STATE OF NEW JERSEY
OFFICE OF ADMINISTRATIVE LAW
BEFORE HONORABLE IRENE JONES, ALJ

I/M/O THE VERIFIED PETITION OF ROCKLAND ELECTRIC COMPANY FOR APPROVAL OF CHANGES IN ELECTRIC RATES, ITS TARIFF FOR ELECTRIC SERVICE, AND ITS DEPRECIATION RATES, TERMINATION OF THE SMART GRID SURCHARGE; ESTABLISHMENT OF A STORM HARDENING SURCHARGE; AND FOR OTHER RELIEF	)	**OAL DOCKET NO. PUC 17625-2013N** **BPU DOCKET NO. ER13111135**

DIRECT TESTIMONY OF MATTHEW I. KAHAL ON BEHALF OF THE DIVISION OF RATE COUNSEL

STEFANIE A. BRAND, ESQ.
DIRECTOR, DIVISION OF RATE COUNSEL

DIVISION OF RATE COUNSEL
140 East Front Street-4th Floor
P. O. Box 003
Trenton, New Jersey 08625
Phone: 609-984-1460
Email: njratepayer@rpa.state.nj.us

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I. QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Matthew I. Kahal. I am employed as an independent consultant retained in this matter by the Division of Rate Counsel (Rate Counsel). My business address is 10480 Little Patuxent Parkway, Suite 300, Columbia, Maryland 21044.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I hold B.A. and M.A. degrees in economics from the University of Maryland and have completed course work and examination requirements for the Ph.D. degree in economics. My areas of academic concentration included industrial organization, economic development and econometrics.

Q. WHAT IS YOUR PROFESSIONAL BACKGROUND?

A. I have been employed in the area of energy, utility and telecommunications consulting for the past 35 years working on a wide range of topics. Most of my work has focused on electric utility integrated planning, plant licensing, environmental issues, mergers and financial issues. I was a co-founder of Exeter Associates, and from 1981 to 2001 I was employed at Exeter Associates as a Senior Economist and Principal. During that time, I took the lead role at Exeter in performing cost of capital and financial studies. In recent years, the focus of much of my professional work has shifted to electric utility markets, power procurement and industry restructuring.

Prior to entering consulting, I served on the Economics Department faculties at the University of Maryland (College Park) and Montgomery College teaching courses on economic principles, development economics and business.

A complete description of my professional background is provided in Appendix A.

Q. HAVE YOU PREVIOUSLY TESTIFIED AS AN EXPERT WITNESS BEFORE UTILITY REGULATORY COMMISSIONS?

A. Yes. I have testified before approximately two-dozen state and federal utility commissions, federal courts and the U.S. Congress in more than 400 separate regulatory cases. My testimony has addressed a variety of subjects including fair rate of return, resource planning, financial assessments, load forecasting, competitive restructuring, rate design, purchased power contracts, merger economics and other regulatory policy issues. These cases have involved electric, gas, water and telephone utilities. A list of these cases is set forth in Appendix A, with my statement of qualifications.

Q. WHAT PROFESSIONAL ACTIVITIES HAVE YOU ENGAGED IN SINCE LEAVING EXETER AS A PRINCIPAL IN 2001?

A. Since 2001, I have worked on a variety of consulting assignments pertaining to electric restructuring, purchase power contracts, environmental controls, cost of capital and other regulatory issues. Current and recent clients include the U.S. Department of Justice, U.S. Air Force, U.S. Department of Energy, the Federal Energy Regulatory Commission, Connecticut Attorney General, Pennsylvania Office of Consumer Advocate, New Jersey Division of Rate Counsel, Rhode Island Division of Public Utilities, Louisiana Public Service Commission, Arkansas Public Service Commission, New Hampshire Public Advocate, the Maryland Public Service Commission, the Maine Public Advocate, Maryland Department of Natural Resources, the Maryland Energy Administration, and the Maryland Public Service Commission.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NEW JERSEY BOARD OF PUBLIC UTILITIES?

A. Yes. I have testified on cost of capital and other matters before the Board of Public Utilities (Board or BPU) in gas, water and electric cases during the past 20 years. A listing of those cases is provided in my attached Statement of Qualifications. This includes the submission of testimony on rate of return issues in the recent electric and gas service rate cases of New Jersey Natural Gas Company (BPU Docket No. GR07110889), Elizabethtown Gas (BPU Docket No. GR09030195) and Public Service Electric and Gas Company (BPU Docket Nos. GR05100845, GR09050422, and E013020155), and United Water New Jersey, Inc. (BPU Docket No. WR09120987). I participated in the previous Atlantic City Electric Company rate cases on a rate of return issues, including submitting testimony in BPU Docket Nos. ER09080664 and ER11080469. In all of these cases, my testimony and other work was on behalf of the Division of Rate Counsel ("Rate Counsel").

Q. ARE YOU FAMILIAR WITH ROCKLAND ELECTRIC COMPANY ("RECO" OR "COMPANY")?

A. Yes. I submitted testimony in RECO's last base rate case in 2009, which was resolved in a Board-approved settlement in 2010. (BPU Docket No. ER09080668.) My testimony addressed the subject of fair rate of return.

II. OVERVIEW

A. Summary of Recommendation

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

A. I have been asked by the Division of Rate Counsel ("Rate Counsel") to develop a recommendation concerning the fair rate of return on the electric distribution utility rate base of Rockland Electric Company ("RECO" or "the Company"). This includes both a review of the Company's proposal concerning rate of return and the preparation of an independent study of the cost of common equity. I am providing my recommendation to Rate Counsel and its consultants for use in calculating the test year annual revenue requirement in this case.

RECO is not an independent company, nor is it publically traded. It is wholly-owned by Orange and Rockland Utilities, Inc. ("O&R") which, in turn, is owned by Consolidated Edison, Inc., ("Con Ed"), one of the nation's largest delivery service ("wires and pipes") utilities.

Q. WHAT IS THE COMPANY'S RATE OF RETURN PROPOSAL IN THIS CASE?

A. The Company's overall rate of return, capital structure and debt costs are sponsored by RECO witness Saegusa. The Company's filed case requests a return on jurisdictional rate base of 8.23 percent, as shown on Table 1 below. This is based on the adjusted actual capital structure of consolidated O&R at March 31, 2014, based on the Company's recently filed 12 + 0 update. (Exhibit P-4, Schedule 1, 12+0 update.)

Table 1.
RECO Proposed Rate of Return – at March 31, 2014

Capital Type	% Total	Cost Rate	Weighted Cost
Long-Term Debt	47.87%	6.03%	2.89%
Short-Term Debt	0.00	--	0.00
Common Equity	52.13	10.25	5.34
Total	**100%**	**--**	**8.23%**

The 10.25 percent return on equity ("ROE") request is sponsored by RECO's outside consultant, Mr. Robert Hevert. The capital structure/cost of debt is based on the actual capital structure of the consolidated O&R (with certain adjustments) at March 31, 2014. The requested rate of return includes a 6.03 percent embedded cost of long-term debt and does not include any short-term debt.

Q. HOW DOES THE COMPANY'S REQUEST OF 8.23 PERCENT COMPARE TO RECO'S CURRENTLY-AUTHORIZED RATE OF RETURN?

A. RECO's currently-authorized rate of return was set by a Board-approved settlement agreement in 2009 rate case in Docket No. ER09080668, as shown below in Table 2:

Table 2
Settlement Rate of Return – in 2009 Rate Case

Capital Type	% Total	Cost Rate	Weighted Cost
Long-Term Debt	49.76%	6.16%	3.07%
Short-Term Debt	0.39	1.50	0.01
Common Equity	49.85	10.3	5.13
Total	**100%**	**--**	**8.21%**

RECO's previous rate case was in 2006/2007 when the Company was awarded an ROE of 9.75 percent. The Company in this case is seeking an authorized rate of return that is about the same as it received in its 2009 rate case in conjunction with a higher equity ratio. However, as my testimony explains, the market cost of equity for high quality utilities has declined significantly since 2009. Notably, in the last case, the Company requested an ROE of 11.0 percent compared to its 10.25 percent request in this case, a reduction of 0.75 percentage points.

Q. WHAT IS YOUR RATE OF RETURN RECOMMENDATION AT THIS TIME?

A. As summarized on page one of Schedule MIK-1, I am recommending an authorized overall rate of return of 7.46 percent. This includes a return on common equity of 9.25 percent, and a capital structure of 47.4 percent long-term debt, 2.3 percent short-term debt, and 50.4 percent common equity. It should be noted that I am recommending a capital structure that is very similar to what is currently authorized, and my ROE recommendation is about a percentage point lower, reflecting the decline in capital costs since the last case several years ago.

Q. DO YOU ACCEPT RECO'S GENERAL APPROACH TO CAPITAL STRUCTURE?

A. Yes. Under the circumstances, it is reasonable to use the O&R consolidated capitalization for setting the ratemaking capital structure, consistent with past practice for RECO. O&R serves as both the source of debt and equity capital for RECO. However, contrary to past practice, the Company in this case has excluded short-term debt. My testimony corrects that exclusion. Specifically, I include the 12-month average balance of O&R short-term debt (i.e., $27.5 million) reported by the Company in response to RCR-ROR-34. The Company also reports that it plans to issue $50 million of new long-term debt later this year, but my recommended capital structure does not include that planned new debt.

Q. WHAT IS THE BASIS OF YOUR 9.25 PERCENT RECOMMENDATION FOR THE RETURN ON EQUITY?

A. I am relying primarily upon the standard discounted cash flow ("DCF") model applied to Mr. Hevert's group of electric utility proxy companies and to a second group of proxy electric utility companies that I judge to be more risk comparable to RECO than Mr. Hevert's group. My two DCF studies use market data from the six months ending March 2014, obtaining a range of 8.2 to 9.7 percent. My recommendation of 9.25 percent approximates or exceeds the midpoint of my DCF results and reasonably reflects this range of evidence. In addition, I have confirmed my DCF results and ROE recommendation using the Capital Asset Pricing Model ("CAPM") as a check. While the CAPM tends to produce a very wide range of cost of equity results, in my opinion, a reasonable application of this methodology using current market data provides estimates in approximately the 7.5 to 9.8 percent range when a reasonable range of data inputs is used. The CAPM midpoint of this range is about 8.6 percent. As my testimony explains, the CAPM currently produces cost of equity results that are somewhat lower than in past cases and should not be given as much weight as the DCF studies in establishing the Company's authorized ROE.

Mr. Hevert employs several variants of both the DCF and CAPM, along with what he characterizes as a risk premium analysis. In my opinion, his CAPM and Risk Premium significantly overstate the cost of equity for RECO, but his conventional (i.e., constant growth) DCF analysis is similar to mine.

Q. DO YOU INCLUDE AN ADJUSTMENT FOR FLOTATION EXPENSE?

A. No, the evidence at this time does not support a flotation cost adjustment. Witness Hevert references a very minor flotation adjustment but does not appear to directly include it in his final recommendation.

Q. DO YOU CONSIDER RECO'S ELECTRIC DISTRIBUTION UTILITY BUSINESS TO HAVE FAVORABLE RISK CHARACTERISTICS?

A. Yes, very much so. RECO provides monopoly electric distribution utility service in its New Jersey service territory, subject to the regulatory oversight of this Board. I believe that RECO's utility business risk profile in New Jersey benefits from the Board's regulatory framework. The credit rating reports (discussed in Section III B of my testimony) make clear that RECO (and its direct parent O&R) are financially strong and are very low risk. Moreover, as discussed below, RECO at present operates in a very low capital cost environment, as described below.

B. <u>Capital Cost Trends</u>

Q. HAVE YOU EXAMINED GENERAL TRENDS IN CAPITAL COSTS IN RECENT YEARS?

A. Yes. I show the capital cost trends since 2002, through the calendar year 2013, on page one of Schedule MIK-1. Pages 2 through 5 of that schedule show monthly data for January 2007 through March 2014. The indicators provided include the annualized inflation rate (as measured by the Consumer Price Index), 10-year Treasury yields, 3- month Treasury bill yields and Moody's single A and triple B yields on long-term utility bonds. While there is some fluctuation, these data series show a general declining trend in capital costs. For example, in the very early part of this 10-year period, utility bond yields averaged about 7 to 8 percent, with 10-year Treasury yields of 4 to 5 percent. By 2011, single A utility bond yields had fallen to an average of 5.1 percent, with 10-year Treasury yields declining to an average of 2.8 percent. Treasury and utility long-term bond rates declined even further in 2012 and early 2013 to near or below the lowest levels in many decades, but since mid-2013 long-term interest rates have increased somewhat from these historic lows.

For the past three years, short-term Treasury rates have been close to zero, with three-month Treasury bills averaging about 0.1 percent. These extraordinarily low rates (which are also reflected in non-Treasury debt instruments) are the result of an intentional policy of the Federal Reserve Board of Governors (the Fed) to make liquidity available to the U.S. economy and to promote economic activity.[1] The Fed has also sought to exert downward pressure on long-term interest rates through its ongoing policy of "quantitative easing." Quantitative easing is a policy whereby the Fed engages on an ongoing basis in the purchase of financial assets (such as Treasury bonds or agency mortgage-backed debt), both to support the market prices of financial assets and to increase the U.S. money supply. The intent of quantitative easing is to keep the cost of capital low (which increases the value of financial assets such as utility stocks) and make credit both cheaper and more abundant. Although that program ended in the summer of 2012, the Fed announced in September 2012 a continuation of its near zero short-term interest rate policy at least through 2015, and an indefinite continuation of quantitative easing. In its December 12, 2012 meeting, the Fed stated that its low interest rate and accommodative policies would continue at least until a much lower U.S. unemployment rate is achieved (i.e., a target of 6.5 percent). As a result, long-term interest rates have remained relatively low.

Q. HAS THE FED ISSUED ANY MORE RECENT INFORMATION ON ITS POLICY INTENT?

A. Yes. Information on Fed policy is from its press release issued on January 30, 2013 following a meeting of the Federal Open Market Committee ("FOMC"), the monetary policy decision-making forum for the Fed). That statement affirmed that for the foreseeable future its "highly accommodative" policy will continue until progress

[1] By law, the Fed has a "dual mandate" to pursue policies both to ensure price stability (i.e., low inflation) and to promote full employment.

toward “maximum employment” is achieved. Specifically, the Fed stated that it will continue its near zero short-term interest rate policy and will foster lower long-term interest rates by asset purchases, namely $85 billion per month of incremental purchases of mortgage-backed securities and long-term Treasury bonds. The FOMC further stated that an accommodative monetary policy “will remain appropriate for a considerable time after the asset purchase program ends and the economic recovery strengthens.” In addition, the FOMC observes that inflation trends have been running below its 2 percent per year target level and that “long-term inflation expectations remain stable.” The FOMC’s policy outlook, as described above, was broadly confirmed in a press release following its May 1, 2013 meeting, noting that the Fed will carefully monitor economic conditions and labor markets.

The FOMC’s most recent formal meeting took place in late April 2014. At that meeting, the FOMC expressed cautious optimism regarding “moderate” prospective U.S. economic growth and improvements in labor markets. Consequently, the FOMC stated its intention to continue conducting a “highly accommodative” monetary policy for the foreseeable future, but it also stated that it would continue to reduce the pace of asset purchases under its quantitative easing program from the 2013 level of $85 billion per month to $45 billion per month. The continuation of “quantitative easing,” albeit at a reduced level, is intended to “maintain downward pressure on longer-term interest rates.” (Source: FOMC press release of April 30, 2014)

Q. ARE THERE FORCES CONTRIBUTING TO LOW INTEREST RATES OTHER THAN FED POLICY?

A. Yes. While the decline in short-term rates is largely attributable to Fed policy decisions, the behavior of long-term rates reflects more fundamental economic forces, along with the Fed's asset purchase program. Factors that drive down long-term bond interest rates include the ongoing weakness of the U.S. and global macro economy, the inflation outlook and even international events. The relatively sluggish economy (that we have at this time) exerts downward pressure on interest rates and capital costs generally because the demand for capital spending is low and inflationary pressures are lacking. While inflation measures can fluctuate from month to month, long-term inflation rate expectations presently remain quite low, as the FOMC has noted in its most recent statement.

Q. DO LOW LONG-TERM INTEREST RATES IMPLY A LOW COST OF EQUITY FOR UTILITIES?

A. In a very general sense and over time, that is normally the case, although the utility cost of equity and cost of debt need not move together precisely in lock step or necessarily in the short run. The economic forces mentioned above (and Fed policy) that lead to lower interest rates also tend to exert downward pressure on the utility cost of equity. After all, many investors tend to view utility stocks and bonds as alternative investment vehicles for portfolio allocation purposes, and in that sense utility stocks and long-term bonds are related by market forces.

Q. ARE THE RELATIVE ECONOMIC WEAKNESS AND LOW INFLATION EXPECTED TO CONTINUE?

A. Yes, to some degree. However, the economic outlook appears to have improved modestly as compared to the outlook prevailing during 2013. I have consulted the latest "consensus" forecasts published by *Blue Chip Economic Indicators* (Blue Chip), April 10, 2014 edition, which is a survey compilation of approximately 40 major forecast organizations. The "consensus" calls for real GDP growth of 2.7 percent in 2014 and 3.0 percent in 2015 and inflation (GDP deflator) of

1.7 percent and 1.9 percent in 2014 and 2015, respectively. Hence, while there is modest improvement as compared with a year ago, the outlook for the pace of economic growth remains somewhat slow. The March 2014 edition of Blue Chip publishes a consensus 10-year inflation forecast of 2.1 percent per year, which is only slightly higher than the near-term inflation outlook. Thus, both the near- and long-term economic outlooks are indicative of modest economic growth and low inflation, implying low market capital costs.

Q. HAS THE PATTERN BEEN SIMILAR FOR EQUITY MARKETS?

A. As one would expect, equity markets exhibit more volatility than bond markets. Following the onset of the financial crisis about five years ago, stock market indices plunged, reaching a bottom in March 2009. Since then, stock prices recovered impressively and the major indices have largely recovered to or above pre-crisis levels. The market recovery continued through most of the first half of 2011, but it then began to deteriorate in late July 2011 with the federal debt ceiling crisis. The second half of 2011 was characterized by significant stock market losses, some recovery and high volatility. The federal debt ceiling debate issue and the subsequent Standard & Poors (S&P) downgrade of Treasury securities may have been initial triggering events for the equity market turmoil during the latter part of 2011. Since 2011, U.S. equity markets, in general, have done quite well, with the overall stock market achieving nearly a 30 percent gain in 2013. This very noticeable improvement is clearly due to the very low and declining capital market environment (both in the U.S. and globally), relative economic stability in the U.S. (with perceptions of gradually improving economic growth), and the tendency for investors to view the U.S. securities market as a "safe haven" for investing. In particular, the U.S. provides a very favorable capital cost environment for good quality utilities, such as RECO.

Q. HASN'T THERE BEEN A MAJOR CHANGE IN THE INTEREST RATE ENVIRONMENT?

A. Yes, there has been a noticeable change in the long-term bond market behavior since mid-2013. This appears to be partly due to anticipated and announced changes in the Fed's quantitative easing program and partly due to investors finding equities to be the more attractive investment in this modestly rising interest rate environment. This has resulted, for example, in yields on ten-year Treasuries increasing from slightly less than 2 percent in the Spring 2013 to about 2.7 percent as of this writing in mid to late April 2014. Although the upward interest rate move is significant, long-term rates remain at historically very low levels. More importantly for this case, equity markets have continued to do quite well even with the recent upward interest rate movement.

The market cost of capital, both for electric distribution utilities and in general, remains extremely low by historical standards and even low compared to 2009 when at the time of RECO's last rate case when the ROE was set at 10.3 percent.

Q. HAVE YOU BEEN ABLE TO INCORPORATE THESE RECENT CHANGES IN FINANCIAL MARKETS INTO YOUR COST OF CAPITAL ANALYSIS IN THIS CASE?

A. Yes. Specifically, I present DCF evidence that relies on utility stock market data from the six months ending March 2014. Such market data directly incorporate the economic forces, monetary policy choices, and market behavior described above. The use of a recent six months of market data is reasonable for assessing RECO's current cost of equity capital as it reflects recent market and economic trends. In addition, my ROE recommendation is somewhat above my DCF midpoint which provides a "cushion" in the event capital costs increase in the near term.

C. <u>Testimony Organization</u>

Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?

A. In Section III, I present my capital structure recommendations and discuss RECO's risk profile, drawing on information from credit rating reports. I present my DCF and CAPM studies in Section IV of my testimony. In Section V, I provide a review of the cost of equity studies set forth by the Company witness Hevert. Finally, Section VI is a brief summary of my conclusions and recommendations.

III. CAPITAL STRUCTURE AND INVESTMENT RISK

A. Ratemaking Capital Structure and Cost of Debt

Q. WHY IS IT APPROPRIATE TO USE THE O&R CONSOLIDATED CAPITAL STRUCTURE IN SETTING RECO'S AUTHORIZED RATE OF RETURN?

A. RECO does not secure its financing to fund its capital investment separate from its parent, O&R. Rather, O&R issues long-term debt and serves as RECO's source of capital. This results in RECO having a stand-alone balance sheet that is primarily equity and therefore inappropriate for ratemaking purposes. The O&R consolidated balance sheet effectively incorporates RECO, but its mix of capital is typical of electric utility industry. For these reasons, it is entirely proper to use the O&R consolidated balance sheet as the basis for RECO's ratemaking capital structure.

Q. HAS THIS METHOD BEEN ACCEPTED IN PAST RECO RATE CASES?

A. Yes, that is my understanding.

Q. HOW DID THE COMPANY DEVELOP ITS PROJECTED MARCH 31, 2014 CAPITAL STRUCTURE?

A. The Company began with the actual O&R September 30, 2013 capital structure (excluding short-term debt), but with two important adjustments. First, equity associated with O&R's nonutility subsidiaries (about $21 million) is removed, which reduces the equity balance. Second, Other Comprehensive Income ("OCI"), which is a $37 million negative amount, is also removed from equity, which has the effect of increasing the equity balance used for capital structure purposes. Finally, the Company estimates the changes to both O&R's long-term debt and common equity over the six-month period September 30, 2013 to March 31, 2014. These changes are relatively minor, as the Company assumes no major debt issuances or retirements or equity infusions for O&R.

The projected capital structure at March 31, 2014 includes 52.2 percent equity and 47.8 percent debt, which is a more expensive capital structure than that approved in the last case. On April 23, 2014, the Company submitted its 12 + 0 update using actual O&R capitalization data (but with the same exclusions of OCI and non utility equity) to replace its projections. This update slightly increased the long-term debt ratio to 47.9 percent and slightly reduced the equity ratio to 52.1 percent.

Q. DOES THE CAPITAL STRUCTURE APPROVED IN THE LAST CASE INCLUDE SHORT-TERM DEBT?

A. Yes, it does. Nonetheless, RECO seeks to exclude short-term debt in this case.

Q. DOES THE COMPANY PROVIDE AN EXPLANATION FOR EXCLUDING SHORT-TERM DEBT?

A. Yes. The response to RCR-ROR-13 states that the Company assumes that its balance of construction work in progress ("CWIP") would exceed short-term debt balances, and the (smaller) shorter-term debt balance will be directly applied ("directly assigned") to CWIP for AFUDC purposes. Since under this method short-term debt is fully accounted for in the AFUDC rate, the Company reasons that it need not be included in capital structure.

Q. DO YOU AGREE WITH THE COMPANY'S RATIONALE?

A. I agree that, in theory, direct assignment to CWIP could be a reason for excluding some or all of the short-term debt from capital structure. In this case, however, the facts do not support RECO's assertions. RCR-ROR-14 asked for a calculation of the Company's current AFUDC rate. The response shows no short-term debt is assigned to CWIP, and the effective AFUDC rate is 7.7 percent. The response to RCR-ROR-

31 explains that no short-term debt is assigned to CWIP for AFUDC purposes because in 2013 RECO had no short-term debt.

This response and the Company's AFUDC practice create an inconsistency. For capital structure purposes, the Company chooses to use the O&R consolidated capital structure. However, O&R's consolidated short-term debt is what is relevant here, and on page 2 of my Schedule MIK-1, I show this to be about $25 million for the 12 months ending February 2014. This amount should be in capital structure. It is inconsistent for the Company to argue that the O&R short-term debt now should be ignored because RECO does not have short-term debt. It is O&R's capital structure that is used for ratemaking, not RECO's. Therefore, whether RECO does or does not have short-term debt is irrelevant to setting capital structure in this case.

O&R's 12-month average short-term debt should be included in capital structure. Totally excluding short-term debt is inconsistent with the practice followed in the last case.

Q. WHAT IS YOUR CAPITAL STRUCTURE RECOMMENDATION?

A. My Schedule MIK-1, page 1 of 2, presents my recommended capital structure of 50.35 percent common equity, 2.26 percent short-term debt, and 47.38 percent long-term debt. This is based on the Company's 12+0 filing (Exhibit P-4, Schedule 1), and consistent with RECO, I have excluded the $21 million of equity associated with O&R's nonregulated subsidiaries.

I do not accept RECO's proposal to exclude negative OCI from common equity. (Note that at September 30, 2013, the OCI negative balance was $37 million, but by March 31, 2014, OCI had diminished to about a negative $15 million.) The Company has not offered a convincing rationale for this exclusion, which only serves to improperly inflate the equity ratio. Moreover, the Company could cite to no BPU precedent for this exclusion. (Response to RCR-ROR-20)

Q. HOW DOES YOUR PROVISIONAL CAPITAL STRUCTURE RECOMMENDATION COMPARE TO THAT OF MR. HEVERT'S PROXY GROUP?

A. My roughly 50/50 debt versus equity capital structure is fully consistent with that of Mr. Hevert's proxy group when short-term debt and current maturities of long-term debt are included. See Schedule MIK-3. In addition, my recommendation in this case is approximately consistent with both the capital structures used by other New Jersey electrics and RECO's currently authorized capital structure. Moreover, the Company's response to RCR-ROR-16 states that the RECO and O&R current capital structure targets include equity ratios of 49.85 percent and 48 percent, respectively.

Finally, it is important to note that the Company now states that it expects O&R to issue $50 million of new long-term debt later in 2014. (Response to RCR-ROR-38.) Neither my nor the Company's ratemaking capital structure recognizes this planned large debt issuance. This further demonstrates that the Company's proposed 52 percent equity ratio is unrealistically high going forward, and even my 50 percent equity ratio is conservatively high.

Q. ARE YOU ADOPTING THE COMPANY'S PROPOSED 6.03 PERCENT EMBEDDED COST OF LONG-TERM DEBT?

A. No. I am concerned that RECO has overstated the cost rate of its outstanding variable rate debt, which it claims to be 3.11 percent (Exhibit P-4, Schedule 2, 12+0 update). Based on my experience, 3.11 percent appears to be a relatively high cost rate for variable rate debt under current market conditions. It appears that this relatively high cost may be due to the Company's unwarranted assumption that after March 2014, short-term interest rates will dramatically increase. That assumption is improper. Variable rate debt at this time typically carries a much lower cost rate. O&R's end of 2013 financial statement indicates an interest rate of 0.11 percent for this debt, which brings the claimed cost rate of 3.11 percent into question.

Q. HOW HAVE YOU CORRECTED THIS OVERSTATED COST RATE?

A. The Company's response to RCR-ROR-35 provides detailed data on its calculation of the actual test year cost of the variable rate debt. For the 12 months ending March 2014, the actual expense incurred for that debt was $563,457, which includes interest, credit fees, remarketing expense and the annual amortization of issuance expense. This produces a test-year cost rate of 1.28 percent instead of the claimed 3.11 percent. This correction lowers the embedded cost of debt from 6.03 percent to 5.89 percent, as shown on Schedule MIK-1, page 1 of 2.

Q. DO YOU HAVE ANY OTHER CONCERNS WITH THE CLAIMED COST OF LONG-TERM DEBT?

A. Yes. The 6.03 percent claimed cost of long-term debt includes a $3.3 million annual expense for an interest rate swap transaction relating to a debt issue that no longer exists on O&R's books. While I do not, in principle, necessarily oppose cost recovery of financial hedges or derivative instruments (provided that they are prudent), in this case the expense terminates within a few months, i.e., by October 1, 2014. (Response to RCR-ROR-37.) Thus, this is not a going-forward expense.

In this case, I am adhering to the test year of March 31, 2014 for rate of return purposes, and I am therefore retaining the $3.3 million expense within the cost of debt for RECO. If the Board believes it appropriate to remove this expiring swap expense, then the embedded cost of debt would decline from 5.89 to 5.32 percent.

B. <u>Discussion of RECO's Risk Profile</u>

Q. WHAT ARE THE CURRENT RECO AND O&R CREDIT RATINGS?

A. The Company has provided the credit ratings for RECO and its parent, O&R, and ultimate parent, Con Ed, in response to RCR-ROR-3. Ratings reports have been prepared by Fitchratings, Standard & Poor's ("S&P") and Moody's Investors Service ("Moody's"). Only issuer or corporate ratings are available for RECO since it does not issue its own debt, and the ratings agencies appear to make little or no distinction between RECO, O&R, and Con Ed for ratings purposes.

RECO/O&R have issuer or corporate ratings of BBB+ from Fitchratings, Baa(1) from Moody's and A- from S&P. Both Fitchratings and S&P rate O&R's unsecured debt as being A-, which I regard as strong ratings. As a general matter, the ratings are a reflection of the subject company's business risk profile, including regulatory risk and credit metrics, i.e., what the ratings agencies regard to as the key financial ratios. While credit ratings are intended to address a company's credit worthiness (i.e., risk of default on existing or new debt), it also can provide useful insight regarding business risk for equity investment evaluation purposes.

Q. HOW DO THE RECO/O&R CREDIT RATINGS COMPARE TO THOSE OF MR. HEVERT'S PROXY COMPANIES?

A. As a general matter, they are stronger. In response to Staff RROR-6(b), Mr. Hevert provided the S&P and Moody's issuer credit ratings for each proxy company. For the S&P ratings, only three of his 16 companies were reported to be single A (as compared to RECO/O&R being A-), with the rest in the BBB- to BBB+ range. None of the Moody's ratings for the proxy companies exceed Baa(1), with most of the companies being weaker than Baa(1). It is fair to say that RECO/O&R credit ratings are clearly superior to those of Mr. Hevert's proxy group, taken as a whole.

Q. HOW DOES FITCHRATINGS CHARACTERIZE RECO/O&R'S BUSINESS RISK?

A. The Fitchratings report of April 17, 2012 finds that the RECO/O&R risk profile to be highly favorable due to both the low risk nature of the utility delivery service business and a favorable regulatory climate. The report emphasizes the "stable and diverse cash flows generated by its low-risk regulated transmission and distribution (T&D) business."

That report also discusses O&R's 2012 rate case settlement before the New York Public Service Commission which incorporated a 9.4 to 9.6 percent ROE and a 48 percent equity ratio. The report finds that, "approval of the [settlement] proposal would provide cash flow visibility and predictability until 2015, and be supportive of the current credit profile." (Fitchratings report of April 17, 2012, page 2)

Q. IS THE MOODY'S REPORT FOR RECO/O&R GENERALLY CONSISTENT WITH THAT OF FITCHRATINGS?

A. Yes. Moody's (July 31, 2013 report) refers to the "moderate but very stable credit metrics produced by its regulated T&D operations" and the "benefits from a supportive regulatory environment, adequate cost recovery mechanisms." Moody's assigns an "A" rating to the RECO/O&R regulatory framework.

Q. WHAT IS S&P'S ASSESSMENT?

A. S&P assigns Con Ed, O&R, and RECO a business risk position of "excellent." The report supplied by the Company (October 28, 2011) refers to the companies' "low operating-risk electric and natural gas transmission and distribution operations;" its characterization of "constructive regulatory outcomes"; and the utilities' "lack of competitive pressures," also noting the absence of exposure to commodity price risk. The report states that the unregulated operations are a credit negative, but in the case of Con Ed and RECO, these operations are relatively small and therefore have only a minor effect on credit quality at this time.

IV. COST OF COMMON EQUITY

A. Using the DCF Model

Q. WHAT STANDARD ARE YOU USING TO DEVELOP YOUR RETURN ON EQUITY RECOMMENDATION?

A. As a general matter, the ratemaking process is designed to provide the utility an opportunity to recover its prudently-incurred costs of providing utility service to its customers, including the reasonable costs of financing its used and useful investment. Consistent with this "cost-based" approach, the fair and appropriate return on equity award for a utility is its cost of equity. The utility's cost of equity is the return required by investors (i.e., the "market return") to acquire or hold that company's common stock. A return award greater than the market return would be excessive and would overcharge customers for utility service. Similarly, an insufficient return could unduly weaken the utility and impair incentives to invest.

Although the *concept* of the cost of equity may be precisely stated, its quantification poses challenges to regulators. The market cost of equity, unlike most other utility costs, cannot be directly observed (i.e., investors do not directly, unambiguously state their return requirements), and it therefore must be estimated using analytic techniques. The DCF model is one such prominent technique familiar to analysts, this Board and other utility regulators.

Q. IS THE COST OF EQUITY A FAIR RETURN AWARD FOR THE UTILITY AND ITS CUSTOMERS?

A. Generally speaking, I believe it is. A return award commensurate with the cost of equity generally provides fair and reasonable compensation to utility equity investors and normally should allow efficient utility management to successfully finance utility operations on reasonable terms. Setting the authorized return on equity equal to a reasonable estimate of the cost of equity also is generally fair to ratepayers.

I recognize that there can be exceptions to this general rule. For example, in some instances, utilities have obtained rate of return adders as a reward for asserted good management performance or lowered returns where performance is subpar. In this case, the Company is making no explicit request to raise its authorized equity return above Mr. Hevert's cost of equity range of results.

Q. WHAT DETERMINES A COMPANY'S COST OF EQUITY?

A. It should be understood that the cost of equity is essentially a market price, and as such, it is ultimately determined by the forces of supply and demand operating in financial markets. In that regard, there are two key factors that determine this price. First, a company's cost of equity is determined by the fundamental conditions in capital markets (e.g., outlook for inflation, monetary policy, changes in investor behavior, investor asset preferences, the general business environment, etc.). The second factor (or set of factors) is the business and financial risks of the company (the utility in this case) in question. For example, the fact that a utility company operates as a regulated monopoly, dedicated to providing an essential service (in this case electric utility distribution service), typically would imply very low business risk and therefore a relatively low cost of equity. RECO's (or alternatively, O&R's) balance sheet or financial strength and the favorable (i.e., "excellent") business risk profile, as assessed by credit rating agencies (i.e., Moody's, FitchRatings and S&P), also contribute to its relatively low cost of equity. I discuss the RECO/O&R business risk attributes in Section III B of my testimony.

Q. DOES MR. HEVERT INCORPORATE THESE PRINCIPLES IN HIS TESTIMONY?

A. By and large, Mr. Hevert does attempt to incorporate these principles. His various studies purport to estimate the market-based cost of capital, and he uses those results as the basis to support the Company's 10.25 percent ROE request in this case. However, I take issue with some of his data inputs, assumptions and methods.

Q. WHAT METHODS ARE YOU USING IN THIS CASE?

A. I employ both the DCF and CAPM models, applied to two proxy groups of electric utility companies. However, for reasons discussed in my testimony, I emphasize the DCF model results (as applied to both electric distribution utility proxy groups) in formulating my recommendation. It has been my experience that most utility regulatory commissions (federal and state), including New Jersey, heavily emphasize the use of the DCF model to determine the cost of equity and setting the fair return. As a check (and partly to respond to Mr. Hevert), I also perform a CAPM study which also is based on the electric distribution utility proxy group companies used in my testimony.

Q. PLEASE DESCRIBE THE DCF MODEL.

A. As mentioned, this model has been widely relied upon by the regulatory community, including this Board. Its widespread acceptance among regulators is due to the fact that the model is market-based and is derived from standard economic/financial theory. The model, as typically used, is also transparent and generally understandable. I do not believe that an obscure or highly arcane model would receive the same degree of regulatory acceptance. For example, Mr. Hevert also employs a far more complex multi-stage DCF model, an approach that has received far less regulatory acceptance.

The theory begins by recognizing that any publicly-traded common stock (utility or otherwise) will sell at a price reflecting the discounted stream of cash flows *expected by investors*. The objective is to estimate that investor discount rate.

Using certain simplifying assumptions that I believe are generally reasonable for stable utility companies, the DCF model for dividend paying stocks can be distilled down as follows:

K_e = (Do/Po) (1 + 0.5g) + g, where:

K_e = cost of equity;

Do = the current annualized dividend;

Po = stock price at the current time; and

g = the long-term annualized dividend growth rate.

This is referred to as the constant growth DCF model; because for mathematical simplicity it is assumed that the growth rate is constant for an indefinitely long time period. While this assumption may be unrealistic in many cases, for traditional utilities (which tend to be more stable than most unregulated companies) the assumption generally is reasonable, particularly when applied to a group of companies.

Q. HOW HAVE YOU APPLIED THIS MODEL?

A. Strictly speaking, the model can be applied only to publicly-traded companies, i.e., companies whose market prices (and therefore market valuations) are transparently revealed. Consequently, the model cannot be applied to RECO which is a wholly-owned subsidiary of O&R parent, which in turn is owned by Con Ed. Therefore, a market proxy is needed. In theory, Con Ed, RECO's ultimate parent, could serve as that market proxy, and I have included it as a member of my second electric utility proxy group. Mr. Hevert has elected to exclude Con Ed from his proxy group and set of studios, a decision that I believe is inappropriate. More importantly, I am reluctant to rely upon a single-company DCF study (nor does Mr. Hevert), although in theory that approach could be used.

In any case, I believe that an appropriately selected proxy group is likely to be far more reliable than a single company study. This is because there is "noise" or fluctuations in stock price or other data that cannot always be readily accounted for in a simple DCF study. The use of an appropriate and robust proxy group helps to allow such "data anomalies" to cancel out in the averaging process.

For the same reason, I prefer to use market data that are relatively current but averaged over a period of six months rather than purely relying upon "spot" market data. It is important to recall that this is not an academic exercise but involves the setting of "permanent" utility rates that are likely to be in effect for several years. The practice of averaging market data over a period of several months also can add stability to the results. I note that Mr. Hevert also uses market data averaged over a period of up to several months.

Q. IN EMPLOYING THE DCF MODEL, HOW DID YOU SELECT YOUR TWO PROXY GROUPS?

A. For purposes of my testimony in this case, I am using the proxy group of electric companies selected by Mr. Hevert, but removing one of his companies, Unisource Energy Corporation ("UNS"). I found it necessary to remove UNS because since the filing of Mr. Hevert's testimony, UNS has become engaged in a corporate acquisition. I believe Mr. Hevert would agree that at this time this exclusion is necessary.

As a second study, I begin with Mr. Hevert's group (minus UNS) and make two modifications. First, I add electric distribution companies that Mr. Hevert has excluded (i.e., Centerpoint Energy, Con Ed, and UIL). Second, I have removed all proxy companies that have Value Line Safety Ratings worse (i.e., riskier) than "1" or "2," the two highest ratings. This modification results in the removal of Pepco Holdings, American Electric Power, Great Plains Energy, Otter Tail and PNM Resources.

In my opinion, this modified group is far more risk comparable to RECO than Mr. Hevert's proxy group. This is because it places greater weight on distribution electrics (the same business model as RECO). Also, it removes a small number of companies that are assigned a subpar rating for risk. However, even with these changes, there remains considerable overlap with Mr. Hevert's proxy group.

Q. WHY DO YOU HAVE A CONCERN IN THIS CASE WITH THE USE OF VERTICALLY-INTEGRATED ELECTRICS AS PROXY COMPANIES?

A. While I agree that most of Mr. Hevert's proxy companies are primarily low-risk utilities, the vertically-integrated utilities reflect the risks of generation supply and therefore commodity exposure that can be greater than the business risks of utility delivery service. Mr. Hevert acknowledged this risk increment in response to RCR-ROR-5:

> "Holding all else equal, Mr. Hevert agrees that an electric distribution utility may be considered to have less business risk than a vertically-integrated utility."

Credit rating agencies have also emphasized this same point. For example, Moody's O&R credit report of July 31, 2013 states:

> "We consider transmission and distribution utilities like O&R to have lower business risk than vertically integrated utilities, which are exposed to the commodity price risk related to fueling its generating plants and the myriad operating risks and heavy financial commitments related to owning and operating them."

For this reason, and the fact that some of Mr. Hevert's proxy companies have subpar Value Line Safety Ratings, the cost of equity for his proxy group overstates RECO's cost of equity and fair ROE.

Q. DO THE PROXY COMPANIES HAVE ANY RELATIVELY RISKY NON-REGULATED OPERATIONS?

A. Yes, there are some, but they are relatively modest. Some of the proxy companies do have merchant generation, energy services or resources, and other types of nonregulated operations that add to business risk. These non-regulated operations tend to increase the cost of equity relative to being a pure delivery service utility, but only modestly. On the whole, my modified proxy group is an appropriate risk proxy for RECO despite the minor presence of non-regulated operations.

B. <u>DCF Study Using Mr. Hevert's Utility Proxy Group</u>

Q. PLEASE IDENTIFY THE COMPANIES INCLUDED IN MR. HEVERT'S ELECTRIC UTILITY PROXY GROUP.

A. These 15 proxy companies are listed on Schedule MIK-3, page 1 of 1, along with several risk indicators. While there are no listed risk indicators for RECO, this schedule shows clearly that Con Ed parent is less risky than the proxy group as a whole.

Q. HAVE EITHER YOU OR MR. HEVERT PROPOSED A SPECIFIC BUSINESS RISK ADJUSTMENT TO THE DCF COST OF EQUITY BETWEEN THE PROXY COMPANY AVERAGE AND RECO?

A. I have not reflected an explicit adjustment for risk differences even though RECO is probably less risky than the average proxy company. I also do not interpret Mr. Hevert's testimony as proposing a risk adjustment, positive or negative.

Q. HOW HAVE YOU APPLIED THE DCF MODEL TO THIS GROUP?

A. I have elected to use a six-month time period to measure the dividend yield component (Do/Po) of the DCF formula. Using the Standard & Poor's *Stock Guide*, I compiled the month-ending dividend yields for the six months ending March 2014, the most recent data available to me as of this writing. This covers the final calendar quarter of 2013 and the first calendar quarter of 2014. As a general matter, this six months has been a time period of an improving stock market, although less so for utilities than the broader markets.

I show these dividend yield data on page 2 of Schedule MIK-4 for each month and each proxy company, October 2013 through March 2014. Over this six-month period the proxy group average dividend yields indicate a very gradual declining trend from a high of 4.13 percent in November 2013 to a low of 3.94 percent in March 2014, averaging 4.04 percent for the full six months.

For DCF purposes and at this time, I am using as a starting point a proxy group dividend yield of 4.04 percent.

Q. IS 4.04 PERCENT YOUR FINAL DIVIDEND YIELD?

A. Not quite. Strictly speaking, the dividend yield used in the model should be the value the investor expects to receive over the next 12 months. Using the standard "half year" growth rate adjustment technique, the DCF adjusted yield becomes 4.2 percent. This is based on assuming that half of a year growth is 2.75 percent (i.e., a full year growth is an upper bound of 5.5 percent).

Q. DOES MR. HEVERT EMPLOY THE SAME GROWTH RATE ADJUSTMENT?

A. I understand that Mr. Hevert also employs this standard half-year growth adjustment to the measured dividend yield. His study also employs stock market data (and other public data) as of October 2013, extending back about six months. His study therefore reflects equity market conditions as of about mid-2013.

Q. HOW HAVE YOU DEVELOPED YOUR GROWTH RATE COMPONENT?

A. Unlike the dividend yield, the investor growth rate cannot be directly observed but instead must be inferred through a review of available evidence. The growth rate in question is the *long-run* dividend per share growth rate, but analysts frequently use earnings growth as a proxy for (long-term) dividend growth. This is because in the long-run earnings are the ultimate source of dividend payments to shareholders, and this is likely to be particularly true for a large group of utility companies.

One possible approach is to examine historical growth as a guide to investor expected future growth, for example the recent five-year or ten-year growth in earnings, dividends and book value per share. However, my experience with utilities in recent years is that these historic measures have been somewhat volatile and are not necessarily reliable as prospective measures. I note that Mr. Hevert does not rely upon historical growth rates as an indicator of long-term growth for his proxy companies for DCF purposes. The DCF growth rate should be prospective, and one useful source of information on prospective growth is the projections of earnings per share growth rates (typically five years) prepared by securities analysts and reported in public surveys. It appears that Mr. Hevert places exclusive weight on this information for his "constant growth" DCF studies, and while I agree that it warrants substantial emphasis, it should not be relied upon exclusively. Mr. Hevert considers additional information in his multi-stage DCF study.

Q. PLEASE DESCRIBE THE ANALYST EARNINGS GROWTH RATE EVIDENCE.

A. Schedule MIK-4, page 3 presents five available and well-known public sources of analyst earnings growth rate projections. Four of these five sources -- YahooFinance, MSNMoney, Reuters and CNNfn -- provide averages from securities analyst surveys conducted by or for these organizations (typically they report the mean or median value). The fifth, Value Line, is that organization's own estimates and is available publically on a subscription basis. Value Line publishes its own projections using annual average earnings per share for a base period of 2011-2013 compared to the annual average for the forecast period of 2017-2019. These are similar to the growth rate sources used by Mr. Hevert for securities analyst growth rates in his DCF studies.

As this schedule shows, the growth rates for individual companies vary somewhat among the five sources but the group averages are rather consistent. These proxy group averages are 5.3 percent for CNNfn, 5.4 percent for YahooFinance, 5.4 percent for MSNMoney, 5.4 percent for Reuters and 5.7 percent for Value Line. Thus, the range of growth rates among the five sources is a narrow 5.4 to 5.7 percent. The average of these five sources is 5.55 percent, and I have used these results (along with other evidence) in obtaining a reasonable DCF growth range for the group of 4.5 to 5.5 percent.

Q. IS THERE ANY OTHER EVIDENCE THAT SHOULD BE CONSIDERED?

A. Yes. There are a number of reasons why investor expectations of long-run growth could differ from the limited, five-year earnings growth rate projections prepared by securities analysts. Consequently, while securities analyst estimates should be considered and given significant weight, these growth rates should be subject to a reasonableness test and corroboration, to the extent feasible.

On Schedule MIK-4, page 4 of 5, I have compiled three other measures of growth published by Value Line, i.e., growth rates of dividends and book value per share and the long-run retained earnings growth. (Retained earnings growth reflects the growth over time one would expect from the reinvestment of retained earnings, i.e., earnings not paid out as dividends.) As shown on this schedule, these growth measures for the 15 proxy companies tend to be somewhat less (on average) than analyst growth projections. For the 15 companies, projected dividend growth averages 4.6 percent, book value growth averages 3.8 percent, and earnings retention growth averages 3.6 percent.

Some analysts and regulators favor the use of earnings retention growth (often referred to as "sustainable growth"), which Value Line indicates to be 3.6 percent. However, at least in theory, the sustainable growth rate also should include "an adder" to reflect potential future earnings growth from issuing new common stock at prices above book value (referred to as "external growth" or the "s x v" factor). In practice, this is difficult to estimate since future stock issuances of companies over the long-term are an unknown and rarely discussed by analysts. Nonetheless, I have estimated this "external growth" factor using Value Line projections for these five companies of the growth rate (through 2017-2019) in shares outstanding, along with the current stock price premium over book value. This is a common method for calculating the external growth factor. For these 15 companies, the external growth rate calculated in this manner averages about 0.6 percent. The sum of "internal" or earnings retention growth (i.e., 3.6 percent) and the "external" growth rate (i.e., 0.6 percent) is 4.2 percent.

Given this estimate of 4.2 percent for the sustainable growth rate and 5.6 percent for analyst earnings projections, a reasonable DCF growth rate range is approximately 4.5 to 5.5 percent.

Q. ARE THERE ANY OTHER FACTORS TO CONSIDER?

A. Yes. Mr. Hevert estimates a flotation expense adder for RECO of 0.02 percent based on past Con Ed stock issuances, but he does not directly include it in his final recommended ROE range. While I do not strongly oppose his 0.02 percent calculation, it has no material effect on the estimated cost of equity for RECO. In short, this adjustment disappears in the rounding, and I therefore do not include this adjustment in my cost of equity.

Q. WHAT IS YOUR DCF CONCLUSION?

A. I summarize my DCF analysis on page 1 of Schedule MIK-4. The adjusted dividend yield for the six months ending March 2014 is 4.2 percent for this group. Available evidence would support a long-run growth rate in the range of approximately 4.5 to 5.5 percent, as explained above. Summing the adjusted yield and growth rate range, with no flotation adjustment, produces a total return of 8.7 to 9.7 percent, and a midpoint result of 9.2 percent. Reliance on analyst earnings projections would tend to support a result toward the upper end of that range, while the sustainable growth rate produces the lower end DCF result.

Q. HOW DOES YOUR 9.2 PERCENT DCF MIDPOINT COMPARE TO MR. HEVERT'S DCF ESTIMATE FOR HIS PROXY GROUP?

A. Mr. Hevert reports DCF estimates of about 9.4 to 9.5 percent (9.3 percent excluding UNS) using the standard DCF constant growth model. These study results are essentially the same as my DCF midpoint and ROE recommendation.

C. <u>DCF Study Using the Modified Proxy Group</u>

Q. HOW HAVE YOU CONDUCTED YOUR DCF STUDY USING THE PROXY GROUP?

A. In the first study, I have used Mr. Hevert's proxy group (minus UNS) as a means of directly comparing our respective cost of equity studies without proxy group selection obscuring the comparison. However, since the task at hand is to estimate RECO's cost of equity, I believe that his proxy group can be improved to be more risk comparable. I have done so by adding three delivery service electrics from the Value Line electric utility data base, and I have eliminated five of his companies that have subpar Value Line Safety Ratings. I list this resulting 13-company group, along with their risk attributes on Schedule MIK-5. While I view this group as an improvement, it still may be riskier than RECO. Please note that the majority of these companies, while low risk, are vertically-integrated, having substantial generation operations.

Q. WHAT IS THE DIVIDEND YIELD FOR THIS GROUP?

A. As shown on Schedule MIK-6, page 2 of 5, the group average dividend yield for the six months ending March 2014 is 4.09 percent. The adjusted dividend yield for this proxy group is 4.2 percent. The supporting detail is listed on page 2 of Schedule MIK-6.

Q. WHAT IS THE GROWTH RATE EVIDENCE?

A. I show the analyst projections of earnings growth for these 13 companies on Schedule MIK-6, page 3 of 5, employing the same five public sources as used for the distribution electric utility proxy group. The group averages are 4.1 percent for Value Line, 4.5 percent for Reuters, 4.8 percent for YahooFinance, 4.6 percent for CNNfn and 5.1 percent for MSNMoney. The five sources average to 4.6 percent.

A second set of growth rates for the 13-company electric utility group is shown on page 4 of Schedule MIK-6. This schedule provides Value Line's projections of dividends, book value and growth from earnings retention. These growth rates are generally similar to or lower than the securities analyst projections, averaging 4.2 percent for dividends, 4.0 percent for book value and 3.5 percent for earnings retention growth.

Q. DID YOU CONDUCT A SUSTAINABLE GROWTH RATE ANALYSIS FOR THE PROXY GROUP?

A. Yes. As mentioned earlier, an important alternative to analyst projections is earnings retention or the "sustainable" measure of long-term growth. The internal component for this proxy group is 3.5 percent, as shown on page 4 of Schedule MIK-6. I calculated an "external" or "s x v" component for each of the 13 integrated electric companies in the same manner as described for the distribution electric companies, producing an "external" growth component of 0.5 percent. Thus, the total sustainable growth rate is 3.5 percent plus 0.5 percent, or 4.0 percent. This is shown on page 5 of Schedule MIK-6.

I have used the securities analyst earnings projections (4.6 percent) and the sustainable growth rate (4.0 percent) to develop a reasonable range for DCF purposes of 4.0 to 5.0 percent.

Q. WHAT DCF MARKET RETURN DOES THIS PRODUCE?

A. As shown on Schedule MIK-6, page 1 of 5, I obtain a DCF return range of 8.2 to 9.2 percent, with a midpoint of 8.7 percent. This is based on an adjusted dividend yield of 4.2 percent plus a 4.0 to 5.0 percent growth range, with no adjustment for flotation expense.

I believe that this study helps support the reasonableness of my 9.25 percent recommendation for RECO and further demonstrates that my recommendation is conservative. The upper end of this range, 9.2 percent, reflects the use of the security analysts' projections, which is the same method used by Mr. Hevert.

D. <u>The CAPM Analysis</u>

Q. PLEASE DESCRIBE THE CAPM MODEL.

A. The CAPM is a form of the "risk premium" approach and is based on modern portfolio theory. Based on my experience, the CAPM is the cost of equity method most often used in rate cases after the DCF method, and it is one of Mr. Hevert's three basic cost of equity methods.

According to this model, the cost of equity (Ke) is equal to the yield on a risk-free asset plus an equity risk premium multiplied by a firm's "beta" statistic. "Beta" is a firm-specific risk measure which is computed as the movements in a company's stock price (or market return) relative to contemporaneous movements in the broadly defined stock market (e.g., the S&P 500 or the New York Stock Exchange Composite). This measures the investment risk that cannot be reduced or eliminated through asset diversification (i.e., holding a broad portfolio of assets). The overall market, by definition, has a beta of 1.0, and a company with lower than average investment risk (e.g., a utility company) would have a beta below 1.0. The "risk premium" is defined as the expected return on the overall stock market minus the yield or return on a risk-free asset.

The CAPM formula is:

K_e = $R_f + \beta\ (R_m - R_f)$, where:

K_e = the firm's cost of equity

R_m = the expected return on the overall market

R_f = the yield on the risk free asset

β = the firm (or group of firms) risk measure.

Two of the three principal variables in the model are directly observable—the yield on a risk-free asset (e.g., a Treasury security yield) and the beta. For example, Value Line publishes estimated betas for each of the companies that it covers, and Mr. Hevert uses those betas as well as betas published by Bloomberg which are slightly higher. The greatest difficulty, however, is in the measurement of the expected stock market return (and therefore the equity risk premium), since that variable cannot be directly observed.

While the beta itself also is "observable," different investor services provide differing calculations of betas depending on the specific procedures and methods that they use. These differences can potentially have large impacts on the CAPM results. In this case, the betas that Mr. Hevert and I use are similar, with Mr. Hevert's proxy group average being 0.73 for Value Line and 0.76 for Bloomberg, compared to my 0.75.

Q. HOW HAVE YOU APPLIED THIS MODEL?

A. For purposes of my CAPM analysis, I have used a long-term (i.e., 30-year) Treasury yield as the risk-free return (as has Mr. Hevert) along with the average beta for the electric utility proxy group. (See Schedule MIK-5 for the company-by-company betas.) In the last six months, long-term (i.e., 30-year) Treasury yields have averaged approximately 3.75 percent, although it has declined in recent weeks to about 3.5 percent. I note that Mr. Hevert has elected to use a risk-free rate in his CAPM studies of 3.75 to 4.03 percent, with the higher figure based on a forecast. I comment on why this reliance on a forecast is incorrect in Section V of my testimony. Finally, and as explained below, I am using an equity risk premium range of 5 to 8 percent, although I also provide calculations using a higher risk premium as a sensitivity test on my Schedule MIK-7.

Using these data inputs, the CAPM calculation results are shown on page 1 of Schedule MIK-7. My low-end cost of equity estimate uses a risk-free rate of 3.75 percent, a proxy group beta of 0.75 and an equity risk premium of 5 percent.

$$Ke = 3.75\% + 0.75\ (5.0\%) = 7.5\%$$

The upper-end estimate uses a risk-free rate of 3.75 percent, a proxy group beta of 0.75 and an equity risk premium of 8.0 percent.

$$Ke = 3.75\% + 0.75\ (8.0\%) = 9.8\%$$

Thus, with these inputs the CAPM provides a cost of equity range of 7.5 to 9.8 percent, with a midpoint of 8.6 percent. The CAPM analysis produces a midpoint result slightly lower than the range of results obtained for my two electric utility group DCF analyses, but I have not placed reliance on the CAPM returns in formulating my return on equity recommendation in this case. This is due to the uncertainties concerning the key CAPM inputs, particularly the market equity risk premium. I discuss this further in Section V of my testimony.

Q. IT APPEARS THAT A KEY ELEMENT IN YOUR CAPM STUDY IS YOUR EQUITY MARKET RETURN RISK PREMIUM OF 5 TO 8 PERCENT. HOW DID YOU DERIVE THAT RANGE?

A. There is a great deal of disagreement among analysts regarding the reasonably expected market return on the stock market as a whole and therefore the risk premium. In my opinion, a reasonable overall stock market risk premium to use would be about 6 to 7 percent, which today would imply a stock market rate of return of about 10 to 11 percent. Due to uncertainty concerning the true market return value, I am employing a broad range of 5 to 8 percent as the overall market rate of return, which would imply a market equity return of roughly 9 to 12 percent for the overall stock market.

Q. DO YOU HAVE A SOURCE FOR THAT RANGE?

A. Yes. The well-known finance textbook by Brealey, Myers and Allen (Principles of Corporate Finance) reviews a broad range of evidence on the equity risk premium. The authors of the risk premium literature conclude:

> Brealey, Myers and Allen have no official position on the issue, but we believe that a range of 5 to 8 percent is reasonable for the risk premium in the United States. (Page 154.)

I would note that Mr. Hevert's market risk premium values of 9.0 to 9.6 percent exceed the upper end of that plausible range by a wide margin. My "midpoint" risk premium of roughly 6.5 percent falls well within that 5 to 8 range.

There is one important caveat to consider here regarding the 5 to 8 percent range that the authors believe is supported by the literature. It appears that the 5 to 8 percent range is specified relative to short-term Treasury yields, not relative to long-term (i.e., 30-year) Treasury yields. At this time, the application of the CAPM using short-term Treasury yields would not be meaningful because those yields within the past year have approximated zero. It therefore could be argued that the 5 to 8 percent range of Brealey, et al. is overstated if a long-term Treasury yield is used as the risk-free rate, i.e., the practice followed by both Mr. Hevert and me.

V. <u>REVIEW OF MR. HEVERT'S ANALYSIS</u>

Q. PLEASE PROVIDE A SUMMARY AND OVERVIEW OF THE METHODS USED BY MR. HEVERT TO ESTIMATE THE COST OF EQUITY AND HIS RESULTS.

A. Mr. Hevert employs three cost of equity methods. He employs two variants of the DCF model (the standard, constant growth DCF and the more complex, multi-stage DCF), the CAPM and a type of Risk Premium study based on state electric utility ROE awards. His testimony cites to a range of results, but he does not specify the weights that he employs in developing his 10.25 percent recommendation.

His standard, constant growth DCF study obtains an average cost of equity of 9.45 percent (or about 9.3 percent if UNS is removed). This is based on his "mean" securities analyst earnings growth rates and averaged over his three market periods. Mr. Hevert's exhibits also report "median" DCF results, which average to an even lower 9.04 percent (the average of his three market periods). These estimates are generally consistent with my own DCF studies.

Mr. Hevert's multi-stage DCF produces a cost of equity estimate averaging 10.18 percent, or nearly a full percentage point higher than his results using the standard DCF model. This model requires not only projections of earnings growth over time, but also assumptions regarding the share price of each proxy company in the year 2027 (i.e., the year in which he assumes the investor sells the stock).

Mr. Hevert's CAPM studies are developed using the standard CAPM formula, described in Section IV of my testimony, in conjunction with three alternative "risk free rates" (one being the current actual and two forecasted values) and two stock market equity risk premium values. These studies average to 10.79 percent.

The third method, or Risk Premium, is a statistical calculation based on interest rate data and state commission electric utility ROE awards over a very long time period, 1980 to 2013. Using current 30-year Treasury rates, his statistical model estimates a cost of equity of 10.32 percent. Using a higher, forecasted 30-year Treasury rate, the model produces a cost of equity of 10.90 percent.

Q. ARE THESE STUDIES REASONABLE?

A. At the outset, all of his studies are suspect due to Mr. Hevert's decision to employ a proxy group consisting primarily of higher risk, vertically-integrated utilities. In addition, his studies employ inappropriate data inputs and assumptions which lead to an overstatement of the cost of equity for both his proxy group and RECO.

A. <u>Mr. Hevert's DCF Studies</u>

Q. DO YOU HAVE ANY FURTHER COMMENTS ON MR. HEVERT'S CONSTANT GROWTH DCF STUDY?

A. Other than the proxy group issue, this study is generally consistent with my 9.25 percent ROE recommendation in this case. Consequently, I do not comment further on that study. It should be noted that the constant growth DCF is, in my experience, the method most generally relied upon by utility regulators for the reasons discussed in Section IV.A. of my testimony.

Q. MR. HEVERT OBTAINS A SOMEWHAT HIGHER COST OF EQUITY USING THE MULTI-STAGE DCF STUDY. WHY?

A. The multi-stage model produces a cost of equity estimate that is about 80 basis points higher than the results of from his more conventional DCF study. It is not entirely clear why this is the case or even why Mr. Hevert is using this rather speculative model. For example, under this model, Mr. Hevert makes the arbitrary assumption that investors sell their shares of the proxy group companies in 2027, and his study, therefore, must assume a 2027 stock price for each company.

This methodology begins by assuming during "Stage 1," earnings/dividends will increase at the rates projected by securities analysts. However, after a transition period, he assumed earning/dividends will grow at the same rate of the U.S. economy, which he assumes to be 5.73 percent in the long run.

Q. IS THERE ANY OBJECTIVE SUPPORT FOR A U.S. LONG-TERM GROWTH RATE OF 5.73 PERCENT?

A. No, this figure reflects Mr. Hevert's optimism about the future growth prospects for the U.S. economy, but it is way out of line with the expert opinion of forecasting professionals and objective evidence. I have consulted the March 10, 2014 edition of Blue Chip Economic Indicators which compiles long-term forecasts of the U.S. economy extending to 2025. The published "consensus" forecast of U.S. nominal GDP growth from approximately 40 major forecast organizations is 4.7 percent for 2016 to 2020 and an even slower 4.5 percent for 2020 to 2025. This consensus outlook is more than a full percentage point lower than Mr. Hevert's overly optimistic 5.73 percent, a figure that is purely his own opinion. This may explain, at least in part, why his multi-stage DCF produces a cost of equity estimate higher than his far more reasonable constant growth DCF study method that rate of return witnesses typically use.

B. <u>Mr. Hevert's CAPM study</u>

Q. MR. HEVERT OBTAINED CAPM ESTIMATES THAT ARE IN EXCESS OF 10 PERCENT. WHY DO YOU DISAGREE WITH HIS ESTIMATES?

A. Mr. Hevert employs two inputs and assumptions in the CAPM formula that I believe are unreasonable. First, his studies use as the risk-free rate both the current 30-year

Treasury yield (3.75 percent) and forecasted yields of 4.04 and 5.40 percent. I object to his use of forecasted rates as being both non-market and speculative. The task at hand in this rate case is to determine RECO's cost of equity at this time, as determined by current market evidence not what it might be at some time in the future. It is interesting to note that Mr. Hevert, in using forecast data, assumes that Treasury yields will increase, when in fact they have actually <u>declined</u> since the filing of his testimony. There is no reason to substitute a forecast (which may or may not turn out to be correct) for observed, actual market data.

The second and larger problem is that Mr. Hevert assumes a very high 9.0 to 9.6 equity market risk premium. This exceeds significantly the upper bound of the 5 to 8 percent range for the equity risk premium that I described in Section IV.D. of my testimony.

Q. DO OTHER ANALYSTS SHARE MR. HEVERT'S OPINION OF A STOCK MARKET EQUITY RISK PREMIUM AT THIS TIME OF 9.0 TO 9.6 PERCENT?

A. No, Mr. Hevert's stock market return values are too optimistic. I have consulted estimates on the equity risk premium sponsored by utility cost of equity witnesses in two pending 2014 New Jersey rate cases. In the pending South Jersey Gas Company case (BPU Docket No, GR1311137), utility witness Mr. Paul Moul sponsors a stock market risk premium estimate of 7.12 percent. In the pending Aqua New Jersey rate case (BPU Docket No. WR14010019) utility witness Ms. Pauline Ahern estimates the stock market risk premium to be 7.41 percent. Both witnesses use a combination of historic estimates and prospective (i.e., DCF) estimates to arrive at their conclusions.

I note that at the present time, YahooFinance publishes a five-year earnings growth rate for the S&P 500, based on a survey of securities analysts to be

9.81 percent. As the S&P current dividend yield is about 2 percent, this implies a total return on the S&P 500 of about 11.81 percent. With a risk-free rate of 3.75 percent, the stock market risk premium using this earnings growth rate would be about 8 percent, the upper end of my range. However, even this return estimate overlooks expectations that in the outyears, growth is likely to slow and the 9.81 percent likely exceeds investor long-term expectations.

I believe that for CAPM purposes, it would be unreasonably optimistic to assume a risk premium exceeding 8 percent.

C. <u>Mr. Hevert's Risk Premium</u>

Q. HOW HAS MR. HEVERT CALCULATED THE COST OF EQUITY USING HIS RISK PREMIUM MODEL?

A. Mr. Hevert compiles state commission ROE awards over the time period 1980 to 2013 (i.e., 34 years) and has subtracted the contemporaneous yield with a lag on 30-year Treasury bonds. This gives him a time series on implicit risk premiums (i.e., risk premiums that Mr. Hevert believes are "implicit" in regulatory ROE awards). He then hypothesizes that these historic implicit risk premiums are inversely related to contemporaneous interest rates. He uses this theory to estimate a (times series) regression model. Using this model, he calculates that the electric utility cost of equity today should be 10.3 to 10.9 percent, depending on the "current" or prospective 30-year Treasury rate that one chooses to use.

Q. IS THIS METHODOLOGY REASONABLE?

A. No, it is not for a number of reasons. First, he makes the completely unwarranted assumption that state commission ROE awards are identical to the contemporaneous utility cost of equity. I believe, based on my professional experience, that there are factors other than the pure cost of equity determination that influence commission decisions. In that regard, a number of rate case ROE results used in his data base are derived from rate case settlements that involve the trade-off of many issues.

A second concern is the time period of Mr. Hevert's data set. Rate case ROE awards in the 1980s and 1990s have little to do with today's utility cost of equity. Moreover, Mr. Hevert makes no distinction between ROE decisions for vertically-integrated utilities versus those for delivery service electrics. In recent years, the latter have been materially lower.

Ultimately, Mr. Hevert's statistical model is not very meaningful for today's market conditions. It certainly does demonstrate that implicit risk premiums do change over time, and ROE awards do not move in lock step—or even in any predictably reliable way—with interest rate changes. However, it does not convincingly demonstrate that there is a clear-cut stable, relationship between the equity risk premium and changes in market interest rates.

Q. DO YOU HAVE ANY EVIDENCE THAT ROE AWARDS TO DELIVERY SERVICE ELECTRICS ARE LOWER THAN ROES FOR VERTICALLY-INTEGRATED ELECTRICS?

A. Yes. On Table 3 below I have compiled the ROE awards in calendar 2013 for delivery service electrics, as reported by the January 15, 2014 "Regulatory Focus, Major Rate Case Decisions—Calendar 2013," from Regulatory Research Associates ("RRA"). RRA is Mr. Hevert's data source for ROE awards. This table shows that the average delivery service ROE award was 9.41 percent in 2013. This compares to 10.02 percent for all electric cases in 2013 (9.80 percent if the Virginia surcharge cases, which are unrelated to the cost of equity are removed).

Table 3.
ROE Awards in 2013 for
Electric Utility Delivery Companies

Date	Utility	State	ROE
1/16	Cross Texas Trans	Texas	9.60%
1/16	Wind Energy Trans	Texas	9.60
2/22	Baltimore Gas & Electric	Maryland	9.75
3/14	Niagara Mohawk	New York	9.30
5/1	Duke Ohio	Ohio	9.84
6/21	Atlantic City	New Jersey	9.75
7/12	PEPCO	Maryland	9.36
8/14	United Illuminating	Connecticut	9.15
12/9	Ameren Illinois	Illinois	8.72
12/13	Baltimore Gas & Electric	Maryland	9.75
12/18	Commonwealth Edison	Illinois	8.72
Average			**9.41%**

I would also note that the ROE awards in 2013 were actually lower in the last half of 2013 (June-December) 9.24 percent, as compared with the first half of 2013, 9.62% (January-May), despite the moderately rising interest rates in the last half of 2013.

Notably, Mr. Hevert's study prepared in late 2013 predicts, based on his statistical model, a cost of equity for RECO of 10.3 to 10.9 percent, whereas the actual ROE state commission awards for delivery service electrics in that year averaged a far lower 9.41 percent.

VI. <u>CONCLUSIONS AND RECOMMENDATIONS</u>

Q. PLEASE SUMMARIZE YOUR CONCLUSION AND RECOMMENDATIONS FOR RECO ON THE FAIR RATE OF RETURN.

A. I recommend a 7.46 percent overall rate of return including a return on common equity of 9.25 percent. This includes a 50.35 percent equity ratio and a 47.38 percent debt ratio, which includes 2.26 percent short-term debt. I also have corrected the Company's embedded cost of long-term debt from 6.03 percent to 5.89 percent due to an overstated cost rate for variable rate debt. This capital structure is conservative in that it does not incorporate the Company's plans to issue $50 million of new long-term debt later this year.

In addition, the Company's embedded cost of debt includes $3.3 million of annual expense for an interest rate swap, an expense that will cease on October 1, 2014. When that expense is no longer being incurred, the cost of debt will fall to 5.32 percent, a figure well below the claimed 6.03 percent.

The 9.25 percent ROE recommendation is based upon my DCF studies for two proxy groups and is similar to the results obtained by Company witness Hevert using the standard DCF method. This 9.25 percent recommendation is reasonably close to what state regulators were awarding delivery service electric utilities in 2013, i.e., 9.41 percent. Moreover, O&R, RECO's New York utility affiliate, operates under a rate plan with ROEs ranging from 9.4 to 9.6 percent, while maintaining strong credit ratings.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

I/M/O THE VERIFIED PETITION OF	)	
ROCKLAND ELECTRIC COMPANY	)	
FOR APPROVAL OF CHANGES IN	)	
ELECTRIC RATES, ITS TARIFF FOR	)	
ELECTRIC SERVICE, AND ITS	)	
DEPRECIATION RATES,	)	**BPU Docket No. ER13111135**
TERMINATION OF THE SMART GRID	)	
SURCHARGE; ESTABLISHMENT OF A	)	
STORM HARDENING SURCHARGE;	)	
AND FOR OTHER RELIEF	)	

SCHEDULES ACCOMPANYING THE
DIRECT TESTIMONY OF

MATTHEW I. KAHAL

ON BEHALF OF THE
DIVISION OF RATE COUNSEL

STEFANIE A. BRAND, ESQ.
DIRECTOR, DIVISION OF RATE COUNSEL
140 East Front Street, 4th Floor
P.O. Box 003
Trenton, New Jersey 08625
Phone: 609-984-1460
Email: njratepayer@rpa.state.nj.us

Dated: May 9, 2014

ROCKLAND ELECTRIC COMPANY

Cost of Capital Summary
at March 31, 2014

Capital Type	Balance (million $)	% Total	Cost Rate	Weighted Cost
Long-Term Debt[(1)]	$576.1	47.38%	5.89%[(4)]	2.79%
Short-Term Debt[(2)]	27.5	2.26	0.25	0.01
Common Equity[(3)]	$612.2	50.35	9.25[(5)]	4.66
Total	**$1,215.8**	**100.0%**	**--**	**7.46%**

(1) Exhibit P-4, Schedule 2, 12+0 update.
(2) See Schedule MIK-1, page 2 of 2.
(3) Actual balance at 3/31/14 of $633.3 million minus non-utility equity of $21.1 million. Response to RCR-ROR-36.
(4) Cost of debt based on Exhibit P-4, Schedule 2, 12+0 Update, but correcting for cost rate on variable rate debt. Actual total expense for variable rate debt for test year is $563,457 (calculated as interest expense of $60,286, credit fees of $446,000, remarketing fees of $44,000, and issuance expense amortization of $13,171) in place of $1,361,287 claimed by RECO per 12+0 filing. This is a difference of $797,830. Cost of debt = ($34,731,635 - $797,830) / $576,124,719 = 5.89%. Note that if $3.3 million of claimed expense for swap fees is removed, cost of debt declines to 5.32%. Response to RCR-ROR-35.
(5) See Schedules MIK-4 and MIK-6, page 1, and Direct Testimony.

ROCKLAND ELECTRIC COMPANY

Short-Term Debt for
12-months ending March 2014
(Millions $)

	Balance	Interest Rate
April 2013	$2.76	0.30%
May	0.00	-
June	0.00	-
July	0.00	-
August	16.09	0.25
September	25.14	0.25
October	45.38	0.30
November	67.80	0.23
December	54.90	0.23
January 2014	38.23	0.23
February	36.81	0.23
March	43.03	0.23
Average	**$27.51**	**0.25%**

Source: RCR-ROR-34 Attachment. Debt is O&R consolidated.

ROCKLAND ELECTRIC COMPANY

U.S. Historic Trends in Capital Costs

	Annualized Inflation (CPI)	10-Year Treasury Yield	3-Month Treasury Yield	Single A Utility Yield	Baa Utility Yield
2002	1.6%	4.6%	1.6%	7.4%	8.0%
2003	1.9	4.1	1.0	6.6	6.8
2004	2.7	4.3	1.4	6.2	6.4
2005	3.4	4.3	3.0	5.6	5.9
2006	2.5	4.8	4.8	6.1	6.3
2007	2.8	4.6	4.5	6.1	6.3
2008	3.8	3.4	1.6	6.5	7.2
2009	(0.4)	3.2	0.2	6.0	7.1
2010	1.6	3.2	0.1	5.5	6.0
2011	3.1	2.8	0.0	5.0	5.6
2012	2.1	1.8	0.1	4.1	4.9
2013	1.5	2.3	0.1	4.5	5.0

ROCKLAND ELECTRIC COMPANY

U.S. Historic Trends in Capital Costs
(Continued)

	Annualized Inflation (CPI)	10-Year Treasury Yield	3-Month Treasury Yield	Single A Utility Yield	Baa Utility Yield
2007					
January	2.1%	4.8%	5.1%	6.0%	6.2%
February	2.4	4.7	5.2	5.9	6.1
March	2.8	4.6	5.1	5.9	6.1
April	2.6	4.7	5.0	6.0	6.2
May	2.7	4.8	5.0	6.0	6.2
June	2.7	5.1	5.0	6.3	6.5
July	2.4	5.0	5.0	6.3	6.5
August	2.0	4.7	4.3	6.2	6.5
September	2.8	4.5	4.0	6.2	6.5
October	3.5	4.5	4.0	6.1	6.4
November	4.3	4.2	3.4	6.0	6.3
December	4.1	4.1	3.1	6.2	6.5
2008					
January	4.3%	3.7%	2.8%	6.0%	6.4
February	4.0	3.7	2.2	6.2	6.6
March	4.0	3.5	1.3	6.2	6.7
April	3.9	3.7	1.3	6.3	6.8
May	4.2	3.9	1.8	6.3	6.8
June	5.0	4.1	1.9	6.4	6.9
July	5.6	4.0	1.7	6.4	7.0
August	5.4	3.9	1.8	6.4	7.0
September	4.9	3.7	1.2	6.5	7.2
October	3.7	3.8	0.7	7.6	8.6
November	1.1	3.5	0.2	7.6	9.0
December	0.1	2.4	0.0	6.5	8.1

ROCKLAND ELECTRIC COMPANY

U.S. Historic Trends in Capital Costs
(Continued)

	Annualized Inflation (CPI)	10-Year Treasury Yield	3-Month Treasury Yield	Single A Utility Yield	Baa Utility Yield
2009					
January	0.0%	2.5%	0.1%	6.4%	7.9%
February	0.2	2.9	0.3	6.3	7.7
March	(0.4)	2.8	0.2	6.4	8.0
April	(0.7)	2.9	0.2	6.5	8.0
May	(1.3)	2.9	0.2	6.5	7.8
June	(1.4)	3.7	0.2	6.2	7.3
July	(2.1)	3.6	0.2	6.0	6.9
August	(1.5)	3.6	0.2	5.7	6.4
September	(1.3)	3.4	0.1	5.5	6.1
October	(0.2)	3.4	0.1	5.6	6.1
November	1.8	3.4	0.1	5.6	6.2
December	2.5	3.6	0.1	5.8	6.3
2010					
January	2.6%	3.7%	0.1%	5.8%	6.2%
February	2.1	3.7	0.1	5.9	6.3
March	2.3	3.7	0.2	5.8	6.2
April	2.2	3.9	0.2	5.8	6.2
May	2.0	3.4	0.2	5.5	6.0
June	1.1	3.2	0.1	5.5	6.0
July	1.2	3.0	0.2	5.3	6.0
August	1.1	2.7	0.2	5.0	5.6
September	1.1	2.7	0.2	5.0	5.5
October	1.2	2.5	0.1	5.1	5.6
November	1.1	2.8	0.1	5.4	5.9
December	1.2	3.3	0.1	5.6	6.0

ROCKLAND ELECTRIC COMPANY

U.S. Historic Trends in Capital Costs
(Continued)

	Annualized Inflation (CPI)	10-Year Treasury Yield	3-Month Treasury Yield	Single A Utility Yield	Baa Utility Yield
2011					
January	1.6%	3.4%	0.1%	5.6%	6.1%
February	2.1	3.6	0.1	5.7	6.1
March	2.7	3.4	0.1	5.6	6.0
April	2.2	3.5	0.1	5.6	6.0
May	3.6	3.2	0.0	5.3	5.7
June	3.6	3.0	0.0	5.3	5.7
July	3.6	3.0	0.0	5.3	5.7
August	3.8	2.3	0.0	4.7	5.2
September	3.9	2.0	0.0	4.5	5.1
October	3.5	2.2	0.0	4.5	5.2
November	3.0	2.0	0.0	4.3	4.9
December	3.0	2.0	0.0	4.3	5.1
2012					
January	2.9	2.0	0.0	4.3	5.1
February	2.9	2.0	0.0	4.4	5.0
March	2.7	2.2	0.1	4.5	5.1
April	2.3	2.1	0.1	4.4	5.1
May	1.7	1.8	0.1	4.2	5.0
June	1.7	1.6	0.1	4.1	4.9
July	1.4	1.5	0.1	3.9	4.9
August	1.7	1.7	0.1	4.0	4.9
September	2.0	1.7	0.1	4.0	4.8
October	2.2	1.8	0.1	3.9	4.5
November	1.8	1.7	0.1	3.8	4.4
December	1.7	1.7	0.1	4.0	4.6

ROCKLAND ELECTRIC COMPANY

U.S. Historic Trends in Capital Costs
(Continued)

	Annualized Inflation (CPI)	10-Year Treasury Yield	3-Month Treasury Yield	Single A Utility Yield	Baa Utility Yield
2013					
January	1.6%	1.9%	0.1%	4.2%	4.7%
February	2.0	2.0	0.1	4.2	4.7
March	1.5	2.0	0.1	4.2	4.7
April	1.1	1.8	0.1	4.0	4.5
May	1.4	1.9	0.0	4.2	4.7
June	1.8	2.3	0.1	4.5	5.1
July	2.0	2.6	0.0	4.7	5.2
August	1.5	2.7	0.0	4.7	5.3
September	1.2	2.8	0.0	4.8	5.3
October	1.0	2.6	0.1	4.7	5.2
November	1.2	2.7	0.1	4.8	5.2
December	1.5	2.9	0.1	4.8	5.3
2014					
January	1.6	2.9	0.1	4.6	5.1
February	1.1	2.7	0.1	4.5	5.0
March	1.5	2.7	0.1	4.5	5.0

Source: *Economic Report of the President, Mergent's Bond Record, Federal Reserve Statistical Release* (H.15), *Consumer Price Index Summary* (BLS)

ROCKLAND ELECTRIC COMPANY

List of the Hevert Electric Utility Proxy Companies

	Company	Safety Rating	Financial Strength	Beta	2013 Common Equity Ratio*
1.	American Electric Power	3	B++	0.70	50.0%
2.	Cleco Corporation	1	A	0.70	66.5
3.	Duke Energy	2	A	0.70	48.5
4.	Empire District	2	B++	0.75	51.5
5.	Great Plains Energy	3	B+	0.90	55.5
6.	Hawaiian Electric	2	B++	0.80	51.0
7.	IdaCorp	2	B++	0.75	51.0
8.	Northeast Utilities	2	B++	0.75	53.0
9.	Otter Tail	3	B+	0.95	53.0
10.	Pinnacle West	1	A	0.75	59.0
11.	Pepco Holdings	3	B	0.80	50.5
12.	PNM Resources	3	B	0.95	49.0
13.	Portland General	2	B++	0.75	51.5
14.	Southern Company	2	A	0.60	43.0
15.	Westar Energy	2	B++	0.80	50.0
	Average	**2.2**	**--**	**0.78**	**52.2%**

*The common equity ratio excludes short-term debt (and current maturities of long-term debt). Actual 2013 equity ratio including short-term debt and current maturities averages 49.8 percent.

Source: *Value Line Investment Survey,* January 31, 2014; February 21, 2014; and March 21, 2014.

ROCKLAND ELECTRIC COMPANY

DCF Summary for the
Hevert Electric Utility Proxy Group

1. Dividend Yield (October 2013 - March 2014)[1]	4.04%
2. Adjusted Yield ((1) x 1.0275)	4.2%
3. Long-Term Growth Rate[2]	4.5 - 5.5%
4. Total Return ((2) + (3))	8.7 - 9.7%
5. Flotation Expense	0.0%
6. Cost of Equity ((4) + (5))	8.7 - 9.7%
7. Midpoint	9.2%
Recommendation	**9.25%**

(1) Schedule MIK-4, page 2 of 5.
(2) Schedule MIK-4, pages 3 of 5, 4 of 5 and 5 of 5.

ROCKLAND ELECTRIC COMPANY

Dividend Yields for the Hevert Electric Utility Proxy Group
(October 2013 – March 2014)

Company	October	November	December	January	February	March	Average
1. American Electric	4.3%	4.2%	4.3%	4.1%	4.0%	4.0%	4.15%
2. Cleco Corporation	3.1	3.2	3.1	3.0	2.9	2.9	3.03
3. Duke Energy	4.3	4.5	4.5	4.4	4.4	4.4	4.42
4. Empire District	4.4	4.5	4.5	4.4	4.3	4.3	4.40
5. Great Plains Energy	3.7	3.9	3.8	3.7	3.5	3.5	3.68
6. Hawaiian Electric	4.7	4.9	4.8	4.8	4.9	5.0	4.85
7. IdaCorp	3.3	3.4	3.3	3.3	3.1	3.1	3.25
8. Northeast Utilities	3.4	3.6	3.5	3.4	3.5	3.5	3.48
9. Otter Tail	4.0	4.0	4.0	4.3	4.0	4.0	4.05
10. Pinnacle West	4.1	4.3	4.3	4.3	4.1	4.2	4.22
11. Pepco Holdings	5.6	5.7	5.7	5.6	5.3	5.3	5.53
12. PNM Resources	2.8	2.8	3.1	3.0	2.8	2.8	2.88
13. Portland General	3.8	3.7	3.7	3.6	3.5	3.4	3.62
14. Southern Company	5.0	5.0	5.0	4.9	4.8	4.7	4.90
15. Westar Energy	4.3	4.3	4.3	4.1	4.1	4.0	4.18
Average	**4.05%**	**4.13%**	**4.13%**	**4.06%**	**3.95%**	**3.94%**	**4.04%**

Source: Standard & Poors *Stock Guide,* November 2013 – April 2014.

ROCKLAND ELECTRIC COMPANY

Projection of Earnings Per Share
Five-Year Growth Rates for the
Hevert Electric Utility Proxy Group

	Company	Value Line	Yahoo	MSN	Reuters	CNN	Average
1.	American Electric Power	4.5%	4.23%	4.3%	4.23%	4.98%	4.45%
2.	Cleco Corporation	4.5	8.00	8.0	8.00	8.00	7.30
3.	Duke Energy	4.0	3.92	3.9	4.35	4.03	4.04
4.	Empire District	4.0	3.00	3.0	3.00	3.00	3.20
5.	Great Plains Energy	6.0	5.17	5.2	5.17	5.23	5.35
6.	Hawaiian Electric	3.5	4.20	6.0	4.47	4.20	4.47
7.	IdaCorp	2.0	4.00	4.0	4.00	4.00	3.60
8.	Northeast Utilities	8.0	6.28	7.8	5.96	7.20	7.05
9.	Otter Tail	15.0	6.00	N/A	N/A	6.00	9.00
10.	Pinnacle West	4.0	4.13	4.6	4.12	4.00	4.17
11.	Pepco Holdings	5.5	7.20	6.6	7.20	6.42	6.58
12.	PNM Resources	12.0	8.20	7.6	8.20	9.40	9.08
13.	Portland General	3.5	10.89	6.6	9.67	7.10	7.55
14.	Southern Company	3.5	3.55	4.10	3.87	3.00	3.60
15.	Westar Energy	6.0	2.60	4.4	2.6	3.20	3.76
	Average	**5.73%**	**5.42%**	**5.44%**	**5.35%**	**5.32%**	**5.55%**

Source: *Value Line Investment Survey*, January 31, 2014; February 21, 2014; and March 21, 2014. YahooFinance.com, MSNMoney.com, Reuters.com, CNNFN.com, public websites, March 19, 2014.

ROCKLAND ELECTRIC COMPANY

Other *Value Line* Growth Measures
for the Hevert Electric Utility Proxy Group

	Company	Dividend per Share	Book Value per Share	Earnings Retention
1.	American Electric Power	4.5%	4.5%	4.0%
2.	Cleco Corporation	8.5	5.0	4.5
3.	Duke Energy	2.0	3.0	3.0
4.	Empire District	4.5	3.0	3.0
5.	Great Plains Energy	7.0	2.5	2.5
6.	Hawaiian Electric	1.0	4.5	2.0
7.	IdaCorp	7.0	4.5	3.5
8.	Northeast Utilities	8.0	5.5	4.0
9.	Otter Tail	1.5	2.5	5.5
10.	Pinnacle West	2.0	3.5	3.5
11.	Pepco Holdings	1.5	2.0	2.5
12.	PNM Resources	12.5	4.0	4.5
13.	Portland General	3.0	3.5	3.5
14.	Southern Company	3.5	4.0	3.5
15.	Westar Energy	3.0	5.0	4.5
	Average	**4.63%**	**3.80%**	**3.60%**

Source: *Value Line Investment Survey*, January 31, 2014; February 21, 2014; and March 21, 2014. The earnings retention figures represent the time period 2017-2019 for the companies in the February and March 2014 reports, and 2016-2018 time period for the companies in the January 2014 reports.

ROCKLAND ELECTRIC COMPANY

Fundamental Growth Rate Analysis for the
Hevert Electric Utility Proxy Group

	Company	Shares 2013-2018[1]	% Premium[2]	sv[3]	br[4]	sv + br
1.	American Electric Power	0.41%	42.0%	0.2%	4.0%	4.2%
2.	Cleco Corporation	0.00	76.7	0.0	4.5	4.5
3.	Duke Energy	0.14	18.9	0.0	3.0	3.0
4.	Empire District	1.78	30.5	0.5	3.0	3.5
5.	Great Plains Energy	0.34	10.9	0.0	2.5	2.5
6.	Hawaiian Electric	5.50	50.5	2.8	2.0	4.8
7.	IdaCorp	0.41	35.7	0.1	3.5	3.6
8.	Northeast Utilities	0.31	43.5	0.1	4.0	4.1
9.	Otter Tail	1.98	105.9	2.1	5.5	7.6
10.	Pinnacle West	1.46	35.8	0.5	3.5	4.0
11.	Pepco Holdings	0.79	3.3	0.0	2.5	2.5
12.	PNM Resources	0.09	18.2	0.0	4.5	4.5
13.	Portland General	3.44	21.7	0.7	3.5	4.2
14.	Southern Company	1.14	85.3	1.0	3.5	4.5
15.	Westar Energy	1.16	38.8	0.4	4.5	4.9
	Average			**0.6%**	**3.6%**	**4.2%**

(1) Projected growth rate in shares outstanding; 2013-2018 for companies included in the February and March 2014 reports, and 2012-2018 for the companies included in the January 2014 reports.
(2) % Premium of share price ("Recent Price") over 2014 book value per share.
(3) sv is growth rate in shares x % premium.
(4) br is Value Line projection as of 2017-2019 for companies included in the February and March 2014 reports, and 2016-2018 for the companies included in the January 2014 reports.
Source: *Value Line Investment Survey*, January 31, 2014; February 21, 2014; and March 21, 2014.

ROCKLAND ELECTRIC COMPANY

List of the Modified Group Electric Utilities Proxy Companies

	Company	Safety Rating	Financial Strength	Beta	2013 Common Equity Ratio*
1.	Centerpoint Energy	2	B++	0.85	41.5%
2.	Cleco Corporation	1	A	0.70	66.5
3.	Consolidated Edison	1	A+	0.65	51.0
4.	Duke Energy	2	A	0.70	48.5
5.	Empire District	2	B++	0.75	51.5
6.	Hawaiian Electric	2	B++	0.80	51.0
7.	IdaCorp	2	B++	0.75	51.0
8.	Northeast Utilities	2	B++	0.75	53.0
9.	Pinnacle West	1	A	0.75	59.0
10.	Portland General	2	B++	0.75	51.5
11.	Southern Company	2	A	0.60	43.0
12.	UIL Holdings	2	B++	0.85	45.5
13.	Westar Energy	2	B++	0.80	50.0
	Average	**1.8**	**--**	**0.75**	**51.0%**

*The common equity ratio excludes short-term debt (and current maturities of long-term debt). Actual 2013 equity ratio including short-term debt and current maturities averages 48.5 percent.
Source: *Value Line Investment Survey,* January 31, 2014; February 21, 2014; and March 21, 2014.

ROCKLAND ELECTRIC COMPANY

DCF Summary for the
Modified Electric Utility Proxy Group

1.	Dividend Yield (October 2013 - March 2014)[1]	4.09%
2.	Adjusted Yield ((1) x 1.0275)	4.2%
3.	Long-Term Growth Rate[2]	4.0 - 5.0%
4.	Total Return ((2) + (3))	8.2 - 9.2%
5.	Flotation Expense	0.0%
6.	Cost of Equity ((4) + (5))	8.2 - 9.2%
7.	Midpoint	8.7%
	Recommendation	**9.25%**

(1) Schedule MIK-6, page 2 of 5.
(2) Schedule MIK-6, pages 3 of 5, 4 of 5 and 5 of 5.

ROCKLAND ELECTRIC COMPANY

Dividend Yields for the Modified Electric Utility Proxy Group
(October 2013 – March 2014)

Company	October	November	December	January	February	March	Average
1. Centerpoint Energy	3.4%	3.5%	3.6%	4.1%	4.0%	4.0%	3.77%
2. Cleco Corporation	3.1	3.2	3.1	3.0	2.9	2.9	3.03
3. Consolidated Edison	4.2	4.5	4.5	4.6	4.5	4.7	4.50
4. Duke Energy	4.3	4.5	4.5	4.4	4.4	4.4	4.42
5. Empire District	4.4	4.5	4.5	4.4	4.3	4.2	4.38
6. Hawaiian Electric	4.7	4.9	4.8	4.8	4.9	5.0	4.85
7. IdaCorp	3.3	3.4	3.3	3.3	3.1	3.1	3.25
8. Northeast Utilities	3.4	3.6	3.5	3.4	3.5	3.5	3.48
9. Pinnacle West	4.1	4.3	4.3	4.3	4.1	4.2	4.22
10. Portland General	3.8	3.7	3.7	3.6	3.5	3.4	3.62
11. Southern Company	5.0	5.0	5.0	4.9	4.8	4.7	4.90
12. UIL Holdings	4.5	4.6	4.5	4.5	4.5	4.8	4.57
13. Westar Energy	4.3	4.3	4.3	4.1	4.1	4.0	4.18
Average	**4.04%**	**4.15%**	**4.12%**	**4.11%**	**4.05%**	**4.07%**	**4.09%**

Source: Standard & Poors *Stock Guide,* November 2013 – April 2014.

ROCKLAND ELECTRIC COMPANY

Projection of Earnings Per Share
Five-Year Growth Rates for the
Modified Electric Utility Proxy Group

	Company	Value Line	Yahoo	MSN	Reuters	CNN	Average
1.	Centerpoint Energy	2.5%	3.77%	5.3%	0.88%	5.00%	3.49%
2.	Cleco Corporation	4.5	8.00	8.0	8.00	8.00	7.30
3.	Consolidated Edison	1.5	2.85	2.9	2.85	1.98	2.42
4.	Duke Energy	4.0	3.92	3.9	4.35	4.03	4.04
5.	Empire District	4.0	3.00	3.0	3.00	3.00	3.20
6.	Hawaiian Electric	3.5	4.20	6.0	4.47	4.20	4.47
7.	IdaCorp	2.0	4.00	4.0	4.00	4.00	3.60
8.	Northeast Utilities	8.0	6.28	7.8	5.96	7.20	7.05
9.	Pinnacle West	4.0	4.13	4.6	4.12	4.00	4.17
10.	Portland General	3.5	10.89	6.6	9.67	7.10	7.55
11.	Southern Company	3.5	3.55	4.10	3.87	3.00	3.60
12.	UIL Holdings	6.0	5.23	6.10	4.98	4.69	5.40
13.	Westar Energy	6.0	2.60	4.4	2.6	3.20	3.76
	Average	**4.08%**	**4.80%**	**5.13%**	**4.52%**	**4.57%**	**4.62%**

Source: *Value Line Investment Survey*, January 31, 2014; February 21, 2014; and March 21, 2014.
YahooFinance.com, MSNMoney.com, Reuters.com, CNNFN.com, public websites, March 19, 2014.

ROCKLAND ELECTRIC COMPANY

Other *Value Line* Growth Measures
for the Modified Electric Utility Proxy Group

	Company	Dividend per Share	Book Value per Share	Earnings Retention
1.	Centerpoint Energy	6.0%	2.5%	3.0%
2.	Cleco Corporation	8.5	5.0	4.5
3.	Consolidated Edison	2.0	3.0	3.0
4.	Duke Energy	2.0	3.0	3.0
5.	Empire District	4.5	3.0	3.0
6.	Hawaiian Electric	1.0	4.5	2.0
7.	IdaCorp	7.0	4.5	3.5
8.	Northeast Utilities	8.0	5.5	4.0
9.	Pinnacle West	2.0	3.5	3.5
10.	Portland General	3.0	3.5	3.5
11.	Southern Company	3.5	4.0	3.5
12.	UIL Holdings	*Nil*	4.5	4.5
13.	Westar Energy	3.0	5.0	4.5
	Average	**4.21%**	**3.96%**	**3.50%**

Source: *Value Line Investment Survey*, January 31, 2014; February 21, 2014; and March 21, 2014.
The earnings retention figures represent the time period 2017-2019 for the companies in the February and March 2014 reports, and 2016-2018 time period for the companies in the January 2014 reports.

ROCKLAND ELECTRIC COMPANY

Fundamental Growth Rate Analysis for the
Modified Electric Utility Proxy Group

	Company	Shares 2013-2018[1]	% Premium[2]	sv[3]	br[4]	sv + br
1.	Centerpoint Energy	0.23%	126.3%	0.3%	3.0%	3.3%
2.	Cleco Corporation	0.00	76.7	0.0	4.5	4.5
3.	Consolidated Edison	0.00	27.5	0.0	3.0	3.0
4.	Duke Energy	0.14	18.9	0.0	3.0	3.0
5.	Empire District	1.78	30.5	0.5	3.0	3.5
6.	Hawaiian Electric	5.50	50.5	2.8	2.0	4.8
7.	IdaCorp	0.41	35.7	0.1	3.5	3.6
8.	Northeast Utilities	0.31	43.5	0.1	4.0	4.1
9.	Pinnacle West	1.46	35.8	0.5	3.5	4.0
10.	Portland General	3.44	21.7	0.7	3.5	4.2
11.	Southern Company	1.14	85.3	1.0	3.5	4.5
12.	UIL Holdings	0.00	56.0	0.0	4.5	4.5
13.	Westar Energy	1.16	38.8	0.4	4.5	4.9
	Average			**0.5%**	**3.5%**	**4.0%**

(1) Projected growth rate in shares outstanding; 2013-2018 for companies included in the February and March 2014 reports, and 2012-2018 for the companies included in the January 2014 reports.
(2) % Premium of share price ("Recent Price") over 2014 book value per share.
(3) sv is growth rate in shares x % premium.
(4) br is Value Line projection as of 2017-2019 for companies included in the February and March 2014 reports, and 2016-2018 for the companies included in the January 2014 reports.
Source: *Value Line Investment Survey*, January 31, 2014; February 21, 2014; and March 21, 2014.

ROCKLAND ELECTRIC COMPANY

Capital Asset Pricing Model Study
Illustrative Calculations

A. Model Specification

$K_e = R_F + \beta\ (R_m - R_F)$, where

K_e = cost of equity

R_F = return on risk free asset

Rm = expected stock market return

B. Data Inputs

R_F = 3.75% (Long-term treasury bond yield for the most recent six months)

Rm = 8.8 – 11.8% (equates to equity risk premium of 5.0 - 8.0%)

Beta = 0.75 (See Schedule MIK-5)

C. Model Calculations

Low end: K_e = 3.75% + 0.75 (5.0) = 7.5%

Midpoint: K_e = 3.75% + 0.75 (6.5) = 8.6%

Upper End: K_e = 3.75% + 0.75 (8.0) = 9.8%

High Sensitivity: K_e = 3.75% + 0.75 (9.0) = 10.5%

ROCKLAND ELECTRIC COMPANY

Long-Term Treasury Yields
(October 2013 – March 2014)

Month	30-Year	20-Year	10-Year
October 2013	3.68%	3.38%	2.62%
November	3.80	3.50	2.72
December	3.89	3.63	2.90
January 2014	3.77	3.52	2.86
February	3.66	3.38	2.71
March	3.62	3.35	2.72
Average	**3.74%**	**3.46%**	**2.76%**

Source: Federal Reserve, "Statistical Release," publication H.15, November 2013 – April 2014.

APPENDIX A

STATEMENT OF QUALIFICATIONS

OF

MATTHEW I. KAHAL

MATTHEW I. KAHAL

Since 2001, Mr. Kahal has worked as an independent consulting economist, specializing in energy economics, public utility regulation, and utility financial studies. Over the past three decades, his work has encompassed electric utility integrated resource planning (IRP), power plant licensing, environmental compliance, and utility financial issues. In the financial area, he has conducted numerous cost of capital studies and addressed other financial issues for electric, gas, telephone, and water utilities. Mr. Kahal's work in recent years has expanded to electric power markets, mergers, and various aspects of regulation.

Mr. Kahal has provided expert testimony in approximately 400 cases before state and federal regulatory commissions, federal courts, and the U.S. Congress. His testimony has covered need for power, integrated resource planning, cost of capital, purchased power practices and contracts, merger economics, industry restructuring, and various other regulatory and public policy issues.

Education

B.A. (Economics) – University of Maryland, 1971

M.A. (Economics) – University of Maryland, 1974

Ph.D. candidacy – University of Maryland, completed all course work and qualifying examinations.

Previous Employment

1981-2001	Founding Principal, Vice President, and President Exeter Associates, Inc. Bethesda, MD
1980-1981	Member of the Economic Evaluation Directorate The Aerospace Corporation Washington, D.C.
1977-1980	Economist Washington, D.C. consulting firm
1972-1977	Research/Teaching Assistant and Instructor Department of Economics, University of Maryland (College Park) Lecturer in Business and Economics Montgomery College (Rockville, MD)

Professional Experience

Mr. Kahal has more than thirty years' experience managing and conducting consulting assignments relating to public utility economics and regulation. In 1981, he and five colleagues founded the firm of Exeter Associates, Inc., and for the next 20 years he served as a Principal and corporate officer of the firm. During that time, he supervised multi-million dollar support contracts with the State of Maryland and directed the technical work conducted by both Exeter professional staff and numerous subcontractors. Additionally, Mr. Kahal took the lead role at Exeter in consulting to the firm's other governmental and private clients in the areas of financial analysis, utility mergers, electric restructuring, and utility purchase power contracts.

At the Aerospace Corporation, Mr. Kahal served as an economic consultant to the Strategic Petroleum Reserve (SPR). In that capacity, he participated in a detailed financial assessment of the SPR, and developed an econometric forecasting model of U.S. petroleum industry inventories. That study has been used to determine the extent to which private sector petroleum stocks can be expected to protect the U.S. from the impacts of oil import interruptions.

Before entering consulting, Mr. Kahal held faculty positions with the Department of Economics at the University of Maryland and with Montgomery College, teaching courses on economic principles, business, and economic development.

Publications and Consulting Reports

Projected Electric Power Demands of the Baltimore Gas and Electric Company, Maryland Power Plant Siting Program, 1979.

Projected Electric Power Demands of the Allegheny Power System, Maryland Power Plant Siting Program, January 1980.

An Econometric Forecast of Electric Energy and Peak Demand on the Delmarva Peninsula, Maryland Power Plant Siting Program, March 1980 (with Ralph E. Miller).

A Benefit/Cost Methodology of the Marginal Cost Pricing of Tennessee Valley Authority Electricity, prepared for the Board of Directors of the Tennessee Valley Authority, April 1980.

An Evaluation of the Delmarva Power and Light Company Generating Capacity Profile and Expansion Plan, (Interim Report), prepared for the Delaware Office of the Public Advocate, July 1980 (with Sharon L. Mason).

Rhode Island-DOE Electric Utilities Demonstration Project, Third Interim Report on Preliminary Analysis of the Experimental Results, prepared for the Economic Regulatory Administration, U.S. Department of Energy, July 1980.

Petroleum Inventories and the Strategic Petroleum Reserve, The Aerospace Corporation, prepared for the Strategic Petroleum Reserve Office, U.S. Department of Energy, December 1980.

Alternatives to Central Station Coal and Nuclear Power Generation, prepared for Argonne National Laboratory and the Office of Utility Systems, U.S. Department of Energy, August 1981.

"An Econometric Methodology for Forecasting Power Demands," Conducting Need-for-Power Review for Nuclear Power Plants (D.A. Nash, ed.), U.S. Nuclear Regulatory Commission, NUREG-0942, December 1982.

State Regulatory Attitudes Toward Fuel Expense Issues, prepared for the Electric Power Research Institute, July 1983 (with Dale E. Swan).

"Problems in the Use of Econometric Methods in Load Forecasting," Adjusting to Regulatory, Pricing and Marketing Realities (Harry Trebing, ed.), Institute of Public Utilities, Michigan State University, 1983.

Proceedings of the Maryland Conference on Electric Load Forecasting (editor and contributing author), Maryland Power Plant Siting Program, PPES-83-4, October 1983.

"The Impacts of Utility-Sponsored Weatherization Programs: The Case of Maryland Utilities" (with others), in Government and Energy Policy (Richard L. Itteilag, ed.), 1983.

Power Plant Cumulative Environmental Impact Report, contributing author (Paul E. Miller, ed.) Maryland Department of Natural Resources, January 1984.

Projected Electric Power Demands for the Potomac Electric Power Company, three volumes (with Steven L. Estomin), prepared for the Maryland Power Plant Siting Program, March 1984.

"An Assessment of the State-of-the-Art of Gas Utility Load Forecasting" (with Thomas Bacon, Jr. and Steven L. Estomin), published in the Proceedings of the Fourth NARUC Biennial Regulatory Information Conference, 1984.

"Nuclear Power and Investor Perceptions of Risk" (with Ralph E. Miller), published in The Energy Industries in Transition: 1985-2000 (John P. Weyant and Dorothy Sheffield, eds.), 1984.

The Financial Impact of Potential Department of Energy Rate Recommendations on the Commonwealth Edison Company, prepared for the U.S. Department of Energy, October 1984.

"Discussion Comments," published in Impact of Deregulation and Market Forces on Public Utilities: The Future of Regulation (Harry Trebing, ed.), Institute of Public Utilities, Michigan State University, 1985.

An Econometric Forecast of the Electric Power Loads of Baltimore Gas and Electric Company, two volumes (with others), prepared for the Maryland Power Plant Siting Program, 1985.

A Survey and Evaluation of Demand Forecast Methods in the Gas Utility Industry, prepared for the Public Utilities Commission of Ohio, Forecasting Division, November 1985 (with Terence Manuel).

A Review and Evaluation of the Load Forecasts of Houston Lighting & Power Company and Central Power & Light Company – Past and Present, prepared for the Texas Public Utility Commission, December 1985 (with Marvin H. Kahn).

Power Plant Cumulative Environmental Impact Report for Maryland, principal author of three of the eight chapters in the report (Paul E. Miller, ed.), PPSP-CEIR-5, March 1986.

"Potential Emissions Reduction from Conservation, Load Management, and Alternative Power," published in Acid Deposition in Maryland: A Report to the Governor and General Assembly, Maryland Power Plant Research Program, AD-87-1, January 1987.

Determination of Retrofit Costs at the Oyster Creek Nuclear Generating Station, March 1988, prepared for Versar, Inc., New Jersey Department of Environmental Protection.

Excess Deferred Taxes and the Telephone Utility Industry, April 1988, prepared on behalf of the National Association of State Utility Consumer Advocates.

Toward a Proposed Federal Policy for Independent Power Producers, comments prepared on behalf of the Indiana Consumer Counselor, FERC Docket EL87-67-000, November 1987.

Review and Discussion of Regulations Governing Bidding Programs, prepared for the Pennsylvania Office of Consumer Advocate, June 1988.

A Review of the Proposed Revisions to the FERC Administrative Rules on Avoided Costs and Related Issues, prepared for the Pennsylvania Office of Consumer Advocate, April 1988.

Review and Comments on the FERC NOPR Concerning Independent Power Producers, prepared for the Pennsylvania Office of Consumer Advocate, June 1988.

The Costs to Maryland Utilities and Ratepayers of an Acid Rain Control Strategy – An Updated Analysis, prepared for the Maryland Power Plant Research Program, October 1987, AD-88-4.

"Comments," in New Regulatory and Management Strategies in a Changing Market Environment (Harry M. Trebing and Patrick C. Mann, editors), Proceedings of the Institute of Public Utilities Eighteenth Annual Conference, 1987.

Electric Power Resource Planning for the Potomac Electric Power Company, prepared for the Maryland Power Plant Research Program, July 1988.

Power Plant Cumulative Environmental Impact Report for Maryland (Thomas E. Magette, ed.), authored two chapters, November 1988, PPRP-CEIR-6.

Resource Planning and Competitive Bidding for Delmarva Power & Light Company, October 1990, prepared for the Maryland Department of Natural Resources (with M. Fullenbaum).

Electric Power Rate Increases and the Cleveland Area Economy, prepared for the Northeast Ohio Areawide Coordinating Agency, October 1988.

An Economic and Need for Power Evaluation of Baltimore Gas & Electric Company's Perryman Plant, May 1991, prepared for the Maryland Department of Natural Resources (with M. Fullenbaum).

The Cost of Equity Capital for the Bell Local Exchange Companies in a New Era of Regulation, October 1991, presented at the Atlantic Economic Society 32nd Conference, Washington, D.C.

A Need for Power Review of Delmarva Power & Light Company's Dorchester Unit 1 Power Plant, March 1993, prepared for the Maryland Department of National Resources (with M. Fullenbaum).

The AES Warrior Run Project: Impact on Western Maryland Economic Activity and Electric Rates, February 1993, prepared for the Maryland Power Plant Research Program (with Peter Hall).

An Economic Perspective on Competition and the Electric Utility Industry, November 1994, prepared for the Electric Consumers' Alliance.

PEPCO's Clean Air Act Compliance Plan: Status Report, prepared for the Maryland Power Plant Research Plan, January 1995 (w/Diane Mountain, Environmental Resources Management, Inc.).

The FERC Open Access Rulemaking: A Review of the Issues, prepared for the Indiana Office of Utility Consumer Counselor and the Pennsylvania Office of Consumer Advocate, June 1995.

A Status Report on Electric Utility Restructuring: Issues for Maryland, prepared for the Maryland Power Plant Research Program, November 1995 (with Daphne Psacharopoulos).

Modeling the Financial Impacts on the Bell Regional Holding Companies from Changes in Access Rates, prepared for MCI Corporation, May 1996.

The CSEF Electric Deregulation Study: Economic Miracle or the Economists' Cold Fusion?, prepared for the Electric Consumers' Alliance, Indianapolis, Indiana, October 1996.

Reducing Rates for Interstate Access Service: Financial Impacts on the Bell Regional Holding Companies, prepared for MCI Corporation, May 1997.

The New Hampshire Retail Competition Pilot Program: A Preliminary Evaluation, July 1997, prepared for the Electric Consumers' Alliance (with Jerome D. Mierzwa).

Electric Restructuring and the Environment: Issue Identification for Maryland, March 1997, prepared for the Maryland Power Plant Research Program (with Environmental Resource Management, Inc.).

An Analysis of Electric Utility Embedded Power Supply Costs, prepared for Power-Gen International Conference, Dallas, Texas, December 1997.

Market Power Outlook for Generation Supply in Louisiana, December 2000, prepared for the Louisiana Public Service Commission (with others).

A Review of Issues Concerning Electric Power Capacity Markets, prepared for the Maryland Power Plant Research Program, December 2001 (with B. Hobbs and J. Inon).
The Economic Feasibility of Air Emissions Controls at the Brandon Shores and Morgantown Coal-fired Power Plants, February 2005 (prepared for the Chesapeake Bay Foundation).

The Economic Feasibility of Power Plant Retirements on the Entergy System, September 2005, with Phil Hayet (prepared for the Louisiana Public Service Commission).

Expert Report on Capital Structure, Equity and Debt Costs, prepared for the Edmonton Regional Water Customers Group, August 30, 2006.

Maryland's Options to Reduce and Stabilize Electric Power Prices Following Restructuring, with Steven L. Estomin, prepared for the Power Plant Research Program, Maryland Department of Natural Resources, September 2006.

Expert Report of Matthew I. Kahal, on behalf of the U. S. Department of Justice, August 2008, Civil Action No. IP-99-1693C-MIS.

Conference and Workshop Presentations

Workshop on State Load Forecasting Programs, sponsored by the Nuclear Regulatory Commission and Oak Ridge National Laboratory, February 1982 (presentation on forecasting methodology).

Fourteenth Annual Conference of the Michigan State University Institute for Public Utilities, December 1982 (presentation on problems in forecasting).

Conference on Conservation and Load Management, sponsored by the Massachusetts Energy Facilities Siting Council, May 1983 (presentation on cost-benefit criteria).

Maryland Conference on Load Forecasting, sponsored by the Maryland Power Plant Siting Program and the Maryland Public Service Commission, June 1983 (presentation on overforecasting power demands).

The 5th Annual Meetings of the International Association of Energy Economists, June 1983 (presentation on evaluating weatherization programs).

The NARUC Advanced Regulatory Studies Program (presented lectures on capacity planning for electric utilities), February 1984.

The 16th Annual Conference of the Institute of Public Utilities, Michigan State University (discussant on phase-in and excess capacity), December 1984.

U.S. Department of Energy Utilities Conference, Las Vegas, Nevada (presentation of current and future regulatory issues), May 1985.

The 18th Annual Conference of the Institute of Public Utilities, Michigan State University, Williamsburg, Virginia, December 1986 (discussant on cogeneration).

The NRECA Conference on Load Forecasting, sponsored by the National Rural Electric Cooperative Association, New Orleans, Louisiana, December 1987 (presentation on load forecast accuracy).

The Second Rutgers/New Jersey Department of Commerce Annual Conference on Energy Policy in the Middle Atlantic States, Rutgers University, April 1988 (presentation on spot pricing of electricity).

The NASUCA 1988 Mid-Year Meeting, Annapolis, Maryland, June 1988, sponsored by the National Association of State Utility Consumer Advocates (presentation on the FERC electricity avoided cost NOPRs).

The Thirty-Second Atlantic Economic Society Conference, Washington, D.C., October 1991 (presentation of a paper on cost of capital issues for the Bell Operating Companies).

The NASUCA 1993 Mid-Year Meeting, St. Louis, Missouri, sponsored by the National Association of State Utility Consumer Advocates, June 1993 (presentation on regulatory issues concerning electric utility mergers).

The NASUCA and NARUC annual meetings in New York City, November 1993 (presentations and panel discussions on the emerging FERC policies on transmission pricing).

The NASUCA annual meetings in Reno, Nevada, November 1994 (presentation concerning the FERC NOPR on stranded cost recovery).

U.S. Department of Energy Utilities/Energy Management Workshop, March 1995 (presentation concerning electric utility competition).

The 1995 NASUCA Mid-Year Meeting, Breckenridge, Colorado, June 1995 (presentation concerning the FERC rulemaking on electric transmission open access).

The 1996 NASUCA Mid-Year Meeting, Chicago, Illinois, June 1996 (presentation concerning electric utility merger issues).

Conference on "Restructuring the Electric Industry," sponsored by the National Consumers League and Electric Consumers Alliance, Washington, D.C., May 1997 (presentation on retail access pilot programs).

The 1997 Mid-Atlantic Conference of Regulatory Utilities Commissioners (MARUC), Hot Springs, Virginia, July 1997 (presentation concerning electric deregulation issues).

Power-Gen '97 International Conference, Dallas, Texas, December 1997 (presentation concerning utility embedded costs of generation supply).

Consumer Summit on Electric Competition, sponsored by the National Consumers League and Electric Consumers' Alliance, Washington, D.C., March 2001 (presentation concerning generation supply and reliability).

National Association of State Utility Consumer Advocates, Mid-Year Meetings, Austin, Texas, June 16-17, 2002 (presenter and panelist on RTO/Standard Market Design issues).

Louisiana State Bar Association, Public Utility Section, Baton Rouge, Louisiana, October 2, 2002 (presentation on Performance-Based Ratemaking and panelist on RTO issues).

Virginia State Corporation Commission/Virginia State Bar, Twenty-Second National Regulatory Conference, Williamsburg, Virginia, May 10, 2004 (presentation on Electric Transmission System Planning).

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	Docket Number	Utility	Jurisdiction	Client	Subject
1.	27374 & 27375 October 1978	Long Island Lighting Company	New York Counties	Nassau & Suffolk	Economic Impacts of Proposed Rate Increase
2.	6807 January 1978	Generic	Maryland	MD Power Plant Siting Program	Load Forecasting
3.	78-676-EL-AIR February 1978	Ohio Power Company	Ohio	Ohio Consumers' Counsel	Test Year Sales and Revenues
4.	17667 May 1979	Alabama Power Company	Alabama	Attorney General	Test Year Sales, Revenues, Costs, and Load Forecasts
5.	None April 1980	Tennessee Valley Authority	TVA Board	League of Women Voters	Time-of-Use Pricing
6.	R-80021082	West Penn Power Company	Pennsylvania	Office of Consumer Advocate	Load Forecasting, Marginal Cost pricing
7.	7259 (Phase I) October 1980	Potomac Edison Company	Maryland	MD Power Plant Siting Program	Load Forecasting
8.	7222 December 1980	Delmarva Power & Light Company	Maryland	MD Power Plant Siting Program	Need for Plant, Load Forecasting
9.	7441 June 1981	Potomac Electric Power Company	Maryland	Commission Staff	PURPA Standards
10.	7159 May 1980	Baltimore Gas & Electric	Maryland	Commission Staff	Time-of-Use Pricing
11.	81-044-E-42T	Monongahela Power	West Virginia	Commission Staff	Time-of-Use Rates
12.	7259 (Phase II) November 1981	Potomac Edison Company	Maryland	MD Power Plant Siting Program	Load Forecasting, Load Management
13.	1606 September 1981	Blackstone Valley Electric and Narragansett	Rhode Island	Division of Public Utilities	PURPA Standards
14.	RID 1819 April 1982	Pennsylvania Bell	Pennsylvania	Office of Consumer Advocate	Rate of Return
15.	82-0152 July 1982	Illinois Power Company	Illinois	U.S. Department of Defense	Rate of Return, CWIP

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16.	7559 September 1982	Potomac Edison Company	Maryland	Commission Staff	Cogeneration
17.	820150-EU September 1982	Gulf Power Company	Florida	Federal Executive Agencies	Rate of Return, CWIP
18.	82-057-15 January 1983	Mountain Fuel Supply Company	Utah	Federal Executive Agencies	Rate of Return, Capital Structure
19.	5200 August 1983	Texas Electric Service Company	Texas	Federal Executive Agencies	Cost of Equity
20.	28069 August 1983	Oklahoma Natural Gas	Oklahoma	Federal Executive Agencies	Rate of Return, deferred taxes, capital structure, attrition
21.	83-0537 February 1984	Commonwealth Edison Company	Illinois	U.S. Department of Energy	Rate of Return, capital structure, financial capability
22.	84-035-01 June 1984	Utah Power & Light Company	Utah	Federal Executive Agencies	Rate of Return
23.	U-1009-137 July 1984	Utah Power & Light Company	Idaho	U.S. Department of Energy	Rate of Return, financial condition
24.	R-842590 August 1984	Philadelphia Electric Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
25.	840086-EI August 1984	Gulf Power Company	Florida	Federal Executive Agencies	Rate of Return, CWIP
26.	84-122-E August 1984	Carolina Power & Light Company	South Carolina	South Carolina Consumer Advocate	Rate of Return, CWIP, load forecasting
27.	CGC-83-G & CGC-84-G October 1984	Columbia Gas of Ohio	Ohio	Ohio Division of Energy	Load forecasting
28.	R-842621 October 1984	Western Pennsylvania Water Company	Pennsylvania	Office of Consumer Advocate	Test year sales
29.	R-842710 January 1985	ALLTEL Pennsylvania Inc.	Pennsylvania	Office of Consumer Advocate	Rate of Return
30.	ER-504 February 1985	Allegheny Generating Company	FERC	Office of Consumer Advocate	Rate of Return

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31.	R-842632 March 1985	West Penn Power Company	Pennsylvania	Office of Consumer Advocate	Rate of Return, conservation, time-of-use rates
32.	83-0537 & 84-0555 April 1985	Commonwealth Edison Company	Illinois	U.S. Department of Energy	Rate of Return, incentive rates, rate base
33.	Rulemaking Docket No. 11, May 1985	Generic	Delaware	Delaware Commission Staff	Interest rates on refunds
34.	29450 July 1985	Oklahoma Gas & Electric Company	Oklahoma	Oklahoma Attorney General	Rate of Return, CWIP in rate base
35.	1811 August 1985	Bristol County Water Company	Rhode Island	Division of Public Utilities	Rate of Return, capital Structure
36.	R-850044 & R-850045 August 1985	Quaker State & Continental Telephone Companies	Pennsylvania	Office of Consumer Advocate	Rate of Return
37.	R-850174 November 1985	Philadelphia Suburban Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return, financial conditions
38.	U-1006-265 March 1986	Idaho Power Company	Idaho	U.S. Department of Energy	Power supply costs and models
39.	EL-86-37 & EL-86-38 September 1986	Allegheny Generating Company	FERC	PA Office of Consumer Advocate	Rate of Return
40.	R-850287 June 1986	National Fuel Gas Distribution Corp.	Pennsylvania	Office of Consumer Advocate	Rate of Return
41.	1849 August 1986	Blackstone Valley Electric	Rhode Island	Division of Public Utilities	Rate of Return, financial condition
42.	86-297-GA-AIR November 1986	East Ohio Gas Company	Ohio	Ohio Consumers' Counsel	Rate of Return
43.	U-16945 December 1986	Louisiana Power & Light Company	Louisiana	Public Service Commission	Rate of Return, rate phase-in plan
44.	Case No. 7972 February 1987	Potomac Electric Power Company	Maryland	Commission Staff	Generation capacity planning, purchased power contract
45.	EL-86-58 & EL-86-59 March 1987	System Energy Resources and Middle South Services	FERC	Louisiana PSC	Rate of Return

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46.	ER-87-72-001 April 1987	Orange & Rockland	FERC	PA Office of Consumer Advocate	Rate of Return
47.	U-16945 April 1987	Louisiana Power & Light Company	Louisiana	Commission Staff	Revenue requirement update phase-in plan
48.	P-870196 May 1987	Pennsylvania Electric Company	Pennsylvania	Office of Consumer Advocate	Cogeneration contract
49.	86-2025-EL-AIR June 1987	Cleveland Electric Illuminating Company	Ohio	Ohio Consumers' Counsel	Rate of Return
50.	86-2026-EL-AIR June 1987	Toledo Edison Company	Ohio	Ohio Consumers' Counsel	Rate of Return
51.	87-4 June 1987	Delmarva Power & Light Company	Delaware	Commission Staff	Cogeneration/small power
52.	1872 July 1987	Newport Electric Company	Rhode Island	Commission Staff	Rate of Return
53.	WO 8606654 July 1987	Atlantic City Sewerage Company	New Jersey	Resorts International	Financial condition
54.	7510 August 1987	West Texas Utilities Company	Texas	Federal Executive Agencies	Rate of Return, phase-in
55.	8063 Phase I October 1987	Potomac Electric Power Company	Maryland	Power Plant Research Program	Economics of power plant site selection
56.	00439 November 1987	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration	Cogeneration economics
57.	RP-87-103 February 1988	Panhandle Eastern Pipe Line Company	FERC	Indiana Utility Consumer Counselor	Rate of Return
58.	EC-88-2-000 February 1988	Utah Power & Light Co. PacifiCorp	FERC	Nucor Steel	Merger economics
59.	87-0427 February 1988	Commonwealth Edison Company	Illinois	Federal Executive Agencies	Financial projections
60.	870840 February 1988	Philadelphia Suburban Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return

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61.	870832 March 1988	Columbia Gas of Pennsylvania	Pennsylvania	Office of Consumer Advocate	Rate of Return
62.	8063 Phase II July 1988	Potomac Electric Power Company	Maryland	Power Plant Research Program	Power supply study
63.	8102 July 1988	Southern Maryland Electric Cooperative	Maryland	Power Plant Research Program	Power supply study
64.	10105 August 1988	South Central Bell Telephone Co.	Kentucky	Attorney General	Rate of Return, incentive regulation
65.	00345 August 1988	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration	Need for power
66.	U-17906 September 1988	Louisiana Power & Light Company	Louisiana	Commission Staff	Rate of Return, nuclear power costs Industrial contracts
67.	88-170-EL-AIR October 1988	Cleveland Electric Illuminating Co.	Ohio	Northeast-Ohio Areawide Coordinating Agency	Economic impact study
68.	1914 December 1988	Providence Gas Company	Rhode Island	Commission Staff	Rate of Return
69.	U-12636 & U-17649 February 1989	Louisiana Power & Light Company	Louisiana	Commission Staff	Disposition of litigation proceeds
70.	00345 February 1989	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration	Load forecasting
71.	RP88-209 March 1989	Natural Gas Pipeline of America	FERC	Indiana Utility Consumer Counselor	Rate of Return
72.	8425 March 1989	Houston Lighting & Power Company	Texas	U.S. Department of Energy	Rate of Return
73.	EL89-30-000 April 1989	Central Illinois Public Service Company	FERC	Soyland Power Coop, Inc.	Rate of Return
74.	R-891208 May 1989	Pennsylvania American Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return

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75.	89-0033 May 1989	Illinois Bell Telephone Company	Illinois	Citizens Utility Board	Rate of Return
76.	881167-EI May 1989	Gulf Power Company	Florida	Federal Executive Agencies	Rate of Return
77.	R-891218 July 1989	National Fuel Gas Distribution Company	Pennsylvania	Office of Consumer Advocate	Sales forecasting
78.	8063, Phase III Sept. 1989	Potomac Electric Power Company	Maryland	Depart. Natural Resources	Emissions Controls
79.	37414-S2 October 1989	Public Service Company of Indiana	Indiana	Utility Consumer Counselor	Rate of Return, DSM, off-system sales, incentive regulation
80.	October 1989	Generic	U.S. House of Reps. Comm. on Ways & Means	N/A	Excess deferred income tax
81.	38728 November 1989	Indiana Michigan Power Company	Indiana	Utility Consumer Counselor	Rate of Return
82.	RP89-49-000 December 1989	National Fuel Gas Supply Corporation	FERC	PA Office of Consumer Advocate	Rate of Return
83.	R-891364 December 1989	Philadelphia Electric Company	Pennsylvania	PA Office of Consumer Advocate	Financial impacts (surrebuttal only)
84.	RP89-160-000 January 1990	Trunkline Gas Company	FERC	Indiana Utility Consumer Counselor	Rate of Return
85.	EL90-16-000 November 1990	System Energy Resources, Inc.	FERC	Louisiana Public Service Commission	Rate of Return
86.	89-624 March 1990	Bell Atlantic	FCC	PA Office of Consumer Advocate	Rate of Return
87.	8245 March 1990	Potomac Edison Company	Maryland	Depart. Natural Resources	Avoided Cost
88.	000586 March 1990	Public Service Company of Oklahoma	Oklahoma	Smith Cogeneration Mgmt.	Need for Power

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89.	38868 March 1990	Indianapolis Water Company	Indiana	Utility Consumer Counselor	Rate of Return
90.	1946 March 1990	Blackstone Valley Electric Company	Rhode Island	Division of Public Utilities	Rate of Return
91.	000776 April 1990	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration Mgmt.	Need for Power
92.	890366 May 1990, December 1990	Metropolitan Edison Company	Pennsylvania	Office of Consumer Advocate	Competitive Bidding Program Avoided Costs
93.	EC-90-10-000 May 1990	Northeast Utilities	FERC	Maine PUC, et al.	Merger, Market Power, Transmission Access
94.	ER-891109125 July 1990	Jersey Central Power & Light	New Jersey	Rate Counsel	Rate of Return
95.	R-901670 July 1990	National Fuel Gas Distribution Corp.	Pennsylvania	Office of Consumer Advocate	Rate of Return Test year sales
96.	8201 October 1990	Delmarva Power & Light Company	Maryland	Depart. Natural Resources	Competitive Bidding, Resource Planning
97.	EL90-45-000 April 1991	Entergy Services, Inc.	FERC	Louisiana PSC	Rate of Return
98.	GR90080786J January 1991	New Jersey Natural Gas	New Jersey	Rate Counsel	Rate of Return
99.	90-256 January 1991	South Central Bell Telephone Company	Kentucky	Attorney General	Rate of Return
100.	U-17949A February 1991	South Central Bell Telephone Company	Louisiana	Louisiana PSC	Rate of Return
101.	ER90091090J April 1991	Atlantic City Electric Company	New Jersey	Rate Counsel	Rate of Return
102.	8241, Phase I April 1991	Baltimore Gas & Electric Company	Maryland	Dept. of Natural Resources	Environmental controls

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103.	8241, Phase II May 1991	Baltimore Gas & Electric Company	Maryland	Dept. of Natural Resources	Need for Power, Resource Planning
104.	39128 May 1991	Indianapolis Water Company	Indiana	Utility Consumer Counselor	Rate of Return, rate base, financial planning
105.	P-900485 May 1991	Duquesne Light Company	Pennsylvania	Office of Consumer Advocate	Purchased power contract and related ratemaking
106.	G900240 P910502 May 1991	Metropolitan Edison Company Pennsylvania Electric Company	Pennsylvania	Office of Consumer Advocate	Purchased power contract and related ratemaking
107.	GR901213915 May 1991	Elizabethtown Gas Company	New Jersey	Rate Counsel	Rate of Return
108.	91-5032 August 1991	Nevada Power Company	Nevada	U.S. Dept. of Energy	Rate of Return
109.	EL90-48-000 November 1991	Entergy Services	FERC	Louisiana PSC	Capacity transfer
110.	000662 September 1991	Southwestern Bell Telephone	Oklahoma	Attorney General	Rate of Return
111.	U-19236 October 1991	Arkansas Louisiana Gas Company	Louisiana	Louisiana PSC Staff	Rate of Return
112.	U-19237 December 1991	Louisiana Gas Service Company	Louisiana	Louisiana PSC Staff	Rate of Return
113.	ER91030356J October 1991	Rockland Electric Company	New Jersey	Rate Counsel	Rate of Return
114.	GR91071243J February 1992	South Jersey Gas Company	New Jersey	Rate Counsel	Rate of Return
115.	GR91081393J March 1992	New Jersey Natural Gas Company	New Jersey	Rate Counsel	Rate of Return
116.	P-870235, et al. March 1992	Pennsylvania Electric Company	Pennsylvania	Office of Consumer Advocate	Cogeneration contracts

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117.	8413 March 1992	Potomac Electric Power Company	Maryland	Dept. of Natural Resources	IPP purchased power contracts
118.	39236 March 1992	Indianapolis Power & Light Company	Indiana	Utility Consumer Counselor	Least-cost planning Need for power
119.	R-912164 April 1992	Equitable Gas Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
120.	ER-91111698J May 1992	Public Service Electric & Gas Company	New Jersey	Rate Counsel	Rate of Return
121.	U-19631 June 1992	Trans Louisiana Gas Company	Louisiana	PSC Staff	Rate of Return
122.	ER-91121820J July 1992	Jersey Central Power & Light Company	New Jersey	Rate Counsel	Rate of Return
123.	R-00922314 August 1992	Metropolitan Edison Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
124.	92-049-05 September 1992	US West Communications	Utah	Committee of Consumer Services	Rate of Return
125.	92PUE0037 September 1992	Commonwealth Gas Company	Virginia	Attorney General	Rate of Return
126.	EC92-21-000 September 1992	Entergy Services, Inc.	FERC	Louisiana PSC	Merger Impacts (Affidavit)
127.	ER92-341-000 December 1992	System Energy Resources	FERC	Louisiana PSC	Rate of Return
128.	U-19904 November 1992	Louisiana Power & Light Company	Louisiana	Staff	Merger analysis, competition competition issues
129.	8473 November 1992	Baltimore Gas & Electric Company	Maryland	Dept. of Natural Resources	QF contract evaluation
130.	IPC-E-92-25 January 1993	Idaho Power Company	Idaho	Federal Executive Agencies	Power Supply Clause

	Docket Number	Utility	Jurisdiction	Client	Subject
131.	E002/GR-92-1185 February 1993	Northern States Power Company	Minnesota	Attorney General	Rate of Return
132.	92-102, Phase II March 1992	Central Maine Power Company	Maine	Staff	QF contracts prudence and procurements practices
133.	EC92-21-000 March 1993	Entergy Corporation	FERC	Louisiana PSC	Merger Issues
134.	8489 March 1993	Delmarva Power & Light Company	Maryland	Dept. of Natural Resources	Power Plant Certification
135.	11735 April 1993	Texas Electric Utilities Company	Texas	Federal Executives Agencies	Rate of Return
136.	2082 May 1993	Providence Gas Company	Rhode Island	Division of Public Utilities	Rate of Return
137.	P-00930715 December 1993	Bell Telephone Company of Pennsylvania	Pennsylvania	Office of Consumer Advocate	Rate of Return, Financial Projections, Bell/TCI merger
138.	R-00932670 February 1994	Pennsylvania-American Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
139.	8583 February 1994	Conowingo Power Company	Maryland	Dept. of Natural Resources	Competitive Bidding for Power Supplies
140.	E-015/GR-94-001 April 1994	Minnesota Power & Light Company	Minnesota	Attorney General	Rate of Return
141.	CC Docket No. 94-1 May 1994	Generic Telephone	FCC	MCI Comm. Corp.	Rate of Return
142.	92-345, Phase II June 1994	Central Maine Power Company	Maine	Advocacy Staff	Price Cap Regulation Fuel Costs
143.	93-11065 April 1994	Nevada Power Company	Nevada	Federal Executive Agencies	Rate of Return
144.	94-0065 May 1994	Commonwealth Edison Company	Illinois	Federal Executive Agencies	Rate of Return
145.	GR94010002J June 1994	South Jersey Gas Company	New Jersey	Rate Counsel	Rate of Return

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146.	WR94030059 July 1994	New Jersey-American Water Company	New Jersey	Rate Counsel	Rate of Return
147.	RP91-203-000 June 1994	Tennessee Gas Pipeline Company	FERC	Customer Group	Environmental Externalities (oral testimony only)
148.	ER94-998-000 July 1994	Ocean State Power	FERC	Boston Edison Company	Rate of Return
149.	R-00942986 July 1994	West Penn Power Company	Pennsylvania	Office of Consumer Advocate	Rate of Return, Emission Allowances
150.	94-121 August 1994	South Central Bell Telephone Company	Kentucky	Attorney General	Rate of Return
151.	35854-S2 November 1994	PSI Energy, Inc.	Indiana	Utility Consumer Counsel	Merger Savings and Allocations
152.	IPC-E-94-5 November 1994	Idaho Power Company	Idaho	Federal Executive Agencies	Rate of Return
153.	November 1994	Edmonton Water	Alberta, Canada	Regional Customer Group	Rate of Return (Rebuttal Only)
154.	90-256 December 1994	South Central Bell Telephone Company	Kentucky	Attorney General	Incentive Plan True-Ups
155.	U-20925 February 1995	Louisiana Power & Light Company	Louisiana	PSC Staff	Rate of Return Industrial Contracts Trust Fund Earnings
156.	R-00943231 February 1995	Pennsylvania-American Water Company	Pennsylvania	Consumer Advocate	Rate of Return
157.	8678 March 1995	Generic	Maryland	Dept. Natural Resources	Electric Competition Incentive Regulation (oral only)
158.	R-000943271 April 1995	Pennsylvania Power & Light Company	Pennsylvania	Consumer Advocate	Rate of Return Nuclear decommissioning Capacity Issues
159.	U-20925 May 1995	Louisiana Power & Light Company	Louisiana	Commission Staff	Class Cost of Service Issues

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160.	2290 June 1995	Narragansett Electric Company	Rhode Island	Division Staff	Rate of Return
161.	U-17949E June 1995	South Central Bell Telephone Company	Louisiana	Commission Staff	Rate of Return
162.	2304 July 1995	Providence Water Supply Board	Rhode Island	Division Staff	Cost recovery of Capital Spending Program
163.	ER95-625-000, et al. August 1995	PSI Energy, Inc.	FERC	Office of Utility Consumer Counselor	Rate of Return
164.	P-00950915, et al. September 1995	Paxton Creek Cogeneration Assoc.	Pennsylvania	Office of Consumer Advocate	Cogeneration Contract Amendment
165.	8702 September 1995	Potomac Edison Company	Maryland	Dept. of Natural Resources	Allocation of DSM Costs (oral only)
166.	ER95-533-001 September 1995	Ocean State Power	FERC	Boston Edison Co.	Cost of Equity
167.	40003 November 1995	PSI Energy, Inc.	Indiana	Utility Consumer Counselor	Rate of Return Retail wheeling
168.	P-55, SUB 1013 January 1996	BellSouth	North Carolina	AT&T	Rate of Return
169.	P-7, SUB 825 January 1996	Carolina Tel.	North Carolina	AT&T	Rate of Return
170.	February 1996	Generic Telephone	FCC	MCI	Cost of capital
171.	95A-531EG April 1996	Public Service Company of Colorado	Colorado	Federal Executive Agencies	Merger issues
172.	ER96-399-000 May 1996	Northern Indiana Public Service Company	FERC	Indiana Office of Utility Consumer Counselor	Cost of capital
173.	8716 June 1996	Delmarva Power & Light Company	Maryland	Dept. of Natural Resources	DSM programs
174.	8725 July 1996	BGE/PEPCO	Maryland	Md. Energy Admin.	Merger Issues

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175.	U-20925 August 1996	Entergy Louisiana, Inc.	Louisiana	PSC Staff	Rate of Return Allocations Fuel Clause
176.	EC96-10-000 September 1996	BGE/PEPCO	FERC	Md. Energy Admin.	Merger issues competition
177.	EL95-53-000 November 1996	Entergy Services, Inc.	FERC	Louisiana PSC	Nuclear Decommissioning
178.	WR96100768 March 1997	Consumers NJ Water Company	New Jersey	Ratepayer Advocate	Cost of Capital
179.	WR96110818 April 1997	Middlesex Water Co.	New Jersey	Ratepayer Advocate	Cost of Capital
180.	U-11366 April 1997	Ameritech Michigan	Michigan	MCI	Access charge reform/financial condition
181.	97-074 May 1997	BellSouth	Kentucky	MCI	Rate Rebalancing financial condition
182.	2540 June 1997	New England Power	Rhode Island	PUC Staff	Divestiture Plan
183.	96-336-TP-CSS June 1997	Ameritech Ohio	Ohio	MCI	Access Charge reform Economic impacts
184.	WR97010052 July 1997	Maxim Sewerage Corp.	New Jersey	Ratepayer Advocate	Rate of Return
185.	97-300 August 1997	LG&E/KU	Kentucky	Attorney General	Merger Plan
186.	Case No. 8738 August 1997	Generic (oral testimony only)	Maryland	Dept. of Natural Resources	Electric Restructuring Policy
187.	Docket No. 2592 September 1997	Eastern Utilities	Rhode Island	PUC Staff	Generation Divestiture
188.	Case No.97-247 September 1997	Cincinnati Bell Telephone	Kentucky	MCI	Financial Condition

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189.	Docket No. U-20925 November 1997	Entergy Louisiana	Louisiana	PSC Staff	Rate of Return
190.	Docket No. D97.7.90 November 1997	Montana Power Co.	Montana	Montana Consumers Counsel	Stranded Cost
191.	Docket No. EO97070459 November 1997	Jersey Central Power & Light Co.	New Jersey	Ratepayer Advocate	Stranded Cost
192.	Docket No. R-00974104 November 1997	Duquesne Light Co.	Pennsylvania	Office of Consumer Advocate	Stranded Cost
193.	Docket No. R-00973981 November 1997	West Penn Power Co.	Pennsylvania	Office of Consumer Advocate	Stranded Cost
194.	Docket No. A-1101150F0015 November 1997	Allegheny Power System DQE, Inc.	Pennsylvania	Office of Consumer Advocate	Merger Issues
195.	Docket No. WR97080615 January 1998	Consumers NJ Water Company	New Jersey	Ratepayer Advocate	Rate of Return
196.	Docket No. R-00974149 January 1998	Pennsylvania Power Company	Pennsylvania	Office of Consumer Advocate	Stranded Cost
197.	Case No. 8774 January 1998	Allegheny Power System DQE, Inc.	Maryland	Dept. of Natural Resources MD Energy Administration	Merger Issues
198.	Docket No. U-20925 (SC) March 1998	Entergy Louisiana, Inc.	Louisiana	Commission Staff	Restructuring, Stranded Costs, Market Prices
199.	Docket No. U-22092 (SC) March 1998	Entergy Gulf States, Inc.	Louisiana	Commission Staff	Restructuring, Stranded Costs, Market Prices
200.	Docket Nos. U-22092 (SC) and U-20925(SC) May 1998	Entergy Gulf States and Entergy Louisiana	Louisiana	Commission Staff	Standby Rates
201.	Docket No. WR98010015 May 1998	NJ American Water Co.	New Jersey	Ratepayer Advocate	Rate of Return
202.	Case No. 8794 December 1998	Baltimore Gas & Electric Co.	Maryland	MD Energy Admin./Dept. Of Natural Resources	Stranded Cost/ Transition Plan

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203.	Case No. 8795 December 1998	Delmarva Power & Light Co.	Maryland	MD Energy Admin./Dept. Of Natural Resources	Stranded Cost/ Transition Plan
204.	Case No. 8797 January 1998	Potomac Edison Co.	Maryland	MD Energy Admin./Dept. Of Natural Resources	Stranded Cost/ Transition Plan
205.	Docket No. WR98090795 March 1999	Middlesex Water Co.	New Jersey	Ratepayer Advocate	Rate of Return
206.	Docket No. 99-02-05 April 1999	Connecticut Light & Power	Connecticut	Attorney General	Stranded Costs
207.	Docket No. 99-03-04 May 1999	United Illuminating Company	Connecticut	Attorney General	Stranded Costs
208.	Docket No. U-20925 (FRP) June 1999	Entergy Louisiana, Inc.	Louisiana	Staff	Capital Structure
209.	Docket No. EC-98-40-000, et al. May 1999	American Electric Power/ Central & Southwest	FERC	Arkansas PSC	Market Power Mitigation
210.	Docket No. 99-03-35 July 1999	United Illuminating Company	Connecticut	Attorney General	Restructuring
211.	Docket No. 99-03-36 July 1999	Connecticut Light & Power Co.	Connecticut	Attorney General	Restructuring
212.	WR99040249 Oct. 1999	Environmental Disposal Corp.	New Jersey	Ratepayer Advocate	Rate of Return
213.	2930 Nov. 1999	NEES/EUA	Rhode Island	Division Staff	Merger/Cost of Capital
214.	DE99-099 Nov. 1999	Public Service New Hampshire	New Hampshire	Consumer Advocate	Cost of Capital Issues
215.	00-01-11 Feb. 2000	Con Ed/NU	Connecticut	Attorney General	Merger Issues
216.	Case No. 8821 May 2000	Reliant/ODEC	Maryland	Dept. of Natural Resources	Need for Power/Plant Operations

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217.	Case No. 8738 July 2000	Generic	Maryland	Dept. of Natural Resources	DSM Funding
218.	Case No. U-23356 June 2000	Entergy Louisiana, Inc.	Louisiana	PSC Staff	Fuel Prudence Issues Purchased Power
219.	Case No. 21453, et al. July 2000	SWEPCO	Louisiana	PSC Staff	Stranded Costs
220.	Case No. 20925 (B) July 2000	Entergy Louisiana	Louisiana	PSC Staff	Purchase Power Contracts
221.	Case No. 24889 August 2000	Entergy Louisiana	Louisiana	PSC Staff	Purchase Power Contracts
222.	Case No. 21453, et al. February 2001	CLECO	Louisiana	PSC Staff	Stranded Costs
223.	P-00001860 and P-0000181 March 2001	GPU Companies	Pennsylvania	Office of Consumer Advocate	Rate of Return
224.	CVOL-0505662-S March 2001	ConEd/NU	Connecticut Superior Court	Attorney General	Merger (Affidavit)
225.	U-20925 (SC) March 2001	Entergy Louisiana	Louisiana	PSC Staff	Stranded Costs
226.	U-22092 (SC) March 2001	Entergy Gulf States	Louisiana	PSC Staff	Stranded Costs
227.	U-25533 May 2001	Entergy Louisiana/ Gulf States	Louisiana Interruptible Service	PSC Staff	Purchase Power
228.	P-00011872 May 2001	Pike County Pike	Pennsylvania	Office of Consumer Advocate	Rate of Return
229.	8893 July 2001	Baltimore Gas & Electric Co.	Maryland	MD Energy Administration	Corporate Restructuring
230.	8890 September 2001	Potomac Electric/Connectivity	Maryland	MD Energy Administration	Merger Issues

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231.	U-25533 August 2001	Entergy Louisiana / Gulf States	Louisiana	Staff	Purchase Power Contracts
232.	U-25965 November 2001	Generic	Louisiana	Staff	RTO Issues
233.	3401 March 2002	New England Gas Co.	Rhode Island	Division of Public Utilities	Rate of Return
234.	99-833-MJR April 2002	Illinois Power Co.	U.S. District Court	U.S. Department of Justice	New Source Review
235.	U-25533 March 2002	Entergy Louisiana/ Gulf States	Louisiana	PSC Staff	Nuclear Uprates Purchase Power
236.	P-00011872 May 2002	Pike County Power & Light	Pennsylvania	Consumer Advocate	POLR Service Costs
237.	U-26361, Phase I May 2002	Entergy Louisiana/ Gulf States	Louisiana	PSC Staff	Purchase Power Cost Allocations
238.	R-00016849C001, et al. June 2002	Generic	Pennsylvania	Pennsylvania OCA	Rate of Return
239.	U-26361, Phase II July 2002	Entergy Louisiana/ Entergy Gulf States	Louisiana	PSC Staff	Purchase Power Contracts
240.	U-20925(B) August 2002	Entergy Louisiana	Louisiana	PSC Staff	Tax Issues
241.	U-26531 October 2002	SWEPCO	Louisiana	PSC Staff	Purchase Power Contract
242.	8936 October 2002	Delmarva Power & Light	Maryland	Energy Administration Dept. Natural Resources	Standard Offer Service
243.	U-25965 November 2002	SWEPCO/AEP	Louisiana	PSC Staff	RTO Cost/Benefit
244.	8908 Phase I November 2002	Generic	Maryland	Energy Administration Dept. Natural Resources	Standard Offer Service
245.	02S-315EG November 2002	Public Service Company of Colorado	Colorado	Fed. Executive Agencies	Rate of Return

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246.	EL02-111-000 December 2002	PJM/MISO	FERC	MD PSC	Transmission Ratemaking
247.	02-0479 February 2003	Commonwealth Edison	Illinois	Dept. of Energy	POLR Service
248.	PL03-1-000 March 2003	Generic	FERC	NASUCA	Transmission Pricing (Affidavit)
249.	U-27136 April 2003	Entergy Louisiana	Louisiana	Staff	Purchase Power Contracts
250.	8908 Phase II July 2003	Generic	Maryland	Energy Administration Dept. of Natural Resources	Standard Offer Service
251.	U-27192 June 2003	Entergy Louisiana and Gulf States	Louisiana	LPSC Staff	Purchase Power Contract Cost Recovery
252.	C2-99-1181 October 2003	Ohio Edison Company	U.S. District Court	U.S. Department of Justice, et al.	Clean Air Act Compliance Economic Impact (Report)
253.	RP03-398-000 December 2003	Northern Natural Gas Co.	FERC	Municipal Distributors Group/Gas Task Force	Rate of Return
254.	8738 December 2003	Generic	Maryland	Energy Admin Department of Natural Resources	Environmental Disclosure (oral only)
255.	U-27136 December 2003	Entergy Louisiana, Inc.	Louisiana	PSC Staff	Purchase Power Contracts
256.	U-27192, Phase II October/December 2003	Entergy Louisiana & Entergy Gulf States	Louisiana	PSC Staff	Purchase Power Contracts
257.	WC Docket 03-173 December 2003	Generic	FCC	MCI	Cost of Capital (TELRIC)
258.	ER 030 20110 January 2004	Atlantic City Electric	New Jersey	Ratepayer Advocate	Rate of Return
259.	E-01345A-03-0437 January 2004	Arizona Public Service Company	Arizona	Federal Executive Agencies	Rate of Return
260.	03-10001 January 2004	Nevada Power Company	Nevada	U.S. Dept. of Energy	Rate of Return

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261.	R-00049255 June 2004	PPL Elec. Utility	Pennsylvania	Office of Consumer Advocate	Rate of Return
262.	U-20925 July 2004	Entergy Louisiana, Inc.	Louisiana	PSC Staff	Rate of Return Capacity Resources
263.	U-27866 September 2004	Southwest Electric Power Co.	Louisiana	PSC Staff	Purchase Power Contract
264.	U-27980 September 2004	Cleco Power	Louisiana	PSC Staff	Purchase Power Contract
265.	U-27865 October 2004	Entergy Louisiana, Inc. Entergy Gulf States	Louisiana	PSC Staff	Purchase Power Contract
266.	RP04-155 December 2004	Northern Natural Gas Company	FERC	Municipal Distributors Group/Gas Task Force	Rate of Return
267.	U-27836 January 2005	Entergy Louisiana/ Gulf States	Louisiana	PSC Staff	Power plant Purchase and Cost Recovery
268.	U-199040 et al. February 2005	Entergy Gulf States/ Louisiana	Louisiana	PSC Staff	Global Settlement, Multiple rate proceedings
269.	EF03070532 March 2005	Public Service Electric & Gas	New Jersey	Ratepayers Advocate	Securitization of Deferred Costs
270.	05-0159 June 2005	Commonwealth Edison	Illinois	Department of Energy	POLR Service
271.	U-28804 June 2005	Entergy Louisiana	Louisiana	LPSC Staff	QF Contract
272.	U-28805 June 2005	Entergy Gulf States	Louisiana	LPSC Staff	QF Contract
273.	05-0045-EI June 2005	Florida Power & Lt.	Florida	Federal Executive Agencies	Rate of Return
274.	9037 July 2005	Generic	Maryland	MD. Energy Administration	POLR Service
275.	U-28155 August 2005	Entergy Louisiana Entergy Gulf States	Louisiana	LPSC Staff	Independent Coordinator of Transmission Plan

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276.	U-27866-A September 2005	Southwestern Electric Power Company	Louisiana	LPSC Staff	Purchase Power Contract
277.	U-28765 October 2005	Cleco Power LLC	Louisiana	LPSC Staff	Purchase Power Contract
278.	U-27469 October 2005	Entergy Louisiana Entergy Gulf States	Louisiana	LPSC Staff	Avoided Cost Methodology
279.	A-313200F007 October 2005	Sprint (United of PA)	Pennsylvania	Office of Consumer Advocate	Corporate Restructuring
280.	EM05020106 November 2005	Public Service Electric & Gas Company	New Jersey	Ratepayer Advocate	Merger Issues
281.	U-28765 December 2005	Cleco Power LLC	Louisiana	LPSC Staff	Plant Certification, Financing, Rate Plan
282.	U-29157 February 2006	Cleco Power LLC	Louisiana	LPSC Staff	Storm Damage Financing
283.	U-29204 March 2006	Entergy Louisiana Entergy Gulf States	Louisiana	LPSC Staff	Purchase power contracts
284.	A-310325F006 March 2006	Alltel	Pennsylvania	Office of Consumer Advocate	Merger, Corporate Restructuring
285.	9056 March 2006	Generic	Maryland	Maryland Energy Administration	Standard Offer Service Structure
286.	C2-99-1182 April 2006	American Electric Power Utilities	U. S. District Court Southern District, Ohio	U. S. Department of Justice	New Source Review Enforcement (expert report)
287.	EM05121058 April 2006	Atlantic City Electric	New Jersey	Ratepayer Advocate	Power plant Sale
288.	ER05121018 June 2006	Jersey Central Power & Light Company	New Jersey	Ratepayer Advocate	NUG Contracts Cost Recovery
289.	U-21496, Subdocket C June 2006	Cleco Power LLC	Louisiana	Commission Staff	Rate Stabilization Plan
290.	GR0510085 June 2006	Public Service Electric & Gas Company	New Jersey	Ratepayer Advocate	Rate of Return (gas services)

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291.	R-000061366 July 2006	Metropolitan Ed. Company Penn. Electric Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
292.	9064 September 2006	Generic	Maryland	Energy Administration	Standard Offer Service
293.	U-29599 September 2006	Cleco Power LLC	Louisiana	Commission Staff	Purchase Power Contracts
294.	WR06030257 September 2006	New Jersey American Water Company	New Jersey	Rate Counsel	Rate of Return
295.	U-27866/U-29702 October 2006	Southwestern Electric Power Company	Louisiana	Commission Staff	Purchase Power/Power Plant Certification
296.	9063 October 2006	Generic	Maryland	Energy Administration Department of Natural Resources	Generation Supply Policies
297.	EM06090638 November 2006	Atlantic City Electric	New Jersey	Rate Counsel	Power Plant Sale
298.	C-2000065942 November 2006	Pike County Light & Power	Pennsylvania	Consumer Advocate	Generation Supply Service
299.	ER06060483 November 2006	Rockland Electric Company	New Jersey	Rate Counsel	Rate of Return
300.	A-110150F0035 December 2006	Duquesne Light Company	Pennsylvania	Consumer Advocate	Merger Issues
301.	U-29203, Phase II January 2007	Entergy Gulf States Entergy Louisiana	Louisiana	Commission Staff	Storm Damage Cost Allocation
302.	06-11022 February 2007	Nevada Power Company	Nevada	U.S. Dept. of Energy	Rate of Return
303.	U-29526 March 2007	Cleco Power	Louisiana	Commission Staff	Affiliate Transactions
304.	P-00072245 March 2007	Pike County Light & Power	Pennsylvania	Consumer Advocate	Provider of Last Resort Service
305.	P-00072247 March 2007	Duquesne Light Company	Pennsylvania	Consumer Advocate	Provider of Last Resort Service

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306.	EM07010026 May 2007	Jersey Central Power & Light Company	New Jersey	Rate Counsel	Power Plant Sale
307.	U-30050 June 2007	Entergy Louisiana Entergy Gulf States	Louisiana	Commission Staff	Purchase Power Contract
308.	U-29956 June 2007	Entergy Louisiana	Louisiana	Commission Staff	Black Start Unit
309.	U-29702 June 2007	Southwestern Electric Power Company	Louisiana	Commission Staff	Power Plant Certification
310.	U-29955 July 2007	Entergy Louisiana Entergy Gulf States	Louisiana	Commission Staff	Purchase Power Contracts
311.	2007-67 July 2007	FairPoint Communications	Maine	Office of Public Advocate	Merger Financial Issues
312.	P-00072259 July 2007	Metropolitan Edison Co.	Pennsylvania	Office of Consumer Advocate	Purchase Power Contract Restructuring
313.	EO07040278 September 2007	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Energy Program Financial Issues
314.	U-30192 September 2007	Entergy Louisiana	Louisiana	Commission Staff	Power Plant Certification Ratemaking, Financing
315.	9117 (Phase II) October 2007	Generic (Electric)	Maryland	Energy Administration	Standard Offer Service Reliability
316.	U-30050 November 2007	Entergy Gulf States	Louisiana	Commission Staff	Power Plant Acquisition
317.	IPC-E-07-8 December 2007	Idaho Power Co.	Idaho	U.S. Department of Energy	Cost of Capital
318.	U-30422 (Phase I) January 2008	Entergy Gulf States	Louisiana	Commission Staff	Purchase Power Contract
319.	U-29702 (Phase II) February, 2008	Southwestern Electric Power Co.	Louisiana	Commission Staff	Power Plant Certification
320.	March 2008	Delmarva Power & Light	Delaware State Senate	Senate Committee	Wind Energy Economics

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321.	U-30192 (Phase II) March 2008	Entergy Louisiana	Louisiana	Commission Staff	Cash CWIP Policy, Credit Ratings
322.	U-30422 (Phase II) April 2008	Entergy Gulf States - LA	Louisiana	Commission Staff	Power Plant Acquisition
323.	U-29955 (Phase II) April 2008	Entergy Gulf States - LA Entergy Louisiana	Louisiana	Commission Staff	Purchase Power Contract
324.	GR-070110889 April 2008	New Jersey Natural Gas Company	New Jersey	Rate Counsel	Cost of Capital
325.	WR-08010020 July 2008	New Jersey American Water Company	New Jersey	Rate Counsel	Cost of Capital
326.	U-28804-A August 2008	Entergy Louisiana	Louisiana	Commission Staff	Cogeneration Contract
327.	IP-99-1693C-M/S August 2008	Duke Energy Indiana	Federal District Court	U.S. Department of Justice/ Environmental Protection Agency	Clean Air Act Compliance (Expert Report)
328.	U-30670 September 2008	Entergy Louisiana	Louisiana	Commission Staff	Nuclear Plant Equipment Replacement
329.	9149 October 2008	Generic	Maryland	Department of Natural Resources	Capacity Adequacy/Reliability
330.	IPC-E-08-10 October 2008	Idaho Power Company	Idaho	U.S. Department of Energy	Cost of Capital
331.	U-30727 October 2008	Cleco Power LLC	Louisiana	Commission Staff	Purchased Power Contract
332.	U-30689-A December 2008	Cleco Power LLC	Louisiana	Commission Staff	Transmission Upgrade Project
333.	IP-99-1693C-M/S February 2009	Duke Energy Indiana	Federal District Court	U.S. Department of Justice/EPA	Clean Air Act Compliance (Oral Testimony)
334.	U-30192, Phase II February 2009	Entergy Louisiana, LLC	Louisiana	Commission Staff	CWIP Rate Request Plant Allocation
335.	U-28805-B February 2009	Entergy Gulf States, LLC	Louisiana	Commission Staff	Cogeneration Contract

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336.	P-2009-2093055, et al. May 2009	Metropolitan Edison Pennsylvania Electric	Pennsylvania	Office of Consumer Advocate	Default Service
337.	U-30958 July 2009	Cleco Power	Louisiana	Commission Staff	Purchase Power Contract
338.	EO08050326 August 2009	Jersey Central Power Light Co.	New Jersey	Rate Counsel	Demand Response Cost Recovery
339.	GR09030195 August 2009	Elizabethtown Gas	New Jersey	New Jersey Rate Counsel	Cost of Capital
340.	U-30422-A August 2009	Entergy Gulf States	Louisiana	Staff	Generating Unit Purchase
341.	CV 1:99-01693 August 2009	Duke Energy Indiana	Federal District Court – Indiana	U. S. DOJ/EPA, et al.	Environmental Compliance Rate Impacts (Expert Report)
342.	4065 September 2009	Narragansett Electric	Rhode Island	Division Staff	Cost of Capital
343.	U-30689 September 2009	Cleco Power	Louisiana	Staff	Cost of Capital, Rate Design, Other Rate Case Issues
344.	U-31147 October 2009	Entergy Gulf States Entergy Louisiana	Louisiana	Staff	Purchase Power Contracts
345.	U-30913 November 2009	Cleco Power	Louisiana	Staff	Certification of Generating Unit
346.	M-2009-2123951 November 2009	West Penn Power	Pennsylvania	Office of Consumer Advocate	Smart Meter Cost of Capital (Surrebuttal Only)
347.	GR09050422 November 2009	Public Service Electric & Gas Company	New Jersey	Rate Counsel	Cost of Capital
348.	D-09-49 November 2009	Narragansett Electric	Rhode Island	Division Staff	Securities Issuances
349.	U-29702, Phase II November 2009	Southwestern Electric Power Company	Louisiana	Commission Staff	Cash CWIP Recovery
350.	U-30981 December 2009	Entergy Louisiana Entergy Gulf States	Louisiana	Commission Staff	Storm Damage Cost Allocation

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351.	U-31196 (ITA Phase) February 2010	Entergy Louisiana	Louisiana	Staff	Purchase Power Contract
352.	ER09080668 March 2010	Rockland Electric	New Jersey	Rate Counsel	Rate of Return
353.	GR10010035 May 2010	South Jersey Gas Co.	New Jersey	Rate Counsel	Rate of Return
354.	P-2010-2157862 May 2010	Pennsylvania Power Co.	Pennsylvania	Consumer Advocate	Default Service Program
355.	10-CV-2275 June 2010	Xcel Energy	U.S. District Court Minnesota	U.S. Dept. Justice/EPA	Clean Air Act Enforcement
356.	WR09120987 June 2010	United Water New Jersey	New Jersey	Rate Counsel	Rate of Return
357.	U-30192, Phase III June 2010	Entergy Louisiana	Louisiana	Staff	Power Plant Cancellation Costs
358.	31299 July 2010	Cleco Power	Louisiana	Staff	Securities Issuances
359.	App. No. 1601162 July 2010	EPCOR Water	Alberta, Canada	Regional Customer Group	Cost of Capital
360.	U-31196 July 2010	Entergy Louisiana	Louisiana	Staff	Purchase Power Contract
361.	2:10-CV-13101 August 2010	Detroit Edison	U.S. District Court Eastern Michigan	U.S. Dept. of Justice/EPA	Clean Air Act Enforcement
362.	U-31196 August 2010	Entergy Louisiana Entergy Gulf States	Louisiana	Staff	Generating Unit Purchase and Cost Recovery
363.	Case No. 9233 October 2010	Potomac Edison Company	Maryland	Energy Administration	Merger Issues
364.	2010-2194652 November 2010	Pike County Light & Power	Pennsylvania	Consumer Advocate	Default Service Plan
365.	2010-2213369 April 2011	Duquesne Light Company	Pennsylvania	Consumer Advocate	Merger Issues

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366.	U-31841 May 2011	Entergy Gulf States	Louisiana	Staff	Purchase Power Agreement
367.	11-06006 September 2011	Nevada Power	Nevada	U. S. Department of Energy	Cost of Capital
368.	9271 September 2011	Exelon/Constellation	Maryland	MD Energy Administration	Merger Savings
369.	4255 September 2011	United Water Rhode Island	Rhode Island	Division of Public Utilities	Rate of Return
370.	P-2011-2252042 October 2011	Pike County Light & Power	Pennsylvania	Consumer Advocate	Default service plan
371.	U-32095 November 2011	Southwestern Electric Power Company	Louisiana	Commission Staff	Wind energy contract
372.	U-32031 November 2011	Entergy Gulf States Louisiana	Louisiana	Commission Staff	Purchased Power Contract
373.	U-32088 January 2012	Entergy Louisiana	Louisiana	Commission Staff	Coal plant evaluation
374.	R-2011-2267958 February 2012	Aqua Pa.	Pennsylvania	Office of Consumer Advocate	Cost of capital
375.	P-2011-2273650 February 2012	FirstEnergy Companies	Pennsylvania	Office of Consumer Advocate	Default service plan
376.	U-32223 March 2012	Cleco Power	Louisiana	Commission Staff	Purchase Power Contract and Rate Recovery
377.	U-32148 March 2012	Entergy Louisiana Energy Gulf States	Louisiana	Commission Staff	RTO Membership
378.	ER11080469 April 2012	Atlantic City Electric	New Jersey	Rate Counsel	Cost of capital
379.	R-2012-2285985 May 2012	Peoples Natural Gas Company	Pennsylvania	Office of Consumer Advocate	Cost of capital
380.	U-32153 July 2012	Cleco Power	Louisiana	Commission Staff	Environmental Compliance Plan

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381.	U-32435 August 2012	Entergy Gulf States Louisiana LLC	Louisiana	Commission Staff	Cost of equity (gas)
382.	ER-2012-0174 August 2012	Kansas City Power & Light Company	Missouri	U. S. Department of Energy	Rate of return
383.	U-31196 August 2012	Entergy Louisiana/ Entergy Gulf States	Louisiana	Commission Staff	Power Plant Joint Ownership
384.	ER-2012-0175 August 2012	KCP&L Greater Missouri Operations	Missouri	U.S. Department of Energy	Rate of Return
385.	4323 August 2012	Narragansett Electric Company	Rhode Island	Division of Public Utilities and Carriers	Rate of Return (electric and gas)
386.	D-12-049 October 2012	Narragansett Electric Company	Rhode Island	Division of Public Utilities and Carriers	Debt issue
387.	GO12070640 October 2012	New Jersey Natural Gas Company	New Jersey	Rate Counsel	Cost of capital
388.	GO12050363 November 2012	South Jersey Gas Company	New Jersey	Rate Counsel	Cost of capital
389.	R-2012-2321748 January 2013	Columbia Gas of Pennsylvania	Pennsylvania	Office of Consumer Advocate	Cost of capital
390.	U-32220 February 2013	Southwestern Electric Power Co.	Louisiana	Commission Staff	Formula Rate Plan
391.	CV No. 12-1286 February 2013	PPL et al.	Federal District Court	MD Public Service Commission	PJM Market Impacts (deposition)
392.	EL13-48-000 February 2013	BGE, PHI subsidiaries	FERC	Joint Customer Group	Transmission Cost of Equity
393.	EO12080721 March 2013	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Tracker ROE
394.	EO12080726 March 2013	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Tracker ROE
395.	CV12-1286MJG March 2013	PPL, PSEG	U.S. District Court for the District of Md.	Md. Public Service Commission	Capacity Market Issues (trial testimony)

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396.	U-32628 April 2013	Entergy Louisiana and Gulf States Louisiana	Louisiana	Staff	Avoided cost methodology
397.	U-32675 June 2013	Entergy Louisiana and Entergy Gulf States	Louisiana	Staff	RTO Integration Issues
398.	ER12111052 June 2013	Jersey Central Power & Light Company	New Jersey	Rate Counsel	Cost of capital
399.	PUE-2013-00020 July 2013	Dominion Virginia Power	Virginia	Apartment & Office Building Assoc. of Met. Washington	Cost of capital
400.	U-32766 August 2013	Cleco Power	Louisiana	Staff	Power plant acquisition
401.	U-32764 September 2013	Entergy Louisiana and Entergy Gulf States	Louisiana	Staff	Storm Damage Cost Allocation
402.	P-2013-237-1666 September 2013	Pike County Light and Power Co.	Pennsylvania	Office of Consumer Advocate	Default Generation Service
403.	E013020155 and G013020156 October 2013	Public Service Electric and Gas Company	New Jersey	Rate Counsel	Cost of capital
404.	U-32507 November 2013	Cleco Power	Louisiana	Staff	Environmental Compliance Plan
405.	DE11-250 December 2013	Public Service Co. New Hampshire	New Hampshire	Consumer Advocate	Power plant investment prudence
406.	4434 February 2014	United Water Rhode Island	Rhode Island	Staff	Cost of Capital
407.	U-32987 February 2014	Atmos Energy	Louisiana	Staff	Cost of Capital
408.	EL 14-28-000 February 2014	Entergy Louisiana Entergy Gulf States	FERC	LPSC	Avoided Cost Methodology (affidavit)
409.	ER13111135 May 2014	Rockland Electric	New Jersey	Rate Counsel	Cost of Capital
410.	13-2385-SSO May 2014	AEP Ohio	Ohio	Consumers' Counsel	Default Service Issues