BEFORE THE

PUBLIC UTILITIES COMMISSION

OF RHODE ISLAND

UNITED WATER RHODE ISLAND, INC.) DOCKET NO. 4434

DIRECT TESTIMONY

OF

MATTHEW I. KAHAL

ON BEHALF OF THE

DIVISION OF PUBLIC UTILITIES AND CARRIERS

FEBRUARY 3, 2014

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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 Public Utilities and Carriers ("Division"). 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 restructuring and competition.

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 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. In 1989, I testified before the U. S. House of Representatives, Committee on Ways and Means, on proposed federal tax legislation affecting utilities. A list of these cases may be found 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 2001,1 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, Maryland Department of Natural Resources and Energy Administration, and New Hampshire Office of Consumer Advocate.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE RHODE ISLAND COMMISSION?

A. Yes. I have testified on cost of capital and other matters before this Commission in gas, electric, and water cases during the past 35 years. A listing of those cases is provided in my attached Statement of Qualifications, Appendix A. I served as the Division's witness on rate of return in United Water Rhode Island, Inc.'s last rate case in 2011 (Docket No. 4255).

II. OVERVIEW

A. Summary of Recommendation

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

A. I have been asked by the Rhode Island Division of Public Utilities and Carriers ("the Division") to develop a recommendation concerning the fair rate of return on the water utility rate base of United Water Rhode Island, Inc. ("UWRI" 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 the Division and Mr. Catlin for use in calculating the test year annual revenue requirement in this case.

As the Commission is aware, UWRI is not an independent company, nor is it publically traded. It is directly owned by United Water Works, Inc. ("UWW"), which itself is a wholly-owned subsidiary of a much larger foreign company, Suez Environnement S.A., which has other water utility operations but also has extensive non-utility operations.

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

A. As presented on Schedule PMA-1, page 1 of 2, the Company requests an authorized overall rate of return of 8.75 percent. The proposed capital structure is that of parent company, UWW, at March 31, 2013. It includes 53.45 percent common equity 46.55 percent long-term debt and excludes short-term debt. The filed testimony provides little explanation for this capital structure, and instead merely references "Company-Provided" information as the source. The overall return includes a return on common equity of 11.1 percent and is sponsored by the Company's outside witness, Ms. Pauline Ahern.

Q. WHY IS THE COMPANY'S PROPOSED RATEMAKING CAPITAL STRUCTURE BASED ON ITS PARENT RATHER THAN USING ITS OWN?

A. As explained in response to Division 1-6, UWRI is a very small company and is capitalized at 100 percent equity. As the Company recognizes, this would be an overly expensive and inappropriate capital structure for ratemaking. By comparison, the parent (i.e., UWW) capital structure is far more reasonable, and the parent is the ultimate source of UWRI's capital base. I concur with this proposed approach. It also would not be reasonable to use the capital structure of the ultimate parent, Suez. As indicated in response to Division 1-3, only 7.2 percent of its assets are devoted to water utility service compared to 96 percent for UWW. I note that this Commission has approved the use of the UWW actual capital structure in previous UWRI rate cases.

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

A. As summarized on Schedule MIK-1, page 1 of 2, I am recommending at this time a return on UWRI's water utility rate base of 7.72 percent. This includes a return on common equity ("ROE") of 9.25 percent and a capital structure of 46.9 percent total debt (inclusive of short-term debt) and 53.1 percent common. This capital structure is provisional and may change with updating. It includes the Company's statement of its September 30, 2013 common equity (with one small adjustment), its claimed long-term debt balance and the 12-month average balance of short-term debt for the period ending September 2013. I am employing a cost of debt of 6.05 percent, which is the

Company's actual cost of long-term debt at September 30, 2013, as provided in response to Division 3-1.

Q. HOW DOES MS. AHERN DEVELOP HER 11.1 PERCENT ROE RECOMMENDATION?

A. Ms. Ahern utilizes three cost of equity methods: (1) Discounted Cash Flow (DCF); (2) the Risk Premium; and (3) Capital Asset Pricing Model (CAPM), with each methodology applied to a proxy group of nine publically-traded water companies. The results of these three studies average to 10.30 percent. She also conducts a "cost of equity" study of non-regulated companies and obtains 10.85 percent. This study measures the return requirements of investors for non-regulated companies and is therefore an inappropriate standard for low-risk water utilities, such as UWRI. Nonetheless, she averages this relatively high figure with the three water utility cost of equity study results, thereby obtaining a "baseline" of 10.55 percent.

She then makes an adjustment to the cost of equity results. Specifically, she finds that UWRI is riskier than the proxy group average due to its (allegedly) relatively small size. Based on the "size" analysis, she *increases* the baseline cost of equity by 0.55 percent. The sum of the "size" adjustment and the 10.55 percent baseline is 11.10 percent, hence her 11.1 percent ROE recommendation.

Q. HOW HAVE YOU DEVELOPED YOUR 9.25 PERCENT ROE RECOMMENDATION?

A. I rely primarily on the use of the DCF model as applied to a water utility proxy group that is very similar to that used by Ms. Ahern. This produces a range of 9.0 to 9.5 percent, with a midpoint of 9.25 percent. This 9.25 percent midpoint is my recommendation for return on equity. In addition to the DCF method, I also employ the Capital Asset Pricing Model ("CAPM") as a verification check. Moreover, the

CAPM is one of Ms. Ahern's three main methods. The CAPM study produces a range of 7.4 to 9.4 percent, although I tend to place greater weight on the upper end of this range. I note that the DCF model appears to be this Commission's preferred method for establishing the cost of equity and setting the ratemaking ROE.

In my opinion, these cost of equity results, taking into account the recent financial market trends, support the reasonableness of my 9.25 percent recommendation.

Q. WHAT IS UWRI'S CURRENTLY AUTHORIZED RATE OF RETURN?

A. As established in the last rate case, filed in 2011, the Commission authorized the Company an overall rate of return of 7.76 percent, including a return on equity of 9.85 percent and an equity ratio of 50.13 percent. (Response to Division I-1.) Hence, the Company is seeking a very large increase in its rate of return, despite the decline in capital costs since 2011. Moreover, the request includes an increase in the equity ratio from about 50 to 53 percent, meaning that UWRI's financial risk has diminished. I believe that it is appropriate, given these circumstances, to reduce UWRI's current 9.85 percent authorized ROE.

Q. DO YOU CONSIDER UWRI TO BE A LOW-RISK UTILITY COMPANY?

A. Yes, very much so. UWRI provides monopoly water utility service in its Rhode Island service territory, subject to the regulatory oversight of this Commission. There is no indication of any material increase in UWRI's business or financial risk relative to that of other water utilities in recent years. In Section III of my testimony I discuss the business risk attributes for the Company (i.e., specifically its parent) presented in recent credit rating reports.

B. <u>Capital Cost Trends in Recent Years</u>

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

A. Yes. I show the capital cost trends since 2002, through calendar year 2013, on page 1 of Schedule MIK-1. Pages 2, 3 and 4 of that Schedule show monthly data for January 2007 through December 2013. 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. Within the past year (i.e., late 2012 to mid-2013), Treasury and utility long-term bond rates have declined even further to near or below the lowest levels in many decades, but in recent months long-term interest rates have increased materially 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

[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.

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), an endeavor which is expected to take several years. As a result, 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 toward "maximum employment" is achieved. Specifically, the Fed 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 December 2013. At that meeting, the FOMC expressed cautious optimism regarding 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 begin in 2014 to "modestly reduce the pace of asset purchases" under its quantitative easing program from the current $85 billion per month to $75 billion per month. (Source: FOMC press release of December 18, 2018.)

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.

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 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), January 2014 edition, which is a survey compilation of approximately 40 major forecast organizations. The "consensus" calls for real GDP growth of 2.8 percent in 2014 and 3.0 percent in 2015 and inflation (GDP deflator) of 1.6 percent and 1.9 percent in 2014 and 2015, respectively. Hence, while there is modest improvement, the outlook for the pace of economic growth remains somewhat slow. The October 2013 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 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 (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 United Water.

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 2.8 percent as of this writing in mid to late January 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 water utilities and in general, remains extremely low by historical standards and even low compared to 2011 when UWRI's last base rate case took place.

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 December 2013. 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 UWRI's current cost of capital as it reflects recent market and economic trends.

C. Overview of Testimony

Q. HOW HAVE YOU ORGANIZED THE REMAINDER OF YOUR TESTIMONY?

A. Section III of my testimony presents my adjustments to the capital structure and cost of debt recommended in this case by the Company. Section IV presents my cost of equity studies which are based on the DCF method, with the application of the CAPM providing a comparison and corroboration. Finally, Section V is my review of Ms. Ahern's cost of equity studies, her risk adjustment and her 11.1 percent ROE recommendation.

III. CAPITAL STRUCTURE AND OVERALL RISK

A. Capital Structure

Q. WHAT CAPITAL STRUCTURE IS THE COMPANY UTILIZING IN THIS CASE?

A. The requested capital structure in this case is based on parent company United Water Works, Inc. ("UWW") capitalization data at March 31, 2013. As noted earlier, this is a reasonable approach since UWRI issues no debt and relies upon its parent for its external capital, and it has been previously accepted by the Commission. Unfortunately, the supporting capitalization data were omitted from the filing and therefore were requested by the Division in discovery. This information was ultimately supplied and was updated to September 30, 2013 in response to Division 3-1.

Q. DO YOU AGREE WITH THE PROPOSED CAPITAL STRUCTURE IN THIS CASE?

A. No, not entirely. UWW at times utilizes a significant amount of short-term debt to fund its operations, but UWRI omits that debt from its requested ratemaking capital structure. Division 1-7 asks for an explanation as to why short-term debt was omitted and Commission precedents supporting the omission. The response indicates that short-term debt is used for interim funding of capital projects and for working capital needs, and the response claims that it is eventually replaced by permanent debt or equity financing. No Commission precedents were cited in the data response to support the omission, and, in fact, the Company's currently-authorized rate of return incorporates some short-term debt.

A second capital structure problem is that in citing to the UWW equity balance, the Company chose to omit a negative balance sheet entry, "Other

Comprehensive Income." Due to this omission, the UWW actual common equity balance is overstated by $7.404 million. Division 3-3 asked the Company for a citation for Commission approval for this omission. The Company's response identified no Commission prior approval or regulatory precedent supporting the omission.

Q. WHY DO YOU BELIEVE SHORT-TERM DEBT SHOULD BE INCLUDED IN CAPITAL STRUCTURE?

A. It is appropriate because it helps to finance the Company's operations, and it is the least expensive form of investor-supplied capital. Although short-term debt usage does over time fluctuate, it is clearly recurring and is a part of UWW's normal financing practices. I certainly expect that short-term debt will continue to be used on an ongoing basis after the conclusion of this rate case.

I recognize that short-term debt can be used to finance capital additions on an interim basis as stated by the Company (response to Division 1-7). In such a case, it might make sense to directly assign short-term debt to the calculation of Allowance for Funds Used during Construction ("AFUDC") to ensure that ratepayers receive the benefit of this inexpensive financing. But this is not the Company's practice. As shown in response to Division 1-12, the current AFUDC rate is 10.42 percent. While the 10.42 percent AFUDC rate does reflect a very small amount of short-term debt (about 4 percent), short-term debt is not directly assigned to the financing of Construction Work in Progress.

Q. HOW HAVE YOU REFLECTED SHORT-TERM DEBT?

A. In recognition of the fact that short-term debt fluctuates over time, I have utilized a 12-month average for the period ending September 2013. (Response to Division 1-8; also, see Schedule MIK-1, page 2 of 2.) This averages $4.5 million, or 0.64 percent of capitalization. The cost rate on short-term debt is 1.1 percent, and this low rate is expected to continue through 2014 based on recent policy statements from the Fed.

Q. WHAT IS YOUR ADJUSTMENT TO UWW'S COMMON EQUITY BALANCE?

A. I have reversed the Company's unsupported adjustment to eliminate the negative $7.404 million of Other Comprehensive Income. This reversal corrects the September 30, 2013 equity balance to an actual value of $372.7 million, as compared to the Company's adjusted figure of $380.2 million, about a 2 percent difference.

Q. WITH THESE TWO ADJUSTMENTS, WHAT IS YOUR RECOMMENDED CAPITAL STRUCTURE?

A. As shown on page 1 of Schedule MIK-1, I am recommending a capital structure of 46.24 percent long-term debt, 0.64 percent short-term debt and 53.13 percent common equity. Even with my two adjustments, this capital structure incorporates a common equity ratio that is somewhat higher than that approved by the Commission in the Company's last rate case (i.e., 50.13 percent).

B. Cost of Debt

Q. HAVE YOU ACCEPTED THE COMPANY'S PROPOSED EMBEDDED COST OF DEBT?

A. Yes, I have. The Company's filing (as updated in response to Division 3-1) indicates an embedded cost of long-term debt of 6.05 percent at September 30, 2013. This is actually the UWW embedded debt cost rate. Based on my review, this calculation is reasonable, and I have included this cost rate in my overall rate of return recommendation.

C. <u>UWRI’s Business Risk</u>

Q. DOES MS. AHERN DISCUSS THE RISKS ASSOCIATED WITH UWRI’S REGULATED UTILITY OPERATIONS?

A. Yes. Her testimony discusses generic water utility industry risk factors, most prominently the capital investments needed to comply with the Safe Drinking Water Act. In addition, her testimony includes an extensive discussion of “firm size” as a risk factor. Her testimony includes an upward risk adjustment of 0.55 for UWRI as compared to her proxy companies to compensate for the Company’s allegedly smaller size.

Q. DOES MS. AHERN ASSERT THAT ANY SIGNIFICANT CHANGES HAVE OCCURRED IN UWRI’S RISK PROFILE SINCE ITS LAST RATE CASE?

A. No, there is no evidence presented that would indicate a material change in the Company’s investment risk since its last rate case, nor is there any evidence that it is materially riskier than the proxy group companies. Ms. Ahern acknowledges no change in UWRI’s risk profile since the last case in response to Division 1-19.

Q. IS UWRI AN INDEPENDENT WATER COMPANY?

A. No, it is not. UWRI is a wholly-owned subsidiary of UWW, a holding company that owns numerous water utility companies across the United States. UWW, in turn, is owned by United Water Resources, one of the nation’s largest investor-owned water systems. The ultimate parent of both UWRI and UWW is the massive French company, Suez Environnement SA. Due to these complex holding company arrangements, there are no market data available for UWRI. Instead, the Company receives equity infusions from time to time from its parent.

Q. IS UWRI RATED BY MAJOR CREDIT RATING AGENCIES?

A. No, but its parent, UWW, is rated, and in response to Division 1-14, the Company supplied credit rating reports from Standard & Poors ("S&P") and Moody's that were issued during the past two years. UWW is rated by S&P as A- ("Stable"), based on the most recent report dated January 14, 2013. Please note that S&P generally considers water utilities to have low business risk, lumping together water utilities with gas distribution and electric distribution utility companies.

Q. WHAT IS THE CREDIT RATING AGENCY ASSESSMENT OF THE COMPANY'S BUSINESS RISK?

A. S&P has a generally favorable view as summarized in recent reports:

> UWW's excellent business risk profile is based on [United Water Resource's] UWR's consolidated business profile, which is excellent, reflecting the monopolistic and essential service it provides, favorable regulatory environments, geographic diversity, largely residential markets, and low operating risk. (S&P January 14, 2013)

Moody's rates UWW as Baa(1) for unsecured debt and A(3) for secured debt and Stable and also finds the UWW's risk profile to be favorable. The Moody's report states that the rating "reflects our expectations for relatively stable and predictable earnings and cash flow generation from the company's diversified group of water utilities; the constructive regulatory relationships that exist with several of those utilities and the implied support of its larger, diversified parent…". (Moody's report, September 6, 2012)

Q. IS AN UPWARD RISK ADJUSTMENT TO THE ROE JUSTIFIED FOR UWRI, AS PROPOSED BY MS. AHERN?

A. No, it is not. Her risk adjustment of 0.55 percent relative to the proxy group baseline cost of equity is not warranted. This is because UWRI is a wholly-owned subsidiary of UWW, which is clearly not considered to be a "small" water company or small relative to the water industry proxy group. I explain this issue further in Section V of my testimony.

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 Commission 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 investors and normally should allow efficient utility management to successfully finance its operations on reasonable terms. Certainly, this has been the case for Rhode Island utilities based on the equity returns granted by the Commission in recent years. Setting the 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 sought rate of return adders as a reward for asserted good management performance. In this case, it does not appear that the Company is making an explicit request for a performance adder, and therefore the issue is one of *measuring* the cost of equity, not whether a properly measured cost of equity is fair return.

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 in question. For example, the fact that a utility company effectively operates as a regulated monopoly, dedicated to providing an essential service (in this case water utility service), typically would imply very low business risk and therefore a relatively low cost of equity. UWRI/UWW's relatively strong balance sheet and the favorable assessment by credit rating agencies (i.e., S&P and Moody's) also contribute to its relatively low cost of equity.

Q. DOES MS. AHERN INCORPORATE THESE PRINCIPLES IN HER TESTIMONY?

A. In general, I believe she attempts to incorporate these principles in conducting her DCF analysis. However, some of her non-DCF analyses do not adhere as closely to these principles. For example, her risk premium and CAPM studies rely on non-market data or inappropriate "adders" in arriving at her ROE recommendation.

Q. WHAT METHODS ARE YOU USING IN THIS CASE?

A. I employ both the DCF and CAPM models, applied to a group of water utility companies. However, for reasons discussed in my testimony, I emphasize the DCF model results in formulating my recommendation. It has been my experience that most utility regulatory commissions (federal and state), including Rhode Island, 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 Ms. Ahern), I also perform a CAPM study which also is based on the proxy group companies used in my DCF study.

Q. PLEASE DESCRIBE THE DCF MODEL.

A. As mentioned, this model has been widely relied upon by the regulatory community, including this Commission. 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 is also transparent and understandable to regulators. I do not believe that an obscure or highly arcane model would receive the same degree of 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 discount rate.

Using certain simplifying assumptions (that I believe are generally reasonable for utilities), 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 (or not fully realistic) 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 UWRI, which is a wholly-owned subsidiary of United parent (and indirectly by Suez Environnement), and therefore a market proxy is needed. In theory, Suez Environnement could serve as that market proxy, but given its extensive international and non-utility operations, that would not be reasonable. More importantly, I am reluctant to rely upon a single-company DCF study (nor does Ms. Ahern), although in theory that approach could be used.

In any case, I believe that an appropriately selected proxy group (preferably one reasonable in size) is likely to be 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 several months (i.e., 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 can add stability to the results.

Q. HOW DID YOU SELECT THE WATER UTILITY PROXY GROUP?

A. I am using a proxy group that consists of the eight companies included in the Value Line Water Industry Group data base. Ms. Ahern uses a nearly identical proxy group including one additional company (Artesian Resources) that is not in my industry proxy group. Artesian Resources is a water company that is not included in Value Line's "standard edition" but is included in Value Line's small company "expanded edition." Unfortunately, the expanded edition does not provide financial projections, and there is very little in the way of projections data available from other published sources for Artesian as well. Due to the absence of projections data, I did not include Artesian. However, the decision to include or exclude Artesian would appear to have no material effect on my DCF and CAPM studies, and therefore is not an issue in this case.

B. <u>DCF Study Using the Proxy Group Water Utility Companies</u>

Q. HOW DID YOU SELECT YOUR WATER PROXY GROUP IN THIS CASE?

A. As stated above, I am basing my DCF study on the group of eight publicly-traded companies classified by the *Value Line Investment Survey* as water utility companies. These eight proxy companies are listed on Schedule MIK-3, page 1 of 1, along with several risk indicators. Since this proxy group is very similar to that of Ms. Ahern (differing by only one company), our DCF study results can be directly compared.

It should be noted that although the proxy water companies are primarily regulated utilities, some also have some non-regulated operations that may be perceived as riskier than utility operations (e.g., contract water services). I make no specific adjustment to the DCF cost of capital results or my final recommendation for those potentially riskier non-regulated operations. Overall, the non-utility operations for these companies are relatively minor.

Q. HAVE EITHER YOU OR MS. AHERN PROPOSED A SPECIFIC RISK ADJUSTMENT TO THE COST OF EQUITY BETWEEN THE PROXY COMPANIES AND UWRI?

A. Yes, Ms. Ahern includes a significant 0.55 percent risk adjustment for size, although she seems to suggest that even a larger adjustment might be appropriate. In the 2011 rate case, she also reflected a download adjustment of 0.21 percent for UWRI's relatively strong capital structure, but that adjustment is absent in this case. I do not include an explicit risk adjustment, and my final recommendation of 9.25 percent reflects the midpoint of my water utility proxy group DCF range.

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 December 2013, the most recent data available to me as of this writing. This covers the last half of 2013, which was a period of rising long-term interest rates and impressive stock market gains. However, it was a time period when water utility company share prices were relatively stable and not moving with the rest of the stock market, perhaps due in part to the rising interest rate environment.

I show these dividend yield data on page 2 of Schedule MIK-4 for each month and each proxy company, July through December 2013. Over this six-month period the proxy group average dividend yields were relatively stable, ranging from a low of 2.76 percent in July to a high of 3.01 percent in August 2013, averaging 2.85 percent for the full six months. Please note that the December yield for this group of 2.79 percent is nearly identical to the July yield, illustrating the high degree of share price stability during this recent six-month period for these water companies.

For DCF purposes and at this time, I am using a proxy group dividend yield of 2.85 percent.

Q. IS 2.85 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 3.0 percent. This is based on assuming that half of a year growth is 3.25 percent (i.e., a full year growth is 6.5 percent). Please note that in the 2011 rate case, I used a water industry dividend yield of 3.4 percent, or 0.4 percent higher. This is consistent with the notion that utility capital costs have declined since 2011.

Q. DOES MS. AHERN EMPLOY THE SAME GROWTH RATE ADJUSTMENT?

A. I understand that Ms. Ahern also employs this standard half year growth adjustment to the measured dividend yield. However, she does not employ the six-month average of market data and instead uses a 60-day average ending April 30, 2013. Given the relative stability of market data for this group, her approach does not appear to produce a significantly different result than using the six-month average.

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 very volatile and are not reliable as prospective measures. This is due in part to extensive corporate or financial restructuring, particularly in the utility industry. I note that Ms. Ahern does not make use of historical growth rates as an indicator of long-term growth for water 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 (typically five years) prepared by securities analysts. It appears that Ms. Ahern places exclusive weight on this information for her water group, and I agree that it warrants substantial emphasis.

Q. PLEASE DESCRIBE THE ANALYST EARNINGS GROWTH RATE EVIDENCE.

A. Schedule MIK-4, page 3 presents five available and well-known public sources of projected earnings growth rates. 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 2010-2012 compared to the annual average for the forecast period of 2016-2018.

As this schedule shows, the growth rates for individual companies vary somewhat among the five sources. These proxy group averages are 5.5 percent for CNNfn, 5.9 percent for YahooFinance, 5.1 percent for MSNMoney, 6.6 percent for Reuters, and 6.4 percent for Value Line. Thus, the range of growth rates among the five sources is 5.1 to 6.6 percent. The average of these five sources is 5.9 percent, and I have used these results (along with other evidence discussed below) in obtaining a conservative though reasonable range of 6.0 to 6.5 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 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., the projected growth rates of dividends and book value per share and the projected 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 these eight companies tend to be similar to or less than the securities analyst growth projections of earnings. Dividend growth averages 5.7 percent, book value growth averages 4.25 percent, and earnings retention growth averages 3.8 percent.

This Commission in the past has favored the use of earnings retention growth (often referred to as "sustainable growth"), which Value Line indicates to be 3.8 percent. However, at least in theory, the sustainable growth rate also should include an additional component to reflect potential future earnings per share 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 growth component is difficult to estimate since future stock issuances of water utility companies over the long-term are an unknown. Nonetheless, I have estimated this "external growth" factor using Value Line projections for these eight companies of the growth rate (through 2016-2018) in shares outstanding, along with the current stock price premium over book value (i.e., current as of the Value Line publication date of October 18, 2013). This is a common method for calculating the external growth factor. For these eight companies, external growth calculated in this manner averages about 2.2 percent. The sum of "internal" or earnings retention growth (i.e., 3.8 percent) and "external" growth (i.e., 2.2 percent) is 6.0 percent.

Give this estimate of 6.0 percent for the sustainable growth rate and 5.9 percent for analyst earnings projections, a conservative though reasonable growth rate range is 6.0 to 6.5 percent to appropriately reflect uncertainty.

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 December 2013 is 3.0 percent for this group. Available evidence would support a long-run growth rate in the range of approximately 6.0 to 6.5 percent, as explained above. Summing the adjusted yield and growth rate range produces a total return of 9.0 to 9.5 percent, and a midpoint result of 9.25 percent. While I believe this DCF range to be reasonable, the objective evidence tends to be more supportive of the lower end of this range.

Q. DO YOU INCLUDE AN ADJUSTMENT FOR FLOTATION EXPENSE?

A. A company can incur flotation expenses when engaging in a public issuance of common stock to support its growth in investment. It might choose to do so and incur this cost if retained earnings growth (and other capital sources such as dividend reinvestment programs) is insufficient to provide the needed equity capitalization. A public issuance typically involves significant underwriting fees and other administrative expenses, which the utility may seek to recover as a cost of equity adder.

In this case, Ms. Ahern has provided no data on flotation expense (or public stock issuances) and does not propose such an adjustment. Moreover, although UWRI receives equity injections on occasion, it is not clear that Suez Environnement, the ultimate parent, incurs or has incurred such flotation costs on behalf of UWRI. In this case, flotation expense does not appear to be an issue.

Q. HOW DOES YOUR 9.0 TO 9.5 PERCENT DCF RANGE COMPARE TO MS. AHERN'S DCF ESTIMATE FOR WATER UTILITIES?

A. Our results are fairly similar. She obtains a median DCF estimate of 8.91 percent and a mean DCF estimate of 9.30 percent using a nearly identical proxy group, DCF results which are fully consistent with my 9.0 to 9.5 percent range. As noted earlier, she relies entirely on securities analyst projections and disregards evidence on earnings retention growth.

Q. ARE YOU SPECIFICALLY REFLECTING A RISK ADJUSTMENT FOR UWRI AS COMPARED TO YOUR WATER UTILITY PROXY GROUP BASELINE DCF?

A. No, I am not, and no such adjustment is needed since UWRI's parent is rated low single A and "Stable" by S&P which is similar to the water utility proxy group. While my recommended capital structure (i.e., 47/53 debt versus equity) differs somewhat from that proposed in this case by the Company, it is nonetheless relatively strong compared to the proxy water companies (i.e., a group average of about 49.6 percent). Moreover, as I explain later, there is no merit to the "size" adjustment in this case recommended by Ms. Ahern.

C. The CAPM Analysis

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 Ms. Ahern's three cost of equity methods.

According to this model, the cost of equity (K_e) 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. 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 have large impacts on the CAPM results. In this case, both Ms. Ahern and I use Value Line published betas, but I note that other sources have somewhat different betas, which in some cases would yield lower results.

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 along with the average beta for the water utility proxy group. (See Schedule MIK-3, page 1 of 1, for the company-by-company betas.) In last six months, long-term Treasury yields have averaged approximately 3.75 percent, and the recent Value Line betas for my water utility proxy group averages 0.70. I note that Ms. Ahern has elected to use betas for her water utility group that average a slightly lower value of 0.69 (and 0.70 using the median). Finally, and as explained below, I am using an equity risk premium range of 5 to 8 percent, although I see less support for the upper end of that range.

Using these data inputs, the CAPM calculation results are shown on page 1 of Schedule MIK-6. My low-end cost of equity estimate uses a risk-free rate of 3.75 percent,[2] a proxy group beta of 0.70 and an equity risk premium of 5 percent.

$$K_e = 3.75\% + 0.70\ (5.0\%) = 7.4\%$$

The upper end estimate uses a risk-free rate of 3.75 percent, a proxy group beta of 0.70 and an equity risk premium of 8.0 percent.

$$K_e = 3.75\% + 0.70\ (8.0\%) = 9.4\%$$

Thus, with these inputs the CAPM provides a cost of equity range of 7.4 to 9.4 percent, with a midpoint of 8.3 percent. The CAPM analysis produces a midpoint result somewhat lower than the range of results from my water group DCF analysis, 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 various limitations to and

[2] As of this writing, long-term Treasury yields are approximately 3.75 percent, and Ms. Ahern uses 4.32 percent, based partly on long-term historical data.

uncertainties with the CAPM discussed in my testimony, including the difficulty in reliably estimating the equity risk premium. Moreover, this Commission has not placed much reliance on the CAPM in past cases.

Q. WHAT RESULT WOULD YOU OBTAIN USING MS. AHERN'S MARKET RISK PREMIUM?

A. For her CAPM studies, Ms. Ahern has selected a market risk premium of 8.4 percent. In conjunction with a representative utility beta of 0.70 (based on Value Line data for the water utility group) and a 3.75 percent 30-year Treasury bond yield, the CAPM produces:

$$K_e = 3.75\% + 0.70\ (8.4\%) = 9.6\%$$

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 risk premium to use would be about 6.5 percent, which today would imply a stock market return of 10.25 percent (i.e., 6.5 + 3.75 = 10.25 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 Ms. Ahern's 8.4 percent slightly exceeds the upper end of this range, and her testimony has even cited the Brealey, Myers text as an authoritative source on cost of capital. Please note that in the 2011 rate case, Ms. Ahern used a 7.1 percent equity risk premium estimate, a figure close to the midpoint of the Brealey, Myers range.

There is one important caveat to consider here regarding the 5 to 8 percent range that the authors believe is supported by the professional literature. It appears that the 5 to 8 percent equity premium 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 at this time 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 (i.e., 30 years) is used as the risk-free rate, i.e., the practice followed by both Ms. Ahern and me.

V. MS. AHERN'S COST OF EQUITY METHODS

A. Overview of Methods and Recommendation

Q. HOW DOES MS. AHERN DEVELOP HER COST OF EQUITY RANGE?

A. Ms. Ahern employs three methods, with all three (i.e., DCF, CAPM, and Risk Premium) being methods applied to her water utility proxy group. She also applies all three methods to her non-regulated company proxy group. This Commission, and to my knowledge all other regulatory commissions, rely on utility proxy groups – not non-regulated companies – in setting the authorized ROE for the utilities that they regulate. The use of non-regulated companies is not proper because they have inherently different business models and risk profiles as compared with utilities.

Ms. Ahern presents on Schedule PMA-1 a concise summary of the results that she obtains from her various studies applied to her water and non-regulated company proxy groups. I reproduce her summary in the table below for ease of reference.

Summary of Ms. Ahern's Results

		Water Companies
(1)	DCF Studies	8.91%
(2)	Risk Premium	11.46%
(3)	CAPM Studies	10.52%
(4)	Non-regulated companies	10.85%
(5)	Average	10.55%
(6)	Size Risk Adjustment	+0.55
(7)	**Recommendation**	**11.1%**

Source: Schedule PMA-1, page 2

Q. DO THE RESULTS IN THIS TABLE SUPPORT MS. AHERN'S RECOMMENDATION OF 11.1 PERCENT?

A. I do not believe that they do. First, it is clear that this Commission has a strong preference for the DCF methodology as the basis for utility ROE awards. Her DCF finding is 8.91 percent, which is well below her 11.1 percent recommendation and is actually reasonably close to my 9.25 percent ROE recommendation. Notably, her water utility cost of equity studies using all three methods average to about 10.3 percent, which also is well below her 11.1 percent ROE recommendation. Finally, as discussed later in this section, her size-related risk adjustment is completely improper in this case.

Q. ARE YOU CONTESTING HER DCF RESULTS?

A. I have some technical disagreements with her DCF study, but her end result estimate is in line with my 9.0 to 9.5 percent DCF range. It should be mentioned that my analysis finds a securities analyst growth rate average of 5.9 percent compared with her 6.2 percent – a modest 0.3 percent difference. The compilation of securities analyst estimates in my DCF study is both more recent and comprehensive than the data used by Ms. Ahern.

In addition, Ms. Ahern did not attempt to calculate the "sustainable" growth rate which has been relied upon by the Commission in past cases. The sustainable growth rate is very much in line with the published securities analyst growth rates for the water utility proxy group.

B. <u>Ms. Ahern's CAPM Studies</u>

Q. HOW DID MS. AHERN OBTAIN HER CAPM RESULTS?

A. Her analysis first applies the standard CAPM formula, using the following data input parameters:

(1) Risk free rate (long-term Treasury yield): 4.32%

(2) Risk premium: 8.4%

(3) Beta: 0.69 to 0.70

These parameters produce the following cost of equity estimate:

$$K_e \text{ (water)} = 4.32\% + 0.70(8.4\%) = 10.2\%$$

Ms. Ahern also obtains a slightly lower value of 10.1 percent using the mean beta rather than the median. (Schedule PMA-8, page 1) She also employs the "ECAPM" (a modified version of the CAPM), but in doing so obtains a somewhat higher result, i.e., 10.8 percent. While there is no basis or support for use of the "ECAPM" adjustment in the context of the utility cost of equity, in this case it has only a modest effect on her overall cost of equity results. This is because she averages the standard and ECAPM together to obtain a combined CAPM estimate of 10.4 to 10.5 percent.

Q. ARE MS. AHERN'S CAPM RESULTS OVERSTATED?

A. Yes. While the 4.32 percent risk free rate might have been within the range of reasonableness at one time, it overstates prevailing Treasury yields. Long-term Treasury yields are now approximately 3.75 percent, and that figure approximates the average over the recent six months ending in December 2013.

Q. WHAT IS THE SOURCE OF HER 4.32 PERCENT RISK FREE RATE?

A. The 4.32 percent is the average of the actual, published 30-year Treasury rate and a 30-year historic average market return on Treasury bonds (i.e., 5.28 percent). The latter is both an unconventional and unacceptable measure of the risk-free rate to be used in the CAPM. The CAPM is intended to estimate a company's cost of equity *at this time* and therefore this model must use relatively current market data—not market data averaged over the past 30 years. The long-term historic 5.28 percent has nothing whatsoever to do with what investors today (or in 2013) require as a risk free rate. Her procedure is flatly in error and only serves to artificially inflate the CAPM cost of equity estimate.

Q. WHY DO YOU QUESTION HER 8.4 PERCENT RISK PREMIUM VALUE?

A. It is puzzling as to why Ms. Ahern in this case would use 8.4 percent whereas she used a more plausible estimate of 7.1 percent in the 2011 rate case. Again, this change only serves to artificially inflate the CAPM estimate.

Her Schedule PMA-8, page 2, explains that the 8.4 percent is calculated as the simple average of three measures: (1) a Value Line market return of 12.69 percent (risk premium = 8.37 percent); (2) a market return estimate from her Predictive Risk Premium Model ("PRPM") of 14.6 percent (risk premium = 10.28 percent); and (3) a historic average market risk premium of 6.55 percent obtained from a Morningstar publication. The PRPM market rate of return of 14.6 percent (10.28 percent risk premium) is outlandishly high, and the 10.28 percent far outside any plausible estimate of the equity risk premium. This is more than 2 full percentage points above the Brealey, Myers equity risk premium upper bound.

The Value Line estimate is based on that publication's "median stock" growth potential and in that sense is really not an estimate of the expected return on the overall stock market. Moreover, this measure (whatever it purports to measure) also tends to be highly unstable. For example, Ms. Ahern uses Value Line data from May 2013 to obtain a projected market rate of return of 12.69 percent. I have updated her return calculation using Value Line's most recent median stock projections published in its January 17, 2014 report. This more recent report specifies a median stock dividend yield of 1.9 percent and "growth potential" over the next four years of 30 percent. This translates into a total annualized return of about 8.8 percent (compared to Ms. Ahern's May 2013 value of 12.69 percent) and a risk premium of about 5.0 percent.[3]

Q. WHAT RISK PREMIUM WOULD YOU OBTAIN USING MS. AHERN'S METHODS BUT UPDATING THE VALUE LINE PROJECTIONS?

A. In combination with Ms. Ahern's PRPM and Morningstar figures, incorporating the Value Line update would produce on equity risk premium of 7.28 percent. This is calculated as the simple average of her PRPM result (10.28 percent), the updated Value Line (5.0 percent) and the Morningstar historic risk premium (6.55 percent). This updated figure would be consistent with the Brealey, Myers range and would produce a CAPM cost of equity close to both her and my DCF estimates.

$$K_e = 3.75\% + 0.7(7.28\%) = 8.85\%$$

Q. IS THE ECAPM ADJUSTMENT APPROPRIATE?

A. No, it is not, particularly for utilities. The ECAPM calculation procedure is mathematically equivalent to adjusting the beta upwards. However, Ms. Ahern uses *Value Line* betas which already have been adjusted upwards. Thus, the ECAPM is a second and redundant adjustment and therefore not needed. The ECAPM adjustment is improper and not widely accepted in the regulatory community.

C. Problems with Ms. Ahern's Risk Premium Method

Q. HOW DID MS. AHERN DERIVE HER RISK PREMIUM?

A. This study is summarized on page 1 of her Schedule PMA-7. Page 1 shows two risk premium cost of equity estimates, 9.77 percent based on the "adjusted market approach" and 12.02 percent using her PRPM method. For reasons that are unclear, she assigns the vast majority of the weight to the PRPM to derive her final Risk Premium cost of equity conclusion of 11.46 percent.

[3] The 5.0 percent updated risk premium is calculated as a Value Line total market return of 8.8 percent minus a Treasury risk-free rate of 3.75 percent.

Q. IS IT PROPER TO UTILIZE THE PRPM AS THE BASIS FOR BASIS FOR SETTING UWRI'S RATE OF RETURN IN THIS CASE?

A. No. The analysis using the PRPM should not be given any consideration in this case. The model and how it was applied are very poorly explained in Ms. Ahern's testimony and schedules, and the model produces implausibly high results. While she reports a PRPM median water utility cost of equity of 12.02 percent (an implausible estimate by itself), she reports the mean or "average" water utility cost of equity of an astounding 15.0 percent. The individual water company cost of equity estimates range from a low of 10.26 percent (Connecticut Water) to a high of 33.1 percent (American Water). (Source: Schedule PMA-7, page 2)

Q. DID MS. AHERN EMPLOY THIS MODEL IN THE 2011 RATE CASE?

A. No. While she has employed the Risk Premium method for decades, she began using the PRPM in 2012. (Response to Division 1-18) She has acknowledged that the model has only been presented in rate case testimony by herself and members of her firm and has not been approved or adopted by any regulatory commission for setting the utility rate of return. (*Id*., I-18 (b) and (c)) It is clear that this model has so far failed to receive any acceptance or validation among either rate of return analysts or regulators.

D. <u>Size Adjustment</u>

Q. WHAT IS MS. AHERN'S RISK ADJUSTMENT FOR SIZE?

A. She adds 0.55 percent to the water utility proxy group baseline results to compensate for UWRI's relatively small size. This obviously has a material effect on her ROE recommendation. The basis of her adjustment is that UWRI is (allegedly) smaller than her proxy water companies (on average) and that small size adds to investment risk and therefore the cost of equity.

Q. IS THERE PERSUASIVE EVIDENCE OF SIZE AS A RISK FACTOR?

A. It is possible that size could be a business risk factor, but only one of many. It is not clear, however, why size should be the *only* business risk factor considered in this case for setting UWRI's cost of equity. Unfortunately, the evidence that Ms. Ahern presents concerning the size/risk relationship is not very persuasive because it is based primarily on historic market returns for unregulated companies. There are reasons why size may matter for unregulated companies but have little or no importance for regulated utilities. For example, for non-regulated companies size may simply be a proxy for "maturity" or lack growth. That is, rapidly growing or start-up companies tend to be relatively risky *and* relatively small. Larger companies, by comparison, in general are also stable companies merely due to their age. While this is interesting (and possibly spurious), it has very little to do with utilities.

Q. IS THERE EVIDENCE IN MS. AHERN'S TESTIMONY THAT CONTRADICTS THE "SIZE RISK PREMIUM" THEORY FOR WATER COMPANIES?

A. Yes. Consider, for example, Ms. Ahern's water utility DCF results summarized on Schedule PMA-5, page 1 of 10. She shows an average (i.e., mean) DCF estimate for her nine water companies of 9.30 percent. I have divided her results into two subgroups groups, (a) the four largest companies, and (b) the remaining five smallest. The DCF estimates for her four largest proxy companies average 9.60 percent, and this compares to an average DCF result of 9.05 percent for the five smallest proxy companies. This is precisely contrary to her assertion that small size translates into greater risk. I make the same observation for her PRPM results—the larger water companies have a much higher cost of equity, on average, than the smaller water companies.

I am not, of course, in any way suggesting that larger companies have a higher cost of equity. Rather, this shows a total lack of evidence that size is an important determinant of risk for water utility companies.

Q. ARE THERE ANY OTHER CONSIDERATIONS?

A. Yes. For risk evaluation purposes, UWRI should not be viewed as a "small company" because it is a segment of UWW, a vastly larger water company operating in numerous states. For example, UWW instead could organize itself as being a single company in which case it would be larger, not smaller than most of the proxy companies. Instead, it is organized as a holding company with numerous utility operating subsidiaries, with UWRI being just one. UWRI is *not* entitled to a return on equity premium (even a small one) just because its parent has selected the holding company form of corporate organization.

In this case UWRI is basing its rate of return request on the UWW consolidated capital structure, and it is clear that it is fully financially integrated with UWW. As I show on my Schedule MIK-1, UWW has a capitalization of over $700 million, with $372 million of common equity. Ms. Ahern shows capitalization data for her water utility proxy group on her Schedule PMA-10, page 2. This schedule shows that UWW, based on equity capital, is *smaller* than four of her proxy companies but *larger* than the other five. Thus, with respect to size, UWW is in the middle of the pack, and therefore there can be no factual basis for a "size" adder for UWRI in this case, even if it could be shown that size is an important risk factor.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

BEFORE THE

PUBLIC UTILITIES COMMISSION

OF RHODE ISLAND

UNITED WATER RHODE ISLAND, INC.) DOCKET NO. 4434

SCHEDULES ACCOMPANYING THE

DIRECT TESTIMONY

OF

MATTHEW I. KAHAL

ON BEHALF OF THE

DIVISION OF PUBLIC UTILITIES AND CARRIERS

FEBRUARY 3, 2014

EXETER

ASSOCIATES, INC.
10480 Little Patuxent Parkway
Suite 300
Columbia, Maryland 21044

UNITED WATER RHODE ISLAND, INC.

Pro Forma Rate of Return Summary at
September 30, 2013

Capital Type	Balance[1] (Thousands $)	% of Total	Cost Rate	Weighted Cost
Long-Term Debt	$324,390	46.24%	6.05%	2.80%
Short-Term Debt[2]	4,471	0.64	1.00	0.01
Common Equity	372,748	53.13	9.25	4.91
Total	$701,609	100.00%	--	7.72%

[1] Source: Response to DIV 3-1. Equity balance provided by Company but reverses the Company's exclusion of negative $7.404 million for other comprehensive income.

[2] Page 2 of this schedule.

UNITED WATER RHODE ISLAND, INC.

Monthly Short-Term Debt Balances
October 2012 – September 2013

	Balance ($000)	Interest Rate
October 2012	$10,660	1.214%
November	20,000	1.148
December	3,000	1.00
January 2013	20,000	1.00
February	0	-
March	0	-
April	0	-
May	0	-
June	0	-
July	0	-
August	0	-
September	0	-
Average	**$4,471**	**1.00%**

Source: Company response to DIV 3-9 Attachment

UNITED WATER RHODE ISLAND, INC.

Trends in Capital Costs

	Annualized Inflation (CPI)	10-Year Treasury Yield	3-Month Treasury Yield	Single A Utility Yield
2001	2.9%	5.0%	3.5%	7.8%
2002	1.6	4.6	1.6	7.4
2003	1.9	4.1	1.0	6.6
2004	2.7	4.3	1.4	6.2
2005	3.4	4.3	3.0	5.6
2006	2.5	4.8	4.8	6.1
2007	2.8	4.6	4.5	6.3
2008	3.8	3.4	1.6	6.5
2009	(0.4)	3.2	0.2	6.0
2010	1.6	3.2	0.1	5.5
2011	2.9	2.8	0.1	5.4
2012	2.1	1.8	0.1	4.1
2013	1.5	2.3	0.1	4.5

UNITED WATER RHODE ISLAND, INC.

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

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

UNITED WATER RHODE ISLAND, INC.

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

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

UNITED WATER RHODE ISLAND, INC.

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

	Annualized Inflation (CPI)	10-Year Treasury Yield	3-Month Treasury Yield	Single A Utility Yield
2011				
January	1.6%	3.4%	0.1%	5.6%
February	2.1	3.6	0.1	5.7
March	2.7	3.4	0.1	5.6
April	2.2	3.5	0.1	5.6
May	3.6	3.2	0.0	5.3
June	3.6	3.0	0.0	5.3
July	3.6	3.0	0.0	5.3
August	3.8	2.3	0.0	4.7
September	3.9	2.0	0.0	4.5
October	3.5	2.2	0.0	4.5
November	3.0	2.0	0.0	4.3
December	3.0	2.0	0.0	4.3
2012				
January	2.9	2.0	0.0	4.3
February	2.9	2.0	0.0	4.4
March	2.7	2.2	0.1	4.5
April	2.3	2.1	0.1	4.4
May	1.7	1.8	0.1	4.2
June	1.7	1.6	0.1	4.1
July	1.4	1.5	0.1	3.9
August	1.7	1.7	0.1	4.0
September	2.0	1.7	0.1	4.0
October	2.2	1.8	0.1	3.9
November	1.8	1.7	0.1	3.8
December	1.7	1.7	0.1	4.0
2013				
January	1.6	1.9	0.1	4.2
February	2.0	2.0	0.1	4.2
March	1.5	2.0	0.1	4.2
April	1.1	1.8	0.7	4.0
May	1.4	1.9	0.0	4.2
June	1.8	2.3	0.1	4.5
July	2.0	2.6	0.0	4.7
August	1.5	2.7	0.0	4.7
September	1.2	2.8	0.0	4.8
October	1.0	2.6	0.1	4.7
November	1.2	2.7	0.1	4.8
December	1.5	2.9	0.1	4.9 (p)

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

UNITED WATER RHODE ISLAND, INC.

List of the Water Utility Proxy Companies

	Company	Safety Rating	Financial Strength	Beta	2013 Common Equity Ratio*
1.	American States Water	2	A	0.70	57.0%
2.	Aqua American	2	B++	0.60	50.0
3.	American Water Works	3	B +	0.65	46.0
4.	California Water	3	B++	0.65	58.0
5.	Connecticut Water	3	B+	0.75	50.5
6.	Middlesex Water	2	B++	0.70	57.0
7.	SJW Corporation	3	B+	0.85	45.5
8.	York Water	2	B+	0.70	55.0
	Average	**2.5**	**--**	**0.70**	**52.4%**

* 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 49.6 percent.

Source: *Value Line Investment Survey*, October 18, 2013.

UNITED WATER RHODE ISLAND, INC.

DCF Summary for
Water Utility Proxy Group

1. Dividend Yield (July-December 2013)	2.85%[1]
2. Adjusted Yield ((1) x 1.0325)	3.0%
3. Long-Term Growth Rate	6.0 – 6.5%[2]
4. Total Return ((2) + (3))	9.0 – 9.5%
5. Flotation Adjustment	0.0%
6. Cost of Equity ((4) + (5))	9.25%
Recommendation	**9.25%**

[1] Schedule MIK-5, page 2 of 4.

[2] Schedule MIK-5, page 3 of 4.

UNITED WATER RHODE ISLAND, INC.

Dividend Yields for the Water
Utility Group
(July – December 2013)

	Company	July	August	September	October	November	December	Average
1.	Am. Water Works	2.6%	2.7%	2.7%	2.6%	2.7%	2.8%	2.68%
2.	American States	2.5	3.1	2.9	2.8	2.8	2.7	2.80
3.	Aqua America	2.2	2.5	2.5	2.4	2.5	2.5	2.43
4.	California Water	2.9	3.2	3.1	2.9	2.8	2.8	2.95
5.	Connecticut Water	3.2	3.3	3.1	3.1	2.9	2.8	3.07
6.	Middlesex Water	3.5	3.7	3.5	3.7	3.5	3.6	3.58
7.	SJW Water	2.6	2.8	2.6	2.6	2.7	2.4	2.62
8.	York Water	2.6	2.8	2.8	2.7	2.5	2.7	2.68
	Average	**2.76%**	**3.01%**	**2.90%**	**2.85%**	**2.80%**	**2.79%**	**2.85%**

Source: Standard & Poors *Stock Guide*, July 2013 – January 2014.

UNITED WATER RHODE ISLAND, INC.

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

	Company	Value Line	Yahoo	MSN	Reuters	CNN	Average
1.	Am. Water Works	10.0%	6.9%	7.2%	8.93%	7.10%	8.03%
2.	Am. States Water	6.0	2.0	2.0	N/A	1.0	2.75
3.	Aqua American	8.0	5.8	5.3	7.4	5.8	6.46
4.	California Water	6.5	6.0	6.0	N/A	6.0	6.13
5.	Connecticut Water	5.5	5.0	5.0	5.0	5.0	5.10
6.	Middlesex Water	4.0	2.7	N/A	N/A	2.7	3.13
7.	SJW Water	7.5	14.0	N/A	N/A	10.0	10.50
8.	York Water Co.	4.0	4.9	N/A	N/A	6.0	4.97
	Average	**6.44%**	**5.91%**	**5.10%**	**6.58%**	**5.45%**	**5.88%**

Source: *Value Line Investment Survey*, October 18, 2013. YahooFinance.com, MSNMoney.com, Reuters.com, CNNFN.com, public websites, November 2013.

UNITED WATER RHODE ISLAND, INC.

Other *Value Line* Growth Measures
For the Water Utility Proxy Group

	Company	Dividend per Share	Book Value per Share	Earnings Retention
1.	Am. Water Works	9.0%	4.5%	4.5%
2.	Am. States Water	9.0	2.0	5.0
3.	Aqua American	8.0	6.5	5.0
4.	California Water	6.5	5.5	3.0
5.	Conn. Water Service	3.5	6.0	3.0
6.	Middlesex	1.5	2.0	3.0
7.	SJW	3.5	5.5	2.0
8.	York Water Co.	3.5	2.5	3.0
	Average	**5.69%**	**4.25%**	**3.75%**

Source: *Value Line Investment Survey*, July 22, 2011. The earnings retention figures are for the time period 2016-2018.

UNITED WATER RHODE ISLAND, INC.

Fundamental Growth Rate Analysis for the
Water Utility Proxy Group

	Company	Shares 2012-2017[1]	% Premium[2]	sv[3]	br[4]	sv + br
1.	American Water Works	0.89%	59.7%	0.5%	4.5%	5.0%
2.	American States Water	2.69	124.4	3.3	5.0	8.3
3.	Aqua American, Inc.	0.96	203.4	1.9	5.0	6.9
4.	California Water	3.56	74.9	2.7	3.0	5.7
5.	Connecticut Water Service	1.81	85.6	1.6	3.0	4.6
6.	Middlesex	1.45	76.9	1.1	3.0	4.1
7.	SJW Corporation	4.26	88.4	3.8	3.5	7.3
8.	York Water Company	1.62	157.4	2.5	3.0	5.5
	Average			**2.2%**	**3.8%**	**6.0%**

(1) Projected growth rate in shares outstanding, 2012-2017.
(2) % Premium of share price ("Recent Price") over 2012 book value per share.
(3) sv is growth rate in shares x % premium
(4) br is Value Line projection as of 2016-2018.

Source: *Value Line Investment Survey*, October 18, 2013

UNITED WATER RHODE ISLAND, INC.

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% (Treasury bond yield for the most recent six months, see page 2 of 2)

Rm = 9.25 – 12.25% (equates to equity risk premium of 5.0 - 8.0%)

Beta = 0.70 (See page 1 of Schedule MIK-3)

C. Model Calculations

Low end:	K_e = 3.75% + 0.70 (5.0) = 7.25%
Midpoint:	K_e = 3.75% + 0.70 (6.5) = 8.30%
Upper End:	K_e = 3.75% + 0.70 (8.0) = 9.35%

UNITED WATER RHODE ISLAND, INC.

Long-Term Treasury Yields
(July – December 2013)

Month	30-Year	20-Year	10-Year
July	3.61%	3.31%	2.58%
August	3.76	3.49	2.74
September	3.79	3.53	2.81
October	3.68	3.38	2.62
November	3.80	3.50	2.72
December	3.89	3.63	2.90
Average	**3.76%**	**3.47%**	**2.73%**

Source: Federal Reserve, "Statistical Release," August 2013 – January 2014.

ATTACHMENT A

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 Exeter Associates, Inc. (founding Principal, Vice President, and President).

1980-1981 Member of the Economic Evaluation Directorate, The Aerospace Corporation, Washington, D.C. office.

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.

Professional Work 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).

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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.

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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).

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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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	Docket Number	Utility	Jurisdiction	Client	Subject
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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	Docket Number	Utility	Jurisdiction	Client	Subject
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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	Docket Number	Utility	Jurisdiction	Client	Subject
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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	Docket Number	Utility	Jurisdiction	Client	Subject
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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	Docket Number	Utility	Jurisdiction	Client	Subject
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

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	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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	Docket Number	Utility	Jurisdiction	Client	Subject
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