism on Growth Rates is Rampant –
10 and the Estimates Help to Buoy the Market's Valuation.” The following quote
11 provides insight into the continuing bias in analysts' forecasts:

12 Hope springs eternal, says Mark Donovan, who manages
13 Boston Partners Large Cap Value Fund. “You would have
14 thought that, given what happened in the last three years,
15 people would have given up the ghost. But in large measure
16 they have not.

17 These overly optimistic growth estimates also show that,
18 even with all the regulatory focus on too-bullish analysts
19 allegedly influenced by their firms' investment-banking
20 relationships, a lot of things haven't changed. Research
21 remains rosy and many believe it always will.¹²

22 **Q. ARE THESE OBSERVATIONS CONSISTENT WITH THE FINDINGS OF**
23 **A RECENT MCKINSEY STUDY ON THE IMPACT OF THESE**
24

¹¹ P. Cusatis and J. R. Woolridge, “The Accuracy of Analysts' Long-Term EPS Growth Rate Forecasts,” Working Paper, (July 2008).

¹² Ken Brown, “Analysts Still Coming Up Rosy – Over-Optimism on Growth Rates is Rampant – and the Estimates Help to Buoy the Market's Valuation,” *Wall Street Journal*, p. C1, (January 27, 2003).

Appendix B
The Research on Analysts' Long-Term EPS Growth Rate Forecasts

**REGULATIONS ON THE ACCURACY OF ANALYSTS' EPS GROWTH
RATE FORECASTS?**

A. Yes. McKinsey recently published a study entitled “Equity Analysts: Still too Bullish” in which they reported on a study of the accuracy on analysts long-term EPS growth rate forecasts. They concluded that after a decade of stricter regulation, analysts’ long-term earnings forecasts continue to be excessively optimistic.

They made the following observation (emphasis added):¹³

Alas, a recently completed update of our work only reinforces this view—despite a series of rules and regulations, dating to the last decade, that were intended to improve the quality of the analysts’ long-term earnings forecasts, restore investor confidence in them, and prevent conflicts of interest. For executives, many of whom go to great lengths to satisfy Wall Street’s expectations in their financial reporting and long-term strategic moves, this is a cautionary tale worth remembering. This pattern confirms our earlier findings that analysts typically lag behind events in revising their forecasts to reflect new economic conditions. When economic growth accelerates, the size of the forecast error declines; when economic growth slows, it increases. So as economic growth cycles up and down, the actual earnings S&P 500 companies report occasionally coincide with the analysts’ forecasts, as they did, for example, in 1988, from 1994 to 1997, and from 2003 to 2006. Moreover, analysts have been persistently overoptimistic for the past 25 years, with estimates ranging from 10 to 12 percent a year, compared with actual earnings growth of 6 percent. Over this time frame, actual earnings growth surpassed forecasts in only two instances, both during the earnings recovery following a recession. On average, analysts’ forecasts have been almost 100 percent too high.

¹³ Marc H. Goedhart, Rishi Raj, and Abhishek Saxena, “Equity Analysts, Still Too Bullish,” *McKinsey on Finance*, pp. 14-17, (Spring 2010).

Appendix B
The Research on Analysts' Long-Term EPS Growth Rate Forecasts

1 **Q. ARE ANALYSTS' EPS GROWTH RATE FORECASTS LIKEWISE**
2 **UPWARDLY BIASED FOR UTILITY COMPANIES?**

3 A. Yes. To evaluate whether analysts' EPS growth rate forecasts are upwardly biased
4 for utility companies, I conducted a study similar to the one described above using
5 a group of electric utility and gas distribution companies. The results are shown
6 on Panels A and B of page 5 of Exhibit JRW-10. The projected EPS growth rates
7 for electric utilities have been in the 4% to 6% range over the last twenty years,
8 with the recent figures approximately 5%. As shown, the achieved EPS growth
9 rates have been volatile and on average, below the projected growth rates. Over
10 the entire period, the average quarterly 3-5 year projected and actual EPS growth
11 rates are 4.59% and 2.90%, respectively.

12 For gas distribution companies, the projected EPS growth rates have
13 declined from about 6% in the 1990s to about 5% in the 2000s. The achieved
14 EPS growth rates have been volatile. Over the entire period, the average quarterly
15 3-5 year projected and actual EPS growth rates are 5.15% and 4.53%,
16 respectively.

17 Overall, the upward bias in EPS growth rate projections for electric utility
18 and gas distribution companies is not as pronounced as it is for all companies.
19 Nonetheless, the results here are consistent with the results for companies in
20 general -- analysts' projected EPS growth rate forecasts are upwardly-biased for
21 utility companies.

Appendix B
The Research on Analysts' Long-Term EPS Growth Rate Forecasts

1 **Q. ARE VALUE LINE'S GROWTH RATE FORECASTS OVERLY**
2 **OPTIMISTIC?**

3 A. Yes. *Value Line* has a decidedly positive bias to its earnings growth rate forecasts
4 as well. To assess *Value Line*'s earnings growth rate forecasts, I used the *Value*
5 *Line Investment Analyzer*. The results are summarized in Panel A of Page 6 of
6 Exhibit JRW-10. I initially filtered the database and found that *Value Line* has 3-
7 5 year EPS growth rate forecasts for 1,996 firms. The average projected EPS
8 growth rate was 14.45%. This is high given that the average historical EPS
9 growth rate in the U.S. is about 7%. A major factor seems to be that *Value Line*
10 only predicts negative EPS growth for 56 companies. This is less than three
11 percent of the companies covered by *Value Line*. Given the ups and downs of
12 corporate earnings, this is unreasonable.

13 To put this figure in perspective, I screened the *Value Line* companies to
14 see what percent of companies covered by *Value Line* had experienced negative
15 EPS growth rates over the past five years. *Value Line* reported a five-year historic
16 growth rate for 2,147 companies. The results are shown in Panel B of page 6 of
17 Exhibit JRW-10 and indicate that the average 5-year historic growth rate was
18 8.38%, and *Value Line* reported negative historic growth for 654 firms which
19 represents 30.4% of these companies.

20 These results indicate that *Value Line*'s EPS forecasts are excessive and
21 unrealistic. It appears that the analysts at *Value Line* are similar to their Wall
22 Street brethren in that they are reluctant to forecast negative earnings growth.

Appendix C
Building Blocks Equity Risk Premium

1 **Q. PLEASE DISCUSS YOUR DEVELOPMENT OF AN EQUITY RISK**
2 **PREMIUM COMPUTED USING THE BUILDING BLOCKS**
3 **METHODOLOGY.**

4 A. Ibbotson and Chen (2003) evaluate the ex post historical mean stock and bond
5 returns in what is called the Building Blocks approach.¹ They use 75 years of
6 data and relate the compounded historical returns to the different fundamental
7 variables employed by different researchers in building ex ante expected equity
8 risk premiums. Among the variables included were inflation, real EPS and DPS
9 growth, ROE and book value growth, and price-earnings (“P/E”) ratios. By
10 relating the fundamental factors to the ex post historical returns, the methodology
11 bridges the gap between the ex post and ex ante equity risk premiums. Ilmanen
12 (2003) illustrates this approach using the geometric returns and five fundamental
13 variables – inflation (“CPI”), dividend yield (“D/P”), real earnings growth
14 (“RG”), repricing gains (“PEGAIN”) and return interaction/reinvestment
15 (“INT”).² This is shown on page 7 of Exhibit JRW-11. The first column breaks
16 the 1926-2000 geometric mean stock return of 10.7% into the different return
17 components demanded by investors: the historical U.S. Treasury bond return
18 (5.2%), the excess equity return (5.2%), and a small interaction term (0.3%). This
19 10.7% annual stock return over the 1926-2000 period can then be broken down
20 into the following fundamental elements: inflation (3.1%), dividend yield (4.3%),

¹ Roger Ibbotson and Peng Chen, “Long Run Returns: Participating in the Real Economy,” *Financial Analysts Journal*, (January 2003).

² Antti Ilmanen, “Expected Returns on Stocks and Bonds,” *Journal of Portfolio Management*, (Winter 2003), p. 11.

Appendix C
Building Blocks Equity Risk Premium

1 real earnings growth (1.8%), repricing gains (1.3%) associated with higher P/E
2 ratios, and a small interaction term (0.2%).

3 **Q. HOW ARE YOU USING THIS METHODOLOGY TO DERIVE AN EX**
4 **ANTE EXPECTED EQUITY RISK PREMIUM?**

5 A. The third column in the graph on page 7 of Exhibit JRW-11 shows current inputs
6 to estimate an ex ante expected market return. These inputs include the
7 following:

8 CPI – To assess expected inflation, I have employed expectations of the short-
9 term and long-term inflation rate. Long term inflation forecasts are available in the
10 Federal Reserve Bank of Philadelphia’s publication entitled *Survey of*
11 *Professional Forecasters*. While this survey is published quarterly, only the first
12 quarter survey includes long-term forecasts of gross domestic product (“GDP”)
13 growth, inflation, and market returns. In the first quarter 2011 survey, published
14 on February 11, 2011, the average long-term (10-year) expected inflation rate as
15 measured by the CPI was 2.30% (see Panel A of page 8 of Exhibit JRW-11).

16 The University of Michigan’s Survey Research Center surveys consumers
17 on their short-term (one-year) inflation expectations on a monthly basis. As
18 shown on page 9 of Exhibit JRW-11, the current short-term expected inflation
19 rate is 3.0%.

20 As a measure of expected inflation, I will use the average of the long-term
21 (2.3%) and short-term (3.0%) inflation rate measures, or 2.65%.

Appendix C
Building Blocks Equity Risk Premium

1 D/P – As shown on page 10 of Exhibit JRW-11, the dividend yield on the S&P
2 500 has fluctuated from 1.0% to almost 3.5% over the past decade. Ibbotson and
3 Chen (2003) report that the long-term average dividend yield of the S&P 500 is
4 4.3%. Currently, the S&P 500 dividend yield is 1.9%. I will use this figure in my
5 ex ante risk premium analysis.

6 RG – To measure expected real growth in earnings, I use the historical real
7 earnings growth rate S&P 500 and the expected real GDP growth rate. The S&P
8 500 was created in 1960 and includes 500 companies which come from ten
9 different sectors of the economy. On page 11 of Exhibit JRW-11, real EPS
10 growth is computed using the CPI as a measure of inflation. The real growth
11 figure over 1960-2010 period for the S&P 500 is 2.6%.

12 The second input for expected real earnings growth is expected real GDP
13 growth. The rationale is that over the long-term, corporate profits have averaged
14 a relatively consistent 5.50% of U.S. GDP.³ Expected GDP growth, according to
15 the Federal Reserve Bank of Philadelphia’s *Survey of Professional Forecasters*, is
16 2.9% (see Panel B of page 8 of Exhibit JRW-11).

17 Given these results, I will use 2.75%, for real earnings growth.

18 PEGAIN – PEGAIN is the repricing gain associated with an increase in the P/E
19 ratio. It accounted for 1.3% of the 10.7% annual stock return in the 1926-2000
20 period. In estimating an ex ante expected stock market return, one issue is
21 whether investors expect P/E ratios to increase from their current levels. The P/E

³Marc. H. Goedhart, et al, “The Real Cost of Equity,” *McKinsey on Finance* (Autumn 2002), p.14.

Appendix C
Building Blocks Equity Risk Premium

1 ratios for the S&P 500 over the past 25 years are shown on page 10 of Exhibit
2 JRW-11. The run-up and eventual peak in P/Es in the year 2000 is very evident
3 in the chart. The average P/E declined until late 2006, and then increased to
4 higher high levels, primarily due to the decline in EPS as a result of the financial
5 crisis and the recession. The current average P/E for the S&P 500 is
6 approximately 15.0, which is in line with the historic average. Since the current
7 figure is near the historic average, a PEGAIN would not be appropriate in
8 estimating an ex ante expected stock market return.

9
10 **Q. GIVEN THIS DISCUSSION, WHAT IS THE EX ANTE EXPECTED**
11 **MARKET RETURN AND EQUITY RISK PREMIUM USING THE**
12 **“BUILDING BLOCKS METHODOLOGY”?**

13 A. My expected market return is represented by the last column on the right in the
14 graph entitled “Decomposing Equity Market Returns: The Building Blocks
15 Methodology” set forth on page 7 of Exhibit JRW-11. As shown, my expected
16 market return of 7.30% is composed of 2.65% expected inflation, 1.90% dividend
17 yield, and 2.75% real earnings growth rate.

18 **Q. IS AN EXPECTED MARKET RETURN OF 7.30% CONSISTENT WITH**
19 **THE FORECASTS OF MARKET PROFESSIONALS?**

20 A. Yes. In the first quarter 2011 *Survey of Financial Forecasters*, published on
21 February 11, 2011 by the Federal Reserve Bank of Philadelphia, the mean long-
22 term expected return on the S&P 500 was 7.37% (see Panel D of page 8 of
23 Exhibit JRW-11).

Appendix C
Building Blocks Equity Risk Premium

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Q. IS AN EXPECTED MARKET RETURN OF 7.30% CONSISTENT WITH THE EXPECTED MARKET RETURNS OF CORPORATE CHIEF FINANCIAL OFFICERS (CFOs)?

A. Yes. John Graham and Campbell Harvey of Duke University conduct a quarterly survey of corporate CFOs. The survey is a joint project of Duke University and *CFO Magazine*. In the June 2011 survey, the mean expected return on the S&P 500 over the next ten years was 6.5%.⁴

Q. GIVEN THIS EXPECTED MARKET RETURN, WHAT IS THE EX ANTE EQUITY RISK PREMIUM USING THE BUILDING BLOCKS METHODOLOGY?

A. The current 30-year U.S. Treasury yield is approximately 4.0%. This ex ante equity risk premium is simply the expected market return from the Building Blocks methodology minus this risk-free rate:

$$\text{Ex Ante Equity Risk Premium} = 7.30\% - 4.0\% = 3.30\%$$

Q. HOW ARE YOU USING THIS EQUITY RISK PREMIUM ESTIMATE IN YOUR CAPM EQUITY COST RATE STUDY?

⁴ The survey results are available at www.cfosurvey.org.

Appendix C
Building Blocks Equity Risk Premium

1 A. This is only one estimate of the equity risk premium. As shown on page 5 of
2 Exhibit JRW-11, I am also using the results of over thirty other studies and
3 surveys to determine an equity risk premium for my CAPM.

**Exhibit JRW-1
New England Transmission Owner's ROE**

Summary of ROE Results

FERC DCF Model	
Mean	9.2%
Median	9.4%
Midpoint of Range	9.2%

Exhibit JRW-2

Panel A
Ten-Year Treasury Yields
2004, 2006, 2011

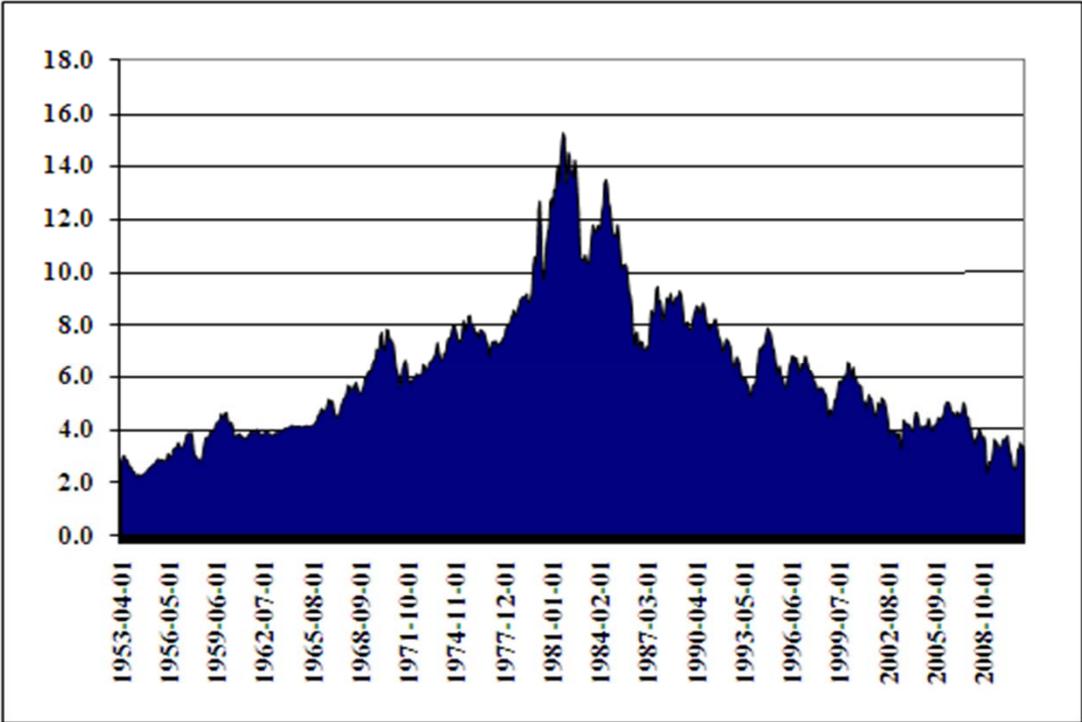
7/1/2004	4.50	3/1/2006	4.72	4/1/2011	3.46
8/1/2004	4.28	4/1/2006	4.99	5/1/2011	3.17
9/1/2004	4.13	5/1/2006	5.11	6/1/2011	3.00
10/1/2004	4.10	6/1/2006	5.11	7/1/2011	3.00
11/1/2004	4.19	7/1/2006	5.09	8/1/2011	2.52
12/1/2004	4.23	8/1/2006	4.88	9/1/2011	2.12
Average	4.24		4.98		2.88

Panel B
Thirty-Year, A-Rated Public Utility Bonds
2004, 2006, 2011

7/30/2004	5.97	3/31/2006	5.97	3/31/2011	5.58
8/31/2004	5.71	4/28/2006	6.27	4/30/2011	5.54
9/30/2004	5.60	5/31/2006	6.29	5/31/2011	5.24
10/29/2004	5.57	6/30/2006	6.31	6/30/2011	5.35
11/30/2004	5.72	7/31/2006	6.12	7/29/2011	5.11
12/31/2004	5.46	8/31/2006	5.92	8/29/2011	4.66
Average	5.67		6.15		5.24

Exhibit JRW-3

Panel A
Ten-Year Treasury Yields
1953-Present



Panel B
Long-Term Moody's Baa Yields Minus Ten-Year Treasury Yields
2000-Present

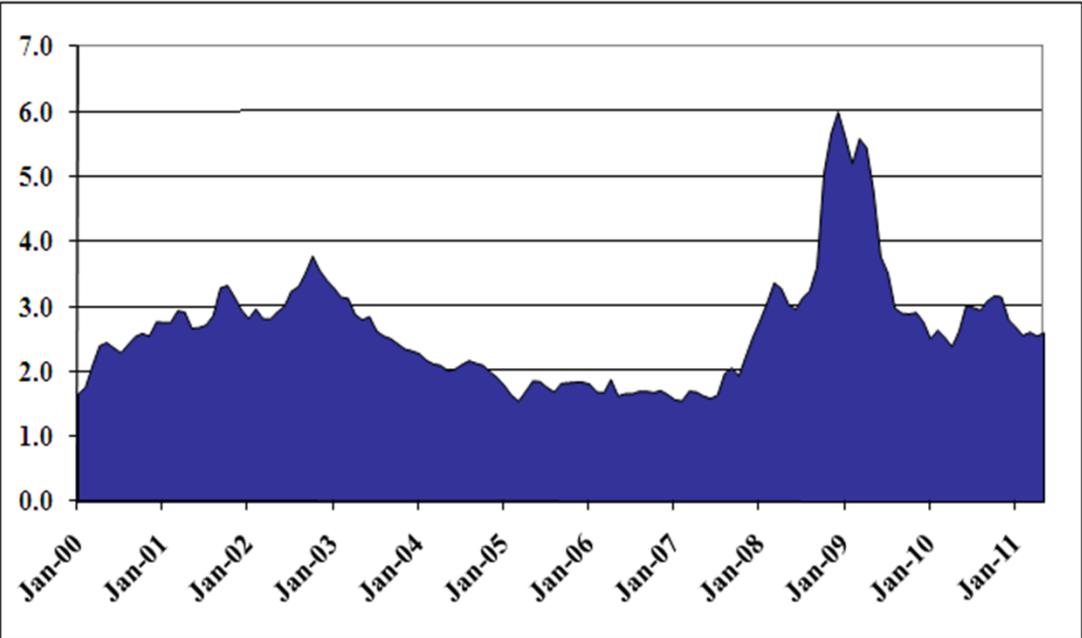
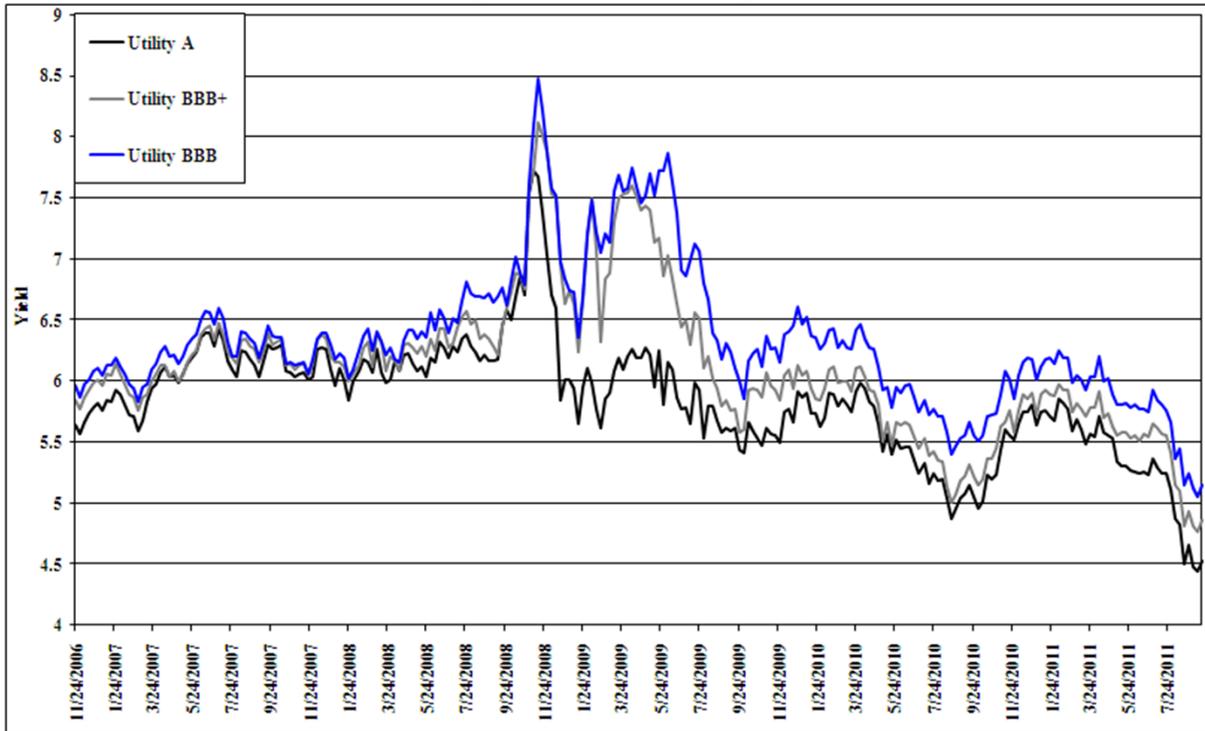


Exhibit JRW-3
Panel A
Thirty-Year Public Utility Yields



Panel B
Thirty-Year Public Utility Yield Spread Over Treasuries

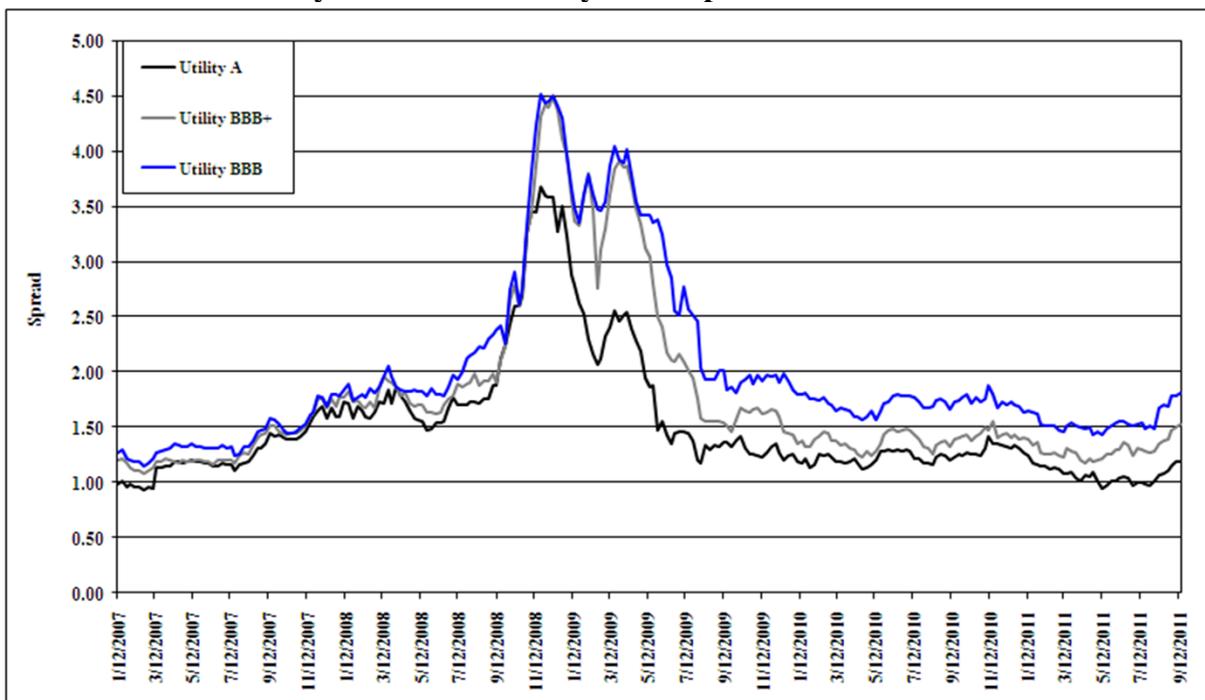


Exhibit JRW-4

New England Transmission Owner's ROE

Summary Financial Statistics

Panel A
Electric Proxy Group

Company	Operating Revenue (\$mil)	Percent Elec Revenue	Net Plant (\$mil)	S&P Bond Rating	Moody's Bond Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
ALLETE, Inc. (NYSE-ALE)	915.6	93	1,841.3	A-	Baa1	3.8	MN, WI	55.8	9.2	1.49
Alliant Energy Corporation (NYSE-LNT)	3,470.9	77	6,823.4	A-/BBB+	A2/A3	3.9	WS, IA, IL, MN	51.0	10.8	1.46
Ameren Corporation (NYSE-AEE)	7,626.0	86	17,888.0	BBB-	Baa2	3.1	IL, MO	49.9	1.4	0.90
American Electric Power Co. (NYSE-AEP)	14,588.0	94	35,766.0	BBB	Baa2	3.1	10 States	42.6	9.0	1.32
Avista Corporation (NYSE-AVA)	1,578.9	63	2,731.1	BBB+	Baa1	3.2	WA, OR, ID	47.6	9.5	1.30
Cleco Corporation (NYSE-CNL)	1,130.1	98	2,800.5	BBB	Baa2	3.9	LA	46.4	10.4	1.61
CMS Energy Corporation (NYSE-CMS)	6,520.0	59	10,138.0	BBB+	A3	2.5	MI	28.0	13.5	1.72
Consolidated Edison, Inc. (NYSE-ED)	13,213.0	68	24,018.0	A-	A3/Baa1	3.5	NY, PA	50.2	9.8	1.36
DTE Energy Company (NYSE-DTE)	8,535.0	59	13,053.0	A	A2	2.9	MI	46.1	8.6	1.26
Edison International (NYSE-EIX)	12,380.0	81	30,713.0	BBB+	A1	3.0	CA	43.4	11.8	1.17
Entergy Corporation (NYSE-ETR)	11,269.4	76	24,195.7	A-/BBB+	Baa1	4.2	AK, LA, MS, TX	41.2	14.7	1.39
Great Plains Energy Incorporated (NYSE-GXP)	2,241.5	100	6,885.6	BBB	Baa2	2.2	MO, KS	42.2	6.8	0.99
Hawaiian Electric Industries, Inc. (NYSE-HE)	2,756.6	90	3,175.4	BBB-	Baa2	3.3	HI	50.4	7.8	1.56
IDACORP, Inc. (NYSE-IDA)	1,034.6	100	3,232.6	A-	A2	3.0	ID	49.7	10.6	1.29
MGE Energy, Inc. (NYSE-MGEE)	537.6	68	969.6	AA-	A1	4.3	WI	59.4	11.6	1.79
Nextera Energy (NYSE-NEE)	14,829.0	70	39,937.0	A	Aa3	3.2	FL	40.7	11.9	1.65
OGE Energy Corp. (NYSE-OGE)	3,681.6	57	6,599.6	BBB+	Baa1	4.2	OK, AR	45.8	13.6	2.16
Pepco Holdings, Inc. (NYSE-POM)	6,854.0	71	7,760.0	A	A3	2.0	DC, MD, VA, NJ	47.6	1.4	1.02
PG&E Corporation (NYSE-PCG)	13,963.0	77	31,872.0	BBB+	A3	3.3	CA	47.2	9.5	1.48
Pinnacle West Capital Corp. (NYSE-PNW)	3,302.9	97	9,397.4	BBB-	Baa2	3.0	AZ	49.6	10.0	1.32
Portland General Electric (NYSE-POR)	1,818.0	99	4,179.0	A-	A3	2.8	OR	47.7	10.5	1.18
SCANA Corporation (NYSE-SCG)	4,454.0	54	9,567.0	A-	A3	2.9	SC, NC, GA	42.8	10.4	1.36
Southern Company (NYSE-SO)	17,310.3	95	42,634.0	A	A2/A3	4.1	GA, AL, FL, MS	42.4	11.5	2.00
TECO Energy, Inc. (NYSE-TE)	3,371.7	61	5,842.4	BBB+	Baa1	3.0	FL	40.9	11.0	1.88
UniSource Energy Corporation (NYSE-UNS)	1,480.4	82	3,006.7	BBB+	NR		AZ	30.4	13.7	1.69
Westar Energy, Inc. (NYSE-WR)	2,078.1	99	6,038.9	BBB+	Baa1	2.9	KS	43.5	8.7	1.25
Wisconsin Energy Corporation (NYSE-WEC)	4,282.6	70	9,639.0	A-	A1	3.4	WI	43.4	13.1	1.87
Xcel Energy Inc. (NYSE-XEL)	10,320.0	82	20,908.3	A	A3	3.1	MN, WI, ND, SD, MI	45.1	10.1	1.43
Mean	6,269.4	80	13,629.0	BBB+	A3/Baa1	3.3		45.4	10.0	1.46
Median	3,982.1	79	8,578.7	BBB+	A3/Baa1	3.1		46.0	10.4	1.41

Data Source: AUS Utility Reports, August, 2011; Pre-Tax Interest Coverage and Primary Service Territory are from Value Line Investment Survey, 2011.

Exhibit JRW-4

New England Transmission Owner's ROE

Summary Financial Statistics

Panel A

Electric Proxy Group

	S&P Issuer Credit Rating
Bangor Hydro (Emera)	BBB+
Central Maine Power Company	BBB+
NSTAR Electric and Gas Corporation	A+
New Hampshire Transmission LLC (NextEra)	A-
New England Power Company (National Grid)	A-
Northeast Utilities Service Company	BBB+
The United Illuminating Company	BBB
Unitil Energy Systems, Inc. & Fitchburg Gas and Electric Light Company	NR
Vermont Transmission Company (Vermont Electric Company)	NR
Indicated Rating Range	A+ to BBB

Exhibit JRW-4

New England Transmission Owner's ROE

Summary Financial Statistics

Panel A

TOs

Company	Operating Revenue (\$mil)	Percent Elec Revenue	Net Plant (\$mil)	S&P Bond Rating	Moody's Bond Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
Bangor Hydro (Emera)										
Central Maine Power Company										
NSTAR Electric and Gas Corporation										
New Hampshire Transmission LLC (NextEra)	14,829.0	70	39,937.0	A	Aa3	3.9	FL	40.7	11.9	1.69
Northeast Utilities Service Company	4,794.0	84	9,716.4	BBB+	A3	3.3	CT,NH,MA	43.7	11.1	1.65
NSTAR Electric and Gas Company	2,947.3	85	4,781.9	AA-/A+	A1	4.3	MA	41.1	18.3	2.51
The United Illuminating Company	1,338.4	63	2,370.2	NR	Baa2	2.2	CT	40.3	14.5	1.55
Unitil Energy Systems, Inc. & Fitchburg Gas and Electric Light Co.	360.8	56	476.0	NR	NR	NA	NH,MA	35.8	6.3	1.44
Vermont Transmission Company (Vermont Electric Company)										
Mean	4,853.9	71.6	11,456.3	A	A3	3.4		40.3	12.4	1.77
Median	2,947.3	70.0	4,781.9	A	A3	3.6		40.7	11.9	1.65

Panel B

Electric Proxy Group

Company	Operating Revenue (\$mil)	Percent Elec Revenue	Net Plant (\$mil)	S&P Bond Rating	Moody's Bond Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
Mean	6,269.4	79.5	13,629.0	BBB+	A3/Baa1	3.3	-	45.4	10.0	1.46
Median	3,982.1	79.0	8,578.7	BBB+	A3/Baa1	3.1	-	46.0	10.4	1.41

Exhibit JRW-4
Value Line Risk Metrics

Panel A
TOs

Company Name	Ticker	Industry	Beta	Safety Rank	Financial Strength
Nextra Energy (NYSE-NEE)	NEE	UTILEAST	0.75	2	A
Northeast Utilities (NYSE-NU)	NU	UTILEAST	0.70	3	B+
NSTAR (NYSE-NST)	NST	UTILEAST	0.65	1	A
UIL Holdings Corporation (NYSE-UIL)	UIL	UTILEAST	0.70	2	B++
Unitil Corporation (ASE-UTL)	UTL	UTILEAST	0.50	2	B+
Mean		UTILEAST	0.66	2.0	B++

Electric Proxy Group

Company Name	Ticker	Industry	Beta	Safety Rank	Financial Strength
ALLETE, Inc. (NYSE-ALE)	ALE	UTILCENT	0.70	2	A
Alliant Energy Corporation (NYSE-LNT)	LNT	UTILCENT	0.70	2	A
Ameren Corporation (NYSE-AEE)	AEP	UTILCENT	0.70	3	B++
American Electric Power Co. (NYSE-AEP)	AEE	UTILCENT	0.80	3	B++
Avista Corporation (NYSE-AVA)	AVA	UTILWEST	0.70	2	B++
Cleco Corporation (NYSE-CNL)	CNL	UTILCENT	0.65	2	B++
CMS Energy Corporation (NYSE-CMS)	CMS	UTILCENT	0.75	3	B+
Consolidated Edison, Inc. (NYSE-ED)	ED	UTILEAST	0.65	1	A+
DTE Energy Company (NYSE-DTE)	DTE	UTILCENT	0.75	3	B+
Edison International (NYSE-EIX)	EIX	UTILWEST	0.80	3	B++
Entergy Corporation (NYSE-ETR)	ETR	UTILCENT	0.70	2	A
Great Plains Energy Incorporated (NYSE-GXP)	GXP	UTILCENT	0.75	3	B+
Hawaiian Electric Industries, Inc. (NYSE-HE)	HE	UTILWEST	0.70	3	B+
IDACORP, Inc. (NYSE-IDA)	IDA	UTILWEST	0.70	3	B+
MGE Energy, Inc. (NYSE-MGEE)	MGEE	UTILCENT	0.60	1	A
Nextera Energy (NYSE-NEE)	NEE	UTILEAST	0.75	2	A
OGE Energy Corp. (NYSE-OGE)	OGE	UTILCENT	0.75	2	A
Pepco Holdings, Inc. (NYSE-POM)	POM	UTILEAST	0.80	3	B
PG&E Corporation (NYSE-PCG)	PCG	UTILWEST	0.55	2	B++
Pinnacle West Capital Corp. (NYSE-PNW)	PNW	UTILWEST	0.70	2	B++
Portland General Electric (NYSE-POR)	POR	UTILWEST	0.75	3	B+
SCANA Corporation (NYSE-SCG)	SCG	UTILEAST	0.65	2	A
Southern Company (NYSE-SO)	SO	UTILEAST	0.55	1	A
TECO Energy, Inc. (NYSE-TE)	TE	UTILEAST	0.85	3	B+
UniSource Energy Corporation (NYSE-UNS)	UNS	UTILWEST	0.75	3	C++
Westar Energy, Inc. (NYSE-WR)	WR	UTILCENT	0.75	2	B++
Wisconsin Energy Corporation (NYSE-WEC)	WEC	UTILCENT	0.65	2	B++
Xcel Energy Inc. (NYSE-XEL)	XEL	UTILWEST	0.65	2	B++
Mean			0.71	2.3	B++

Data Source: Value Line Investment Survey, September 2011.

Exhibit JRW-4
Value Line Risk Metrics

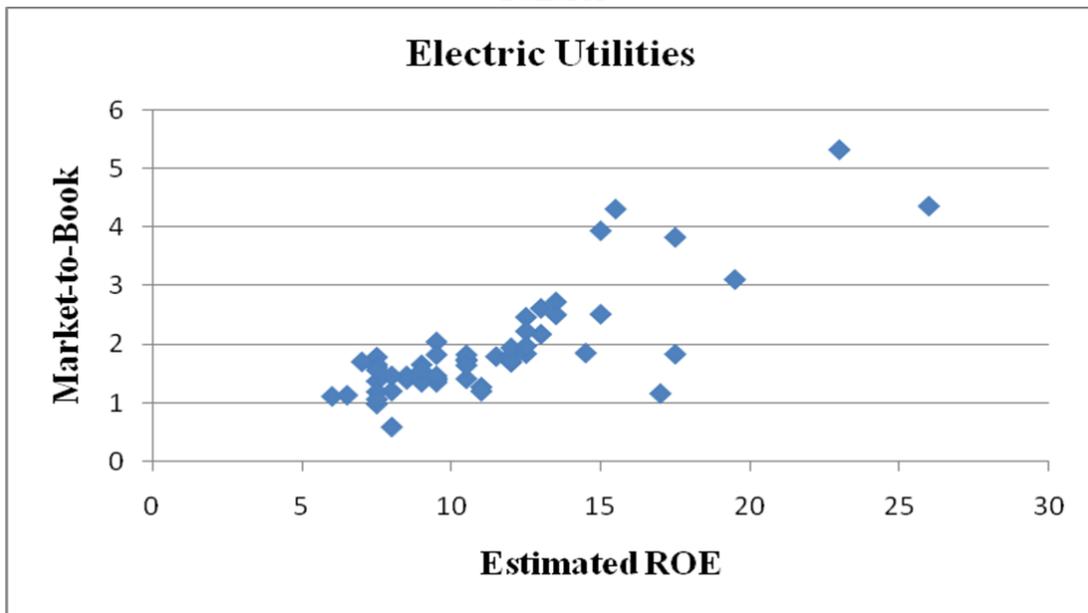
Beta - A relative measure of the historical sensitivity of the stock's price to overall fluctuations in the New York Stock Exchange Composite Index. A Beta of 1.50 indicates a stock tends to rise (or fall) 50% more than the New York Stock Exchange Composite Index. The "Beta coefficient" is derived from a regression analysis of the relationship between weekly percentage changes in the price of a stock and weekly percentage changes in the NYSE Index over a period of five years. In the case of shorter price histories, a smaller time period is used, but two years is the minimum. The Betas are adjusted for their long-term tendency to converge toward 1.00. Additionally, Value Line shows betas computed based on monthly total returns for the trailing three year, five-year and 10-year periods.

Safety Rank - A measurement of potential risk associated with individual common stocks. The Safety Rank is computed by averaging two other Value Line indexes - the Price Stability Index and the Financial strength Rating. Safety Ranks range from 1 (Highest) to 5 (Lowest). Conservative investors should try to limit their purchases to equities ranked 1 (Highest) and 2 (Above Average) for Safety.

Financial Strength Rating - A relative measure of financial strength of the companies reviewed by Value Line. The relative ratings range from A++ (strongest) down to C (weakest), in nine steps.

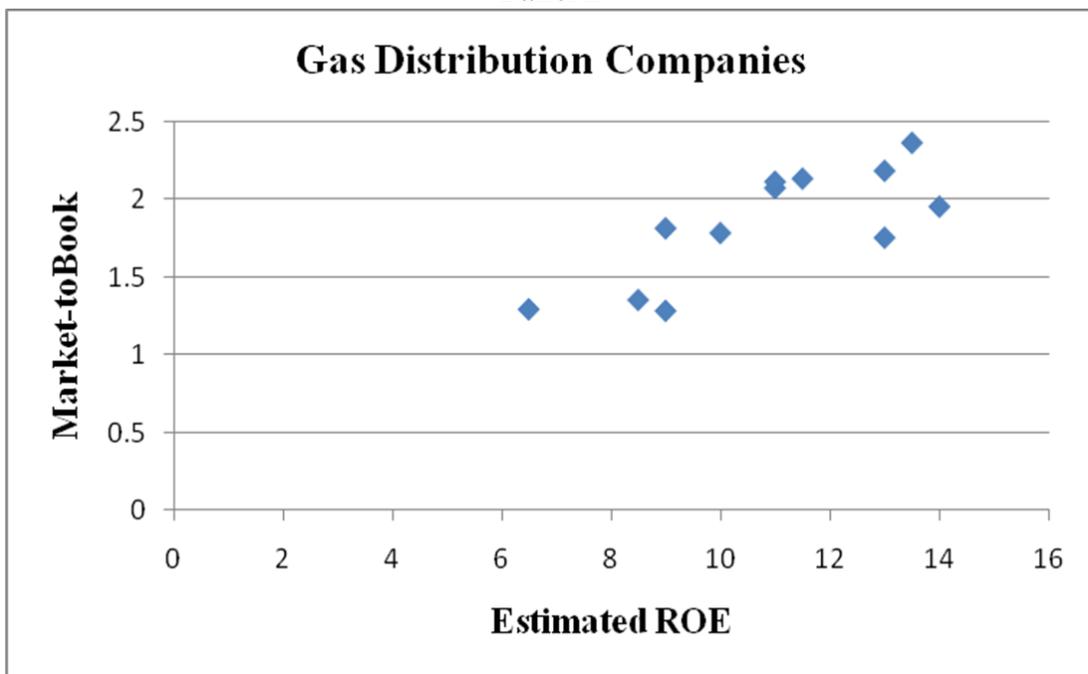
Exhibit JRW-5

Panel A



R-Square = .65, N=56.

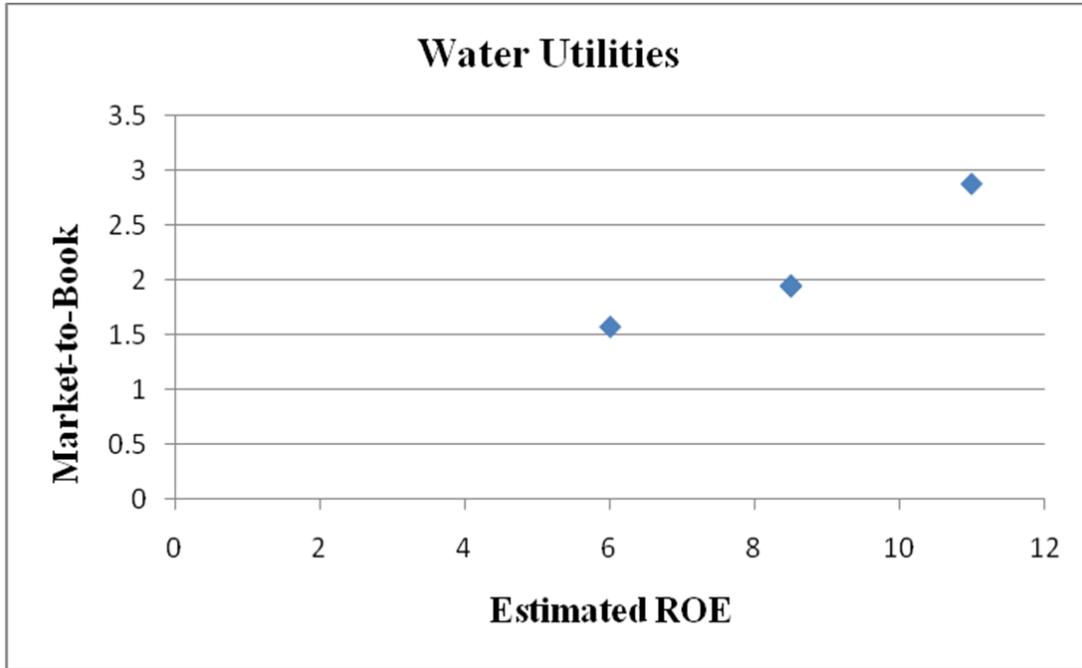
Panel B



R-Square = .60, N=12.

Exhibit JRW-5

Panel C



R-Square = .92, N=4.

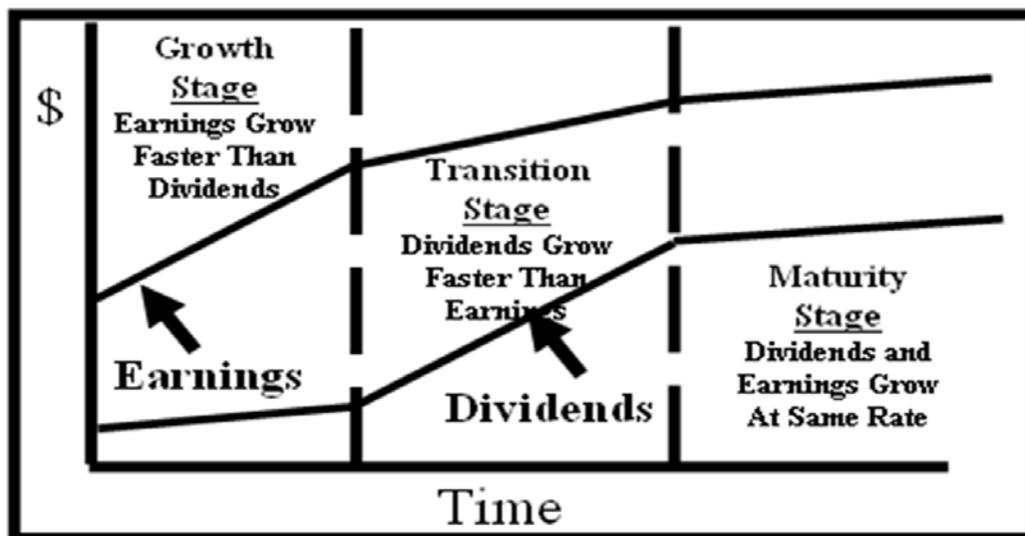
Exhibit JRW-6

Industry Average Betas

Industry Name	No.	Beta	Industry Name	No.	Beta	Industry Name	No.	Beta
Public/Private Equity	8	2.18	Retail Store	38	1.33	Packaging & Container	27	1.06
Heavy Truck/Equip Make	8	1.94	Building Materials	47	1.33	Computer Software/Svcs	247	1.06
Advertising	28	1.79	Metals & Mining (Div.)	69	1.33	Telecom. Equipment	104	1.04
Semiconductor Equip	14	1.79	Restaurant	60	1.33	Telecom. Utility	28	1.03
Auto Parts	47	1.78	Electrical Equipment	79	1.32	Medical Supplies	231	1.02
Hotel/Gaming	52	1.76	Shoe	18	1.31	Telecom. Services	85	1.01
Steel (Integrated)	13	1.72	Publishing	23	1.30	Utility (Foreign)	5	0.99
Entertainment	75	1.72	R.E.I.T.	6	1.29	Reinsurance	8	0.98
Newspaper	13	1.71	Chemical (Basic)	17	1.28	Oil/Gas Distribution	12	0.97
Furn/Home Furnishings	30	1.67	Railroad	14	1.28	Pharmacy Services	19	0.96
Engineering & Const	17	1.65	Computers/Peripherals	101	1.27	Bank (Midwest)	40	0.96
Steel (General)	19	1.59	Precision Instrument	83	1.27	Industrial Services	137	0.96
Coal	25	1.59	Toiletries/Cosmetics	15	1.27	Healthcare Information	26	0.94
Semiconductor	115	1.56	Wireless Networking	48	1.25	Insurance (Prop/Cas.)	67	0.92
Retail (Special Lines)	143	1.54	Natural Gas (Div.)	32	1.25	Retail Building Supply	8	0.92
Paper/Forest Products	37	1.52	Securities Brokerage	25	1.25	Beverage	34	0.92
Chemical (Diversified)	31	1.51	Funeral Services	5	1.22	Medical Services	139	0.88
Recreation	52	1.50	Diversified Co.	111	1.22	Food Processing	109	0.87
Automotive	19	1.50	Machinery	114	1.22	Bank (Canadian)	7	0.86
Oilfield Svcs/Equip.	95	1.48	Petroleum (Integrated)	23	1.21	Pipeline MLPs	11	0.85
Office Equip/Supplies	24	1.45	Air Transport	40	1.21	Environmental	69	0.85
Human Resources	24	1.44	Property Management	27	1.20	Educational Services	37	0.79
Metal Fabricating	30	1.44	Trucking	33	1.20	Electric Util. (Central)	23	0.78
Retail Automotive	15	1.44	Precious Metals	74	1.18	Electric Utility (West)	14	0.75
Cable TV	24	1.43	Household Products	22	1.17	Bank	418	0.75
Homebuilding	24	1.39	Aerospace/Defense	63	1.15	Retail/Wholesale Food	29	0.74
Entertainment Tech	31	1.39	Canadian Energy	10	1.14	Tobacco	13	0.73
Insurance (Life)	31	1.39	E-Commerce	52	1.14	Electric Utility (East)	25	0.73
Financial Svcs. (Div.)	230	1.37	Foreign Electronics	9	1.14	Water Utility	12	0.70
Maritime	53	1.37	Biotechnology	120	1.13	Thrift	181	0.70
Chemical (Specialty)	83	1.37	Electronics	158	1.13	Natural Gas Utility	27	0.65
Petroleum (Producing)	163	1.36	Drug	301	1.11	Total Market	5928	1.15
Apparel	48	1.35	Internet	180	1.11			
Power	68	1.34	Information Services	26	1.10			

Source: Damodaran Online 2011 - <http://pages.stern.nyu.edu/~adamodar/>

Exhibit JRW-7
Three-Stage DCF Model



Source: William F. Sharpe, Gordon J. Alexander, and Jeffrey V. Bailey, Investments (Prentice-Hall, 1995), pp. 590-91.

Exhibit JRW-8

New England Transmission Owner's ROE
DCF Equity Cost Growth Rate Measures
Analysts Projected EPS Growth Rate Estimates

Electric Proxy Group

Company	Yahoo	Zacks	Reuters	Average
ALLETE, Inc. (NYSE-ALE)	5.8%	5.0%	6.0%	5.6%
Alliant Energy Corporation (NYSE-LNT)	5.9%	6.0%	5.7%	5.9%
Ameren Corporation (NYSE-AEE)	1.0%	4.0%	3.0%	2.7%
American Electric Power Co. (NYSE-AEP)	4.0%	4.0%	4.2%	4.1%
Avista Corporation (NYSE-AVA)	4.7%	4.7%	4.7%	4.7%
Cleco Corporation (NYSE-CNL)	3.0%	7.0%	3.0%	4.3%
CMS Energy Corporation (NYSE-CMS)	6.0%	5.5%	5.7%	5.8%
Consolidated Edison, Inc. (NYSE-ED)	3.4%	3.0%	3.9%	3.4%
DTE Energy Company (NYSE-DTE)	3.5%	5.0%	3.5%	4.0%
Edison International (NYSE-EIX)	2.9%	5.0%	3.5%	3.8%
Entergy Corporation (NYSE-ETR)	-1.1%	-0.2%	3.3%	0.7%
Great Plains Energy Incorporated (NYSE-GXP)	6.0%	9.0%	5.9%	6.9%
Hawaiian Electric Industries, Inc. (NYSE-HE)	8.6%	8.6%	7.0%	8.1%
IDACORP, Inc. (NYSE-IDA)	4.7%	4.7%	4.7%	4.7%
MGE Energy, Inc. (NASDAQ-MGEE)	4.0%	4.0%	4.0%	4.0%
NextEra Energy (NYSE-NEE)	5.8%	6.7%	5.8%	6.1%
OGE Energy Corp. (NYSE-OGE)	7.2%	6.0%	6.6%	6.6%
Pepco Holdings, Inc. (NYSE-POM)	5.0%	4.3%	3.3%	4.2%
PG&E Corporation (NYSE-PCG)	3.8%	5.0%	5.2%	4.7%
Pinnacle West Capital Corp. (NYSE-PNW)	6.8%	5.3%	6.5%	6.2%
Portland General Electric (NYSE-POR)	4.7%	5.0%	5.5%	5.1%
SCANA Corporation (NYSE-SCG)	4.8%	4.3%	4.5%	4.6%
Southern Company (NYSE-SO)	6.0%	5.0%	5.9%	5.6%
TECO Energy, Inc. (NYSE-TE)	6.3%	4.7%	6.1%	5.7%
UniSource Energy Corporation (NYSE-UNS)	3.0%	3.0%	7.5%	4.5%
Westar Energy, Inc. (NYSE-WR)	6.4%	6.1%	6.2%	6.2%
Wisconsin Energy Corporation (NYSE-WEC)	7.1%	8.0%	8.2%	7.8%
Xcel Energy Inc. (NYSE-XEL)	5.6%	4.9%	5.6%	5.4%
Mean	4.8%	5.1%	5.2%	5.0%
Median	4.9%	5.0%	5.6%	4.9%

Data Sources: www.reuters.com, www.zacks.com, http://quote.yahoo.com, August 30, 2011.

Exhibit JRW-8
 New England Transmission Owner's ROE
 FERC DCF Model

Company	2011				2012				Projected				Average		Adjustment		Average	
	EPS	DPS	b	r	EPS	DPS	b	r	EPS	DPS	b	r	Average b	Average r	Adj. Factor	Adj. r	Average br	Average br+sv
	1 ALLETE, Inc. (NYSE-ALE)	\$2.65	\$1.78	32.8%	9.0%	\$2.65	\$1.80	32.1%	9.0%	\$3.25	\$1.95	40.0%	9.5%	35.0%	9.2%	1.0300	9.44%	3.30%
2 Alliant Energy Corporation (NYSE-LNT)	\$2.90	\$1.70	41.4%	11.0%	\$3.00	\$1.80	40.0%	11.0%	\$3.60	\$2.10	41.7%	12.0%	41.0%	11.3%	1.0192	11.55%	4.74%	5.26%
3 Ameren Corporation (NYSE-AEE)	\$2.40	\$1.54	35.8%	7.0%	\$2.40	\$1.54	35.8%	7.0%	\$2.50	\$1.54	38.4%	7.0%	36.7%	7.0%	1.0174	7.12%	2.61%	2.41%
4 American Electric Power Co. (NYSE-AEP)	\$3.15	\$1.84	41.6%	10.5%	\$3.25	\$1.90	41.5%	10.5%	\$3.75	\$2.10	44.0%	10.5%	42.4%	10.5%	1.0282	10.80%	4.58%	4.83%
5 Avista Corporation (NYSE-AVA)	\$1.80	\$1.10	38.9%	9.0%	\$1.80	\$1.18	34.4%	8.5%	\$2.00	\$1.40	30.0%	9.0%	34.4%	8.8%	1.0206	9.01%	3.11%	3.46%
6 Cleco Corporation (NYSE-CNL)	\$2.40	\$1.09	54.6%	10.0%	\$2.40	\$1.22	49.2%	10.0%	\$2.75	\$1.60	41.8%	9.5%	48.5%	9.8%	1.0269	10.10%	4.90%	4.91%
7 CMS Energy Corporation (NYSE-CMS)	\$1.45	\$0.84	42.1%	12.5%	\$1.55	\$0.92	40.6%	12.5%	\$1.75	\$1.10	37.1%	12.5%	40.0%	12.5%	1.0334	12.92%	5.16%	5.52%
8 Consolidated Edison, Inc. (NYSE-ED)	\$3.55	\$2.40	32.4%	9.5%	\$3.65	\$2.42	33.7%	9.0%	\$3.95	\$2.48	37.2%	9.5%	34.4%	9.3%	1.0255	9.57%	3.30%	3.65%
9 DTE Energy Company (NYSE-DTE)	\$3.60	\$2.32	35.6%	9.0%	\$3.75	\$2.42	35.5%	9.0%	\$4.25	\$2.70	36.5%	9.0%	35.8%	9.0%	1.0187	9.17%	3.29%	3.41%
10 Edison International (NYSE-EIX)	\$2.75	\$1.29	53.1%	8.0%	\$2.90	\$1.31	54.8%	8.5%	\$3.25	\$1.40	56.9%	8.0%	54.9%	8.2%	1.0216	8.34%	4.58%	4.58%
11 Entergy Corporation (NYSE-ETR)	\$6.70	\$3.32	50.4%	13.5%	\$6.70	\$3.32	50.4%	13.0%	\$7.00	\$3.60	48.6%	11.5%	49.8%	12.7%	1.0275	13.01%	6.48%	6.22%
12 Great Plains Energy Incorporated (NYSE-GE)	\$1.20	\$0.83	30.8%	5.5%	\$1.45	\$0.83	42.8%	6.5%	\$1.75	\$1.10	37.1%	7.5%	36.9%	6.5%	1.0231	6.65%	2.45%	2.11%
13 Hawaiian Electric Industries, Inc. (NYSE-HEI)	\$1.40	\$1.24	11.4%	8.5%	\$1.50	\$1.24	17.3%	9.0%	\$2.00	\$1.30	35.0%	10.5%	21.3%	9.3%	1.0324	9.64%	2.05%	2.98%
14 IDACORP, Inc. (NYSE-IDA)	\$2.85	\$1.20	57.9%	9.0%	\$3.05	\$1.20	60.7%	9.0%	\$3.30	\$1.50	54.5%	8.5%	57.7%	8.8%	1.0261	9.06%	5.23%	5.28%
15 MGE Energy, Inc. (NYSE-MGEE)	\$2.70	\$1.52	43.7%	10.5%	\$2.65	\$1.55	41.5%	9.5%	\$3.00	\$1.64	45.3%	12.0%	43.5%	10.7%	1.0115	10.79%	4.69%	4.93%
16 Nextera Energy (NYSE-NEE)	\$4.45	\$2.20	50.6%	12.0%	\$4.70	\$2.30	51.1%	12.0%	\$5.25	\$2.60	50.5%	11.0%	50.7%	11.7%	1.0393	12.12%	6.15%	6.88%
17 OGE Energy Corp. (NYSE-OGE)	\$3.50	\$1.52	56.6%	14.0%	\$3.35	\$1.58	52.8%	12.5%	\$4.00	\$1.80	55.0%	12.0%	54.8%	12.8%	1.0385	13.33%	7.30%	7.57%
18 Pepco Holdings, Inc. (NYSE-POM)	\$1.25	\$1.08	13.6%	6.5%	\$1.25	\$1.08	13.6%	6.0%	\$1.65	\$1.16	29.7%	7.5%	19.0%	6.7%	1.0226	6.82%	1.29%	1.57%
19 PG&E Corporation (NYSE-PCG)	\$2.55	\$1.82	28.6%	8.5%	\$3.55	\$1.82	48.7%	11.0%	\$4.25	\$2.20	48.2%	11.5%	41.9%	10.3%	1.0350	10.70%	4.48%	4.86%
20 Pinnacle West Capital Corp. (NYSE-PNW)	\$3.05	\$2.10	31.1%	8.5%	\$3.25	\$2.10	35.4%	9.0%	\$3.50	\$2.30	34.3%	9.0%	33.6%	8.8%	1.0275	9.08%	3.05%	3.24%
21 Portland General Electric (NYSE-POR)	\$2.05	\$1.06	48.3%	9.0%	\$2.05	\$1.08	47.3%	9.0%	\$2.25	\$1.20	46.7%	9.0%	47.4%	9.0%	1.0211	9.19%	4.36%	4.35%
22 SCANA Corporation (NYSE-SCG)	\$3.05	\$1.94	36.4%	10.0%	\$3.15	\$1.98	37.1%	9.5%	\$3.50	\$2.10	40.0%	9.5%	37.8%	9.7%	1.0415	10.07%	3.81%	4.74%
23 Southern Company (NYSE-SO)	\$2.55	\$1.87	26.7%	12.5%	\$2.70	\$1.94	28.1%	12.5%	\$3.25	\$2.20	32.3%	13.0%	29.0%	12.7%	1.0336	13.09%	3.80%	5.03%
24 TECO Energy, Inc. (NYSE-TE)	\$1.30	\$0.85	34.6%	12.5%	\$1.45	\$0.89	38.6%	13.5%	\$1.75	\$1.05	40.0%	13.0%	37.7%	13.0%	1.0309	13.40%	5.06%	5.35%
25 UniSource Energy Corporation (NYSE-UN)	\$2.75	\$1.68	38.9%	11.5%	\$2.70	\$1.76	34.8%	11.5%	\$3.40	\$2.08	38.8%	12.5%	37.5%	11.8%	1.0243	12.12%	4.55%	5.54%
26 Westar Energy, Inc. (NYSE-WR)	\$1.68	\$1.28	23.8%	7.5%	\$1.90	\$1.32	30.5%	8.5%	\$2.40	\$1.44	40.0%	10.0%	31.4%	8.7%	1.0218	8.86%	2.78%	3.53%
27 Wisconsin Energy Corporation (NYSE-WI)	\$2.15	\$1.04	51.6%	13.0%	\$2.25	\$1.14	49.3%	13.0%	\$2.75	\$1.65	40.0%	14.0%	47.0%	13.3%	1.0147	13.53%	6.36%	5.49%
28 Xcel Energy Inc. (NYSE-XEL)	\$1.75	\$1.03	41.1%	10.0%	\$1.85	\$1.06	42.7%	10.0%	\$2.00	\$1.15	42.5%	10.0%	42.1%	10.0%	1.0264	10.26%	4.32%	4.44%

Data Source: Value Line Investment Survey.

Exhibit JRW-8
New England Transmission Owner's ROE
FERC DCF Model

Company	2010			2015			Change	2015 Price			2015 M/B Ratio	No. of Shares			"sv" Factor			
	Equity Ratio	Total Cap	Equity	Equity Ratio	Total Cap	Equity		High	Low	Average		BVPS	2010	2015	Growth	s	Average	v
1 ALLETE, Inc. (NYSE-ALE)	55.8%	\$1,747.6	\$975.2	58.5%	\$2,250.0	\$1,316.3	6.2%	\$45.00	\$35.00	\$40.00	\$32.75	1.22	35.80	40.00	2.24%	0.0274	0.1813	0.50%
2 Alliant Energy Corporation (NYSE-LNT)	49.5%	\$5,841.0	\$2,891.3	51.5%	\$6,805.0	\$3,504.6	3.9%	\$55.00	\$40.00	\$47.50	\$30.15	1.58	110.89	116.00	0.91%	0.0143	0.3653	0.52%
3 Ameren Corporation (NYSE-AEE)	50.9%	\$15,185.0	\$7,729.2	53.5%	\$17,200.0	\$9,202.0	3.5%	\$35.00	\$25.00	\$30.00	\$36.00	0.83	240.90	256.00	1.22%	0.0102	-0.2000	-0.20%
4 American Electric Power Co. (NYSE-AEP)	46.7%	\$29,184.0	\$13,628.9	50.5%	\$35,800.0	\$18,079.0	5.8%	\$55.00	\$40.00	\$47.50	\$36.00	1.32	480.81	500.00	0.79%	0.0104	0.2421	0.25%
5 Avista Corporation (NYSE-AVA)	48.4%	\$2,325.3	\$1,125.4	48.5%	\$2,850.0	\$1,382.3	4.2%	\$35.00	\$25.00	\$30.00	\$23.00	1.30	57.12	60.50	1.16%	0.0151	0.2333	0.35%
6 Cleco Corporation (NYSE-CNL)	48.5%	\$2,717.9	\$1,318.2	58.0%	\$2,975.0	\$1,725.5	5.5%	\$40.00	\$30.00	\$35.00	\$28.50	1.23	60.53	60.70	0.06%	0.0007	0.1857	0.01%
7 CMS Energy Corporation (NYSE-CMS)	29.5%	\$9,473.0	\$2,794.5	35.5%	\$11,000.0	\$3,905.0	6.9%	\$25.00	\$18.00	\$21.50	\$15.00	1.43	249.60	260.00	0.82%	0.0118	0.3023	0.36%
8 Consolidated Edison, Inc. (NYSE-ED)	51.0%	\$20,103.0	\$10,252.5	50.5%	\$26,200.0	\$13,231.0	5.2%	\$60.00	\$50.00	\$55.00	\$ 42.60	1.3	291.62	310.00	1.23%	0.0159	0.2255	0.36%
9 DTE Energy Company (NYSE-DTE)	48.7%	\$13,811.0	\$6,726.0	48.0%	\$16,900.0	\$8,112.0	3.8%	\$70.00	\$45.00	\$57.50	\$ 46.50	1.2	169.43	174.00	0.53%	0.0066	0.1913	0.13%
10 Edison International (NYSE-EIX)	44.3%	\$23,861.0	\$10,570.4	43.0%	\$30,500.0	\$13,115.0	4.4%	\$50.00	\$30.00	\$40.00	\$ 40.50	1.0	325.81	325.81	0.00%	0.0000	-0.0125	0.00%
11 Entergy Corporation (NYSE-ETR)	42.1%	\$20,166.0	\$8,489.9	42.5%	\$26,300.0	\$11,177.5	5.7%	\$100.00	\$75.00	\$87.50	\$ 65.00	1.3	178.75	172.00	-0.77%	-0.0103	0.2571	-0.27%
12 Great Plains Energy Incorporated (NYSE-GXP)	49.2%	\$5,867.6	\$2,886.9	48.5%	\$7,500.0	\$3,637.5	4.7%	\$25.00	\$16.00	\$20.50	\$ 23.50	0.9	135.71	155.00	2.69%	0.0235	-0.1463	-0.34%
13 Hawaiian Electric Industries, Inc. (NYSE-HE)	54.3%	\$2,732.9	\$1,484.0	54.0%	\$3,800.0	\$2,052.0	6.7%	\$30.00	\$19.00	\$24.50	\$ 18.75	1.3	94.69	110.00	3.04%	0.0398	0.2347	0.93%
14 IDACORP, Inc. (NYSE-IDA)	50.7%	\$3,020.4	\$1,531.3	51.0%	\$3,900.0	\$1,989.0	5.4%	\$50.00	\$35.00	\$42.50	\$ 39.20	1.1	49.41	51.00	0.64%	0.0069	0.0776	0.05%
15 MGE Energy, Inc. (NYSE-MGEE)	61.1%	\$859.4	\$525.1	62.0%	\$950.0	\$589.0	2.3%	\$50.00	\$40.00	\$45.00	\$ 26.30	1.7	23.11	23.50	0.34%	0.0057	0.4156	0.24%
16 Nextra Energy (NYSE-NEE)	44.5%	\$32,474.0	\$14,450.9	48.0%	\$44,600.0	\$21,408.0	8.2%	\$85.00	\$65.00	\$75.00	\$ 47.50	1.6	420.86	448.00	1.26%	0.0199	0.3667	0.73%
17 OGE Energy Corp. (NYSE-OGE)	49.2%	\$4,652.5	\$2,289.0	49.5%	\$6,800.0	\$3,366.0	8.0%	\$60.00	\$45.00	\$52.50	\$ 33.75	1.6	97.60	100.00	0.49%	0.0076	0.3571	0.27%
18 Pepco Holdings, Inc. (NYSE-POM)	51.0%	\$8,292.0	\$4,228.9	52.0%	\$10,200.0	\$5,304.0	4.6%	\$30.00	\$18.00	\$24.00	\$ 21.20	1.1	225.08	250.00	2.12%	0.0240	0.1167	0.28%
19 PG&E Corporation (NYSE-PCG)	49.3%	\$22,863.0	\$11,271.5	55.0%	\$29,100.0	\$16,005.0	7.3%	\$55.00	\$40.00	\$47.50	\$ 37.75	1.3	395.23	425.00	1.46%	0.0184	0.2053	0.38%
20 Pinnacle West Capital Corp. (NYSE-PNW)	54.7%	\$6,729.1	\$3,680.8	54.0%	\$8,975.0	\$4,846.5	5.7%	\$50.00	\$35.00	\$42.50	\$ 39.50	1.1	108.77	123.00	2.49%	0.0268	0.0706	0.19%
21 Portland General Electric (NYSE-POR)	47.0%	\$3,390.0	\$1,593.3	48.0%	\$4,100.0	\$1,968.0	4.3%	\$30.00	\$20.00	\$25.00	\$ 25.75	1.0	75.32	76.50	0.31%	0.0030	-0.0300	-0.01%
22 SCANA Corporation (NYSE-SCG)	47.1%	\$7,854.0	\$3,699.2	49.5%	\$11,325.0	\$5,605.9	8.7%	\$55.00	\$40.00	\$47.50	\$ 37.25	1.3	127.00	150.00	3.38%	0.0432	0.2158	0.93%
23 Southern Company (NYSE-SO)	45.7%	\$35,438.0	\$16,195.2	45.5%	\$49,800.0	\$22,659.0	6.9%	\$50.00	\$40.00	\$45.00	\$ 25.00	1.8	843.34	910.00	1.53%	0.0276	0.4444	1.23%
24 TECO Energy, Inc. (NYSE-TE)	40.8%	\$5,317.8	\$2,169.7	47.5%	\$6,225.0	\$2,956.9	6.4%	\$25.00	\$18.00	\$21.50	\$ 13.25	1.6	214.90	220.00	0.47%	0.0076	0.3837	0.29%
25 UniSource Energy Corporation (NYSE-UNS)	31.5%	\$2,602.8	\$819.9	38.0%	\$2,750.0	\$1,045.0	5.0%	\$75.00	\$50.00	\$62.50	\$ 27.65	2.3	36.54	38.00	0.79%	0.0178	0.5576	0.99%
26 Westar Energy, Inc. (NYSE-WR)	46.4%	\$5,180.8	\$2,403.9	46.0%	\$6,500.0	\$2,990.0	4.5%	\$35.00	\$25.00	\$30.00	\$ 23.45	1.3	112.13	128.00	2.68%	0.0343	0.2183	0.75%
27 Wisconsin Energy Corporation (NYSE-WEC)	49.0%	\$7,764.5	\$3,804.6	46.5%	\$9,475.0	\$4,405.9	3.0%	\$45.00	\$35.00	\$40.00	\$ 19.75	2.0	233.77	224.00	-0.85%	-0.0172	0.5063	-0.87%
28 Xcel Energy Inc. (NYSE-XEL)	46.3%	\$17,452.0	\$8,080.3	48.5%	\$21,700.0	\$10,524.5	5.4%	\$30.00	\$20.00	\$25.00	\$ 21.25	1.2	482.33	498.00	0.64%	0.0075	0.1500	0.11%

Data Source: Value Line Investment Survey.

Exhibit JRW-8

New England Regional Transmission ROE
FERC DCF Model ROE Results

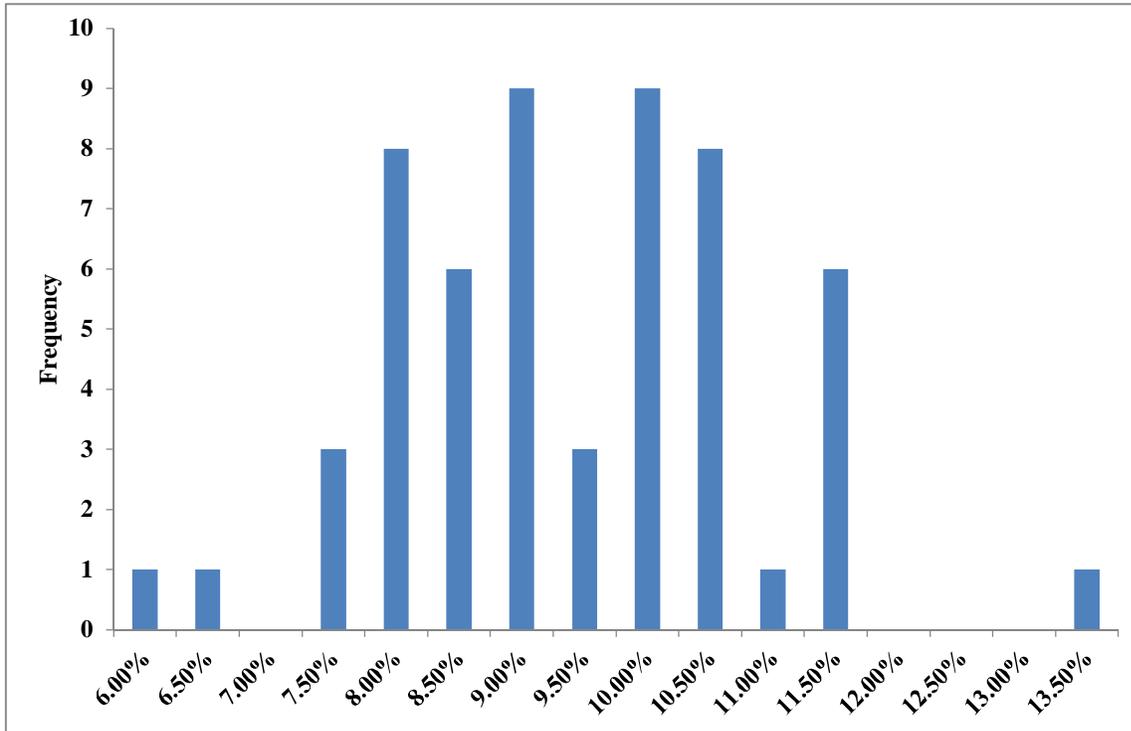


Exhibit JRW-9

New England Transmission Owner's ROE

Capital Asset Pricing Model

**Panel A
Electric Proxy Group**

Risk-Free Interest Rate	4.00%
Beta*	0.70
Ex Ante Equity Risk Premium**	5.10%
CAPM Cost of Equity	7.6%

* See page 3 of Exhibit JRW-9

** See pages 5 and 6 of Exhibit JRW-9

Exhibit JRW-9

Panel A
Ten-Year U.S. Treasury Yields
January 2000-Present

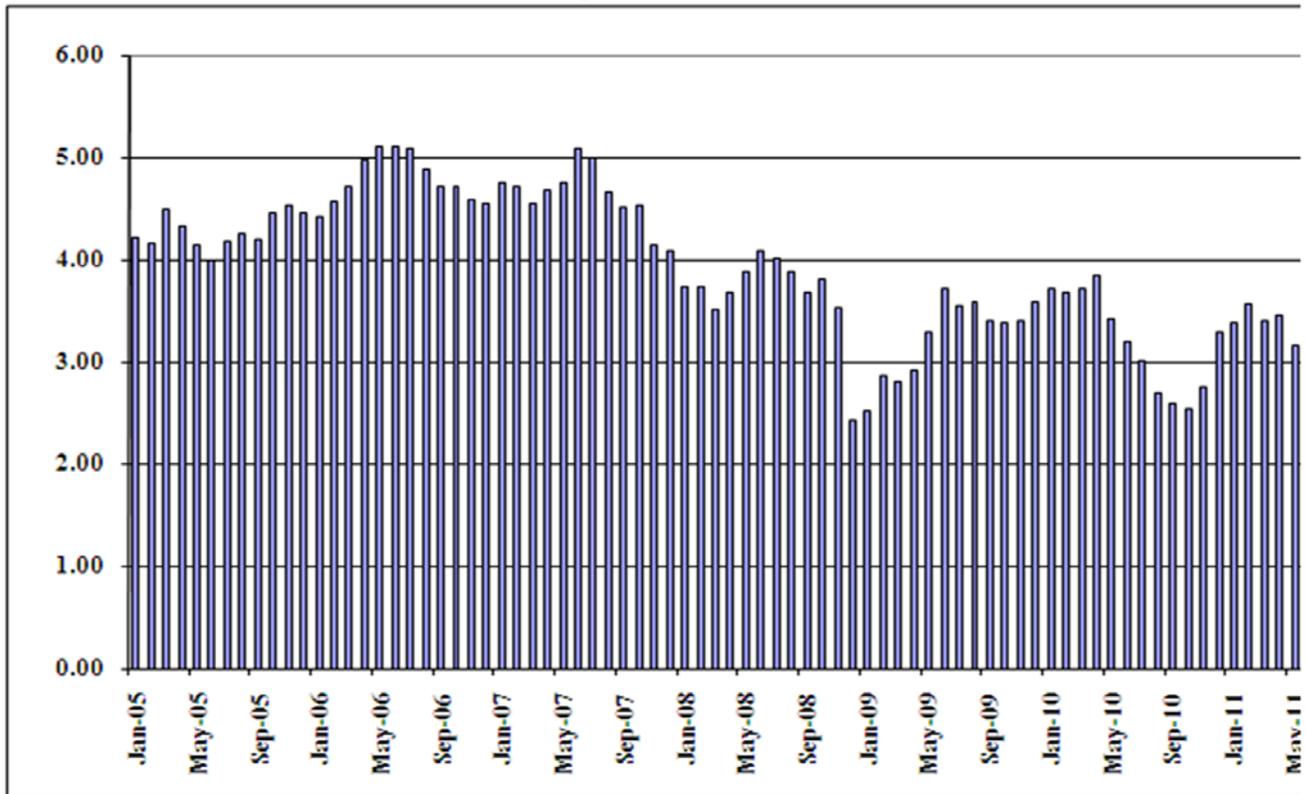
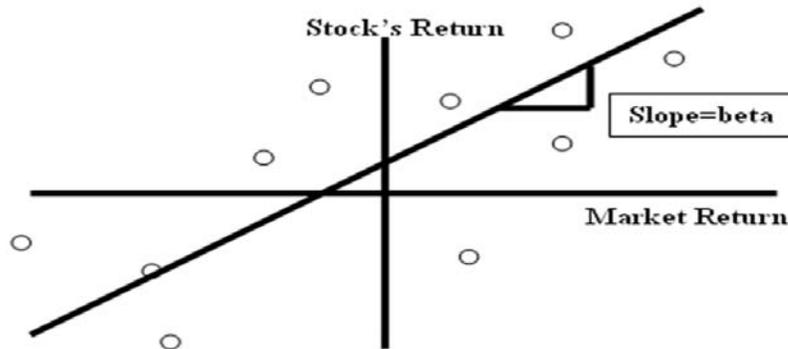


Exhibit JRW-9

Panel A
 Betas
 Calculation of Beta



Electric Proxy Group

Company Name	Beta
ALLETE, Inc. (NYSE-ALE)	0.70
Alliant Energy Corporation (NYSE-LNT)	0.70
Ameren Corporation (NYSE-AEE)	0.80
American Electric Power Co. (NYSE-AEP)	0.70
Avista Corporation (NYSE-AVA)	0.70
Cleco Corporation (NYSE-CNL)	0.65
CMS Energy Corporation (NYSE-CMS)	0.75
Consolidated Edison, Inc. (NYSE-ED)	0.65
DTE Energy Company (NYSE-DTE)	0.75
Edison International (NYSE-EIX)	0.80
Entergy Corporation (NYSE-ETR)	0.70
Great Plains Energy Incorporated (NYSE-GXP)	0.75
Hawaiian Electric Industries, Inc. (NYSE-HE)	0.70
IDACORP, Inc. (NYSE-IDA)	0.70
MGE Energy, Inc. (NYSE-MGEE)	0.60
Nextera Energy (NYSE-NEE)	0.75
OGE Energy Corp. (NYSE-OGE)	0.75
Pepco Holdings, Inc. (NYSE-POM)	0.80
PG&E Corporation (NYSE-PCG)	0.55
Pinnacle West Capital Corp. (NYSE-PNW)	0.70
Portland General Electric (NYSE-POR)	0.75
SCANA Corporation (NYSE-SCG)	0.65
Southern Company (NYSE-SO)	0.55
TECO Energy, Inc. (NYSE-TE)	0.85
UniSource Energy Corporation (NYSE-UNS)	0.75
Westar Energy, Inc. (NYSE-WR)	0.75
Wisconsin Energy Corporation (NYSE-WEC)	0.65
Xcel Energy Inc. (NYSE-XEL)	0.65
Mean	0.71
Median	0.70

ALLETE, Inc
Alliant Energ
Ameren Corp
American Ele
Avista Corpor
Cleco Corpora
CMS Energy C
Consolidated I
DTE Energy C
Edison Intern
Entergy Corp
Great Plains E
Hawaiian Elec
IDACORP, In
MGE Energy,
Nextera Energ
OGE Energy C
Pepco Holding
PG&E Corpor
Pinnacle West
Portland Gene
SCANA Corp
Southern Com
TECO Energy
UniSource En
Westar Energ
Wisconsin En
Xcel Energy I
Mean

Data Source: Value Line Investment Survey, 2011.

Exhibit JRW-9

Risk Premium Approaches

	Historical Ex Post Excess Returns	Surveys	Ex Ante Models and Market Data
Means of Assessing the Equity-Bond Risk Premium	Historical average is a popular proxy for the ex ante premium – but likely to be misleading	Investor and expert surveys can provide direct estimates of prevailing expected returns/premiums	Current financial market prices (simple valuation ratios or DCF-based measures) can give most objective estimates of feasible ex ante equity-bond risk premium
Problems/Debated Issues	Time variation in required returns and systematic selection and other biases have boosted valuations over time, and have exaggerated realized excess equity returns compared with ex ante expected premiums	Limited survey histories and questions of survey representativeness. Surveys may tell more about hoped-for expected returns than about objective required premiums due to irrational biases such as extrapolation.	Assumptions needed for DCF inputs, notably the trend earnings growth rate, make even these models' outputs subjective. The range of views on the growth rate, as well as the debate on the relevant stock and bond yields, leads to a range of premium estimates.

Source: Antti Ilmanen, "Expected Returns on Stocks and Bonds," *Journal of Portfolio Management*, (Winter 2003).

Exhibit JRW-9

Capital Asset Pricing Model
 Equity Risk Premium

Category	Study Authors	Publication Date	Time Period Of Study	Methodology	Return Measure	Range		Midpoint of Range	Mean	Median
						Low	High			
Historical Risk Premium										
	Ibbotson	2011	1926-2010	Historical Stock Returns - Bond Returns	Arithmetic				6.00%	
					Geometric				4.40%	
	Bate	2008	1900-2007	Historical Stock Returns - Bond Returns	Geometric				4.50%	
	Shiller	2006	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				7.00%	
					Geometric				5.50%	
	Damodoran	2006	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				6.70%	
					Geometric				5.10%	
	Siegel	2005	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				6.10%	
					Geometric				4.60%	
	Dimson, Marsh, and Staunton	2006	1900-2005	Historical Stock Returns - Bond Returns	Arithmetic				5.50%	
	Goyal & Welch	2006	1872-2004	Historical Stock Returns - Bond Returns					4.77%	
	Median									5.50%
Ex Ante Models (Puzzle Research)										
	Claus Thomas	2001	1985-1998	Abnormal Earnings Model					3.00%	
	Arnott and Bernstein	2002	1810-2001	Fundamentals - Div Yld + Growth					2.40%	
	Constantinides	2002	1872-2000	Historical Returns & Fundamentals - P/D & P/E					6.90%	
	Cornell	1999	1926-1997	Historical Returns & Fundamental GDP/Earnings		3.50%	5.50%	4.50%	4.50%	
	Easton, Taylor, et al	2002	1981-1998	Residual Income Model					5.30%	
	Fama French	2002	1951-2000	Fundamental DCF with EPS and DPS Growth		2.55%	4.32%		3.44%	
	Harris & Marston	2001	1982-1998	Fundamental DCF with Analysts' EPS Growth					7.14%	
	Best & Byrne	2001								
	McKinsey	2002	1962-2002	Fundamental (P/E, D/P, & Earnings Growth)		3.50%	4.00%		3.75%	
	Siegel	2005	1802-2001	Historical Earnings Yield	Geometric				2.50%	
	Grabowski	2006	1926-2005	Historical and Projected		3.50%	6.00%	4.75%	4.75%	
	Maheu & McCurdy	2006	1885-2003	Historical Excess Returns, Structural Breaks,		4.02%	5.10%	4.56%	4.56%	
	Bostock	2004	1960-2002	Bond Yields, Credit Risk, and Income Volatility		3.90%	1.30%	2.60%	2.60%	
	Bakshi & Chen	2005	1982-1998	Fundamentals - Interest Rates					7.31%	
	Donaldson, Kamstra, & Kramer	2006	1952-2004	Fundamental, Dividend yld., Returns., & Volatility		3.00%	4.00%	3.50%	3.50%	
	Campbell	2008	1982-2007	Historical & Projections (D/P & Earnings Growth)		4.10%	5.40%		4.75%	
	Best & Byrne	2001	Projection	Fundamentals - Div Yld + Growth					2.00%	
	Fernandez	2007	Projection	Required Equity Risk Premium					4.00%	
	DeLong & Magin	2008	Projection	Earnings Yield - TIPS					3.22%	
	Damodoran	2011	Projection	Fundamentals - Implied from FCF to Equity Model					5.92%	
Social Security										
	Office of Chief Actuary		1900-1995							
	John Campbell	2001	1860-2000	Historical & Projections (D/P & Earnings Growth)	Arithmetic	3.00%	4.00%	3.50%	3.50%	
			Projected for 75 Years		Geometric	1.50%	2.50%	2.00%	2.00%	
	Peter Diamond	2001	Projected for 75 Years	Fundamentals (D/P, GDP Growth)		3.00%	4.80%	3.90%	3.90%	
	John Shoven	2001	Projected for 75 Years	Fundamentals (D/P, P/E, GDP Growth)		3.00%	3.50%	3.25%	3.25%	
	Median									3.75%
Surveys										
	Survey of Financial Forecasters	2011	10-Year Projection	About 50 Financial Forecasters					2.87%	
	Duke - CFO Magazine Survey	2011	10-Year Projection	Approximately 500 CFOs					3.40%	
	Welch - Academics	2008	30-Year Projection	Random Academics		5.00%	5.74%	5.37%	5.37%	
	Fernandez - Academics	2011	Long-Term	Survey of Academics					5.50%	
	Fernandez - Analysts	2011	Long-Term	Survey of Analysts					5.00%	
	Fernandez - Companies	2011	Long-Term	Survey of Companies					5.20%	
	Median									5.10%
Building Block										
	Ibbotson and Chen	2011	1926-2010	Historical Supply Model (D/P & Earnings Growth)	Arithmetic			5.99%	4.95%	
					Geometric			3.91%		
	Woolridge		2011	Current Supply Model (D/P & Earnings Growth)					3.30%	
	Median									4.13%
Mean										4.62%
Median										4.61%

Exhibit JRW-9

Capital Asset Pricing Model
 Equity Risk Premium
 Summary of 2010-11 Equity Risk Premium Studies

Category	Study Authors	Publication Date	Time Period Of Study	Methodology	Return Measure	Range Low High	Midpoint of Range	Mean	Average
Historical Risk Premium									
	Ibbotson	2011	1926-2010	Historical Stock Returns - Bond Returns	Arithmetic			6.00%	
					Geometric			4.40%	
	Median								5.20%
Ex Ante Models (Puzzle Research)									
	Damodoran	2011	Projection	Fundamentals - Implied from FCF to Equity Model				5.92%	
	Median								5.92%
Surveys									
	Survey of Financial Forecasters	2011	10-Year Projection	About 50 Financial Forecasters				2.87%	
	Duke - CFO Magazine Survey	2011	10-Year Projection	Approximately 500 CFOs				3.40%	
	Fernandez - Academics	2011	Long-Term	Survey of Academics				5.50%	
	Fernandez - Analysts	2011	Long-Term	Survey of Analysts				5.00%	
	Fernandez - Companies	2011	Long-Term	Survey of Companies				5.20%	
	Median								5.00%
Building Block									
	Ibbotson and Chen	2011	1926-2010	Historical Supply Model (D/P & Earnings Growth)	Arithmetic		5.99%	4.95%	
					Geometric		3.91%		
	Woolridge		2011	Current Supply Model (D/P & Earnings Growth)				3.30%	
	Median								4.13%
Mean									5.06%
Median									5.10%

Exhibit JRW-9

New England Transmission Owner's ROE
 Decomposing Equity Market Returns
 The Building Blocks Methodology

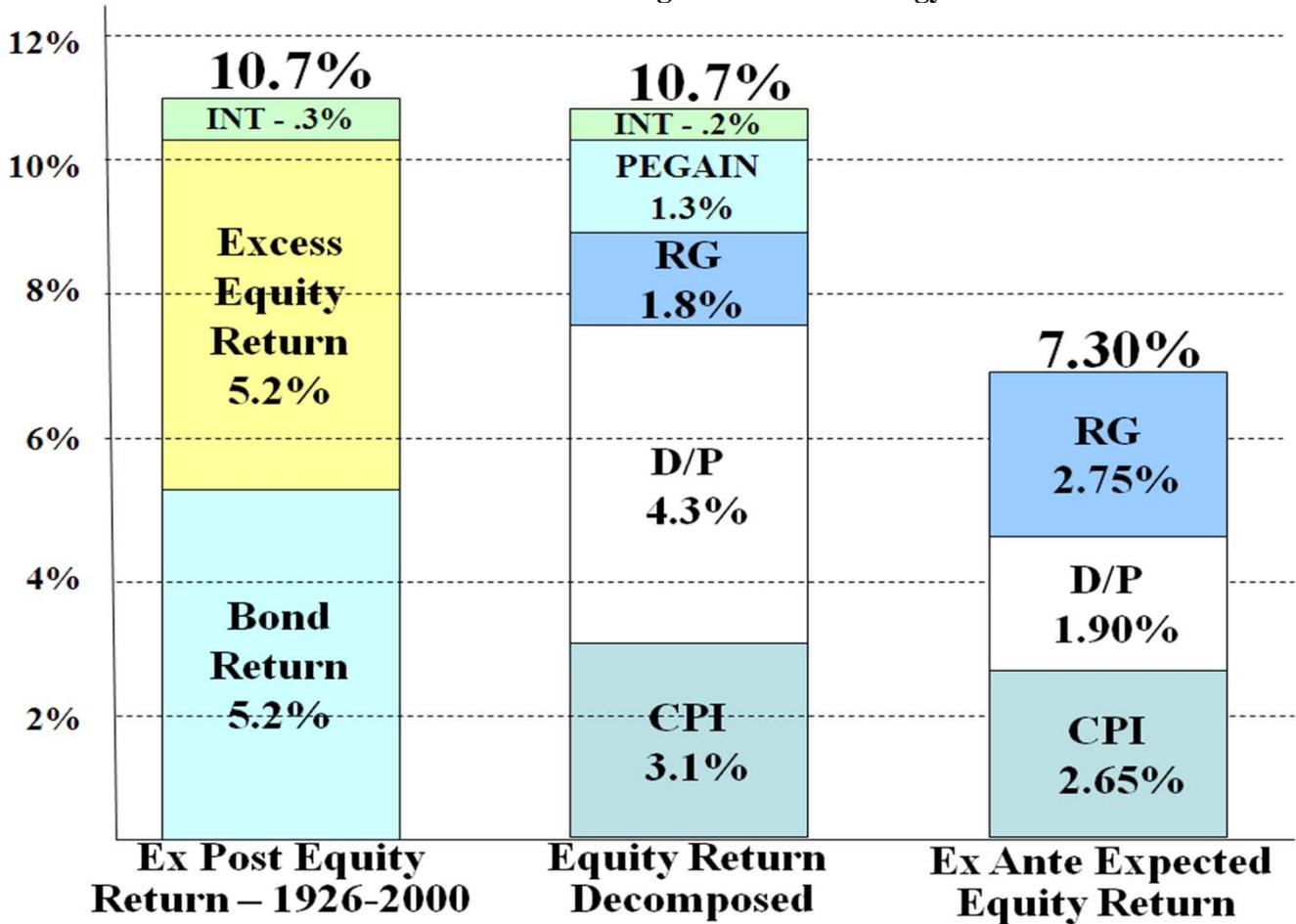


Exhibit JRW-9

New England Transmission Owner's ROE

**2011 Survey of Professional Forecasters
 Philadelphia Federal Reserve Bank
 Long-Term Forecasts**

Table Seven
 LONG-TERM (10 YEAR) FORECASTS

Panel A		Panel B	
<u>SERIES: CPI INFLATION RATE</u>		<u>SERIES: REAL GDP GROWTH RATE</u>	
STATISTIC		STATISTIC	
MINIMUM	0.70	MINIMUM	1.70
LOWER QUARTILE	2.00	LOWER QUARTILE	2.70
MEDIAN	2.30	MEDIAN	2.84
UPPER QUARTILE	2.50	UPPER QUARTILE	3.20
MAXIMUM	3.50	MAXIMUM	4.00
MEAN	2.30	MEAN	2.93
STD. DEV.	0.55	STD. DEV.	0.48
N	36	N	34
MISSING	7	MISSING	9
Panel C		Panel D	
<u>SERIES: PRODUCTIVITY GROWTH</u>		<u>SERIES: STOCK RETURNS (S&P 500)</u>	
STATISTIC		STATISTIC	
MINIMUM	1.50	MINIMUM	4.20
LOWER QUARTILE	1.80	LOWER QUARTILE	6.30
MEDIAN	2.00	MEDIAN	7.25
UPPER QUARTILE	2.20	UPPER QUARTILE	8.25
MAXIMUM	3.00	MAXIMUM	12.00
MEAN	2.04	MEAN	7.37
STD. DEV.	0.35	STD. DEV.	1.80
N	26	N	20
MISSING	17	MISSING	23
Panel E		Panel F	
<u>SERIES: BOND RETURNS (10-YEAR)</u>		<u>SERIES: BILL RETURNS (3-MONTH)</u>	
STATISTIC		STATISTIC	
MINIMUM	-4.00	MINIMUM	-2.00
LOWER QUARTILE	4.25	LOWER QUARTILE	2.75
MEDIAN	4.88	MEDIAN	3.00
UPPER QUARTILE	5.00	UPPER QUARTILE	3.31
MAXIMUM	6.50	MAXIMUM	4.75
MEAN	4.50	MEAN	2.93
STD. DEV.	1.80	STD. DEV.	1.13
N	30	N	30
MISSING	13	MISSING	13

Source: Philadelphia Federal Reserve Bank, Survey of Professional Forecasters, February 11, 2011.

Exhibit JRW-9

New England Transmission Owner's ROE

University of Michigan Survey Research Center
Expected Short-Term Inflation Rate

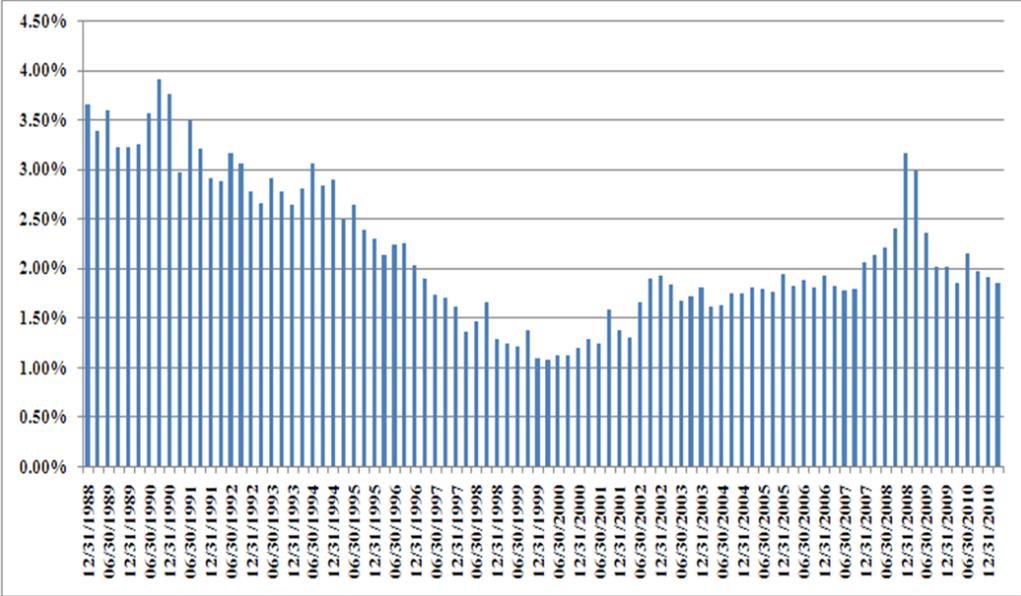


Data Source: <http://research.stlouisfed.org/fred2/series/MICH?cid=98>

Exhibit JRW-9

Decomposing Equity Market Returns
The Building Blocks Methodology

S&P 500 Dividend Yield



S&P 500 P/E Ratio

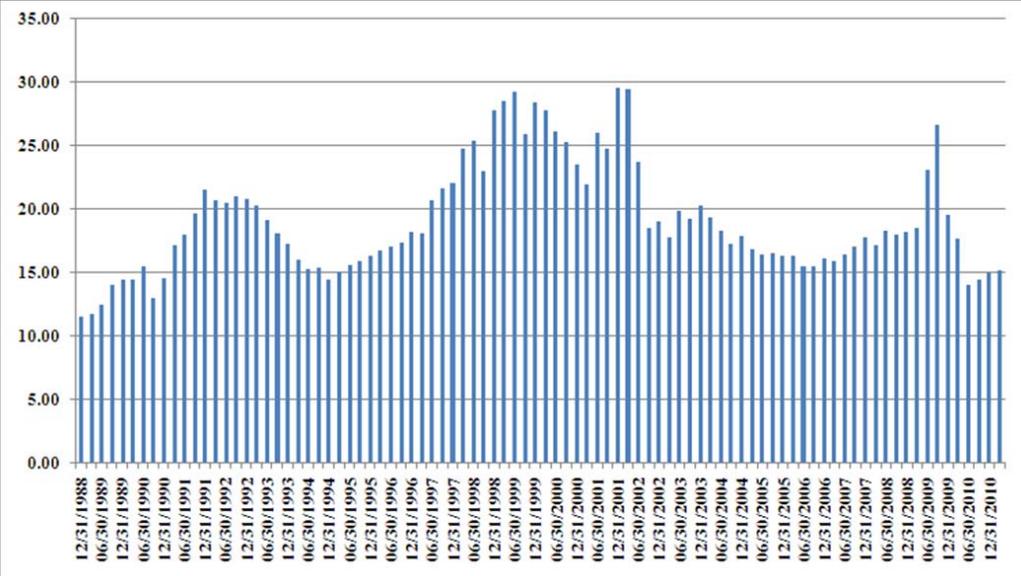
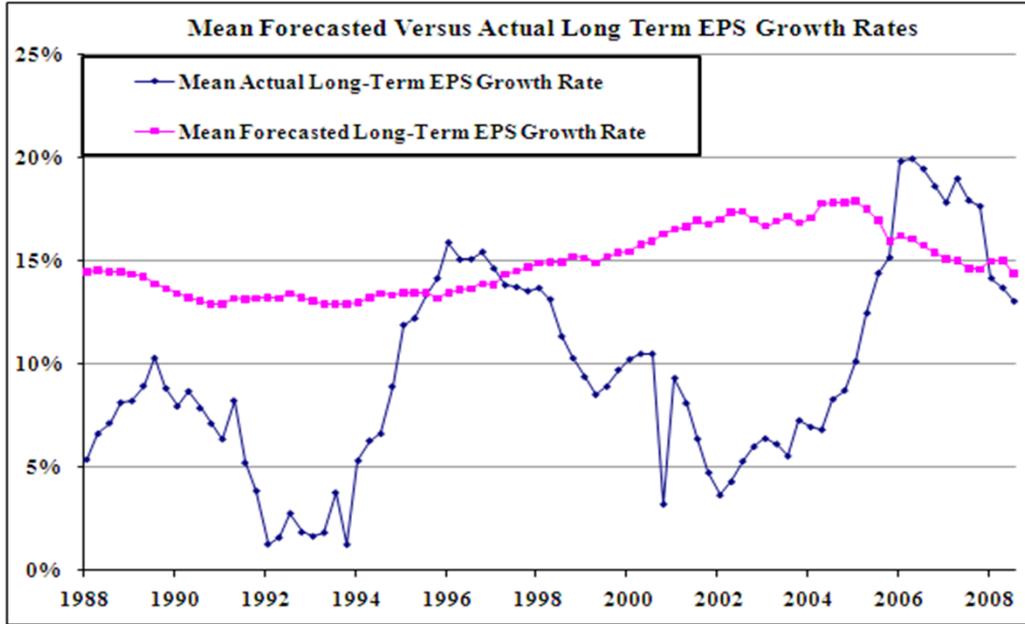


Exhibit JRW-9

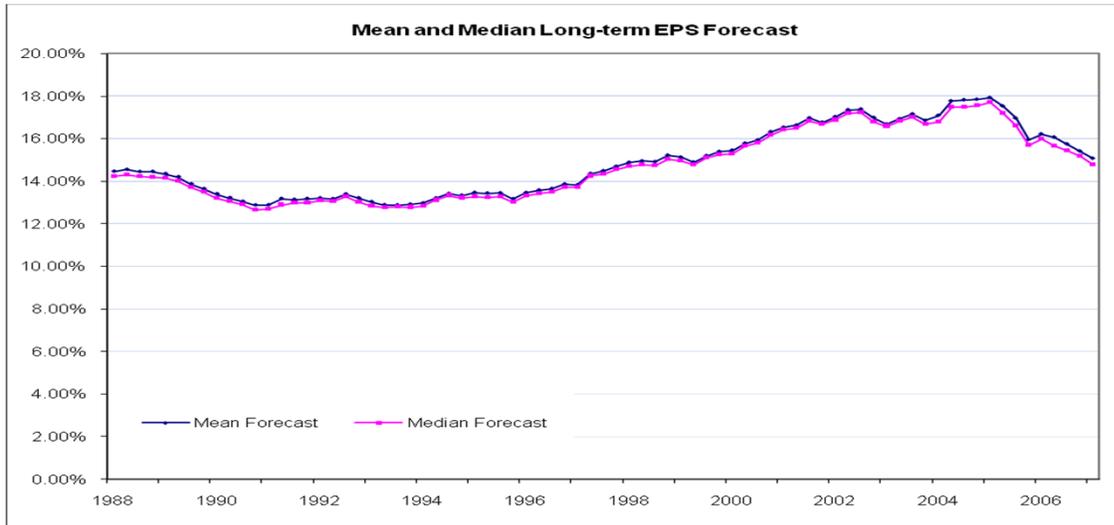
New England Transmission Owner's ROE
 CAPM
 Real S&P 500 EPS Growth Rate

Year	S&P 500 EPS	Annual Inflation CPI	Inflation Adjustment Factor	Real S&P 500 EPS	
1960	3.10	1.48		3.10	
1961	3.37	0.07	1.01	3.35	
1962	3.67	1.22	1.02	3.59	
1963	4.13	1.65	1.04	3.99	
1964	4.76	1.19	1.05	4.55	
1965	5.30	1.92	1.07	4.97	
1966	5.41	3.35	1.10	4.90	
1967	5.46	3.04	1.14	4.80	
1968	5.72	4.72	1.19	4.81	
1969	6.10	6.11	1.26	4.83	
1970	5.51	5.49	1.34	4.13	10-Year 2.89%
1971	5.57	3.36	1.38	4.04	
1972	6.17	3.41	1.43	4.33	
1973	7.96	8.80	1.55	5.13	
1974	9.35	12.20	1.74	5.37	
1975	7.71	7.01	1.86	4.14	
1976	9.75	4.81	1.95	4.99	
1977	10.87	6.77	2.08	5.22	
1978	11.64	9.03	2.27	5.13	
1979	14.55	13.31	2.57	5.66	10-Year 2.30%
1980	14.99	12.40	2.89	5.18	
1981	15.18	8.94	3.15	4.82	
1982	13.82	3.87	3.27	4.23	
1983	13.29	3.80	3.40	3.91	
1984	16.84	3.95	3.53	4.77	
1985	15.68	3.77	3.66	4.28	
1986	14.43	1.13	3.70	3.90	
1987	16.04	4.41	3.87	4.15	
1988	22.77	4.42	4.04	5.64	
1989	24.03	4.65	4.22	5.69	10-Year -0.65%
1990	21.73	6.11	4.48	4.85	
1991	19.10	3.06	4.62	4.14	
1992	18.13	2.90	4.75	3.81	
1993	19.82	2.75	4.88	4.06	
1994	27.05	2.67	5.01	5.40	
1995	35.35	2.54	5.14	6.88	
1996	35.78	3.32	5.31	6.74	
1997	39.56	1.70	5.40	7.33	
1998	38.23	1.61	5.48	6.97	
1999	45.17	2.68	5.63	8.02	10-Year 6.29%
2000	52.00	3.39	5.82	8.93	
2001	44.23	1.55	5.92	7.48	
2002	47.24	2.38	6.06	7.80	
2003	54.15	1.88	6.17	8.77	
2004	67.01	3.26	6.37	10.51	5-Year 3.00%
2005	68.32	3.42	6.60	10.35	
2006	81.96	2.54	6.77	12.11	
2007	87.51	4.08	7.04	12.43	
2008	65.39	0.09	7.05	9.28	
2009	59.65	2.72	7.24	8.24	

Panel A
Long-Term Forecasted Versus Actual EPS Growth Rates
1988-2009



Panel B
Long-Term Forecasted EPS Growth Rates
1988-2007



Source: Patrick J. Cusatis and J. Randall Woolridge, "The Accuracy of Analysts' Long-Term Earnings Per Share Growth Rate Forecasts," (July, 2008).

THE WALL STREET JOURNAL.

Study Suggests Bias in Analysts' Rosy Forecasts

By **ANDREW EDWARDS**
March 21, 2008; Page C6

Despite an economy teetering on the brink of a recession -- if not already in one -- analysts are still painting a rosy picture of earnings growth, according to a study done by Penn State's Smeal College of Business.

The report questions analysts' impartiality five years after then-New York Attorney General Eliot Spitzer forced analysts to pay \$1.5 billion in damages after finding evidence of bias.

"Wall Street analysts basically do two things: recommend stocks to buy and forecast earnings," said J. Randall Woolridge, professor of finance. "Previous studies suggest their stock recommendations do not perform well, and now we show that their long-term earnings-per-share growth-rate forecasts are excessive and upwardly biased."

The report, which examined analysts' long-term (three to five years) and one-year per-share earnings expectations from 1984 through 2006 found that companies' long-term earnings growth surpassed analysts' expectations in only two instances, and those came right after recessions.

Over the entire time period, analysts' long-term forecast earnings-per-share growth averaged 14.7%, compared with actual growth of 9.1%. One-year per-share earnings expectations were slightly more accurate: The average forecast was for 13.8% growth and the average actual growth rate was 9.8%.

"A significant factor in the upward bias in long-term earnings-rate forecasts is the reluctance of analysts to forecast" profit declines, Mr. Woolridge said. The study found that nearly one-third of all companies experienced profit drops over successive three-to-five-year periods, but analysts projected drops less than 1% of the time.

The study's authors said, "Analysts are rewarded for biased forecasts by their employers, who want them to hype stocks so that the brokerage house can garner trading commissions and win underwriting deals."

They also concluded that analysts are under pressure to hype stocks to generate trading commissions, and they often don't follow stocks they don't like.

Write to Andrew Edwards at andrew.edwards@dowjones.com

Markets & Finance June 10, 2010, 5:00PM EST

**Bloomberg
Businessweek**

For Analysts, Things Are Always Looking Up

They're raising earnings estimates for U.S. companies at a record pace

By Roben Farzad

For years, the rap on Wall Street securities analysts was that they were shills, reflexively producing upbeat research on companies they cover to help their employers win investment banking business. The dynamic was well understood: Let my bank take your company public, or advise it on this acquisition, and—wink, wink—I will recommend your stock through thick or thin. After the Internet bubble burst, that was supposed to change. In April 2003 the Securities & Exchange Commission reached a settlement with 10 Wall Street firms in which they agreed, among other things, to separate research from investment banking.

Seven years on, Wall Street analysts remain a decidedly optimistic lot. Some economists look at the global economy and see troubles—the European debt crisis, persistently high unemployment worldwide, and housing woes in the U.S. Stock analysts as a group seem unfazed. Projected 2010 profit growth for companies in the Standard & Poor's 500-stock index has climbed seven percentage points this quarter, to 34 percent, data compiled by Bloomberg show. According to Sanford C. Bernstein ([AB](#)), that's the fastest pace since 1980, when the Dow Jones industrial average was quoted in the hundreds and Nancy Reagan was getting ready to order new window treatments for the Oval Office.

Among the companies analysts expect to excel: Intel ([INTL](#)) is projected to post an increase in net income of 142 percent this year. Caterpillar, a multinational that gets much of its revenue abroad, is expected to boost its net income by 47 percent this year. Analysts have also hiked their S&P 500 profit estimate for 2011 to \$95.53 a share, up from \$92.45 at the beginning of January, according to Bloomberg data. That would be a record, surpassing the previous high reached in 2007.

With such prospects, it's not surprising that more than half of S&P 500-listed stocks boast overall buy ratings. It is telling that the proportion has essentially held constant at both the market's October 2007 high and March 2009 low, bookends of a period that saw stocks fall by more than half. If the analysts are correct, the market would appear to be attractively priced right now. Using the \$95.53 per share figure, the price-to-earnings ratio of the S&P 500 is a modest 11 as of June 9. If, however, analysts end up being too high by, say, 20 percent, the P/E would jump to almost 14.

If history is any guide, chances are good that the analysts are wrong. According to a recent McKinsey report by Marc Goedhart, Rishi Raj, and Abhishek Saxena, "Analysts have been persistently over-optimistic for 25 years," a stretch that saw them peg earnings growth at 10 percent to 12 percent a year when the actual number was ultimately 6 percent. "On average," the researchers note, "analysts' forecasts have been almost 100 percent too high," even after regulations were enacted to weed out conflicts and improve the rigor of their calculations. As the chart below shows, in most years analysts have been forced to lower their estimates after it became apparent they had set them too high.

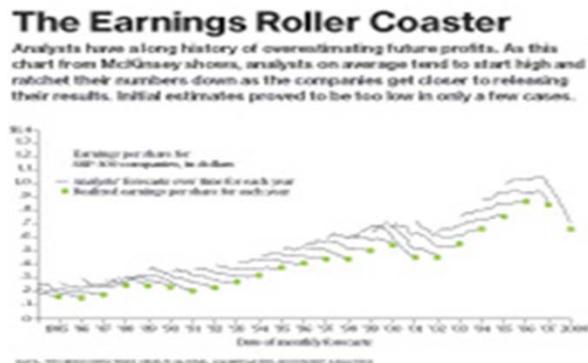
While a few analysts, like Meredith Whitney, have made their names on bearish calls, most are chronically bullish. Part of the problem is that despite all the reforms they remain too aligned with the companies they cover. "Analysts still need to get the bulk of their information from companies, which have an incentive to be over-optimistic," says Stephen Bainbridge, a professor at UCLA Law School who specializes in the securities industry. "Meanwhile, analysts don't want to threaten that ongoing access by being too negative." Bainbridge says that with the era of the overpaid, superstar analyst long over, today's job description calls for resisting the urge to be an iconoclast. "It's a matter of herd behavior," he says.

So what's a more plausible estimate of companies' earning power? Looking at factors including the strengthening dollar, which hurts exports, and higher corporate borrowing costs, David Rosenberg, chief economist at Toronto-based investment shop Gluskin Sheff + Associates, says "disappointment looms." Bernstein's Adam Parker says every 10 percent drop in the value of the euro knocks U.S. corporate earnings down by 2.5 percent to 3 percent. He sees the S&P 500 earning \$86 a share next year.

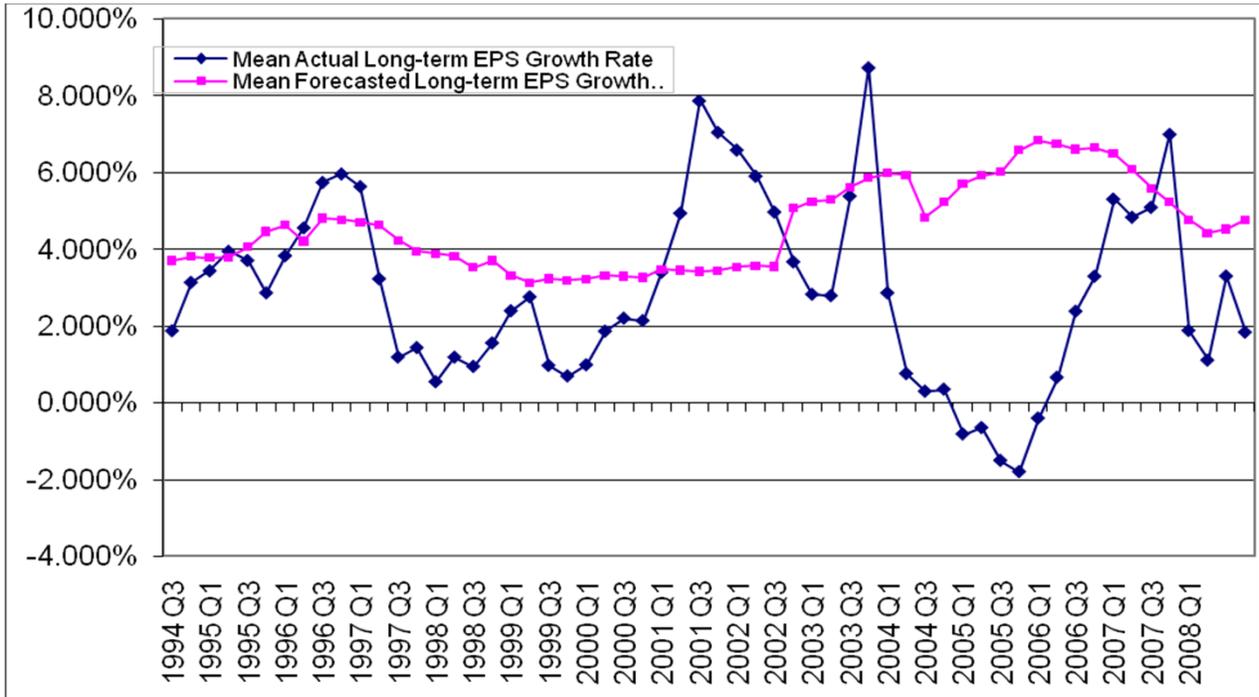
As realities hit home, "It's only natural that analysts will have to revise down their views," says Todd Salamone, senior vice-president at Schaeffer's Investment Research. The market may be making its own downward adjustment, as the S&P 500 has already fallen 14 percent from its high in April. If precedent holds, analysts are bound to curb their enthusiasm belatedly, telling us next year what we really needed to know this year.

The bottom line: Despite reforms intended to improve Wall Street research, stock analysts seem to be promoting an overly rosy view of profit prospects.

Bloomberg Businessweek Senior Writer Farzad covers Wall Street and international finance.

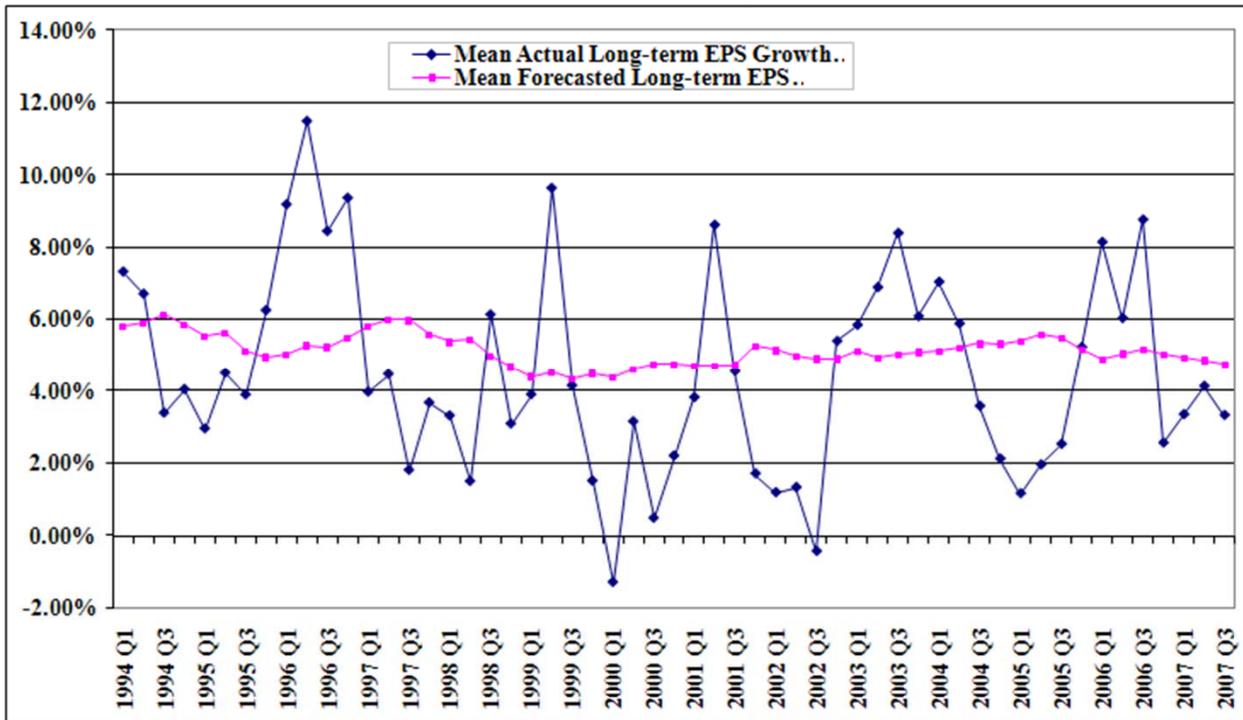


**Long-Term Forecasted Versus Actual EPS Growth Rates
 Electric Utility Companies
 1988-2008**



Data Source: IBES

**Long-Term Forecasted Versus Actual EPS Growth Rates
 Gas Distribution Companies**



Panel A

Value Line 3-5 year EPS Growth Rate Forecasts

	Average Projected EPS Growth rate	Number of Negative EPS Growth Projections	Percent of Negative EPS Growth Projections
1,996 Companies	14.45%	56	2.81%

Panel B

Historical Five-Year EPS Growth Rates for Value Line Companies

	Average Historical EPS Growth rate	Number with Negative Historical EPS Growth	Percent with Negative Historical EPS Growth
2,147 Companies	8.38%	654	30.40%

Source: *Value Line Investment Analyzer*, April 2011.

EXHIBIT No. C-2

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Martha Coakley, Attorney General of the
Commonwealth of Massachusetts, et al.

v.

Bangor Hydro-Electric Company, et al.

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Docket No. EL11-__-000

TESTIMONY OF FREDERICK R. PLETT

1 **Q. What is your name and who do you represent?**

2
3 A. My name is Frederick R. Plett and I am submitting this testimony on behalf of the
4 Massachusetts Attorney General's Office in support of this complaint to reduce the Base
5 Return on Common Equity allowed by the Commission to be applied by the New
6 England Transmission Owners to transmission investments included in the Regional
7 Network Service ("RNS") Tariff.

8 **Q. Please briefly describe your education and professional background.**

9
10 A. I am a Utility Analyst for the Massachusetts Attorney General's Office, Office of
11 Ratepayer Advocacy. My business address is One Ashburton Place, 18th Floor, Boston
12 MA 02108. I have over 40 years of experience in the utilities and energy industry.

13 For the past three years, I have assisted the Massachusetts Attorney General's
14 Office with its work before the Massachusetts Department of Public Utilities and Energy
15 Facilities Siting Board in various rate case and other regulatory proceedings. Also, I have
16 actively participated on behalf of the Office, which is a NEPOOL member in the End-
17 User Sector, in several NEPOOL stakeholder committees. I regularly represent the
18 Office at NEPOOL's Reliability, Power Supply Planning, Transmission, and Planning
19 Advisory Committees.

20 Prior to my employment by the Massachusetts Attorney General's Office, I had a
21 23-year career with Public Service of New Hampshire, ultimately in an Officer position,
22 Assistant to the President, and in various capacities including rates, cost of service, and
23 financial and strategic planning divisions. I was employed for 5 years by AlliedSignal to
24 develop markets with electric utility clients throughout Asia and in Mexico for its
25 METGLAS[®] amorphous metal product used in ultra-efficient electric distribution

1 transformers. At this position, I routinely advocated and filed testimony on behalf of
2 AlliedSignal with several state regulatory commissions and NARUC.

3 Additionally, I was a regional manager for four years with the Electric Power
4 Research Institute, serving several large utility clients in the east central United States.

5 For nearly two years, I represented my then employer, Logica, and its major
6 client, American Electric Power, before Texas and Virginia committees to enable retail
7 electric choice, including TX SET, TX TEST and VA EDT Committees.

8 I have held other positions with a retail electric and natural gas provider, and with
9 engineering, and meter and heat pump manufacturing entities.

10 I have a Bachelor's degree and a Master's degree in Electrical Engineering, both
11 from Northeastern University, and a Master's in Business Administration, with Highest
12 Distinction, from Babson College.

13 **Q. Have you testified in regulatory proceedings before?**

14
15 A. Yes. Over the course of my career, I have provided testimony in several public utility
16 regulatory proceedings, including before the New Hampshire Public Utilities
17 Commission, New York State Public Service Commission, North Carolina Utilities
18 Commission, Public Service Commission of South Carolina, and the Federal Energy
19 Regulatory Commission.

20 **Q. What is the purpose of your testimony?**

21
22 A. I will quantify the impact of the change in the Base ROE proposed by Mr. Woolridge to
23 be applied to transmission investments included in the New England's Regional Network
24 Service formula rate.

25 **Q. What does your analysis show?**

26

1 A. Currently, New England's Regional Network Service formula rate, as approved by the
2 Commission, provides Participating Transmission Owners a Base ROE of 11.14%.
3 Professor Woolridge recommends that the Base ROE be reduced to 9.2%. Such a
4 recommendation would result in a Base ROE reduction of 1.94%.

5 Given this recommended reduction of Base ROE by 1.94%, I calculate a 2011
6 annual revenue requirement reduction impact of \$113 million for New England
7 ratepayers. This annual revenue requirement impact will grow to \$206 million by 2015.
8 This result is shown on Exhibit FRP-1. Another way to state this is that absent a
9 reduction in Base ROE, ratepayers would be overcharged by \$113 million and
10 \$206 million in 2011 and 2015 respectively.

11 **Q. How did you calculate the 2015 impact for each Base ROE as compared to the 2011**
12 **impact?**

13
14 A. As shown in Exhibit FRP-2, I determined that the Investment Base will grow from a 2011
15 value of \$6.309 Billion (calculated in Exhibit FRP-4) to \$11.474 Billion, an increase of
16 1.82 times, so it was a simple matter of multiplying the 2011 revenue requirement impact
17 for each ROE value by 1.82 to derive the 2015 impact.

18 **Q. How did you derive the \$6.309 Billion Investment Base value for 2011?**

19
20 A. In Exhibit FRP-4, I show Investment Base values extracted from the annual RNS filing
21 made by the TOs. Annual Informational Filing Regarding ISO Tariff Charges in Effect
22 as of June 1, 2011, Docket No. RT04-2-000, *et al.* (filed July 29, 2011). The values are
23 labeled "Investment Base" and include, for each Transmission Owner (TO), the pre-1997
24 and the post-1996 values, and also include forecasted 2011 additions, including CWIP
25 where appropriate. I show the page numbers from which I extracted the data. The sum is

1 \$6.309 Billion. This is for all TOs which are a subject of this complaint, and which use
2 the 11.14% Base ROE in their calculations. This calculation excludes a small amount of
3 investment base owned by municipal and cooperative entities not included in this
4 complaint. To walk through Bangor Hydro-Electric as an example, Pre-1997 and Post-
5 1996 investment base, extracted directly from the TO RNS filing, is \$5,051,624 and
6 \$156,769,509, for a total investment base in 2010 of \$161,821,133. Bangor Hydro-
7 Electric estimated a 2011 investment base addition of \$38,500,000, for a total investment
8 base in 2011 of \$200,321,133. Repeating for all TOs in this filing, the sum of the
9 investment bases for all TOs subject to this complaint, on the bottom of page 2 of Exhibit
10 FRP-4, is \$6,308,588,909, or \$6.309 Billion.

11 **Q. How did you calculate investment base additions between 2011 and 2015?**

12
13 A. The TOs calculated the investment base additions. I extracted their calculations from a
14 presentation made to the NEPOOL Reliability Committee on July 26, 2011. The data,
15 and the link to the source document, are shown on Exhibit FRP-2. The relevant numbers
16 are \$1,994, \$1,810, \$1,336 and \$943 (Million) for 2012 through 2015.

17 **Q. Did you make any other adjustments to derive a 2015 Investment Base value?**

18 A. Yes. I subtracted an approximate value for depreciation from 2011 to 2015. The value I
19 calculated for depreciation, \$918 Million, is shown on Exhibit FRP-2. To calculate that
20 value, I extracted from the July 29, 2011 RNS filing gross plant data for each utility, as
21 shown on Exhibit FRP-3, excluding CWIP in rate base (since CWIP won't depreciate
22 until the underlying plant is placed in service). For example, for Bangor Hydro-Electric,
23 I extracted \$6,532,616 and \$203,490,153 for Pre-1997 and Post-1996 gross investment
24 base. Bangor Hydro-Electric is also estimating a \$38,500,000 investment base addition

1 for 2011, for a total gross investment base through 2011, excluding CWIP in rate base, of
2 \$248,522,769. The sum, for all TOs subject to this filing, is shown at the bottom of
3 Exhibit FRP-3, and is equal to \$7,345,922,488. Assuming a 40 year transmission life, the
4 annual estimated depreciation is shown as \$183,648,062. Over five years 2011 through
5 2015, the depreciation accumulates to \$918,240,311 or \$918 million, the amount shown
6 as a deduction from Investment Base on Exhibit FRP-2. As a result of this deduction, net
7 investment base is estimated to be \$11,474 Million, which is 1.82 times the \$6,309
8 Million 2011 value.

9 **Q. Did you depreciate the additions occurring from 2012 through 2015?**

10 A. No. I have no breakdown as to which part of the 2012 through 2015 additions shown on
11 Exhibit FRP-2 are CWIP and which part is an addition to plant in service. Due to major
12 projects such as the NEEWS project and the Maine Power Reliability Project, I assumed
13 that the greater part of the 2012 through 2015 additions are CWIP in rate base, not
14 subject to depreciation until the underlying plant actually enters service.

15 **Q. How did you calculate the 2011 Revenue Requirement impact of a base ROE**
16 **reduction?**

17 A. As shown on Exhibit FRP-1, I multiplied the 1.94% difference from the currently
18 allowed 11.14% Return on Equity and the 9.2% recommendation of Base ROE by
19 Professor Woolridge by \$58,444,089 to obtain the \$113,381,533 or rounded \$113
20 million, 2011 revenue impact. The \$58,444,089 referred to is the revenue impact of a 1%
21 (100 basis point) change in Base ROE, which is derived in Exhibit FRP-4. On Exhibit
22 FRP-4, I extract investment base data by utility, and the weighted common equity rate,

1 and derive a Common Equity return requirement for each TO. I individually, by TO,
2 gross the common equity return requirement up to obtain a pre-income tax value. To do
3 that I calculate an Income Tax Gross Up Factor from the data obtained in the July 29,
4 2011 RNS filing. Each TO calculated an overall Cost of Capital rate including the impact
5 of income taxes. I subtracted each TO's weighted Long Term Debt rate to obtain a net
6 Equity rate pre-tax. I divided that by the Equity portion of the Weighted Average Cost of
7 Capital supplied by each TO to derive the Income Tax Gross-Up Factor, the ratio
8 between pre-tax and post-tax equity return requirements. Having calculated the common
9 equity return requirement pre-tax for each TO, I divided the result by 11.64, since each
10 TO used an 11.64% ROE in its calculations, to determine the impact of a 1% (100 basis
11 point) Base ROE change. To walk through Bangor Hydro-Electric as an example, the
12 investment base, plant, is shown on the first line under the Bangor Hydro-Electric
13 subtitle. A weighted common equity rate was extracted from the RNS filing, equal to
14 7.78% as shown on the second line. The product of the Weighted Common Equity rate
15 and the investment base equals the Common Equity post-tax return, equal to \$393,016,
16 \$12,196,668 and \$2,995,300 for Pre-1997, Post-1996 and Forecasted additions for 2011,
17 for a total common equity revenue requirement of \$15,584,984. I grossed up these
18 numbers by multiplying by an Income Tax Gross-Up Factor of 1.6971977 to obtain the
19 before tax revenue requirement impact of the common equity return requirement. These
20 numbers are \$667,026, \$20,700,157 and \$5,083,616 pre-tax common equity revenue
21 requirement associated with Pre-1997, Post-1996, and 2011 forecast additions, for a total
22 pre-tax revenue requirement associated with common equity of \$26,450,799. This is the
23 pre-tax common equity revenue requirement associated with the common equity rate

1 used by the TOs in the RNS filing of 11.64%. Therefore, I divided by 11.64 to obtain the
2 pre-tax common equity revenue requirement change resulting from a change in ROE of
3 1%, or 100 basis points. I summed over all utilities, so that at the bottom of page 2 of
4 Exhibit FRP-4, the resulting revenue requirement impact for all TOs of a 1% (100 basis
5 point), change in Base ROE is \$58,444,089.

6 For Bangor Hydro-Electric, I derived the income tax gross up factor of 1.6971977
7 used in the above walk-through by extracting from the RNS filing the weighted cost of
8 capital rate Bangor Hydro-Electric calculated, including the effect of income taxes, a
9 value of 15.64117%. I subtracted from that number the weighted cost of long term debt
10 of 2.42% to obtain a net equity related pre-tax rate of 13.22117%. I divided this number
11 by the after-tax equity portion of the Weighted Average cost of capital of 7.79% to obtain
12 the income tax gross-up factor of 1.6971977.

13 **Q. Did you make any simplifying assumptions?**

14
15 A. Only that for Northeast Utilities I used the Connecticut Light and Power weighted capital
16 structure. CL&P has the bulk of the investment for NU. The capital structures for the
17 other NU subsidiaries, PSNH and WMECO, differ slightly.

18
19 **Q. Since you based your calculations in Exhibit FRP-4 on an 11.64% ROE which**
20 **includes the Base allowed ROE of 11.14%, and an adder of 0.5%, are you in any**
21 **way attacking the ROE adder of 0.5% which is an adder for belonging to ISO New**
22 **England?**

23 A. No. I am using 11.64% in Exhibit FRP-4 only because that is the ROE used by the TO's
24 in their RNS filing. At the bottom of Exhibit FRP-4, I divide by 11.64 to obtain the

1 revenue requirement impact of a 1% change in ROE. Any comparisons are made
2 between the 11.14% Base ROE currently allowed by FERC and the Base ROE value
3 recommended by Professor Woolridge. The impact of the 0.5% ROE adder is essentially
4 ratioed out in dividing by the 11.64% ROE used by the TOs.

5
6 **Q. Mr. Plett, does this conclude your testimony?**

7
8 **A. Yes.**

9
10

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Martha Coakley, Attorney General of the)
Commonwealth of Massachusetts, et al.)

) Docket No. EL11-__-000
)

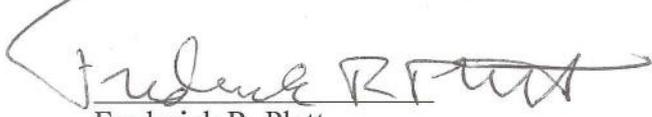
v.)

Bangor Hydro-Electric Company, et al.)

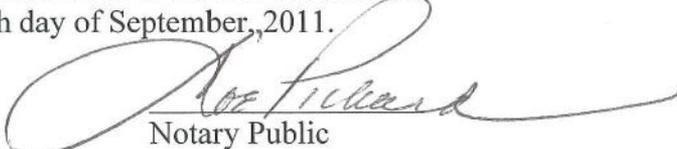
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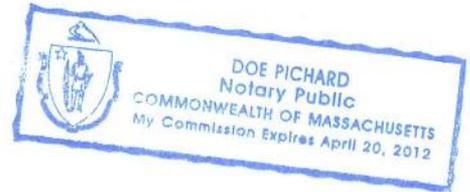
State of Massachusetts)
) ss. Boston
County of Suffolk)

I, Frederick R. Plett, am submitting this testimony in the above-captioned proceeding for Martha Coakley, Attorney General of the Commonwealth of Massachusetts. My business address is One Ashburton Place, 18th Floor, Boston MA 02108. I submit this verification to verify that the Prepared Direct Testimony of Frederick R. Plett was prepared by me and that the contents are true to the best of my knowledge, information and belief. Executed in Boston, Massachusetts this day of September 29, 2011.


Frederick R. Plett

SUBSCRIBED AND SWORN to before me
on this 29th day of September, 2011.


Notary Public



My commission expires: 4/20/2012

Currently Allowed Base ROE:	11.14
Woolridge Recommended ROE:	<u>9.2</u>
Base ROE Reduction:	<u>1.94%</u>
Impact of One Percent Base ROE change, from Exhibit FRP-4	58,444,089
2011 Impact of Recommended ROE Change:	113,381,533

Rounded 2011 Impact: \$113 Million

Ratio, 2015 Investment Base to 2011, from Exhibit FRP-2	1.82
2015 Impact of Recommended ROE Change:	206,209,838

Rounded 2015 Impact: \$206 Million

2011 Investment Base, from Exhibit FRP-4		6,309 Million
Forecasted Additions in Service and CWIP ⁽¹⁾		
	2012	1,994
	2013	1,810
	2014	1,336
	2015	<u>943</u>
Projected 2015 Investment Base:		12,392
Less: Approximate Depreciation from Exhibit FRP-3		918
Net 2015 Investment Base		11,474
Ratio, 2015 to 2011 Investment Base:		1.82

(1) Source: http://www.iso-ne.com/committees/comm_wkgrps/trans_comm/tariff_comm/mtrls/2011/jul26272011/a3_rns_rate_5_yr_forecast.ppt

2011 Gross Plant Excluding CWIP

Docket No. EL11-____
Exhibit FRP-3
Depreciation

	<u>Pre-1997 Gross Plant</u>	<u>Post-1996 Gross Plant</u>	<u>Forecast 2011 Plant</u>	<u>Total 2011 Gross Plant</u>	
Bangor Hydro-Electric	6,532,616	203,490,153	38,500,000	248,522,769	p. 18, 19 & 32
Central Maine Power	113,036,105	203,013,048	60,309,335	376,358,488	p. 59, 99
Fitchburg G&E	1,299,422	687,072	0	1,986,494	P. 171, 179
Maine Electric Power Company, Inc.	22,073,144	4,674,880	0	26,748,024	P. 234
New England Power Company	340,137,430	729,534,749	73,338,000	1,143,010,179	P. 255, 269, 270
New Hampshire Transmission	18,846,036	35,240,309	530,686	54,617,031	P. 288, 296, 304
Northeast Utilities	574,468,957	2,390,691,529	147,736,000	3,112,896,486	P. 328, 329, 333
NSTAR	401,962,617	732,427,252	48,995,000	1,183,384,869	p. 480, 482
United Illuminating	119,237,030	385,842,609	16,300,000	521,379,639	P. 522, 523, 540
Vermont Transco	67,457,837	588,760,672	20,800,000	677,018,509	P. 556, 586
Totals	1,665,051,194	5,274,362,273	406,509,021	7,345,922,488	
Annual Depreciation (40 Year assumed life)	41,626,280	131,859,057	10,162,726	183,648,062	
5 Year Depreciation	208,131,399	659,295,284	50,813,628	918,240,311	
Expressed In Millions of Dollars	208	659	51	918	

**Calculation of
Revenue Requirement
Impact per Percent Base ROE Change**

	Pre-97	Post-96	Total	Forecasted 2011	Including 2011 Forecast	Notes		
Bangor Hydro-Electric								
Investment Base	5,051,624	156,769,509	161,821,133	38,500,000	200,321,133	p. 32, 33	Calculation of Income Tax Gross Up Factor COC Rate 0.1564117 LTD Rate 0.0242 Net Equity Rate Pre-Tax 0.1322117 Equity Portion WACC 0.0779 Ratio IT Gross Up Factor 1.69719769	
Weighted Common Equity Rate	0.0778	0.0778		0.0778		p. 20		
Common Equity Return	393,016	12,196,668	12,589,684	2,995,300	15,584,984			
Common Equity Return including Income Tax (*ITGUP)	667,026	20,700,157	21,367,183	5,083,616	26,450,799			
Income Tax Gross-Up Factor	1.6971977	1.6971977		1.6971977				
Common Equity Rate	11.64	11.64		11.64		p. 20		
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	57,305	1,778,364	1,835,669	436,737	2,272,406			
Central Maine Power								
Investment Base (Forecast incl. MPRP CWIP)	63,480,517	296,298,113	359,778,630	491,023,924	850,802,554	p. 59, 99 incl. MPRP CWIP		Calculation of Income Tax Gross Up Factor COC Rate 0.1543198 LTD Rate 0.02153 Net Equity Rate Pre-Tax 0.1327898 Equity Portion WACC 0.07858 Ratio IT Gross Up Factor 1.68986765
Weighted Common Equity Rate	0.07849	0.07849		0.07849		p. 64		
Common Equity Return	4,982,586	23,256,439	28,239,025	38,540,468	66,779,493			
Common Equity Return including Income Tax (*ITGUP)	8,419,911	39,300,304	47,720,215	65,128,290	112,848,505			
Income Tax Gross-Up Factor	1.6898677	1.6898677		1.6898677				
Common Equity Rate	11.64	11.64		11.64		p. 64		
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	723,360	3,376,315	4,099,675	5,595,214	9,694,889			
Fitchburg G&E								
Investment Base	541,375	283,310	824,685	0	824,685	P. 171, 179	Calculation of Income Tax Gross Up Factor COC Rate 0.1203621 LTD Rate 0.0395 Net Equity Rate Pre-Tax 0.0808621 Equity Portion WACC 0.0499 Ratio IT Gross Up Factor 1.62048297	
Weighted Common Equity Rate	0.0489	0.0489		0.0489		p. 183		
Common Equity Return	26,473	13,854	40,327	0	40,327			
Common Equity Return including Income Tax (*ITGUP)	42,899	22,450	65,349	0	65,349			
Income Tax Gross-Up Factor	1.6204830	1.6204830		1.6204830				
Common Equity Rate	11.64	11.64		11.64		p. 183		
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	3,685	1,929	5,614	0	5,614			
Maine Electric Power Company, Inc.								
Investment Base	3,135,310	664,028	3,799,338	0	3,799,338	P. 234		Calculation of Income Tax Gross Up Factor COC Rate 0.1966365 LTD Rate 0 Net Equity Rate Pre-Tax 0.1966365 Equity Portion WACC 0.1164 Ratio IT Gross Up Factor 1.68931701
Weighted Common Equity Rate	0.1164	0.1164		0.1164		P. 235		
Common Equity Return	364,950	77,293	442,243	0	442,243			
Common Equity Return including Income Tax (*ITGUP)	616,516	130,572	747,089	0	747,089			
Income Tax Gross-Up Factor	1.6893170	1.6893170		1.6893170				
Common Equity Rate	11.64	11.64		11.64		P. 235		
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	52,965	11,218	64,183	0	64,183			
New England Power Company								
Investment Base	200,989,208	442,143,525	643,132,733	126,976,000	770,108,733	P. 255, 269, 270 incl. CWIP)	Calculation of Income Tax Gross Up Factor COC Rate 0.1269609 LTD Rate 0.0045 Net Equity Rate Pre-Tax 0.1224609 Equity Portion WACC 0.0746 Ratio IT Gross Up Factor 1.64156702	
Weighted Common Equity Rate	0.0745	0.0745		0.0745		P. 271		
Common Equity Return	14,973,696	32,939,693	47,913,389	9,459,712	57,373,101			
Common Equity Return including Income Tax (*ITGUP)	24,580,326	54,072,714	78,653,039	15,528,751	94,181,791			
Income Tax Gross-Up Factor	1.6415670	1.6415670		1.6415670				
Common Equity Rate	11.64	11.64		11.64		P. 271		
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	2,111,712	4,645,422	6,757,134	1,334,085	8,091,219			
New Hampshire Transmission								
Investment Base	10,930,211	28,372,057	39,302,268	2,600,000	41,902,268	P. 288, 296, 304		Calculation of Income Tax Gross Up Factor COC Rate 0.1332151 LTD Rate 0.0172 Net Equity Rate Pre-Tax 0.1160151 Equity Portion WACC 0.069 Ratio IT Gross Up Factor 1.68137826
Weighted Common Equity Rate	0.069	0.069		0.069		P. 297		
Common Equity Return	754,185	1,957,672	2,711,857	179,400	2,891,257			
Common Equity Return including Income Tax (*ITGUP)	1,268,070	3,291,587	4,559,657	301,639	4,861,297			
Income Tax Gross-Up Factor	1.6813783	1.6813783		1.6813783				
Common Equity Rate	11.64	11.64		11.64		P. 297		
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	108,941	282,782	391,723	25,914	417,637			

**Calculation of
Revenue Requirement
Impact per Percent Base ROE Change**

	Pre-97	Post-96	Total	Forecasted 2011	Including 2011 Forecast	Notes
Northeast Utilities						
Investment Base	440,064,623	1,862,274,050	2,302,338,673	535,108,000	2,837,446,673	p. 328, 329, 333
Weighted Common Equity Rate (Note: CL&P Capital Structure)	0.0577	0.0577		0.0577		p. 336
Common Equity Return	25,391,729	107,453,213	132,844,942	30,875,732	163,720,674	
Common Equity Return including Income Tax (*ITGUP)	42,806,194	181,148,087	223,954,281	52,051,303	276,005,585	
Income Tax Gross-Up Factor	1.6858322	1.6858322		1.6858322		
Common Equity Rate	11.64	11.64		11.64		p. 336
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	3,677,508	15,562,550	19,240,058	4,471,761	23,711,819	
Calculation of Income Tax Gross Up Factor						
COC Rate	0.1277641					
LTD Rate	0.0283					
Net Equity Rate Pre-Tax	0.0994641					
Equity Portion WACC	0.059					
Ratio IT Gross Up Factor	1.6858322					
NSTAR						
Investment Base	214,684,325	391,197,000	605,881,325	48,995,000	654,876,325	p. 480, 482
Weighted Common Equity Rate	0.065816	0.065816		0.065816		p. 485
Common Equity Return	14,129,664	25,747,022	39,876,686	3,224,655	43,101,341	
Common Equity Return including Income Tax (*ITGUP)	23,182,205	42,242,529	65,424,734	5,290,615	70,715,349	
Income Tax Gross-Up Factor	1.6406763	1.6406763		1.6406763		
Common Equity Rate	11.64	11.64		11.64		p. 485
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	1,991,598	3,629,083	5,620,681	454,520	6,075,201	
Calculation of Income Tax Gross Up Factor						
COC Rate	0.1316257					
LTD Rate	0.022798					
Net Equity Rate Pre-Tax	0.1088277					
Equity Portion WACC	0.066331					
Ratio IT Gross Up Factor	1.64067631					
United Illuminating						
Investment Base	91,366,323	295,339,410	386,705,733	16,300	386,722,033	P. 522, 523, 540
Weighted Common Equity Rate	0.056	0.056		0.056		P. 527
Common Equity Return	5,116,514	16,539,007	21,655,521	913	21,656,434	
Common Equity Return including Income Tax (*ITGUP)	8,635,515	27,914,093	36,549,608	1,541	36,551,149	
Income Tax Gross-Up Factor	1.6877732	1.6877732		1.6877732		
Common Equity Rate	11.64	11.64		11.64		P. 527
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	741,883	2,398,118	3,140,001	132	3,140,133	
Calculation of Income Tax Gross Up Factor						
COC Rate	0.1259153					
LTD Rate	0.0314					
Net Equity Rate Pre-Tax	0.0945153					
Equity Portion WACC	0.056					
Ratio IT Gross Up Factor	1.68777321					
Vermont Transco						
Investment Base	55,727,085	485,258,082	540,985,167	20,800,000	561,785,167	P. 556, 586
Weighted Common Equity Rate	0.0622	0.0622		0.0622		p. 562
Common Equity Return	3,466,225	30,183,053	33,649,278	1,293,760	34,943,038	
Common Equity Return including Income Tax (*ITGUP)	5,739,734	49,980,224	55,719,958	2,142,342	57,862,300	
Income Tax Gross-Up Factor	1.6559035	1.6559035		1.6559035		
Common Equity Rate	11.64	11.64		11.64		p. 562
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	493,104	4,293,834	4,786,938	184,050	4,970,988	
Calculation of Income Tax Gross Up Factor						
COC Rate	0.1286972					
LTD Rate	0.0257					
Net Equity Rate Pre-Tax	0.1029972					
Equity Portion WACC	0.0622					
Ratio IT Gross Up Factor	1.65590354					
Total and Composite						
Investment Base	1,085,970,601	3,958,599,084	5,044,569,685	1,264,019,224	6,308,588,909	
Weighted Common Equity Rate	0.0644	0.0644		0.0644		
Common Equity Return	69,599,038	250,363,914	319,962,952	86,569,940	406,532,892	
Common Equity Return including Income Tax (*ITGUP)	115,958,397	418,802,717	534,761,114	145,528,098	680,289,212	
Income Tax Gross-Up Factor	1.6810465	1.6810465		1.6810465		
Common Equity Rate	11.64	11.64		11.64		
Pre-Tax Common Equity Rev Req Change From a Change in ROE of One Percent	9,962,061	35,979,615	45,941,676	12,502,413	58,444,089	

EXHIBIT No. C-3



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August 25, 2011

Paul Krawczyk
Chair
PTO Administrative Committee
NSTAR Electric Company
One NSTAR Way, NE220
Westwood, MA 02090-9230

Raymond W. Hepper
General Counsel
ISO New England Inc.
One Sullivan Road
Holyoke, MA 01040

Re: Complaint under Section 206 of the Federal Power Act to Seek Reduction in Base Return on Equity Received by New England Transmission Owners

Dear Messrs. Krawczyk and Hepper:

Please be advised that the Massachusetts Attorney General's Office of Ratepayer Advocacy ("Massachusetts Attorney General"), the Connecticut Public Utilities Regulatory Authority, and the Massachusetts Department of Public Utilities, along with other interested New England regulators and ratepayers, anticipate filing a complaint with FERC against Bangor Hydro Electric Company, Central Maine Power Company, National Grid, NextEra, Northeast Utilities Service Company, NSTAR Electric & Gas Corporation, The United Illuminating Company, Unitil Energy Systems, Inc., Fitchburg Gas and Electric Light Company, Vermont Transco, LLC ("PTOs"), and ISO New England Inc. ("ISO-NE") under Section 206 of the Federal Power Act. The complaint will seek a reduction in the base return on equity ("ROE") used to calculate Regional Network Service and Local Network Service revenue requirements of the PTOs in their formula rates.¹ According to our analysis using FERC's discounted cash flow model, the

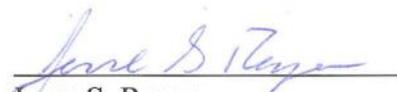
¹ Base ROE is an input used in deriving formula rates for transmission service under ISO-NE's Open Access Transmission Tariff ("OATT"). Since ISO-NE administers the OATT, the complaint will name ISO-NE as a respondent. However, the Respondent Transmission Owners are the real parties in interest for

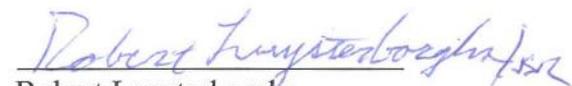
reasonable base ROE should be 9.3 percent² under current market conditions as opposed to the unreasonably high 11.14 percent base ROE currently received by the PTOs. In lieu of litigation at FERC, we are amenable to a prompt proposal by the PTOs to reduce the base ROE accordingly.

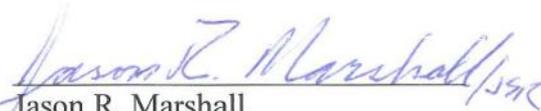
Any delay in our filing of the Complaint, however, would delay the establishment of a timely refund effective date. Therefore, we request your response no later than September 9, 2011, should you decide to provide an offer.

Thank you for your attention in this matter. Should you have any questions, please do not hesitate to contact us.

Very truly yours,


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purposes of this complaint.

² This is exclusive of the 50 basis point incentive adder applied to the base ROE for RTO participation, or other incentive ROE adders, which are not subjects of this complaint.

cc: Michael Hall, PTO-AC Legal Work Group Chair
David T. Doot, NEPOOL Secretary
Brian Forshaw, NEPOOL Participants Committee Vice-Chair
Gordon van Welie, Chief Executive Officer, ISO-NE

EXHIBIT No. C-4

COMPLAINT SERVICE LIST

COMPLAINT RESPONDENTS

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ISO NEW ENGLAND INC. AND NEPOOL

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INDUSTRIAL AND CONSUMER GROUPS

<p>Robert A. Rio, Esq. Senior Vice President and Counsel Associated Industries of Massachusetts 222 Berkeley Street Boston, MA 02117 Tel: 617-262-1180 rrio@aimnet.org</p>	<p>On behalf of The Energy Consortium: Robert Ruddock, Esq. Smith, Segel & Ruddock 50 Congress Street, Suite 500 Boston, MA 02109 Tel: 617-523-0600 RRuddock@publicpolicylaw.com</p> <p>Roger Borghesani President The Energy Consortium 24 Hastings Road Lexington, MA 02421-6807 Tel: 781-862-0888 rogborg@rcn.com</p>
<p>On behalf of Power Options, Inc.: Robert Ruddock, Esq. Smith, Segel & Ruddock 50 Congress Street, Suite 500 Boston, MA 02109 Tel: 617-523-0600 RRuddock@publicpolicylaw.com</p> <p>Cynthia Arcate, President and CEO Power Options, Inc. 129 South Street - 5th Floor</p>	<p>On behalf of the Industrial Energy Consumer Group:</p> <p>Donald J. Sipe Preti Flaherty One City Center P.O. Box 9546 Portland, MA 04112 dsipe@preti.com</p>

<p>Boston, MA. 02111 Tel: 617-428-4258 CArcate@poweroptions.org</p>	
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EXHIBIT No. C-5

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Martha Coakley, Attorney General of the)
Commonwealth of Massachusetts,)
Connecticut Public Utilities Regulatory Authority,)
Massachusetts Department of Public Utilities,)
New Hampshire Public Utilities Commission,)
George Jepsen, Attorney General of the State of)
Connecticut,)
Connecticut Office of Consumer Counsel,)
Maine Office of the Public Advocate,)
New Hampshire Office of the 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)
Industrial Energy Consumer Group,)
Complainants,)
v.)
Bangor Hydro-Electric Company,)
Central Maine Power Company,)
New England Power Company)
d/b/a National Grid,)
New Hampshire Transmission LLC d/b/a NextEra,)
Northeast Utilities Service Company, on behalf of)
its operating company affiliates: The Connecticut)
Light and Power Company, Western)
Massachusetts Electric Company, and Public)
Service Company of New Hampshire,)
)

Docket No. EL11-____-000

NSTAR Electric & Gas Corporation,)
 The United Illuminating Company,)
 Unital Energy Systems, Inc. and Fitchburg Gas and)
 Electric Light Company,)
 Vermont Transco, LLC; and)
 ISO New England Inc.,)
 Respondents.)

NOTICE OF COMPLAINT

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Take notice that on September 30, 2011, Martha Coakley, Attorney General of the Commonwealth of Massachusetts (“Massachusetts Attorney General”), Connecticut Public Utilities Regulatory Authority (“CT PURA”), Massachusetts Department of Public Utilities (“Mass DPU”), New Hampshire Public Utilities Commission (“NH PUC”), George Jepsen, Attorney General of the State of Connecticut (“Connecticut Attorney General”), Connecticut Office of Consumer Counsel, Maine Office of the Public Advocate, New Hampshire Office of the Consumer Advocate, (“NH OCA”), Rhode Island Division of Public Utilities and Carriers, Vermont Department of Public Service (“VDPS”), Massachusetts Municipal Wholesale Electric Company (“MMWEC”), Associated Industries of Massachusetts, The Energy Consortium, Power Options, Inc., and the Industrial Energy Consumer Group (“IECG”) (collectively, the “Complainants”) filed a formal complaint against Bangor Hydro-Electric Company (“BHE”); Central Maine Power Company (“CMP”); New England Power Company d/b/a National Grid; New Hampshire Transmission LLC d/b/a NextEra (“NHT”); NSTAR Electric and Gas Corporation (“NSTAR”); Northeast Utilities Service Company (“NUSCO”), on behalf of its operating company affiliates: The Connecticut Light and Power Company (“CL&P”), Western Massachusetts Electric Company (“WMECO”), and Public Service Company of New Hampshire (“PSNH”); The United Illuminating Company (“UI”); Unital Energy Systems, Inc. and Fitchburg Gas and Electric Light Company (“Unital”); Vermont Transco, LLC (“Vermont Transco”) (collectively, “New England Transmission Owners” or “TOs”) and ISO New England Inc.¹ (“ISO-NE” or “ISO”) seeking an order to reduce the 11.14 percent base return on equity (“Base ROE”) used in calculating formula rates for transmission service under the ISO-NE Open Access Transmission Tariff (“OATT”) to a just and reasonable level at 9.2 percent.

Complainants certify that copies of the Complaint were served on the contacts for the TOs and ISO-NE as listed on the Commission’s list of Corporate Officials and on parties and the regulatory agencies the State Complainants reasonably expect to be affected by this Complaint.

¹ As discussed in the Complaint, the TOs are the real parties in interest, but transmission charges are collected through the ISO-NE’s tariff.

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 C.F.R. §§ 385.211 and 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. The Respondent's answer and all interventions, or protests must be filed on or before the comment date. The Respondent's answer, motions to intervene, and protests must be served on the Complainants.

The Commission encourages electronic submission of protests and interventions in lieu of paper using the "eFiling" link at <http://www.ferc.gov>. Persons unable to file electronically should submit an original and 14 copies of the protest or intervention to the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426.

This filing is accessible on-line at <http://www.ferc.gov>, using the "eLibrary" link and is available for review in the Commission's Public Reference Room in Washington, D.C. There is an "eSubscription" link on the web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: 5:00 pm Eastern Time on (insert date).

Kimberly D. Bose
Secretary

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the filing upon each party designated in the service list attached to this Complaint.

Dated at Boston, Massachusetts this 30th day of September, 2011.

/s/ David A. Cetola

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