BEFORE THE STATE OF NEW JERSEY
OFFICE OF ADMINISTRATIVE LAW
BEFORE HONORABLE RICHARD MCGILL, ALJ

IN THE MATTER OF THE VERIFIED PETITION OF JERSEY CENTRAL POWER & LIGHT COMPANY FOR REVIEW AND APPROVAL OF INCREASES IN AND OTHER ADJUSTMENTS TO ITS RATES AND CHARGES FOR ELECTRIC SERVICE, AND FOR APPROVAL OF OTHER PROPOSED TARIFF REVISIONS IN CONNECTION THEREWITH; AND FOR APPROVAL OF AN ACCELERATED RELIABILITY ENHANCEMENT PROGRAM (“2012 BASE RATE FILING”)	)	**OAL DOCKET NO. PUC 16310-2012N** **BPU DOCKET NO. ER12111052**

DIRECT TESTIMONY OF
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ON BEHALF OF THE
DIVISION OF RATE COUNSEL

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I. QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

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

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

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

Q. WHAT IS YOUR PROFESSIONAL BACKGROUND?

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

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

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

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

A. Yes. I have testified before approximately two-dozen state and federal utility commissions, federal courts and the U.S. Congress in more than 380 separate regulatory cases. My testimony has addressed a variety of subjects including fair rate of return, resource planning, financial assessments, load forecasting, competitive restructuring, rate design, purchased power contracts, merger economics and other regulatory policy issues. These cases have involved electric, gas, water and telephone utilities. A list of these cases is set forth in Appendix A, with my statement of qualifications.

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

A. Since 2001,1 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, the Maryland Public Service Commission, the Maine Public Advocate, Maryland Department of Natural Resources, the Maryland Energy Administration, and MCI.

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

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

Q. ARE YOU FAMILIAR WITH JERSEY CENTRAL POWER & LIGHT COMPANY ("JCP&L" OR "THE COMPANY")?

A. Yes. Although JCP&L has not had a recent base rate case, I have participated in a number of JCP&L dockets over the years on behalf of Rate Counsel. This includes JCP&L's restructuring/stranded cost case and cases concerning securities issuances and reviews of purchase capacity contracts.

II. OVERVIEW

A. Summary of Recommendation

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

A. I have been asked by Rate Counsel in this case to develop a recommendation concerning the fair rate of return on the jurisdictional electric distribution utility rate base of JCP&L. This includes both a review of the Company's proposal concerning rate of return and the preparation of an independent study of the cost of common equity. I am providing my recommendation to Rate Counsel's revenue requirement consultant, Mr. Robert Henkes, for use in calculating the Company's annual revenue requirement in this case.

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

A. As presented in the Company's Schedule SRS-4, the Company requests an authorized overall rate of return of 8.89 percent. The proposed capital structure is indicated as being the Company's actual capital structure at June 30, 2012, adjusted for planned 2013 debt issuances, which includes 53.8 percent common equity and 46.2 percent long-term debt. This capital structure is somewhat more equity rich than the industry proxy groups that the Company and I have used in this case, as discussed later in my testimony. This proposed capital structure excludes any recognition of short-term debt. The Company requests a return on the common equity component of 11.53 percent. The overall rate of return, capital structure and cost of debt recommendations are sponsored by witness Steven R. Staub, and the cost of equity recommendation is sponsored by the Company's consultant, Ms. Pauline Ahern. Ms. Ahern's 11.53 percent return on equity ("ROE") recommendation is based on the results of her various studies. Specifically, using several methodologies she identifies a cost of equity range for JCP&L of 11.45 to 11.60 percent, inclusive of certain cost "adders."

Q. WHAT IS JCP&L'S CURRENTLY AUTHORIZED RETURN ON EQUITY?

A. In JCP&L's last base rate case (BPU Docket No. ER02080506, order dated June 1, 2005), the Company was awarded a return on equity of 9.75 percent. As my testimony demonstrates, capital costs have declined considerably since that last case and during the past decade. Thus, in this case JCP&L is seeking an *increase* in its authorized rate of return on equity of nearly two full percentage points, despite this undeniable and substantial capital cost reduction.

Q. WHAT IS JCP&L'S CORPORATE STRUCTURE?

A. JCP&L is a wholly-owned subsidiary of FirstEnergy Corporation, which is a corporate holding company that owns several other major electric utility operating companies in Pennsylvania, Ohio, West Virginia and Maryland. In addition, FirstEnergy has extensive non-regulated operations (mostly merchant generation and energy marketing). FirstEnergy acquired through mergers and acquisitions the utilities and other assets of the former GPU (which previously owned JCP&L) and Allegheny Energy.

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

A. As summarized on Schedule MIK-1, page 1 of 1, I am recommending at this time a return on JCP&L's jurisdictional electric distribution rate base of 7.76 percent. This includes a return on common equity of 9.25 percent and a hypothetical capital structure of 50 percent long-term debt and 50 percent common equity. My capital structure recommendation rejects the Company's proposed 54 percent equity / 46 percent long-term debt capital structure as improper, as explained further in Section III of my testimony. However, I concur with the Company's decision to exclude short-term debt from capital structure and instead directly assign it to the financing of Construction Work in Progress ("CWIP"). This recommendation is conditioned on a commitment by JCP&L to continue this accounting practice.

Q. WHAT IS YOUR COST OF DEBT RECOMMENDATION?

A. I am using at this time a long-term cost of debt of 6.26 percent, which is higher than the 5.82 percent proposed by witness Staub on behalf of the Company in its filed case. The 6.26 percent cost of debt figure is the actual cost rate at June 30, 2012, inclusive of appropriate recognition of debt-related expenses. Mr. Staub's lower cost rate of 5.82 percent is a projected embedded cost of debt that includes $500 million of new debt, anticipated to be issued (but to my knowledge not yet issued) in 2013. This new debt is too far beyond the end of the historical test year to be included in the Company's embedded cost of debt and rate of return in this case. Hence, I have excluded this new debt even though doing so increases the overall rate of return.

Q. HOW DOES MS. AHERN DEVELOP HER 11.45 TO 11.60 PERCENT ROE RESULTS?

A. Ms. Ahern utilizes three basic cost of equity methods: (1) Discounted Cash Flow (DCF); (2) the Risk Premium; and (3) Capital Asset Pricing Model (CAPM). These three methods are applied to three proxy groups – a group of nine vertically-integrated electric companies, a group of six combination electric/gas utility companies, and a group of non-regulated, non-utility companies that operate in various industries. She reports cost of equity estimates of 8.9 to 10.4 percent using the DCF model, 11.1 to 11.8 percent using the Risk Premium Method and 11.3 percent using the CAPM. Her cost of equity results for the non-utility companies are summarized as being 10.6 to 11.1 percent. Ms. Ahern averages together these results, obtaining a range of 10.7 to 11.15 percent. Finally, she includes two JCP&L-specific "adders" (flotation expense and credit risk) to obtain the final range for JCP&L of 11.45 to 11.60 percent, with 11.53 percent being the midpoint.

Ms. Ahern's studies (and adders), other than her electric utility DCF studies, greatly overstate any realistic estimate of JCP&L's cost of equity and fair return. I explain these infirmities and overstatements in detail in Section V of my testimony.

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 proxy group of electric distribution utility companies. This produces a range of about 8.3 to 9.5 percent, with a midpoint of 8.9 percent. As a secondary analysis, I have applied the DCF model to Ms. Ahern's proxy group of vertically-integrated and combination electric/gas electric utility companies (removing two companies, as discussed later in my testimony). This proxy group study results in a DCF return range estimate of 8.4 to 8.9 percent, with an 8.7 percent midpoint. Ms. Ahern's electric utility proxy group is less appropriate in this case because it measures (to some degree) the risks associated with generation assets and supply, whereas this case sets rates for JCP&L's distribution service. JCP&L ratepayers already pay for the risks associated with generation supply in the Basic Generation Service ("BGS") charges or in competitive service rates.

I also have conducted a cost of equity study using the CAPM method, which produces even lower results – a cost of equity range of about 7 to 9 percent. However, I place little weight on the CAPM results.

In my opinion, these cost of equity study results, taking into account the recent conditions in financial markets, support the reasonableness of my 9.25 percent return on equity recommendation for JCP&L at this time, a reduction of 0.5 percent from JCP&L's last rate case. In fact, the 9.25 percent is a conservative recommendation given current market conditions and my cost of equity evidence.

Q. YOUR ROE RECOMMENDATION DIFFERS GREATLY FROM THAT OF MS. AHERN. HOW DO YOU ACCOUNT FOR THE LARGE DIFFERENCE?

A. As explained later, our respective DCF studies do not differ significantly, with both her studies and mine supporting a cost of equity of about 9 percent or possibly slightly higher. Moreover, the utility DCF studies are the only credible and reliable cost of equity evidence in this case. Ms. Ahern, however, then proceeds to place most of her emphasis on additional methods that are highly unconventional, unrealistic and even poorly explained. In addition, she includes JCP&L-specific "adders" to her proxy group cost of equity results that are improper and impose capital costs premiums that cannot be supported. The 11.53 percent ROE would over compensate JCP&L investors at the expense of customers.

Q. DO YOU CONSIDER JCP&L TO BE A LOW-RISK UTILITY COMPANY?

A. Yes, very much so. JCP&L provides monopoly electric utility delivery service in its New Jersey service territory, subject to the regulatory oversight of the Board. The Company has a very favorable business risk profile, as emphasized by credit rating agencies, and strong cash flow metrics. One credit rating agency has observed that during 2009 to 2011, the Company paid out 170 percent of its earnings to its corporate parent, demonstrating its very strong financial posture. There is no indication of any material increase in business or financial risk for JCP&L either over time or relative to other electric utilities in recent years. In Section III of my testimony I discuss the business risk attributes for the Company (i.e., along with its parent) including the views of credit rating agencies. This information supports my view that my proxy group DCF results are applicable to JCP&L without the need for a risk adder.

Q. DO YOU HAVE ANY OTHER RECOMMENDATIONS?

A. Yes. I have concerns that JCP&L's credit rating is lower than it should be, based on its own business risk attributes, due to its corporate affiliation with FirstEnergy. As explained in more detail in Section III, I recommend that the Company explore further "ring fencing" measures that it might take to both improve and protect its credit rating. The Company should report its findings to the Board within 90 days of an order in this case.

Q. WHAT DO YOU MEAN BY "RING FENCING," AND WHY IS THIS IMPORTANT FOR JCP&L AND ITS CUSTOMERS?

A. The evidence from credit rating reports demonstrates that JCP&L's credit ratings are adversely affected by its status as a wholly-owned subsidiary of FirstEnergy, including FirstEnergy's extensive and risky merchant power operations. "Ring fencing" refers to corporate structural protections and business practices that can help separate the utility subsidiary from its riskier parent and corporate affiliates. These measures, if properly designed, could help the utility avoid becoming involved in a bankruptcy in the event of a parent (or affiliate) bankruptcy and/or reduce the likelihood that the utility subsidiary would be downgraded by credit rating agencies due to the parent being downgraded. Properly designed ring fencing measures can help to protect the financial health of the utility, avoid unwarranted credit downgradings, and provide reassurance to utility bond investors.

JCP&L maintains that its corporate structure and business practices already incorporate ring fencing attributes, but these measures appear to be insufficient. I discuss this issue further in Section III of my testimony and recommend investigation of stronger protections that JCP&L might implement.

B. Capital Cost Trends in Recent Years

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 2012, on page 1 of Schedule MIK-2. Pages 2, 3 and 4 of that Schedule show monthly data for January 2007 through April 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., calendar 2012 into early 2013), Treasury and utility long-term bond rates have declined even further to near or below the lowest levels in many decades.

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 policy of "quantitative easing." Quantitative easing is a policy whereby the Fed engages on an ongoing basis in the purchase of financial assets (such as Treasury bonds or agency mortgage backed debt),

[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.

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 low and have trended down and, for at least an extended period of time, this very low short- and long-term interest rate and cost of capital environment are expected to continue.

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.

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. A weak economy (as we have at this time) exerts downward pressure on interest rates and capital costs generally because the demand for capital 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 recently noted. Europe's Euro-zone continuing sovereign debt crisis likely contributes somewhat to lower U.S. interest rates, as U.S. securities are valued as a relative "safe haven" for global capital. This "safe haven" benefit for U.S. assets may have abated slightly in the last several months, but it could return if Euro-zone financial stability is not achieved and sustained.

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, that appears to be the case. I have consulted the latest “consensus” forecasts published by *Blue Chip Economic Indicators* (Blue Chip), May 10, 2013 edition, which is a survey compilation of approximately 40 major forecast organizations. The “consensus” calls for real GDP growth of 2.0 percent in 2013 and 2.7 percent in 2014 and inflation (GDP deflator) of 1.5 percent and 1.9 percent in 2013 and 2014, respectively. The March 2013 edition of Blue Chip publishes a consensus 10-year inflation forecast of 2.1 percent per year, only slightly higher than the near term. Thus, both the near- and long-term economic outlooks are for sluggish 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 four 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 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, i.e., during most of 2012 and year-to-date 2013, U.S. equity markets have done quite well. 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 (albeit with very tepid economic growth), and the tendency for investors to view the U.S. 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 JCP&L.

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

A. Yes, to a large extent I have done so. As a general matter, utility stocks have been reasonably stable during late 2012 and into early 2013. Specifically, I present DCF evidence that relies on utility stock market data from the last two months of 2012 and the first four months of 2013. Such market data directly incorporate the economic forces and monetary policy choices described above. The use of a recent six months of market data is reasonable for assessing JCP&L's current cost of capital as it reflects recent market and economic trends.

C. <u>Overview of Testimony</u>

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

A. Section III of my testimony presents my discussion of the capital structure and cost of debt recommended in this case by the Company. This section also discusses JCP&L's business risk profile. 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, risk adjustments and her 11.45 to 11.60 percent ROE recommendation. Finally, Section VI provides a summary of major findings and conclusions.

III. CAPITAL STRUCTURE AND JCP&L'S INVESTMENT RISK

A. Capital Structure/Cost of Debt

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

A. As presented by Mr. Staub, JCP&L proposes a *pro forma* capital structure consisting of 53.8 percent common equity, 46.2 percent long-term debt, zero preferred stock and zero short-term debt. The Company has excluded short-term debt, even though it has recently made substantial use of this type of financing, because on an ongoing basis all short-term debt is allocated to CWIP for AFUDC accrual purposes.

The Company developed its proposed capital structure by starting with the actual capital structure at June 30, 2012, removing $262 million of securitized debt (which specifically pertains to stranded cost recovery). This leaves an actual (adjusted) capital structure of 60.8 percent common equity and 39.2 percent long-term debt. Finally, the Company currently has plans (approved by the Board in Docket No. EF12111053) to issue up to $750 million in new long-term debt over the next two to three years. Mr. Staub reflects $500 million of the authorized $750 million as an adjustment to capital structure, although no indication is given concerning precisely when the new long-term debt will be issued. Inclusion of this additional planned long-term debt modifies the actual capital structure to become 53.8 percent common equity and 46.2 percent long-term debt, which is Mr. Staub's recommendation for rate of return purposes.

Q. DID MR. STAUB ALSO PRESENT THE FIRSTENERGY CONSOLIDATED CAPITAL STRUCTURE?

A. Yes, he did, and it is quite different from that of JCP&L. After removing the securitized debt, at June 30, 2012 it becomes 45.8 percent common equity and 54.2 percent long-term debt. This does not include any of the JCP&L planned new debt.

Q. DO YOU SUPPORT MR. STAUB'S PROPOSED CAPITAL STRUCTURE?

A. No, I do not, for several reasons. While I do agree with the exclusion of securitized debt and short-term debt, the issuance of the $500 million of new long-term debt is expected to occur at an unspecified time during 2013. This issuance is too far beyond the end of the historic test year used by JCP&L in this case to be incorporated into the ratemaking capital structure. Absent this adjustment, JCP&L's actual capital structure becomes approximately 61 percent common equity and 39 percent long-term debt, as shown on Schedule SRS-1 sponsored by Mr. Staub.

I find the actual JCP&L June 30, 2012 capital structure to be unacceptable for use in this case for two reasons. First, a 61/39 capital structure as presented by Mr. Staub is overly expensive and unreasonable. The electric utility industry average capital structure is typically closer to 50/50 equity versus debt, and even JCP&L itself has identified a target capital structure range of about 45 to 55 percent common equity. (Company response to RCR-ROR-13.) Thus, it would be imprudent to use the actual 61/39 capital structure. Even the Company acknowledges that "an equity ratio in excess of 55% is not typically considered for rate-making purposes." (*Id.*)

A second and even more serious problem is that a major portion of JCP&L's actual capital structure is goodwill – about $1.8 billion. This goodwill is an accounting adjustment to the Company's balance sheet that occurred in conjunction with the GPU/FirstEnergy merger approximately a decade ago. As stated in response to RCR-ROR-13, "the $1.8 billion of goodwill on its [JCP&L's] books represents an allocation of the premium over book value that FirstEnergy paid for GPU." In other words, by including goodwill in the ratemaking capital structure, FirstEnergy is seeking cost recovery (i.e., a higher rate of return on rate base) of its merger acquisition premium. This is improper.

Q. WHY IS THE PROPOSAL TO INCLUDE GOODWILL IN CAPITAL STRUCTURE IMPROPER?

A. First, a merger acquisition premium should not be considered to be part of the cost of providing utility delivery service. This is a cost that shareholders should be required to bear. Second, the Board's order in approving FirstEnergy's (indirect) acquisition of JCP&L specifically disallowed cost recovery of transactions costs and, in particular, goodwill. Specifically, Paragraph 13 of the Board Order in BPU Docket No. EM00080608 (supplied by the Company in response to RCR-A-2) states that in connection with the 2002 rate case "and in all subsequent rate cases" any costs related to goodwill (along with merger transactions costs and the acquisition premium) "shall not be included in JCP&L's test-year cost of service or otherwise charged to JCP&L's customers for ratemaking purposes." Since the Company's capital structure proposal is part of its ratemaking cost of service and asserted revenue deficiency in this case, using Mr. Staub's proposed capital structure, ratepayers would be charged for goodwill and the FirstEnergy acquisition premium. This is impermissible under the Board's order in the GPU merger docket.

Q. WHAT IS THE COMPANY'S POSITION ON THIS ISSUE?

A. The Company argues for rate recognition, through capital structure, of its balance sheet goodwill. First, the Company claims that it is necessary to include goodwill in order to derive a reasonable ratemaking capital structure (i.e., one in the 45 to 55 percent range for equity). JCP&L asserts that this will also foster the objective of preserving an investment grade credit rating. (Company response to RCR-ROR-13.) Second, the Company argues that the Board's GPU merger order, while admittedly prohibiting cost recovery of goodwill, did not specifically address the appropriateness of including goodwill in capital structure. (Company response to RCR-ROR-36.)

Q. WHAT IS YOUR RESPONSE?

A. While it is true that the Board's order language on the prohibition of goodwill cost recovery is general, it is simply inaccurate to argue that capital structure determination is *not* part of ratemaking. Recognition of goodwill produces the very high 61 percent equity / 39 percent long-term debt actual capital structure, which unquestionably increases customer rates. As a matter of comparison, the Board has accepted capital structures of approximately 50 percent equity / 50 percent long-term debt for both Atlantic City Electric Company (ACE) and Public Service Electric & Gas Company (PSE&G) in recent base rate cases. JCP&L's much more expensive capital structure is due only to its inclusion of goodwill. By requiring a blanket prohibition on goodwill cost recovery, there was no need for the Board in its merger order to specify all the contexts in which JCP&L must exclude it in its cost of service – including capital structure. The Board's merger approval order is clear – JCP&L may not include goodwill or the acquisition premium in any aspect or component of its rate case cost of service. This would include capital structure.

Q. WOULD IT BE REASONABLE TO RESTATE JCP&L'S COST OF SERVICE EXCLUDING GOODWILL?

A. In theory, such an adjustment would be appropriate. However, in this case, goodwill is so large relative to JCP&L's equity balance (i.e., $1.8 million out of a total $2.3 billion), that doing so would produce an imprudent and overleveraged capital structure with too little common equity.

Q. WOULD THE FIRSTENERGY CORP. CONSOLIDATED CAPITAL STRUCTURE BE REASONABLE FOR JCP&L IN THIS CASE?

A. It would be far more reasonable than the Company's actual of 61 percent equity ratio. However, again it would be necessary to remove goodwill from the FirstEnergy actual capital structure in order to make it acceptable for ratemaking, in conformance with the Board's merger order. Doing so might produce an overly leveraged capital structure.

Q. WHAT IS YOUR RECOMMENDATION ON CAPITAL STRUCTURE?

A. I am recommending in this case a hypothetical capital structure that includes 50 percent common equity and 50 percent long-term debt in place of either JCP&L's actual capital structure of 61 percent equity and 39 percent debt and its proposed 54 percent equity and 46 percent debt. The 50/50 capital structure is roughly in line with both my proxy group and Ms. Ahern's two proxy groups. (See my Schedule MIK-3 and Ms. Ahern's Schedule PMA-4 and 5.) It is also approximately consistent with the ratemaking capital structures employed by ACE and PSE&G. Moreover, the 50/50 hypothetical capital structure is the exact midpoint of the 45 to 55 percent target equity ratio range that JCP&L itself has identified as reasonable for credit quality and ratemaking.

Finally, I note that Ms. Ahern has included a credit rating-type upward adjustment or "adder" (i.e., about 0.3 to 0.6 percent) in her recommended ROE for JCP&L. As I explain later, there is no basis for such an adjustment given JCP&L's very favorable business risk profile. Nonetheless, if a very unusual capital structure were to be used for ratemaking, it could be argued that a risk adjustment (related to financial leverage) is needed. This could be a positive or negative adjustment depending on what capital structure is selected. In my opinion, employing a relatively standard 50/50 capital structure – consistent with the various electric utility proxy groups and New Jersey practice – removes any rationale for including Ms. Ahern's upward adjustment to the cost of equity.

Q. DO YOU HAVE ANY CLARIFICATIONS CONCERNING CAPITAL STRUCTURE?

A. Yes. I have verified that it is JCP&L's current practice to directly assign short-term debt to CWIP for AFUDC rate calculation and accrual purposes. (Company responses to RCR-ROR-2 and 7.) My 50/50 hypothetical capital structure recommendation is predicated on JCP&L's continuing this practice, which is widespread among electric utilities.

Q. WHAT IS THE COMPANY'S PROPOSAL CONCERNING THE COST OF LONG-TERM DEBT?

A. Mr. Staub identifies an embedded cost of long-term debt of 6.26 percent at June 30, 2012. (See Schedule SRS-3.) However, as noted earlier, his capitalization proposal assumes an issuance sometime in 2013 of $500 million in new long-term debt at a cost rate of 4.5 percent. This has the effect of lowering the embedded cost of long-term debt to 5.82 percent, which is his recommendation in this case.

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

A. No, not at this time. As I noted above, the $500 million long-term debt issue (or issues) is presumed to take place sometime in 2013 – too far beyond the end of the historic test year for inclusion in this case. Thus, I am instead adopting the actual June 30, 2012 embedded cost rate of 6.26 percent shown by Mr. Staub. Please note that the 6.26 percent includes all long-term debt-related expenses.

B. <u>JCP&L's Risk and Credit Profile</u>

Q. HAVE COMPANY WITNESSES THOROUGHLY EXPLORED JCP&L'S BUSINESS RISK PROFILE?

A. Ms. Ahern does provide some discussion of JCP&L's business risks in her testimony, but it is relatively limited and somewhat misleading. In the end, she erroneously concludes that JCP&L is riskier than the companies in her two proxy groups based on "credit risk" and imputes large risk premiums for the Company in her final cost of equity recommendation range of 11.45-11.60 percent.

Ms. Ahern discusses the Company's business risks on pages 5-11 of her direct testimony, finding that JCP&L is an above-average risk company (presumably that means as compared to the electric utility industry). In fact, she finds that "JCP&L faces extraordinary business risks." (Page 6.) She identifies the following risks specific to JCP&L that allegedly make it "extraordinarily" risky:

- JCP&L is subject to regulatory lag, exacerbated in this case by the Board's order to file a rate case using a historical test year.
- JCP&L potentially could be subject to penalties related to service outages.
- Energy efficiency and solar installations, along with sluggish economic growth, translate into slow sales growth.
- The Company's relatively small size is also asserted by Ms. Ahern to be a risk factor.

On the other hand, Ms. Ahern concedes that JCP&L has a risk advantage due to its status as a delivery service only utility (as compared to utilities with generation assets). Consequently, balancing the negative risk factors listed above with JCP&L's "T&D only" status, she concludes that "no business risk adjustment is warranted." (*Id.*)

Q. DOES THIS MEAN THAT SHE REJECTS THE NEED FOR A RISK ADJUSTMENT?

A. No, despite her finding that "no business risk adjustment is warranted," she nonetheless includes a large risk adder (midpoint of nearly 0.5 percent) based on what she calls "credit risk," i.e., the assertion that JCP&L has a weaker than average credit rating and therefore is a riskier company. She does so despite acknowledging that credit ratings cannot provide a quantitative measure of *equity* risk. (*Id.*, page 13.) Presumably, this statement is merely an observation that credit ratings measure risks associated with bonds (i.e., bond default risk) and not equity risk.

Q. WHAT IS YOUR ASSESSMENT OF THE FOUR BUSINESS RISKS DISCUSSED BY MS. AHERN?

A. The first three (i.e., rate cases/regulatory lag, weak or uncertain sales growth, and service quality issues) appear to be routine business risks that affect virtually all electric utilities, and there is no demonstration by Ms. Ahern that such risks are above average or more acute for JCP&L as compared to the industry or her proxy group. The regulatory lag argument appears to be particularly curious since JCP&L has not sought to increase its base rates in many years and has resisted Board review of its current earnings adequacy. One normally thinks of regulatory lag as being the slowness of the ratemaking process, causing earnings to erode. If a utility voluntarily stays out of rate cases for many years, it may be because it has benefitted from regulatory lag. In this regard, Ms. Ahern has provided no evidence that JCP&L has been harmed by regulatory lag.

Ms. Ahern also has not presented any analysis showing that sluggish growth conditions and the potential for service quality penalties are any more severe for JCP&L than the rest of the industry (or her proxy companies). This is not to suggest that JCP&L is risk-free; merely that there is no persuasive evidence that it is above average in risk. To the contrary, it appears that JCP&L is below average in risk (as a delivery service utility), although I make no adjustment for this relatively low risk.

Finally, there is no merit whatsoever to her suggestion that JCP&L is risky because of its relatively "small size." To begin with, she has no persuasive evidence that among electric utilities size is a material equity risk factor. More importantly, JCP&L is hardly small, with a roughly $4 billion capitalization. Ms. Ahern appears to reach the erroneous conclusion on relative size by comparing JCP&L (which is a single utility) with holding companies which in most cases consist of multiple utilities (e.g., American Electric Power, Southern Company, Xcel Energy, etc.) JCP&L is wholly-owned by FirstEnergy, which is much larger than most of her proxy companies. JCP&L, of course, contributes to FirstEnergy's large size and scale economies.

Q. MS. AHERN'S BOTTOM LINE IS THAT A RISK ADJUSTMENT IS NEEDED DUE TO JCP&L'S WEAKER THAN AVERAGE CREDIT RATING. WHAT IS YOUR RESPONSE?

A. This appears to be based on a compilation of "bond" ratings shown on page 5 of Schedule PMA-8 using Moody's and S&P ratings information. The most dramatic difference is JCP&L's relatively weak rating of BBB- (i.e., the lowest investment grade rating) from S&P as compared to a proxy group average of BBB+ (i.e., strong triple B). From this information, one might be tempted to conclude that JCP&L is riskier than the group. The problem here is that JCP&L's weak credit rating is caused by JCP&L's affiliation with FirstEnergy and its non-regulated operation. I demonstrate this problem later in this section of my testimony.

To the extent that FirstEnergy is the source of the JCP&L credit rating problem, Ms. Ahern's risk adder is both improper and may be a violation of the Board order approving the GPU merger. Paragraph 14 (cited on page 23) of the Board order states as follows:

> FirstEnergy shall not subject JCP&L's customers to any financial costs, risks or consequences from subsidiaries Ohio Edison, Pennsylvania Power, or any other of FirstEnergy's nuclear or fossil generation operations (i.e., non-JCP&L facilities and contracts)…
>
> (Supplied in response to RCR-A-2.)

It seems clear that Ms. Ahern has violated this directive by recommending that JCP&L customers pay a risk premium associated with FirstEnergy unregulated, merchant generation operations. Consequently, this adjustment must be rejected, along with any suggestion that JCP&L is riskier than average.

Q. DO CREDIT RATING AGENCIES FIND JCP&L TO BE AN INHERENTLY RISKY COMPANY?

A. No, not at all. I have reviewed the credit rating reports for JCP&L published in late 2012 from S&P, Moody's and FitchRatings supplied in response to S-JREV-6 and RCR-ROR-5. All three credit rating agencies depict a company with a very favorable business risk profile and reach similar findings.

Moody's report of November 19, 2012 rates JCP&L Baa(2) with its senior secured debt rated A3. It rates the FirstEnergy parent Baa(3) which is a weaker rating. The report finds that JCP&L has a low-risk profile, with its positives being "predictable" and "supportive" regulation, a diverse service territory and strong and stable cash flow that in recent years has fully covered capital expenditures. In fact, during 2009-2011, JCP&L paid out 170 percent of its earnings as dividends to FirstEnergy parent. Moody's emphasizes that New Jersey regulation has permitted full recovery of all default service and NUG costs. According to Moody's, JCP&L "benefits from a monopoly in its service territory" for utility delivery service which results in "a relatively low level of business risk."

S&P rates JCP&L as having an "Excellent" business risk profile, citing to the same favorable attributes as the Moody's report. (Report of September 19, 2012.) Specifically, the report finds:

> JCP&L's excellent business risk profile reflects its rate-regulated, monopolistic, and essential service. We view the transmission and distribution operations as lower risk than the regulated generation business that is included in many fully integrated electric utilities.

Contrary to Ms. Ahern's assertion, S&P finds that "JCP&L's business risk profile is only marginally affected by the New Jersey Board of Public Utilities requiring JCP&L to file a base rate case."

Despite these highly favorable risk attributes, S&P assigns JCP&L a relatively weak credit rating, due to its affiliation with FirstEnergy, i.e., BBB- which is S&P's lowest investment grade rating.

> Our corporate credit rating on JCP&L is materially affected by its affiliation with FirstEnergy's competitive energy business. (*Id.*)

Specifically, the JCP&L credit ratings "reflect the consolidated credit profile of parent FirstEnergy," which S&P finds to be much riskier than JCP&L and with an "aggressive" (i.e., far more leveraged) financial profile.

Q. WHAT IS THE ASSESSMENT OF FITCHRATINGS?

A. FitchRatings assigns JCP&L a corporate credit rating of BBB (medium triple B) with a senior secured rating of BBB+ (stable). As with S&P and Moody's, FitchRatings finds that JCP&L has a "relatively low business risk profile and a reasonably balanced regulatory environment" with "no commodity price exposure." (Report of August 23, 2012). While noting that the mandated rate case is a near term source of uncertainty, FitchRatings describes the rate case as "a modest negative development."

As is the case with S&P (though much less explicit), FitchRatings uses JCP&L's affiliation with FirstEnergy as a negative factor for credit quality. The report states that JCP&L's ratings "reflect linkage with its corporate parent." The report warns that, "Parent company downgrade and intercompany credit linkages could lead to future adverse credit actions."

Q. WHAT DO YOU CONCLUDE FROM YOUR REVIEW OF THESE REPORTS?

A. The credit rating agencies concur in their review that JCP&L has a very favorable business profile based on its status as a monopoly utility, the absence of generation assets and operations, supportive New Jersey regulation, a favorable and diverse service territory, and strong and stable cash flows. Unfortunately, at least in the case of S&P and FitchRatings (Moody's is less clear on this issue), JCP&L's credit rating is impaired and weakened by its affiliation with FirstEnergy's non-utility operations.

The corporate affiliation problem raises at least two issues in this case. First, Ms. Ahern's ROE risk adder, which is based entirely on credit ratings, must be rejected as having nothing whatsoever to do with JCP&L's intrinsic business risk profile. Moreover, including the adder violates the Board's GPU merger order. Second, even if there is no ROE adder, there is a legitimate concern that the FirstEnergy affiliation may have improperly elevated JCP&L's cost of long-term debt, which is a relatively high 6.26 percent (and may do so in the future). If this has occurred, it also would violate that same Board order.

In light of this concern, I recommend that JCP&L investigate whether it could improve its credit quality by implementing "ring fencing" measures. Specifically, within 90 days of a Board final order in this case, JCP&L should report back on the costs, benefits and feasibility of potential ring fencing measures that it might take to further separate itself from credit risks associated with the FirstEnergy non-utility operations as a means of strengthening its credit ratings.

In making this recommendation, I am cognizant that JCP&L states that it already has in place some ring fencing attributes or measures. (Company response to RCR-ROR-10.) For example, the Company cites as ring fencing measures the restrictions on the operation of the Money Pool, the fact it issues its own long-term debt, JCP&L stand-alone financial statements, and the fact that JCP&L does not use its assets to secure parent or affiliate debt. However, it seems apparent these measures have not been fully successful, as judged by the S&P and FitchRatings reports and as JCP&L's weak S&P BBB- ratings. JCP&L has not succeeded in separating its own credit ratings from those of its parent. This should not be the basis for charging excess rates to customers. The managements of JCP&L and FirstEnergy should be required to address this credit rating issue.

IV. COST OF COMMON EQUITY

A. Using the DCF Model

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

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

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

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

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

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

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

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

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

A. By and large, Ms. Ahern does attempt to incorporate these principles. Her various studies purport to estimate the market-based cost of capital, and she uses those results as the basis for her recommendation. However, I take issue with some of her data inputs, assumptions and methods. It is particularly inappropriate to use the return requirements for non-regulated companies as the basis for setting the fair return for JCP&L.

Q. WHAT METHODS ARE YOU USING IN THIS CASE?

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

Q. PLEASE DESCRIBE THE DCF MODEL.

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

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

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

$$K_e = (Do/Po)(1 + 0.5g) + g, \text{ where:}$$

K_e = cost of equity;

Do = the current annualized dividend;

Po = stock price at the current time; and

g = the long-term annualized dividend growth rate.

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

Q. HOW HAVE YOU APPLIED THIS MODEL?

A. Strictly speaking, the model can be applied only to publicly traded companies, i.e., companies whose market prices (and therefore market valuations) are transparently revealed. Consequently, the model cannot be applied to JCP&L, which is a wholly-owned subsidiary of FirstEnergy parent, and therefore, a market proxy is needed. In theory, FirstEnergy, JCP&L's parent, could serve as that market proxy, but I have not included it as a member of my electric distribution utility proxy group. I exclude FirstEnergy because it has extensive non-utility operations that are considered far riskier than JCP&L's electric delivery service. Ms. Ahern also excludes FirstEnergy from her group. 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 is likely to be far more reliable than a single company study. This is because there is "noise" or fluctuations in stock price or other data that cannot always be readily accounted for in a simple DCF study. The use of an appropriate and robust proxy group helps to allow such "data anomalies" to cancel out in the averaging process.

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

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

A. I am using a proxy group that consists of the five companies included in the Value Line Electric Industry Group that are predominantly in the delivery service utility business. That is, all five companies are mostly or entirely electric (and in some cases combination electric/gas) distribution and transmission ("T&D") utilities. None is considered "vertically integrated" or has substantial unregulated generation. Also, all but one are located in the mid-Atlantic or northeast, all five operate in Regional Transmission Organizations ("RTOs"), and all five provide for retail access. Only one company, Centerpoint Energy, is located outside the Northeast, operating in Texas (i.e., in ERCOT).

As a second study, I use Ms. Ahern's vertically-integrated electric (and combination electric/gas) proxy companies. However, this group of companies is less appropriate as a risk proxy for JCP&L, since the cost of equity embodies generation-related risk.

Q. IS YOUR DELIVERY SERVICE PROXY GROUP THE SAME AS YOU EMPLOYED IN RECENT PAST CASES?

A. No, I was required to eliminate certain companies due to recent merger (i.e., acquisition) activity. This includes NSTAR, Central Vermont and C.H. Energy. NSTAR and Central Vermont have been acquired and therefore are no longer publically traded, nor are they included in the Value Line data base. C.H. Energy is in the process of being acquired by a Canadian company.

As a result of these deletions, I checked to see if other companies in the Value Line data base would qualify as being predominantly delivery service electric utilities, and I thereby added Centerpoint Energy.

The three necessary deletions and the one addition produce a five-company proxy group of electric utility delivery service companies, all of which substantially lack regulated and unregulated generation assets.

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

A. Yes, there are some, but they are relatively modest. For example, with the recent sale of its merchant generation assets, PHI has reduced non-regulated operations to a very small percentage of the total consolidated corporation. These non-regulated operations tend to increase the cost of equity relative to being a pure delivery service utility, but only slightly. On the whole, my proxy group is an appropriate risk proxy for JCP&L despite the minor presence of non-regulated operations.

B. <u>DCF Study Using the Electric Distribution Utility Proxy Group</u>

Q. PLEASE IDENTIFY THE FIVE COMPANIES INCLUDED IN YOUR ELECTRIC DISTRIBUTION UTILITY PROXY GROUP.

A. These five proxy companies are listed on Schedule MIK-3, page 1 of 2, along with several risk indicators.

Q. HAVE EITHER YOU OR MS. AHERN PROPOSED A SPECIFIC BUSINESS RISK ADJUSTMENT TO THE DCF COST OF EQUITY BETWEEN THE PROXY COMPANY AVERAGE AND JCP&L?

A. I have not reflected an explicit adjustment for risk since I believe that there is no basis for asserting that JCP&L is riskier than the average company. Ms. Ahern reflects a risk adjustment of 0.3 to 0.6 percent based on JCP&L's allegedly weaker credit rating as compared to the proxy companies. As explained in Section III, such an adjustment is not proper.

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 April 2013, the most recent data available to me as of this writing. This covers the last two months of 2012 and the beginning of 2013. As a general matter, this six months has been a time period of an improving stock market, although less so for utilities than the broader markets.

I show these dividend yield data on page 2 of Schedule MIK-4 for each month and each proxy company, November 2012 through April 2013. Over this six-month period the proxy group average dividend yields indicate a steady but declining trend from a high of 4.44 percent in November 2012 to a low of 3.88 percent in April 2013, averaging 4.24 percent for the full six months.

For DCF purposes and at this time, I am using a proxy group dividend yield of 4.24 percent.

Q. IS 4.24 PERCENT YOUR FINAL DIVIDEND YIELD?

A. Not quite. Strictly speaking, the dividend yield used in the model should be the value the investor expects to receive over the next 12 months. Using the standard “half year” growth rate adjustment technique, the DCF adjusted yield becomes 4.3 percent. This is based on assuming that half of a year growth is 2.25 percent (i.e., a full year growth is 4.5 percent).

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. Ms. Ahern also employs stock market data (and other public data) as of September 2012, i.e., approximately nine months ago. Her study therefore reflects equity market conditions as of late 2012.

Q. HOW HAVE YOU DEVELOPED YOUR GROWTH RATE COMPONENT?

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

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

Q. PLEASE DESCRIBE THE ANALYST EARNINGS GROWTH RATE EVIDENCE.

A. Schedule MIK-4, page 3 presents five available and well-known public sources of analyst earnings growth rate projections. Four of these five sources -- YahooFinance, MSNMoney, Reuters and CNNfn -- provide averages from securities analyst surveys conducted by or for these organizations (typically they report the mean or median value). The fifth, Value Line, is that organization's own estimates and is available publically on a subscription basis. Value Line publishes its own projections using annual average earnings per share for a base period of 2010-2012 compared to the annual average for the forecast period of 2016-2018. These are very similar to the sources used by Ms. Ahern for securities analyst growth rates in her September 2012 DCF studies.

As this schedule shows, the growth rates for individual companies vary somewhat among the five sources. These proxy group averages are 5.8 percent for CNNfn, 5.4 percent for YahooFinance, 5.2 percent for MSNMoney, 4.8 percent for Reuters and 4.9 percent for Value Line. Thus, the range of growth rates among the five sources is 4.8 to 5.8 percent. The average of these five sources is 5.2 percent, and I have used these results (along with other evidence) in obtaining a reasonable range growth range for the group of 4.0 to 5.2 percent.

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

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

On Schedule MIK-4, page 4 of 5, I have compiled three other measures of growth published by Value Line, i.e., growth rates of dividends and book value per share and the long-run retained earnings growth. (Retained earnings growth reflects the growth over time one would expect from the reinvestment of retained earnings, i.e., earnings not paid out as dividends.) As shown on this schedule, these growth measures for the five proxy companies tend to be somewhat less (on average) than analyst growth projections. For the five companies, projected dividend growth averages 2.7 percent, book value growth averages 4.3 percent, and earnings retention growth averages 3.6 percent.

Some analysts and regulators favor the use of earnings retention growth (often referred to as "sustainable growth"), which Value Line indicates to be 3.6 percent. However, at least in theory, the sustainable growth rate also should include "an adder" to reflect potential future earnings growth from issuing new common stock at prices above book value (referred to as "external growth" or the "s x v" factor). In practice, this is difficult to estimate since future stock issuances of companies over the long-term are an unknown and rarely discussed by analysts. Nonetheless, I have estimated this "external growth" factor using Value Line projections for these five companies of the growth rate (through 2016-2018) in shares outstanding, along with the current stock price premium over book value. This is a common method for calculating the external growth factor. For these five companies, the external growth rate calculated in this manner averages about 0.2 percent. (Note that two of the five proxy companies are not expected to issue any new stock in the near term.) The sum of "internal" or earnings retention growth (i.e., 3.6 percent) and the "external" growth rate (i.e., 0.2 percent) is 3.8 percent.

Given this estimate of 3.8 percent for the sustainable growth rate and 5.2 percent for analyst earnings projections, a reasonable DCF growth rate range is approximately 4.0 to 5.2 percent.

Q. ARE THERE ANY OTHER FACTORS TO CONSIDER?

A. Yes. Ms. Ahern estimates a flotation expense adder for JCP&L of 0.15 percent, and she directly includes it in her find recommended range. She develops this adjustment based on historic flotation expenses incurred by FirstEnergy nearly ten years ago, i.e., in 2003.

I have not reflected an adjustment for the recovery of flotation expense in my cost of equity estimate. There is no need to include in rates being set in this case an expense that was incurred by the parent company approximately ten years ago. More importantly, there is no indication of a public issuance of common stock by FirstEnergy (and therefore flotation expense) for the foreseeable future. For example, the *Value Line Investment Survey* projects almost no increase in FirstEnergy's shares outstanding during the next five years. (*Value Line* report as of May 24, 2013).

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 April 2013 is 4.3 percent for this group. Available evidence would support a long-run growth rate in the range of approximately 4.0 to 5.2 percent, as explained above. Summing the adjusted yield and growth rate range, with no flotation adjustment, produces a total return of 8.3 to 9.5 percent, and a midpoint result of 8.9 percent. Reliance on analyst earnings projections would tend to support a result toward the upper end of that range, while the sustainable growth rate produces a lower end DCF result.

Q. HOW DOES YOUR 8.9 PERCENT DCF MIDPOINT COMPARE TO MS. AHERN'S DCF ESTIMATE FOR HIS PROXY GROUP?

A. Ms. Ahern reports DCF estimates of about 8.9 and 10.4 percent for her two proxy groups. Section V of my testimony discusses her results in more detail.

C. <u>DCF Study Using Ms. Ahern's Proxy Companies</u>

Q. HOW HAVE YOU CONDUCTED YOUR DCF STUDY USING MS. AHERN'S PROXY COMPANIES?

A. As an important check on my electric distribution utility DCF study, I have conducted an additional DCF study using 13 of Ms. Ahern's 15 proxy companies. I list all 13 proxy companies along with their risk indicators on page 2 of Schedule MIK-3. I have conducted this DCF study using essentially the same analytic procedures as I used in my distribution electric utility DCF study.

Q. PLEASE DESCRIBE THESE COMPANIES.

A. All of Ms. Ahern's proxy companies indeed are predominantly regulated electric utilities, but in all cases, except one, they are vertically-integrated electric utilities. This means they have regulated generation supply operations. One utility, Southern Company, is located in the East region, and all others are in the Midwest or West Regions of the U.S. They therefore operate in business environments and have business models quite different from JCP&L. Most of these companies have extensive coal-fired power plants and therefore face difficult issues of compliance with emerging environmental rules which will require financial and operational challenges. Southern Company is presently embarking on a massive and very expensive nuclear generation expansion plan. While this group on the whole can be considered to be predominantly regulated, some have important non-regulated operations. For these reasons, I consider this group, on average, to have greater business risk than JCP&L.

Q. YOU STATE THAT YOU HAVE ELIMINATED TWO OF MS. AHERN'S PROXY COMPANIES. WHY DID YOU DO SO?

A. I eliminated NV Energy and UNS Energy from the proxy group because both companies have S&P credit ratings below investment grade (i.e., BB+). This low rating is quite unusual for electric utility companies and means these two companies are considered "junk" rated. (See Exhibit JC-6, Schedule PMA-8, page 5.) In my opinion, a non-investment grade company is not an appropriate risk proxy for JCP&L.

Although I have removed these two companies from my analysis, I do not believe doing so materially changes my DCF results.

Q. WHAT IS THE DIVIDEND YIELD FOR THIS GROUP?

A. As shown on Schedule MIK-5, page 2 of 5, the group average dividend yield for the six months ending April is 3.81 percent. The adjusted dividend yield for this proxy group is 3.9 percent. The supporting detail is listed on page 2 of Schedule MIK-5.

Q. WHAT IS THE GROWTH RATE EVIDENCE?

A. I show the analyst projections of earnings growth for these thirteen companies on Schedule MIK-5, page 3 of 5, employing the same five public sources as used for the distribution electric utility proxy group. The group averages are 4.3 percent for Value Line, 5.1 percent for Reuters, 5.3 percent for YahooFinance, 5.0 percent for CNNfn and 5.0 percent for MSNMoney. The five sources average to 4.9 percent. Please note that these reported averages remove the negative earnings growth rate for Edison International. Ms. Ahern followed the same procedure for this Company.

A second set of growth rates for the thirteen-company integrated utility group is shown on page 4 of Schedule MIK-5. This schedule provides Value Line's projections of dividends, book value and growth from earnings retention. These growth rates are generally similar to or lower than the securities analyst projections, averaging 4.4 percent for dividends, 4.2 percent for book value and 4.1 percent for earnings retention growth.

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

A. Yes. As mentioned earlier, an important alternative to analyst projections is earnings retention or the “sustainable” measure of long-term growth. The internal component for this proxy group is 4.1 percent, as shown on page 4 of Schedule MIK 5. I calculated an “external” or “s x v” component for each of the thirteen integrated electric companies in the same manner as described for the distribution electric companies, producing an “external” growth component of 0.4 percent. Thus, the total sustainable growth rate is 4.1 percent plus 0.4 percent, or 4.5 percent. This is shown on page 5 of Schedule MIK-5.

I have used the securities analyst earnings projections (4.9 percent) and the sustainable growth rate (4.5 percent) to develop a reasonable range for DCF purposes of 4.5 to 5.0 percent.

Q. WHAT DCF MARKET RETURN DOES THIS PRODUCE?

A. As shown on Schedule MIK-5, page 1 of 5, I obtain a DCF return range of 8.4 to 8.9 percent, with a midpoint of 8.7 percent. This is based on an adjusted dividend yield of 3.9 percent plus a 4.5 to 5.0 percent growth range, with no adjustment for flotation expense.

I believe that this study helps support the reasonableness of my 9.25 percent recommendation for JCP&L and further demonstrates that my recommendation is conservative. The upper end of this range, 8.9 percent, reflects the use of the security analysts’ projections, which is the same method used by Ms. Ahern.

Q. YOU MENTIONED THAT YOU DELETED TWO OF MS. AHERN’S 15 PROXY COMPANIES DUE TO THEIR BELOW INVESTMENT GRADE

CREDIT RATING. WOULD YOUR DCF RESULTS BE SIGNIFICANTLY DIFFERENT HAD YOU RETAINED THOSE TWO COMPANIES FOR YOUR DCF STUDY?

A. No, retaining the two companies would only slightly affect the overall DCF results, increasing the overall DCF cost of equity midpoint by about 0.1 percent. This is because the dividend yields for NV Energy and UNS are similar to or slightly lower than the proxy group average, and the projected growth rates are only slightly higher. Using the most recently available data, I compiled (or computed in the case of sustainable growth rate) the following earnings growth rate information:

	UNS	NVE
CNN	10.35%	2.65%
Reuters	7.07	3.10
MSN	8.00	3.10
YahooFinance	8.00	3.10
Value Line	6.50	8.00
Analyst Projection Average	7.98%	3.99%
Sustainable Growth Rates	3.0	4.6
Overall Average	5.5%	4.3%

As this demonstrates, the growth rates for these two excluded companies are roughly in line with the 4.5 to 5.0 percent range that I have used for the 13-company proxy group.

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

Q. PLEASE DESCRIBE THE CAPM MODEL.

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

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

The CAPM formula is:

K_e	=	$R_f + \beta\ (R_m - R_f)$, where:
K_e	=	the firm's cost of equity
R_m	=	the expected return on the overall market
R_f	=	the yield on the risk free asset
β	=	the firm (or group of firms) risk measure.

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

While the beta itself also is "observable," different investor services provide differing calculations of betas depending on the specific procedures and methods that they use. These differences can potentially have large impacts on the CAPM results. In this case, the betas that Ms. Ahern and I use are very similar, with Ms. Ahern's proxy group average being 0.70.

Q. HOW HAVE YOU APPLIED THIS MODEL?

A. For purposes of my CAPM analysis, I have used a long-term (i.e., 30-year) Treasury yield as the risk-free return (as has Ms. Ahern) along with the average beta for the electric utility proxy group. (See Schedule MIK-3 for the company-by-company betas.) It should be noted that the distribution utility proxy group beta is slightly higher than the integrated utility company group beta (i.e., 0.71 versus 0.67). In the last six months, long-term (i.e., 30-year) Treasury yields have averaged approximately 3.0 percent. I note that Ms. Ahern has elected to use a risk-free rate in her CAPM studies of 4.17 percent, which is sharply higher than the actual value. I comment further on why this is incorrect in Section V. Finally, and as explained below, I am using an equity risk premium range of 5 to 8 percent, although I also provide calculations using a higher risk premium as a sensitivity test.

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 3.0 percent, a proxy group beta of 0.71 and an equity risk premium of 5 percent.

$$Ke = 3.0\% + 0.71\ (5.0\%) = 6.6\%$$

The upper-end estimate uses a risk-free rate of 3.0 percent, a proxy group beta of 0.71 and an equity risk premium of 8.0 percent.

$$Ke = 3.0\% + 0.71\ (8.0\%) = 8.7\%$$

Thus, with these inputs the CAPM provides a cost of equity range of 6.6 to 8.7 percent, with a midpoint of 7.6 percent. The CAPM analysis produces a midpoint result significantly lower than the range of results obtained for my two electric utility group DCF analyses, but I have not placed reliance on the CAPM returns in formulating my return on equity recommendation in this case. This is due to the unusual behavior of Treasury bond markets (the recent "flight to quality problem"), and the current actions by the Fed to hold down interest rates. These market conditions make it difficult to assess equity risk premiums at this time.

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

A. For her CAPM study, Ms. Ahern has selected a high-end market risk premium value of 9.65 percent. In conjunction with the Value Line utility beta of 0.71 (based on Value Line data for the distribution utility group) and a 3.0 percent Treasury bond yield, the CAPM using her market risk premium estimate produces:

$$Ke = 3.0\% + 0.71\ (9.65\%) = 9.85\%$$

Not surprisingly, this produces a far higher cost of equity estimate, exceeding my equity return recommendation for JCP&L. Later in my testimony, I discuss why this market equity premium value is both overstated and well beyond even a reasonable upper bound.

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

A. There is a great deal of disagreement among analysts regarding the reasonably expected market return on the stock market as a whole and therefore the risk premium. In my opinion, a reasonable overall stock market risk premium to use would be about 6 to 7 percent, which today would imply a stock market return of about 9 to 10 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 8 to 11 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 percent risk premium value exceeds the upper end of that range by a very wide margin. My "midpoint" risk premium of roughly 6.5 percent falls well within that range.

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

V. <u>REVIEW OF MS. AHERN'S STUDIES</u>

A. <u>Overview of Recommendation</u>

Q. MS. AHERN RECOMMENDS AN ROE RANGE FOR JCP&L IN THIS CASE OF 11.45 TO 11.60 PERCENT, OR A MIDPOINT OF 11.53 PERCENT. HOW DID SHE DEVELOP THAT ESTIMATE?

A. Using two proxy groups of electric utility companies (with all but one company vertically integrated), Ms. Ahern employs a relatively standard DCF study, a Risk Premium model, a Capital Asset Pricing Model (CAPM) study and a series of studies applied to unregulated companies. It appears that she gives equal weight to each of these four categories of studies and in doing so produces a range of 10.70 to 11.15 percent. She then includes two "adders", one for past FirstEnergy flotation expense (0.15 percent) and a second for JCP&L's allegedly greater credit risk (0.29 to 0.59 percent). This produces her final recommended range of 11.45 to 11.60 percent.

It should be noted that the Risk Premium and CAPM studies are quite similar in that both require estimates of the market equity premium. This means that two of her three utility-based cost categories rely on the risk premium methodology and assumptions, with the more standard and reliable DCF taking a back seat.

Q. HOW DOES HER RECOMMENDATION COMPARE WITH JCP&L'S CURRENT AUTHORIZED RETURN ON EQUITY?

A. It is dramatically higher - - nearly 20 percent higher - - than the Company's currently-authorized 9.75 percent. The 9.75 percent figure was authorized several years ago at a time when capital costs were far higher than today.

B. **DCF Study**

Q. WHAT ARE THE DIFFERENCES BETWEEN MS. AHERN'S DCF STUDIES AND YOURS?

A. There are three main differences:

(1) Ms. Ahern emphasizes vertically-integrated electric utilities rather than delivery service electrics.

(2) Her studies are based on market and other published data as of September 2012, whereas my study reflects more current data and the improvements in equity markets in recent months.

(3) Ms. Ahern's study employs only one measure of expected long-term growth, i.e. security analyst growth rate estimates, whereas my study also uses a second measure, the "sustainable" growth method, to develop a range. It should be noted that Ms. Ahern and I use very similar sources of security analyst growth rates.

Q. WHAT DCF RESULTS DID SHE OBTAIN?

A. I provide a summary of her DCF results on Schedule MIK-7, combining together her two proxy groups. This totals 15 companies. With all 15 companies, her DCF results average to 9.33 percent. I also show the overall average excluding three companies that are somewhat anomalous, Edison International, NV Energy and UNS Energy. Edison International produces an unusually low DCF estimate (5.24 percent). NV Energy and UNS Energy have very high DCF estimates, and both companies have below investment grade credit ratings (BB+) from S&P and therefore are probably not good risk proxies for JCP&L at this time. Without these three anomalous companies, her group average becomes 9.0 percent.

My conclusion is that despite the three differences with my DCF studies noted above, her DCF evidence is generally supportive of my 9.25 percent recommendation.

Moreover, her DCF evidence - - the only credible evidence that she has supplied - - completely discredits her 11.45 to 11.60 percent range. She offers no explanation for this contradiction.

C. Risk Premium Evidence

Q. HOW DID MS. AHERN APPLY THE RISK PREMIUM METHOD?

A. The purpose of her Risk Premium method is to identify the additional return investors require for equity as compared to debt. The equity in question could be either the overall stock market or the electric utility proxy companies, with the ultimate objective to be the estimation of a risk premium value (or values) appropriate for JCP&L. This general description applies to both the method she calls the Risk Premium and also the CAPM.

Her risk premium analyses are extremely convoluted and difficult to follow and are poorly explained both in her testimony and schedules. Distilling it down, it appears that she uses three measures of the equity risk premium:

(1) The method that seems to receive the majority of the weight is called the "Predictive Risk Premium Model" (or PRPM). This methodology, appears to be based in some fashion on historic market returns data, incorporating volatility over time, but it appears to be a proprietary model and uses proprietary software. Ms. Ahern describes the method of GARCH - - Generalized Autoregressive Conditional Heteroskedasticity.

(2) The apparent second method is what she refers to as Value Line projection of the stock market returns, or essentially a DCF type of calculation.

(3) The third method is reliance on the conventional historic returns-derived risk premium for the stock market obtained from a standard source, i.e., Ibbotson/Morningstar. This third method is frequently presented in cases before the BPU and other regulatory commissions and is not considered to be very controversial.

Applying the Risk Premium or CAPM, requires an estimate of the "risk free" interest rate. Analysts typically use the yield on a long-term Treasury bond for this purpose, and in that regard I use the recent 3.0 percent actual yield. Ms. Ahern, however, inexplicably uses 4.17 percent, which is at least a percentage point higher than the actual long-term yield at the time of the preparation of her testimony. She bases the 4.17 percent at least in part on the long-term historic yield on Treasury bonds. This procedure is incorrect and overstates the cost of equity substantially. Using a historic average risk-free cost rate in place of today's (or at least a relatively current) cost rate means that she is not measuring JCP&L's cost of equity as of the time of this rate case. The cost of equity is a current and prospective concept. It makes no more sense to employ the historic risk-free rate than it would to use historic average long-term stock prices in the DCF study.

Q. WHAT RESULTS DID MS. AHERN OBTAIN APPLYING THE PRPM TO HER PROXY ELECTRIC UTILITIES?

A. She obtains average cost of equity estimates of 12.81 % for one proxy group and 13.13 percent for the other, or risk premium values compared to her alleged risk-free rate of about 9 percent. These are astonishingly high estimates, particularly compared to her far more moderate and conventional DCF estimates that are nearly 400 basis points lower.

Q. HOW WERE THE PRPM ESTIMATES CALCULATED?

A. I cannot determine how these values or estimates were calculated, either from the testimony description or schedules. It appears to be a "black box" method. Moreover, the results themselves seen to make little sense. For example, the method estimates Southern Company's cost of equity at 21.35 percent and Portland General Electric at 6.48 percent. There is also no explanation concerning why this 13 percent average cost of equity using the PRPM is so far out of line with the DCF.

Q. ARE YOU AWARE OF ANY REGULATORY ACCEPTANCE OF THE PRPM METHOD?

A. No, I am not. It appears that Ms. Ahern has only recently herself begun to use this method, and I have not seen it used or accepted in utility rate proceedings. These outlandishly high and inexplicable PRPM estimates should not be given any consideration in determining a fair return for JCP&L in this case.

Ms. Ahern's second estimate is her assertion that Value Line is projecting a rate of return on the overall stock market of 16.55 percent. As compared to her risk- free return of 4.17 percent, this would be an astonishingly high equity risk premium of about 12.4 percent. Recall that the Brealey et. al. textbook, after surveying financial literature, concluded that a plausible range for the equity risk premium would be 5 to 8 percent. Ms. Ahern's alleged Value Line estimate is nearly double the 6.5 percent Brealey et. al. midpoint value.

Her 16.55 percent rate of return estimate is based on Value Line's share price "Appreciation Potential" of 70 percent over the next three to five years for the median stock plus a median dividend yield of 2.36 percent. Ms. Ahern uses this information to calculate the asserted 16.55 percent rate of return. It is important to note that this estimate is her calculation and not that of Value Line. Value Line does not publish a projection of the overall expected rate of return on the stock market.

Q. PLEASE COMMENT ON THIS MEASURE.

A. The 16.55 percent is not a legitimate estimate of the overall stock market rate of return, and it certainly is not Value Line's estimate. The core of her calculation is the potential for share price increases for the median stock in Value Line's data base over the next several years. The Value Line median stock and the overall stock market are very different measures.

Moreover, Value Line's 70 percent price increase potential is highly volatile. For example, Value Line's most recent report available to me (dated May 24, 2013) specifies a 40 percent price appreciation potential and a 2.1 percent median dividend yield. This more recent estimate translates into a price growth rate of 8.78 percent per year plus the 2.1 percent dividend yield, or 10.88 percent overall rate of return. Employing Ms. Ahern's asserted 4.17 percent risk free rate, produces a risk premium value of 10.88 minus 4.17, or 6.71 percent. In other words, merely updating to current Value Line projections reduces the rate of return from an absurdly high 16.55 percent to a more realistic 10.88 percent and the risk premium from 12.4 to 6.71 percent. Please note that if a more proper risk-free rate of about 3.0 percent were to be used in place of her 4.17 percent, the risk premium using this method would increase to 7.9 percent - - a figure within the Brealey et. al. 5 to 8 percent range.

Q. WHAT ARE MS. AHERN'S OTHER ESTIMATES OF THE OVERALL STOCK MARKET RISK PREMIUM?

A. As shown on her Schedule PMA-9, page 2 of 2, she estimates the stock market risk premium using the PRPM method and obtains 10.1 percent. Once again, she provides no clear explanation concerning how this very high value was calculated (other than noting that 1926-2012 historical data somehow were used) making it impossible to evaluate. In addition, using the Ibbotson/Morningstar historical data series (1926-2011), she identifies a historical average stock market risk premium of 6.45 percent.

Ultimately, she performs her CAPM study using all three risk premium estimates averaged together, i.e., Value Line-derived, PRPM and Ibbotson/Morningstar. This produces an average equity risk premium value of 9.65 percent.

Q. DOES THAT 9.65 PERCENT AVERAGE CHANGE IF YOU UPDATE THE VALUE LINE PROJECTIONS?

A. Yes. As I noted, with updating and assuming a more current risk-free rate of 3.0 percent, her Value Line-derived risk premium falls from an outlandish 12.4 to a more plausible 7.9 percent. The average of the three methods becomes (7.9+10.1+6.5)/3 = 8.2 percent. When inserted in the standard CAPM formula, this becomes a cost equity of:

$$Ke = 3.0\% + 0.71\ (8.2) = 8.8 \text{ percent}$$

Even using the erroneous Value Line method (as updated) and the inexplicable PRPM estimate, a properly performed CAPM analysis would produce a cost of equity estimate for JCP&L of about 8.8 percent. Please note that the corrected analysis uses a current (or recent) actual Treasury bond yield, not the much higher historical yield of 4.17 percent.

Q. MS. AHERN ALSO USES THE EMPIRICAL VERSION OF THE CAPM ("ECAPM"). IS THAT MODEL PROPER IN THIS CONTEXT?

A. No. The ECAPM formula effectively uses a weighted average of the Value Line published betas (which average about 0.7) and a much higher beta of 1.0. This is mathematically equivalent to simply taking the utility betas that Value Line reports and adjusting then upwards part of the way toward 1.0. Since utility betas are nearly always less than 1.0 (due to the inherently low risk of utilities), the ECAPM serves as a mechanism for increasing the utility cost of equity estimate.

In my opinion, the ECAPM method is improper when used with Value Line betas. This is because in calculating the betas Value Line already adjusts its "raw" or calculated betas toward 1.0. Consequently, Ms. Ahern's ECAPM procedure has the mathematical effect of adjusting the proxy company betas towards 1.0 a second time. It therefore distorts and overstates both the utility betas (indirectly) and the CAPM cost of equity. The ECAPM results should be disregarded as improper.

D. Non-Utility Estimates and Adders

Q. SHOULD ANY WEIGHT BE GIVEN TO MS. AHERN'S NON-UTILITY COST OF EQUITY ESTIMATES?

A. No. Ms. Ahern assembled two groups of unregulated companies having no utility operations at all and applied her cost of equity models. In doing so, she reports a DCF estimate of 10.37 percent and overall cost of equity estimates of 10.6 to 11.1 percent.

It is important to observe that non-regulated companies are fundamentally different in character and risk attributes from regulated, monopoly utilities. Unlike the non-regulated companies used by Ms. Ahern, JCP&L has a defined service territory where it provides electric distribution service on a monopoly basis under this Board's jurisdiction. It has little in common with Ms. Ahern's non-regulated proxy companies which presumably operate in competitive markets. For this reason, I do not find it at all surprising that she obtained higher DCF estimates for the non-regulated proxy group as compared to her utility proxy group studies.

Ms. Ahern's analyses of unregulated companies provides no useful guidance to the Board in determining JCP&L's cost of equity and fair return.

Q. MS. AHERN INCLUDES TWO ADDERS FOR FLOTATION EXPENSE AND CREDIT RISK. IS EITHER APPLICABLE TO JCP&L?

A. No. Ms. Ahern appears to concede in her testimony that on an overall basis, JCP&L has about the same business risk as her proxy group. However, she nonetheless includes a "credit risk" adder of 0.45 percent (midpoint) because of JCP&L's weaker than average credit rating.

I disagree with this adder for two reasons. First, once she concedes that JCP&L's business risk does not exceed the proxy group (and it may be less), then no risk adder at all should be considered. Moreover, JCP&L in this case also proposes a stronger than average capital structure and therefore there is no need to consider financial risk. Second, the JCP&L weaker than average credit rating is attributable to the FirstEnergy unregulated operations. This cannot serve as the basis for increasing JCP&L's authorized ROE.

Q. WHAT IS THE BASIS FOR THE 0.15 PERCENT FLOTATION EXPENSE?

A. The only data supporting this adjustment is a 2003 FirstEnergy stock insurance shown on Schedule PMA-13. A ten-year old expense is simply too far in the past for inclusion in the cost of service in this rate case. Moreover, there is no indication that a FirstEnergy public stock issuance can be expected in the near term.

Ms. Ahern reports that in 2003, FirstEnergy incurred $34.6 million in flotation expense. If that expense is amortized over ten years, and divided by FirstEnergy's equity balance of $13.5 billion (as reported by Mr. Staub), this would support an adjustment of ($3.5 million/$13,512 million = 0.03 percent - - a negligible 3 basis points. Hence, even if one wished to include flotation expense, the appropriate adder could be no more than about 3 basis points.

VI. CONCLUSIONS

Q. WHAT ARE YOUR MAJOR FINDINGS AND CONCLUSIONS?

A. Based on my review of the testimony, discovery responses and market information, I find that JCP&L is a financially sound and low risk electric distribution utility company presently operating in a very low capital cost environment. In this case, the Company is proposing to increase its currently authorized return on equity from 9.75 to 11.53 percent despite the clear evidence of declining capital costs in recent years. Witness Ahern's ROE recommendation of 11.53 percent is outlandishly high and reflects both unrealistic assumptions and reliance on poorly explained, unconventional cost of equity methods. For example, her more traditional DCF evidence would support an ROE estimate well below the current 9.75 percent ROE.

JCP&L's proposed (and relatively expensive) 54 percent equity / 46 percent debt capital structure also must be rejected because it impermissibly is based on an equity balance dominated by "goodwill," i.e., the acquisition premium paid by parent FirstEnergy in the GPU merger. I have instead proposed the use of a reasonable 50/50 hypothetical capital structure which is the midpoint of the Company's own target range and is consistent with that used by New Jersey's other two main electric utilities.

Q. HOW DID YOU ARRIVE AT YOUR RATE OF RETURN RECOMMENDATION?

A. I am recommending at this time a 7.76 percent return on JCP&L's distribution rate base, including a 9.25 percent return on common equity. This is supported by current market conditions and the following studies:

(1) <u>DCF Study of Electric Distribution Companies</u>

8.3 to 9.5 percent, with an 8.9 percent midpoint

(2) DCF Study of Ms. Ahern's Integrated Electrics

8.4 to 8.9 percent, with an 8.7 percent midpoint

(3) CAPM Calculations

6.6 to 9.4 percent, with an 8.2 percent midpoint.

Thus, my recommendation for JCP&L is consistent with my range of cost of equity evidence and is conservative, as it exceeds the midpoint values.

Ms. Ahern's studies (with the possible exception of the DCF) not only greatly overstate the cost of equity, but she also includes adders (in total about 0.6 percent) for flotation expense and "credit risk." There simply is no flotation expense to be recovered in this case as parent FirstEnergy's last public issuance of common stock was more than ten years ago, and no prospective issue has been identified.

It is true that JCP&L's credit ratings, particularly those of S&P, are weaker than they should be, but this is attributable to its affiliation with FirstEnergy – not its own business risk profile, which is excellent. Thus, any "credit risk" adder would be improper and would cross subsidize FirstEnergy's unregulated operations. Moreover, I recommend that JCP&L be directed to study options for "ring fencing" measures that can better separate its utility operations from FirstEnergy in order to enhance its credit ratings.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

BEFORE THE STATE OF NEW JERSEY
OFFICE OF ADMINISTRATIVE LAW
BEFORE HONORABLE RICHARD MCGILL, ALJ

IN THE MATTER OF THE VERIFIED PETITION OF JERSEY CENTRAL POWER & LIGHT COMPANY FOR REVIEW AND APPROVAL OF INCREASES IN AND OTHER ADJUSTMENTS TO ITS RATES AND CHARGES FOR ELECTRIC SERVICE, AND FOR APPROVAL OF OTHER PROPOSED TARIFF REVISIONS IN CONNECTION THEREWITH; AND FOR APPROVAL OF AN ACCELERATED RELIABILITY ENHANCEMENT PROGRAM ("2012 BASE RATE FILING")	)	**OAL DOCKET NO. PUC 16310-2012N** **BPU DOCKET NO. ER12111052**

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

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Filed: June 14, 2013

JERSEY CENTRAL POWER & LIGHT COMPANY

Rate of Return Summary at
December 31, 2012[1]

Capital Type	% of Total	Cost Rate	Weighted Cost
Long-Term Debt[(2)]	50.0%	6.26%	3.13%
Short-Term Debt[(3)]	0	--	--
Common Equity[(2)]	50.0	9.25	4.63
Total	100.00%	--	7.76%

(1) Cost of debt is from Company SRS-4 and the 9.25 percent common equity return is shown on Schedule MIK-4, page 1 of 5. Cost of debt excludes planned 2013 debt issues.
(2) Capital structure is a hypothetical 50/50 equity versus debt since JCP&L actual is distorted by good will.
(3) Short-term debt is excluded from capital structure assuming the Company continues to use the FERC method of allocating short-term debt directly to construction work in progress.

JERSEY CENTRAL POWER & LIGHT COMPANY

Trends in Capital Costs

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

JERSEY CENTRAL POWER & LIGHT COMPANY

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

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

JERSEY CENTRAL POWER & LIGHT COMPANY

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

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

JERSEY CENTRAL POWER & LIGHT COMPANY

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

	Annualized Inflation (CPI)	10-Year Treasury Yield	3-Month Treasury Yield	Single A Utility Yield	Baa Utility Yield
2011					
January	1.6%	3.4%	0.1%	5.6%	6.1%
February	2.1	3.6	0.1	5.7	6.1
March	2.7	3.4	0.1	5.6	6.0
April	2.2	3.5	0.1	5.6	6.0
May	3.6	3.2	0.0	5.3	5.7
June	3.6	3.0	0.0	5.3	5.7
July	3.6	3.0	0.0	5.3	5.7
August	3.8	2.3	0.0	4.7	5.2
September	3.9	2.0	0.0	4.5	5.1
October	3.5	2.2	0.0	4.5	5.2
November	3.0	2.0	0.0	4.3	4.9
December	3.0	2.0	0.0	4.3	5.1
2012					
January	2.9	2.0	0.0	4.3	5.1
February	2.9	2.0	0.0	4.4	5.0
March	2.7	2.2	0.1	4.5	5.1
April	2.3	2.1	0.1	4.4	5.1
May	1.7	1.8	0.1	4.2	5.0
June	1.7	1.6	0.1	4.1	4.9
July	1.4	1.5	0.1	3.9	4.9
August	1.7	1.7	0.1	4.0	4.9
September	2.0	1.7	0.1	4.0	4.8
October	2.2	1.8	0.1	3.9	4.5
November	1.8	1.7	0.1	3.8	4.4
December	1.7	1.7	0.1	4.0	4.6
2013					
January	1.6	1.9	0.1	4.2	4.7
February	2.0	2.0	0.1	4.2	4.7
March	1.5	2.0	0.1	4.2	4.7
April	1.1	1.8	0.7	4.0	4.5

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

JERSEY CENTRAL POWER & LIGHT COMPANY

Listing of the Electric Utility Delivery Service Proxy Companies

	Company	Safety Rating	Financial Strength	Beta	2012 Common Equity Ratio*
1.	Consolidated Edison	1	A+	0.60	54.1%
2.	Centerpoint Energy	2	B++	0.80	34.0
3.	Northeast Utilities	2	B++	0.70	55.4
4.	PHI Holdings	3	B	0.75	52.7
5.	UIL Holdings	2	B++	0.70	41.1
	Average	**2.0**	**--**	**0.71**	**47.5%**

* The common equity ratio excludes short-term debt (and current maturities of long-term debt). Actual 2012 equity ratio including short-term debt and current maturities averages 43.6 percent.

Source: *Value Line Investment Survey*, March 22, May 24, 2013.

JERSEY CENTRAL POWER & LIGHT COMPANY

Listing of the Ahern Integrated Electric Utility Proxy Companies

	Company	Safety Rating	Financial Strength	Beta	2012 Common Equity Ratio*
1.	Allete, Inc.	2	A	0.70	56.3%
2.	American Electric Power	3	B++	0.65	49.4
3.	Cleco Corp.	1	A	0.65	54.4
4.	Edison International	2	B++	0.75	46.2
5.	Idacorp	3	B+	0.70	54.5
6.	Pinnacle West	1	A	0.70	55.4
7.	Portland General	2	B++	0.75	52.9
8.	Southern Company	1	A	0.55	47.3
9.	Westar Energy	2	B++	0.70	48.8
10.	Alliant	2	A	0.70	48.4
11.	Consolidated Edison	1	A+	0.60	54.0
12.	Northwestern	3	B+	0.70	46.2
13.	Xcel Energy	2	B++	0.60	46.7
	Average	**1.9**	**--**	**0.67**	**50.9%**

* The common equity ratio excludes short-term debt (and current maturities of long-term debt). The actual 2012 common equity ratio including short-term debt and current maturities averages 49.2 percent.

Source: *Value Line Investment Survey*, March 22, May 3 and May 24, 2013.

JERSEY CENTRAL POWER & LIGHT COMPANY

DCF Summary for the
Delivery Service Electric Utility Proxy Group

1. Dividend Yield (November 2012 - April 2013)[(1)]	4.24%
2. Adjusted Yield ((1) x 1.0225)	4.3%
3. Long-Term Growth Rate[(2)]	4.0 - 5.2%
4. Total Return ((2) + (3))	8.3 - 9.5%
5. Flotation Expense	0.0%
6. Cost of Equity ((4) + (5))	8.3 - 9.5%
7. Midpoint	8.9%
Recommendation	**9.25%**

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

JERSEY CENTRAL POWER & LIGHT COMPANY

Dividend Yields for the Delivery Service Electric Utility Proxy Group
(November 2012 - April 2013)

	Company	November	December	January	February	March	April	Average
1.	Consolidated Edison	4.3%	4.4%	4.3%	4.2%	4.0%	3.9%	4.18%
2.	Centerpoint Energy	4.1	4.2	4.1	3.9	3.5	3.4	3.87
3.	Northeast Utilities	3.5	3.4	3.3	3.5	3.4	3.2	3.38
4.	Pepco Holdings	5.5	5.3	5.6	5.0	5	4.8	5.25
5.	UIL Holdings	4.8	4.7	4.6	4.4	4.4	4.1	4.50
	Average	**4.44%**	**4.40%**	**4.38%**	**4.26%**	**4.06%**	**3.88%**	**4.24%**

Source: S&P *Stock Guide,* December 2012 - May 2013.

JERSEY CENTRAL POWER & LIGHT COMPANY

Projection of Earnings per Share
Five-Year Growth Rates for the
Delivery Service Electric Utility Proxy Group

	Company	Value Line	Yahoo	MSN	Reuters	CNN	Average
1.	Consolidated Edison	2.5%	2.00%	3.3%	2.00%	3.0%	2.56%
2.	Centerpoint Energy	4.0	5.00	5.7	4.90	4.7	4.86
3.	Northeast Utilities	8.0	8.04	7.6	7.28	8.0	7.78
4.	Pepco Holdings	6.0	3.63	5.3	3.62	5.0	4.71
5.	UIL Holdings	4.0	8.07	4.0	6.03	8.2	6.06
	Average	**4.90%**	**5.35%**	**5.18%**	**4.77%**	**5.78%**	**5.19%**

Sources: *Value Line Investment Survey*, March 22 and May 24, 2013. YahooFinance.com, MSNMoney.com, CNNMoney.com, Reuters.com, public websites, April 2013.

JERSEY CENTRAL POWER & LIGHT COMPANY

Other Value Line Measure of Projected Growth for the
Delivery Service Electric Utility Proxy Group

	Company	Dividend Per Share	Book Value Per Share	Earnings Retention
1.	Consolidated Edison	1.5%	3.5%	3.5%
2.	Centerpoint Energy	3.0	5.5	5.0
3.	Northeast Utilities	8.0	6.0	4.0
4.	Pepco Holdings	1.0	2.0	2.5
5.	UIL Holdings	Nil	4.5	3.0
	Average	**2.70%**	**4.30%**	**3.60%**

Source: *Value Line Investment Survey*, March 22 and May 24, 2013. The earnings retention figures are projections for 2016-2018

JERSEY CENTRAL POWER & LIGHT COMPANY

Fundamental Growth Rate Analysis for the
Delivery Service Electric Utility Proxy Group

	Shares 2012-2017[1]	% Premium[2]	sv[3]	br[4]	sv + br
1. Consolidated Edison	0.00%	39.7%	0.0%	3.5%	3.5%
2. Centerpoint Energy	0.26	116.4	0.3	5.0	5.3
3. Northeast Utilities	0.31	49.4	0.2	4.0	4.0
4. Pepco Holdings	2.08	13.7	0.3	2.5	2.5
5. UIL Holdings	0.00	72.3	0.0	3.0	3.0
Average			**0.2%**	**3.6%**	**3.8%**

(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's projection as of 2016-2018.

Source: *Value Line Investment Survey*, March 22 and May 24, 2013.

JERSEY CENTRAL POWER & LIGHT COMPANY

DCF Summary for the Ahern
Integrated Electric Utility Proxy Group

1. Dividend Yield (November 2012 - April 2013)[1]	3.81%
2. Adjusted Yield ((1) x 1.025)	3.9%
3. Long-Term Growth Rate[2]	4.5 - 5.0%
4. Total Return ((2) + (3))	8.4 – 8.9%
5. Flotation Expense	0.0%
6. Cost of Equity ((4) + (5))	8.4 – 8.9%
7. Midpoint	8.7%
Recommendation	**9.25%**

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

JERSEY CENTRAL POWER & LIGHT COMPANY

Dividend Yields for the Ahern Integrated Electric Utility Proxy Group
(November 2012 - April 2013)

	Company	November	December	January	February	March	April	Average
1.	Allete, Inc.	4.7%	4.5%	4.1%	4.0%	3.9%	3.7%	4.15%
2.	American Electric Power	4.4	4.4	4.2	4.0	3.9	3.8	4.11
3.	Cleco Corp.	3.4	3.4	3.2	3.1	2.9	2.9	3.15
4.	Edison Int.	2.9	2.9	2.8	2.8	2.7	2.5	2.77
5.	IDACORP	3.6	3.4	3.3	3.3	3.1	3.1	3.30
6.	Pinnacle West	4.2	4.2	4.1	3.9	3.8	3.6	3.97
7.	Portland General	4.0	3.9	3.7	3.6	3.6	3.3	3.68
8.	Southern Co.	4.5	4.5	4.5	4.4	4.2	4.2	4.38
9.	Westar Energy	4.6	4.5	4.3	4.3	4.1	3.9	4.28
10.	Alliant	4.0	4.1	4.1	3.9	3.7	3.5	3.88
11.	Consolidated Edison	4.3	4.4	4.3	4.2	4.0	3.9	4.18
12.	Northwestern	4.3	4.1	3.9	3.9	3.8	3.5	3.91
13.	Xcel Energy	4.0	3.9	3.9	3.8	3.6	3.4	3.77
	Average	**4.07%**	**4.02%**	**3.88%**	**3.78%**	**3.64%**	**3.48%**	**3.81%**

Source: S&P *Stock Guide,* December 2012 - May 2013.

JERSEY CENTRAL POWER & LIGHT COMPANY

Projection of Earnings per Share
Five-Year Growth Rates for the Ahern
Integrated Electric Utility Proxy Group

	Company	Value Line	Yahoo	MSN	Reuters	CNN	Average
1.	Allete, Inc.	7.0%	6.00%	5.0%	6.00%	5.00%	5.80%
2.	American Electric Power	4.5	3.64	3.4	3.64	4.05	3.85
3.	Cleco Corp.	7.0	8.00	8.0	8.00	8.00	7.80
4.	Edison Int.	2.5	-1.89	5.5	1.55	4.10	3.41*
5.	IDACORP	2.0	4.00	4.0	4.00	4.00	3.60
6.	Pinnacle West	5.0	7.25	5.5	7.25	5.60	6.12
7.	Portland General	3.5	5.58	5.1	5.86	6.00	5.21
8.	Southern Co.	4.5	4.80	4.8	5.00	5.00	4.82
9.	Westar Energy	5.0	6.50	5.1	6.50	4.80	5.58
10.	Alliant	4.5	5.87	6.2	5.87	6.00	5.69
11.	Consolidated Edison	2.5	2.00	3.3	2.00	3.00	2.56
12.	Northwestern	3.0	5.00	4.7	5.00	5.00	4.54
13.	Xcel Energy	4.5	5.11	4.9	5.46	5.00	4.99
	Average	**4.27%**	**4.76%**	**5.04%**	**5.09%**	**5.04%**	**4.91%**
	Adjusted Average*		**5.31%**				

* Average excludes negative value for Edison Int.

Sources: *Value Line Investment Survey*, March 22, May 3 and May 24, 2013. YahooFinance.com, MSNMoney.com, CNNMoney.com, Reuters.com, public websites, April 2013.

JERSEY CENTRAL POWER & LIGHT COMPANY

Other Value Line Measure of Growth for the Ahern
Integrated Electric Utility Proxy Group

	Company	Dividend Per Share	Book Value Per Share	Earnings Retention
1.	Allete, Inc.	3.5%	4.0%	4.0%
2.	American Electric Power	4.0	4.0	4.0
3.	Cleco Corp.	10.5	5.5	5.0
4.	Edison Int.	5.5	4.5	6.5
5.	IDACORP	7.0	4.5	4.0
6.	Pinnacle West	2.0	3.5	3.5
7.	Portland General	3.5	3.5	3.5
8.	Southern Co.	3.5	4.0	4.0
9.	Westar Energy	3.0	4.0	4.0
10.	Alliant	4.5	4.0	4.0
11.	Consolidated Edison	1.5	3.5	3.5
12.	Northwestern	4.0	4.5	3.5
13.	Xcel Energy	4.5	4.5	4.0
	Average	**4.38%**	**4.15%**	**4.12%**

Source: *Value Line Investment Survey*, March 22, May 1 and May 24, 2013. The earnings retention figures are projections for 2016-2018.

JERSEY CENTRAL POWER & LIGHT COMPANY

Fundamental Growth Rate Analysis for the Ahern
Integrated Electric Utility Proxy Group

		Shares 2012-2017[(1)]	**% Premium**[(2)]	**sv**[(3)]	**br**[(4)]	**sv + br**
1.	Allete, Inc.	2.00%	56.7%	1.1%	4.0%	5.1%
2.	American Electric Power	0.78	50.7	0.4	4.0	4.4
3.	Cleco Corp.	0.00	81.2	0.0	5.0	5.0
4.	Edison Int.	0.00	82.1	0.0	6.5	6.5
5.	IDACORP	0.33	37.9	0.1	4.0	4.1
6.	Pinnacle West	0.94	65.5	0.6	3.5	4.1
7.	Portland General	0.31	37.8	0.1	3.5	3.6
8.	Southern Co.	0.84	119.4	1.0	4.0	5.0
9.	Westar Energy	1.31	38.4	0.5	4.0	4.5
10.	Alliant	0.89	71.0	0.6	4.0	4.6
11.	Consolidated Edison	0.00	39.7	0.0	3.5	3.5
12.	Northwestern	0.94	67.6	0.6	3.5	4.1
13.	Xcel Energy	1.05	70.0	0.7	4.0	4.7
	Average			**0.4%**	**4.1%**	**4.5%**

(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’s projection as of 2016-2018.

Source: *Value Line Investment Survey*, March 22, May 3 and May 24, 2013.

JERSEY CENTRAL POWER & LIGHT COMPANY

Capital Asset Pricing Model Study
Illustrative Calculations

A. Model Specification

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

K_e = cost of equity

R_F = return on risk free asset

Rm = expected stock market return

B. Data Inputs

R_F = 3.0% (Long-term treasury bond yield for the most recent six months, see page 2 of 2)

Rm = 8.0 – 11.0% (equates to equity risk premium of 5.0 - 8.0%)

Beta = 0.71 (See Schedule MIK-3.)

C. Model Calculations

Low end: K_e = 3.0% + 0.71 (5.0) = 6.6%

Midpoint: K_e = 3.0% + 0.71 (6.5) = 7.6%

Upper End: K_e = 3.0% + 0.71 (8.0) = 8.7%

High Sensitivity: K_e = 3.0% + 0.71 (9.0) = 9.4%

JERSEY CENTRAL POWER & LIGHT COMPANY

Long-Term Treasury Yields
(November 2012 – April 2013)

Month	30-Year	20-Year	10-Year
November 2012	2.80	2.39	1.65
December	2.88	2.47	1.72
January 2013	3.08	2.68	1.91
February	3.17	2.78	1.98
March	3.16	2.78	1.96
April	2.93	2.55	1.76
Average	**3.00%**	**2.57%**	**1.83%**

Source: Federal Reserve, "Statistical Release," publication H.15, December 2012-May 2013.

JERSEY CENTRAL POWER & LIGHT COMPANY

Ms. Ahern's DCF Results

Proxy Company	ROE Estimate
Allete, Inc.	10.97%
American Electric Power	7.82
Cleco Corp.	7.19
IDACORP	7.06
Pinnacle West	9.69
Portland General	8.33
Southern Co.	9.54
Westar Energy	10.28
Alliant Energy	10.32
Consolidated Edison	7.39
Northwestern	10.48
Xcel Energy	9.13
Average	**9.02%**
Edison Int.	5.24%
NV Energy	15.14
UNS Energy	11.37
Overall Average	**9.33%**

Source: Exhibit JC-6, Schedule PMA-6, page 1.

APPENDIX 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 in the firm. During that time, he supervised multi-million dollar support contracts with the State of Maryland and directed the technical work conducted both by 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).

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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.

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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.

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

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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).

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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.

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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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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).
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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.

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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, October 2, 2002. (Presentation on Performance-Based Ratemaking and panelist on RTO issues). Baton Rouge, Louisiana.

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

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

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

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

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

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

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75.	89-0033 May 1989	Illinois Bell Telephone Company	Illinois	Citizens Utility Board	Rate of Return
76.	881167-EI May 1989	Gulf Power Company	Florida	Federal Executive Agencies	Rate of Return
77.	R-891218 July 1989	National Fuel Gas Distribution Company	Pennsylvania	Office of Consumer Advocate	Sales forecasting
78.	8063, Phase III Sept. 1989	Potomac Electric Power Company	Maryland	Depart. Natural Resources	Emissions Controls
79.	37414-S2 October 1989	Public Service Company of Indiana	Indiana	Utility Consumer Counselor	Rate of Return, DSM, off-system sales, incentive regulation
80.	October 1989	Generic	U.S. House of Reps. Comm. on Ways & Means	NA	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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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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131.	E002/GR-92-1185 February 1993	Northern States Power Company	Minnesota	Attorney General	Rate of Return
132.	92-102, Phase II March 1992	Central Maine Power Company	Maine	Staff	QF contracts prudence and procurements practices
133.	EC92-21-000 March 1993	Entergy Corporation	FERC	Louisiana PSC	Merger Issues
134.	8489 March 1993	Delmarva Power & Light Company	Maryland	Dept. of Natural Resources	Power Plant Certification
135.	11735 April 1993	Texas Electric Utilities Company	Texas	Federal Executives Agencies	Rate of Return
136.	2082 May 1993	Providence Gas Company	Rhode Island	Division of Public Utilities	Rate of Return
137.	P-00930715 December 1993	Bell Telephone Company of Pennsylvania	Pennsylvania	Office of Consumer Advocate	Rate of Return, Financial Projections, Bell/TCI merger
138.	R-00932670 February 1994	Pennsylvania-American Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
139.	8583 February 1994	Conowingo Power Company	Maryland	Dept. of Natural Resources	Competitive Bidding for Power Supplies
140.	E-015/GR-94-001 April 1994	Minnesota Power & Light Company	Minnesota	Attorney General	Rate of Return
141.	CC Docket No. 94-1 May 1994	Generic Telephone	FCC	MCI Comm. Corp.	Rate of Return
142.	92-345, Phase II June 1994	Central Maine Power Company	Maine	Advocacy Staff	Price Cap Regulation Fuel Costs
143.	93-11065 April 1994	Nevada Power Company	Nevada	Federal Executive Agencies	Rate of Return
144.	94-0065 May 1994	Commonwealth Edison Company	Illinois	Federal Executive Agencies	Rate of Return
145.	GR94010002J June 1994	South Jersey Gas Company	New Jersey	Rate Counsel	Rate of Return

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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365.	2010-2213369 April 2011	Duquesne Light Company	Pennsylvania	Consumer Advocate	Merger Issues
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

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380.	U-32153 July 2012	Cleco Power	Louisiana	Commission Staff	Environmental Compliance Plan
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

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	Docket Number	Utility	Jurisdiction	Client	Subject
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)
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

BEFORE THE STATE OF NEW JERSEY

BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF PUBLIC SERVICE ELECTRIC AND GAS COMPANY FOR APPROVAL OF AN EXTENSION OF A SOLAR GENERATION INVESTMENT PROGRAM AND ASSOCIATED COST RECOVERY MECHANISM AND FOR CHANGES IN THE TARIFF FOR ELECTRIC SERVICE, B.P.U. N.J. NO. 15 ELECTRIC PURSUANT TO N.J.S.A. 48:2-21, 48:21-21.1 AND N.J.S.A. 48:3-98.1	)	**BPU DOCKET NO. EO12080721**

SURREBUTTAL TESTIMONY OF MATTHEW I. KAHAL
ON BEHALF OF THE
NEW JERSEY DIVISION OF RATE COUNSEL

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I. QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

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

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

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

Q. WHAT IS YOUR PROFESSIONAL BACKGROUND?

A. I have been employed in the area of energy, utility and telecommunications consulting for the past 35 years working on a wide range of topics. Most of my work has focused on electric utility integrated planning, plant licensing, environmental issues, mergers and financial issues. I was a co-founder of Exeter Associates, and from 1981 to 2001 I was employed at Exeter Associates as a Senior Economist and Principal. During that time, I took the lead role at Exeter in performing cost of capital and financial studies. In recent years, the focus of much of my professional work has shifted to electric utility 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, the U.S. Congress and federal court in more than 380 separate regulatory cases. My testimony has addressed a variety of subjects including fair rate of return, resource planning, financial assessments, load forecasting, competitive restructuring, rate design, purchased power contracts, merger economics and other regulatory policy issues. These cases have involved electric, gas, water and telephone utilities. A list of these cases 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, the Maine Public Advocate, Maryland Department of Natural Resources and Energy Administration, and MCI.

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

A. Yes, I have done so on numerous occasions involving electric, gas and water utilities on a range of issues, including cost of capital, mergers and electric restructuring.

II. OVERVIEW OF FINDINGS

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY AT THIS TIME?

A. I have been asked by the Division of Rate Counsel ("Rate Counsel") to respond to the Rebuttal Testimony of Public Service Electric & Gas Company ("PSE&G" or "the Company") witness Mr. Paul Moul on the appropriate cost of equity to use in the solar program cost recovery. Mr. Moul's rebuttal testimony takes issue with Rate Counsel witness Andrea Crane who recommended lowering the Company's proposed cost of equity of 10.3 percent to 9.75 percent. Mr. Moul supports the use of the higher figure of 10.3 percent.

I also respond briefly to the Rebuttal testimony of PSE&G witness Stephen Swetz on the inherent risks confronting PSE&G with its solar cost recovery tracker mechanism and the appropriate cost of debt. Mr. Swetz asserts that the proper rate of return to use at this time in the solar cost recovery mechanism is the 10.3 percent approved in the Company's most recent base rate case, BPU Docket No. GR0905042, which was concluded by a settlement agreement in early 2010.

Q. HAVE YOU PREVIOUSLY TESTIFIED IN THIS PROCEEDING?

A. No. However, I testified on behalf of Rate Counsel in the Company's most recent base rate case in BPU Docket No. GR0905042 on the subject of fair rate of return. That base rate case proceeding extended through the 2009/2010 time period, which was directly following the financial crises of late 2008/early 2009. Ultimately, as noted above, that case was resolved by a settlement agreement in early 2010.

Q. WHAT IS YOUR POSITION ON THE APPROPRIATE RATE OF RETURNS TO USE IN THIS CASE?

A. I disagree with Mr. Moul that PSE&G's cost of equity today is 10.3 percent or more. In fact, it is far below 10.3 percent. Ms. Crane's recommendation of 9.75 percent is entirely reasonable – and in fact conservatively high – given current market conditions. In addition, I do not agree with what I understand Mr. Swetz's position to be that a stale embedded cost of debt taken from the Company's 2009/2010 base rate case should be used. However, I do not object to the use of the updated 5.35 percent figure for the embedded cost of debt as of November 2012 that he presents in his rebuttal testimony if that calculation is accurate.

In my opinion it is entirely appropriate to use in the solar cost recovery mechanism a cost of equity benchmark of 9.75 percent, or even less, in conjunction with the Company's current embedded cost of long-term debt. Moreover, it is my understanding that 9.75 percent is the most recent Board-approved cost of equity established in an electric utility base rate case.[1]

The key questions for the Board to consider are the following:

(1) As a policy matter, in implementing a cost recovery tracker for a special program, such as a solar investment program, is it proper to recognize a decline in capital costs since the last full base rate case, assuming the decline can be clearly documented?

(2) As a factual matter, have market capital costs declined materially since the time of the Company's most recent base rate case in 2009/2010?

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[1] I/M/O The Petition of Atlantic City Electric Company for Approval of Amendments to its Tariff to Provide for an Increase in Rates and Charges for Electric Service Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1 and for Other Appropriate Relief, BPU Docket No. ER11080469 (Order Approving Stipulation, Oct. 23, 2012) at 4.

(3) Setting aside trends over time, does the objective cost of capital evidence support a cost of equity today for PSE&G of 9.75 percent or less?

(4) Does the cost recovery mechanism that the utility intends to employ for cost recovery involve less risk, in an overall sense, than rate recovery under "standard" rate base/rate of return regulation, which is based on conventional base rate cases?

Q. WHAT IS YOUR POSITION ON THE FIRST QUESTION CONCERNING WHETHER A REDUCTION IN THE COST OF CAPITAL MERITS RECOGNITION IN A TRACKER-TYPE COST RECOVERY MECHANISM?

A. I do believe that any such reduction, if documented, should be employed in the cost recovery tracker in place of an out-of-date rate of return from the last base rate case. This is precisely Rate Counsel witness Crane's recommendation. As I understand the tracker, its purpose is to reimburse the utility exactly for the costs that it incurs (including capital costs) in operating the Board-approved program. Quite simply, charging ratepayers through the tracker mechanism for program-related capital costs that exceed the actual capital costs would overcharge those customers and overcompensate the utility shareholders. That is neither the purpose nor the intent of the cost tracker.

I was not able to find any substantive discussion in the Company's rebuttal filing that would justify overcharging customers in the tracker mechanism and ignoring the readily observable capital cost decline. This issue is discussed further in Section IV of my Surrebuttal Testimony.

Q. YOUR DISCUSSION CONCERNING THE FIRST QUESTION IS BASED ON THE ASSUMPTION THAT THE COST OF CAPITAL SINCE THE COMPANY'S LAST BASE RATE CASE HAS DECLINED. IS THAT, IN FACT, THE CASE?

A. Yes, it is. Section III of my testimony documents the general decline in capital costs since the 2009/2010 base rate case and explains the reasons for this declining trend. For example, long-term interest rates since that time period have declined by at least a full percentage point or more. The Company's embedded cost of debt has declined materially, as acknowledged by the Company.

Q. ASIDE FROM MARKET TRENDS SINCE 2009/2010, IS THERE PERSUASIVE EVIDENCE THAT THE COST OF EQUITY FOR PSE&G IS AT OR BELOW THE 9.75 PERCENT THAT MS. CRANE RECOMMENDS?

A. Yes, I present such evidence in Section IV of my testimony. Mr. Moul attempts to show that PSE&G's current cost of capital is at or above the proposed 10.3 percent, presenting a collection of studies using the Discounted Cash Flow (DCF), Capital Asset Pricing Model (CAPM), Risk Premium (RP) and Comparable Earnings (CE) methods. However, he obtains such results only by including inappropriate adders that have nothing to do with the cost of capital methods or PSE&G's actual cost of equity. When Mr. Moul's DCF and CAPM studies are corrected, after removing the extraneous "adders" unrelated to the cost of equity, they produce cost of equity estimates below Ms. Crane's 9.75 percent recommendation. Such results comport with common sense, given that capital costs have declined sharply since the Company's 2009/2010 rate case when 10.3 percent was approved.

Q. WHAT RESULTS DID YOU OBTAIN WHEN CORRECTING MR. MOUL'S ANALYSES?

A. My correction to Mr. Moul's' DCF study produces a cost of equity estimate of 9.34 to 9.61 percent, and my correction to his CAPM study produces a cost of equity of about 8.5 percent. Technically, these estimates apply to the proxy group selected by Mr. Moul. However, the majority of these proxy companies have substantial relatively risky regulated and/or unregulated generation. Therefore, the proxy group cost of equity figures in my corrections to Mr. Moul's studies may somewhat overstate PSE&G's cost of equity.

I have not attempted to correct Mr. Moul's Risk Premium and Comparable Earnings studies. The Risk Premium approach he takes has no value at all in estimating the utility cost of equity, and his Comparable Earnings study does not even pretend to estimate PSE&G's cost of equity. Rather, it is nothing more than a compilation of accounting earnings which tells us nothing about the actual returns on invested capital that investors required.

Q. HAVE YOU CONDUCTED YOUR OWN INDEPENDENT COST OF EQUITY STUDY?

A. No, I have not. In the spirit of surrebuttal testimony, I am limiting my analysis to correcting Mr. Moul's own studies, relying almost entirely on data provided in his testimony. In other recent electric and gas utility cases, I have obtained midpoint DCF estimates within the range of about 9.0 to 9.5 percent, or well below Ms. Crane's recommendation.

Q. THE FOURTH QUESTION CONCERNS THE RISK ATTRIBUTES CONFRONTING PSE&G FROM ITS SOLAR INVESTMENTS UNDER

ITS PLANNED AND PROPOSED COST RECOVERY. PLEASE COMMENT.

A. Mr. Swetz provides some brief rebuttal testimony to Ms. Crane suggesting that PSE&G has a prudence obligation and exposure with respect to this and similar programs, and this creates risk. I agreed with Mr. Swetz that the Company has such an obligation, and in that sense cost recovery is not entirely risk free. But this argument misses the point. The issue is not whether PSE&G has *any* risk associated with these programs, but rather whether such risk is comparable to that under standard regulation, based on cost recovery in base rate cases. Base rate case recovery of costs is the context to the current 10.3 percent return on equity. Unquestionably, cost recovery is far more certain under the fully reconcilable cost recovery tracker proposed for the solar program. It is therefore appropriate for the Board to at least consider this fact in determining whether it is reasonable to use a 9.75 percent return on equity, instead of the higher 10.3 percent, in the solar program tracker.

Q. MR. MOUL CITES TO COMMISSION AWARDS OF ROEs FOR 2012. DOES THIS SURVEY SUPPORT HIS RECOMMENDATION?

A. No. This survey shows that electric utility ROE awards in 2012 averaged about 10.0 percent. However, Mr. Moul fails to mention that these awards, on average, were above 10.0 percent for vertically-integrated electrics and below 10.0 percent for the delivery service electrics. PSE&G, of course, is a delivery service utility. In addition, these awards are in standard base rate cases and would overstate the cost of equity used in a tracker.

Q. MR. MOUL ARGUES THAT THE 10.3 PERCENT ROE SHOULD NOT BE LOWERED BECAUSE CAPITAL COSTS IN THE FUTURE WILL BE HIGHER. DO YOU AGREE?

A. No, I do not. This is speculation on Mr. Moul's part and contrary to market evidence. It is true that capital markets are not static and do change over time – in both directions. It is, however, absurd to argue that the Board should ignore the clear and indisputable market evidence that a sharp decline in capital costs has occurred since 2009/2010. Based on Mr. Moul's logic, the ROE award could never change.

Capital costs are very low at present due to market fundamentals, and there is no reason to expect that to change (including the Fed's accommodative policies) any time soon. I discuss these fundamental forces in Section III of my testimony.

III. CAPITAL COST TRENDS IN RECENT YEARS

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 2012, on page 1 of Schedule MIK-1. Pages 2, 3 and 4 of that Schedule show monthly data for January 2007 through December 2012. 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., calendar 2012), Treasury and utility long-term bond rates have declined even further to near or below the lowest levels in many decades.

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.[2] The Fed has also sought to exert downward pressure on long-term interest rates through its policy of "quantitative easing." Quantitative easing is a policy whereby the Fed

[2] 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.

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 more abundant. Although that program ended this past summer, 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 indicated 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 low and have trended down and, for at least an extended period of time, this very low short- and long-term interest rate and cost of capital environment is expected to continue.

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

A. Yes. The latest 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."

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. A weak economy (as we have at this time) exerts downward pressure on interest rates and capital costs generally because the demand for capital 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 recently noted. Europe's Euro-zone continuing sovereign debt crisis likely contributes somewhat to lower U.S. interest rates, as U.S. securities are valued as a relative "safe haven" for global capital. This "safe haven" benefit for U.S. assets may have abated slightly in the last two or three months, but it could return if Euro-zone financial stability is not achieved and sustained.

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, that appears to be the case. I have consulted the latest "consensus" forecasts published by *Blue Chip Economic Indicators* (Blue Chip), January 10, 2012 edition, which is a survey compilation of approximately 40 major forecast organizations. The "consensus" calls for real GDP growth of 2.0 percent in 2013 and 2.6 percent in 2014 and inflation (GDP deflator) of 1.8 percent and 1.9 percent in 2013 and 2014, respectively. The October 2012 edition of Blue Chip also publishes a consensus 10-year inflation forecast of 2.1 percent per year, almost no change from the near term. Thus, both the near- and long-term economic outlooks are for sluggish 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 have exhibited more volatility than bond markets. Following the onset of the financial crisis about four 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 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 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 August and September 2011. The larger fundamental concerns of investors, based on reporting by the financial press, include the unraveling of the Euro-zone sovereign debt crisis (and its potential adverse impact on the European banking system) and the expectations by investors of the potential for further weakening in the U.S. economy (and to some extent, the global economy). In the fourth quarter of 2011, the stock market recovered, and for calendar 2011 overall, the stock market was approximately flat or provided only very modest returns for investors. In general, 2012 was a positive year for the stock market, as has been the case in January 2013.

The effects of these economic events on U.S. utilities (such as PSE&G), however, are difficult to interpret. It would seem that the Euro-zone and global economic issues would have little to do directly with U.S. electric utilities. The stock market improvement over the past year may reflect increased investor interest in U.S. common equities, including utilities. At the same time, the continuing economic weakness tends to exert downward pressure on capital costs, interest rates and inflation. Thus, despite the turmoil in global financial markets, the U.S. provides a generally low capital cost environment for good quality utilities.

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

A. Yes, to a large extent I have done so. As a general matter, utility stocks have been reasonably stable during 2012. Specifically, I present DCF evidence that relies on utility stock market data from the last half of 2012 as developed by Mr. Moul. Such market data directly incorporate the economic forces and monetary policy choices described above. The use of a recent six months of market data is reasonable for assessing PSE&G's current cost of capital as it reflects recent market and economic trends.

Q. PLEASE RELATE THESE CAPITAL COST TRENDS TO THE 2010 SETTLEMENT THAT ESTABLISHED THE AUTHORIZED ROE FOR PSE&G.

A. As noted earlier, PSE&G's last base rate case took place in 2009, with a settlement reached in 2010. Both the Company's and Rate Counsel's market and cost of capital data were from that time period. The information shown on Schedule MIK-1 illustrates trends since that time period. During 2009/2010, long-term A-rated utility bonds were providing yields of about 6 percent, with 10-year Treasury bonds yielding about 3.0 to 3.5 percent. During the last half of 2012, Single A utility bond yields were in the 4 to 4.5 percent range with 10-year Treasury security yields in the 1.5 to 2.0 percent range. These are very sharp reductions from 2009/2010 conditions and are at least indicative of a very sharp reduction in the cost of equity for credit worthy, stable utilities such as PSE&G.

IV. MR. MOUL'S COST OF EQUITY ESTIMATES

A. Overview of Mr. Moul's Estimates

Q. IN REBUTTING MS. CRANE, HOW DID MR. MOUL SUPPORT THE COMPANY'S REQUEST FOR A RETURN ON EQUITY OF 10.3 PERCENT?

A. Mr. Moul did so primarily by conducting his own cost of equity (plus Comparable Earnings) studies, obtaining the following results:

DCF:	10.90%
Risk Premium:	11.66
CAPM:	9.39
Comparable Earnings:	11.15
Average:	10.78%
Average w/o Comparable Earnings:	10.65%

The average of his three cost of equity studies is 10.65 percent, which is somewhat greater than the requested 10.3 percent, and the average is a slightly higher 10.78 percent if the Comparable Earnings measure is included.

Mr. Moul's DCF and CAPM studies are based on a ten-company proxy group of electric utility companies that he selected. The majority of these companies are vertically integrated (six of the ten, as acknowledged by Mr. Moul), meaning their market cost of equity is also reflective of the risks of generation supply. Yet, Mr. Moul makes no downward risk adjustment for PSE&G, which is a low-risk delivery service utility.

Q. WHAT EXPLAINS MR. MOUL'S RELATIVELY HIGH COST OF EQUITY ESTIMATION RESULTS?

A. In the case of the DCF and CAPM studies, which are based on his ten-company proxy group, he includes two extraneous adders that have nothing to do with the PSE&G cost of equity. The first is his so-called "leverage adjustment," which he proposes in order to compensate investors for the fact that standard BPU ratemaking practice is to use a book value instead of market value capital structure. This adjustment is 0.8 percent in his DCF study and 0.7 percent in his CAPM study. (Mr. Moul refers to it as the "Hamada" adjustment in the CAPM.) To be clear, Mr. Moul includes this adjustment because he believes PSE&G shareholders are entitled to additional compensation *over and above* the cost of equity due to the Board's book value ratemaking practice.

The second adder, 0.16 percent, is for PSE&G's flotation expense, i.e., expenses incurred when PSE&G or its parent issues new common equity. I do not object to flotation expense recovery in principle, provided that such costs can be documented. That is, there must be some evidence that there are actual flotation expenses incurred or to be incurred by PSE&G that are in need of recovery. In the case of PSE&G and Mr. Moul's rebuttal testimony, there is no such evidence.

Q. IF THESE TWO IMPROPER ADJUSTMENTS ARE REMOVED, WHAT ARE MR. MOUL'S DCF AND CAPM RESULTS?

A. Using all of Mr. Moul's input data and assumptions, but removing these two improper adjustments, his studies would produce the following results:

DCF: 4.68% (dividend yield) + 5.25% (growth rate) = 9.93%

CAPM: 3.00% + 0.69 (7.99) = 8.52%

This range of 8.5 to 9.9 percent clearly validates the reasonableness of Ms. Crane's 9.75 percent even before accounting for the fact that (a) PSE&G is somewhat less risky than Mr. Moul's ten-company proxy group; and (b) the solar program cost recovery mechanism is much lower in risk than conventional base rate case cost recovery.

Q. THE RISK PREMIUM STUDY PRODUCES A MUCH HIGHER 11.66 PERCENT ESTIMATE. WHY IS THIS ESTIMATE SO HIGH?

A. Mr. Moul employs an extremely unusual risk premium method in his testimony, apparently abandoning the risk premium method he has used in past years. Using historical stocks versus bonds for selected years, he calculates a 7.0 percent risk premium relative to a current single A utility bond yield of 4.5 percent. Mr. Moul's previous risk premium methodology (employed up until now) estimated a utility risk premium value of 5.5 percent, or about 1.5 percent lower. While in my opinion even the 5.5 percent is excessive, had Mr. Moul stayed with his previous methodology, he would have obtained a risk premium cost of equity estimate of 10.0 percent (excluding an adjustment for flotation expense).

Q. IS MR. MOUL EMPLOYING AN ACCEPTED RISK PREMIUM METHOD?

A. No, he is not. Analysts frequently make use of historical market returns data series to estimate the equity risk premium (typically for the overall stock market and not for an individual firm or industry). But unlike Mr. Moul, they use the entire historical data series, not selected years. Mr. Moul's study method is unprecedented and bears no resemblance to other risk premium studies.

Q. WHAT WEIGHT SHOULD BE GIVEN TO MR. MOUL'S COMPARABLE EARNINGS STUDY?

A. None, since it has nothing to do with PSE&G's cost of equity. This study is nothing more than a compilation of accounting returns on equity, earned historically and projected for a group of unregulated companies. Accounting returns are unrelated to prospective market returns which is what investors focus on in deciding whether to purchase a company's stock. It is therefore the market returns expectation measure (e.g., using the DCF model) that address the crucial "capital attraction standard" of a fair rate of return. For example, whether a company has achieved an accounting return on equity of 5, 10 or 15 percent for some time period, by itself, tells us nothing about that company's cost of equity.

B. <u>The DCF Estimate</u>

Q. SETTING ASIDE THE LEVERAGE AND FLOTATION ADDERS, IS THE UNADJUSTED 9.9 PERCENT DCF ESTIMATE REASONABLE?

A. While removing the two improper "adders" greatly improves the realism of Mr. Moul's DCF study, I believe that his 9.9 percent estimate is still too high. In particular, Mr. Moul's study assumes a long-run growth rate of 5.25 percent, but he does not fully explain the basis for this figure. (See Mr. Moul's rebuttal testimony, page 23.) He provides a lengthy discussion advocating the use of securities analyst projections of five-year earnings growth, but the 5.25 percent appears to be his judgment based on his informal perusal of this evidence.

While I agree with Mr. Moul that a proxy group growth rate of 5.25 percent falls within his range of evidence, it appears to be near the higher end of the range. For example, his Schedule 4 presents nine separate measures of projected growth, and eight of the nine measures are *lower* than 5.25 percent. More specifically, five of the nine measures are his preferred measure of securities analyst earnings growth rate estimates, and four of the five measures are below 5.25 percent. Thus, based on his own evidence (including his preferred measures), his DCF growth rate estimate is excessive.

Q. WHAT WOULD BE A MORE REALISTIC ESTIMATE?

A. Mr. Moul on Schedule 4 and in testimony cites to five separate sources of securities analyst earnings growth rates for his proxy companies that he believes should be employed:

Yahoo First Call:	4.48%
SNL:	5.01
Zacks:	4.40
Morningstar:	5.69
Value Line:	5.20
Average:	4.96%

Based on my experience, First Call, Zacks and Value Line are well-known sources of analyst earnings projections available to investors and used by witnesses in rate cases. SNL and Morningstar may be more recent entrants and are not as widely cited. The average of First Call, Zacks and Value Line is 4.69 percent.

A more reasonable DCF estimate would employ a growth rate range of 4.69 to 4.96 percent, based on these published securities analyst projections. I have also accepted, for surrebuttal purposes, Mr. Moul's proxy growth dividend yield for the last six months of 2012 of 4.54 percent. (See Mr. Moul's Schedule 2.) This produces the following DCF proxy group results:

DCF cost of equity = D_o/P_o (1.0 + 0.5g) + g

Lower end: 4.54% (1.0235) + 4.69% = 9.34%

Upper end: 4.54% (1.0248) + 4.96% = 9.61%

A more reasonable DCF estimate for the proxy group, from Mr. Moul's own data set, would be 9.34 to 9.61 percent, which confirms the fact that Ms. Crane's 9.75 percent value is both reasonable and conservatively high.

This DCF range, of course, does not account for PSE&G's inherently lower risk than the proxy group or the very low risk nature of a solar tracker.

C. <u>The Flotation Expense Adder</u>

Q. WHY DO YOU OPPOSE THE FLOTATION EXPENSE ADDER?

A. Mr. Moul recommends including within the solar program cost recovery mechanisms a 0.16 percent return on equity adder to recover the flotation expense allegedly associated with operating these programs. But he has provided no evidence that such costs have been or will be incurred by PSE&G. To the contrary, all available evidence suggests there are no such costs to be recovered. The fact that other utilities may have in the past incurred or will incur these costs has nothing to do with appropriate cost recovery within the PSE&G solar program trackers.

Q. WHAT IS YOUR EVIDENCE THAT SUCH COSTS HAVE NOT AND WILL NOT BE INCURRED BY PSE&G?

A. Common stock issuances, if any, are undertaken by the publically-traded entity Public Service Enterprise Group (PSEG), not the PSE&G utility subsidiary. The response to RCR-ROR-6 states that PSEG has not had a public issuance of common stock within the past three years. RCR-ROR-7 requested information concerning prospective PSEG stock issuances, and the Company refused to provide the information. Thus, Company data responses provide no evidence of any flotation expense.

The Value Line Investment Survey provides both a historical data series on PSEG shares outstanding and projected increases over the next five years (until 2017). The November 23, 2012 report on PSEG indicates that there has been no significant change in shares outstanding since 2005, or about the last eight years. Value Line further projects no change in PSEG shares outstanding between now and 2017. This suggests no PSEG (and therefore PSE&G) flotation expense during 2005 to 2017, or a 12-year period of time.

There is simply no factual basis for Mr. Moul's 0.16 percent flotation expense adder for use in the solar tracker mechanisms. These are phantom expenses.

D. <u>The Leverage Adjustment</u>

Q. WHY DOES MR. MOUL INCLUDE HIS LEVERAGE ADDER IN HIS DCF AND CAPM STUDIES?

A. His rebuttal testimony clearly states that the purpose of the leverage adjustment is to provide PSE&G shareholders with additional compensation because a book value rather than a market value capital structure is used for ratemaking. For example, at page 24, lines 14-15 he states, "if book values are used to compute the capital structure ratios, then an adjustment is required." This is a candid admission that the leverage adder is not part of the utility cost of equity, as measured by the standard DCF formula, but is included due to capital structure ratemaking practices.

Q. IS THERE ANY BASIS FOR ASSERTING THAT THE COMBINATION OF THE STANDARD DCF COST OF EQUITY AND A BOOK VALUE CAPITAL STRUCTURE HAS FAILED TO ADEQUATELY COMPENSATE INVESTORS?

A. No, such a criticism has no validity. This standard practice (a market cost of equity coupled with a book value capital structure) is the essence of cost-based ratemaking that fully meets the capital attraction standard and has been used successfully by the BPU (and other regulatory commissions) for decades. I am also not aware of PSE&G in past cases advocating an ROE adder above its cost of equity due to the Board's use of a book value capital structure.

Q. IS CAPITAL STRUCTURE IN DISPUTE IN THIS CASE?

A. No. Both the Company and Rate Counsel accept the use of a *book value* capital structure for rate setting.

Q. PLEASE EXPLAIN WHY THE LEVERAGE ADJUSTMENT IS NOT PART OF THE COST OF EQUITY AND IMPROPER?

A. As I explained, using Mr. Moul's own data and approach, the proxy group DCF estimate is about 9.3 to 9.6 percent, based on available market data. The DCF results automatically reflect all information and risks associated with the ten proxy companies, as perceived by investors. Investors are fully aware of the companies' use of debt leverage and that all regulators use book value capital structure for rate making. Hence, the 9.3 to 9.6 percent DCF estimate range therefore already fully accounts for the fact that utility regulators routinely set rates using book value capital structures for all ten proxy companies. It also fully accounts for these companies' actual use of debt leverage to finance operations.

While Mr. Moul does not directly claim that his leverage adder is part of the cost of equity, he does assert that investors either require or merit this additional compensation. He is wrong. Cost-based ratemaking adequately and fairly compensates investors. If that were not the case, the ten proxy companies could not attract capital (and they clearly do). Investor requirements for compensation are automatically captured in the standard DCF formula.

There is one other possibility to be considered. An adder conceivably could be justified if the PSE&G ratemaking capital structure is more leverage than the actual proxy group average capital structure. Mr. Moul's Schedule 5, however, puts that concern to rest. This shows an actual proxy group average capital structure of 46 percent equity and 54 percent debt – somewhat more leverage than PSE&G's 51 percent equity 49 percent debt capital structure. Thus, if debt leverage is a relevant risk factor, then the proxy group DCF study results would merit a downward, not an upward adjustment.

Q. IS THERE PROFESSIONAL REGULATORY ACCEPTANCE OF MR. MOUL'S LEVERAGE ADJUSTMENT?

A. Very little. I do not recall PSE&G cost of equity witnesses in past cases advocating this adder or making the argument that additional compensation is required due to the use of a book value capital structure. Mr. Moul cites to certain cases in Pennsylvania several years ago in which some form of leverage adder was included, but he could cite no cases since 2007 or in any other state. (Response to RCR-ROR-8 and 9.) I have participated in numerous other rate cases on the cost of equity issue in various other jurisdictions. In those cases, this type of adjustment is not supported by other cost of equity experts be they commission staff, consumer advocate or utility-sponsored (other than Mr. Moul). There is also no support for this adjustment in the professional literature on cost of capital or regulatory ratemaking.

Q. DOESN'T MR. MOUL CITE AS AUTHORITY FOR HIS ADJUSTMENT THE WORKS OF DOCTORS MODIGLIANI, MILLER AND HAMADA?

A. He purports to apply their formulas, but he does in a manner that is highly misleading and that has nothing to do with the underlying financial theory. Modigliani, Miller and Hamada have not advocated the inclusion of a rate of return "adder" to the actual DCF or CAPM cost of equity because state regulators employ book value capital structures for ratemaking. Rather, their formulas are relevant to a very different issue, i.e., if PSE&G is more leveraged than the ten proxy companies. But Mr. Moul's Schedule 5 demonstrates that this is not the case.

Q. SHOULD THE LEVERAGE ADDER BE REJECTED?

A. Yes. It has no place in either the DCF or CAPM studies, and the notion that conventional cost-based ratemaking fails to adequately compensate investors must be rejected as without foundation.[3]

E. <u>Risk Premium Study</u>

Q. WHAT IS YOUR OBJECTION TO MR. MOUL'S RISK PREMIUM STUDY?

A. As noted above, Mr. Moul has inexplicably changed his Risk Premium methodology in his rebuttal testimony in this case, as compared to his past testimony, which has resulted in the equity risk premium increasing from 5.5 percent to 7.0 percent, or a 27 percent increase.

Q. WHAT ACCOUNTS FOR THE INCREASE?

A. A more conventional approach to estimating the risk premium, widely used in the professional literature, is to compare market returns on stocks and bonds over the historic period for which data are available. Mr. Moul previously used this approach. In this case, the first problem is that Mr. Moul employs only those years when long-term Treasury yields were "low," i.e., a subset of his historical data base. He justifies this selectivity arguing that the risk premium increases when market bond yields are low, although he provides no support for that assertion (other than his own risk premium data series).

The second problem with Mr. Moul's 7.0 percent risk premium estimate, even if valid, has nothing to do with PSE&G and its risk profile. It appears to be based entirely on the historical market returns on "large company stocks" (i.e., predominantly non utilities) versus long-term corporate (not utility) bonds. Thus, the

[3] Please note that in the CAPM the leverage adjustment is used to increase the proxy group beta from 0.69 to 0.78, which increase the CAPM estimate by about 0.7. Since the corrected CAPM estimate is 8.5 percent, I do not address any further in my surrebuttal testimony. This should not be interpreted as my concurrence with other aspects of Mr. Moul's CAPM study.

7.0 percent risk premium and the resulting roughly 11.5 percent cost of equity at best is applicable to the overall stock market, not the ten company proxy group or PSE&G. It is important to note that in his CAPM study, Mr. Moul found an overall stock market required return (i.e., cost of equity) of 11.0 percent. In order for his Risk Premium study to be valid, one would be forced to believe that PSE&G has a higher cost of equity than the overall stock market. Clearly, such an illogical result cannot be correct.

Finally, inspection of Mr. Moul's Risk Premium data base reveals a serious problem. Mr. Moul begins with annual market returns observations obtained from Morningstar for the time period 1926-2011 – 86 total observations. (See his Schedule 8, page 2 of 2.) He then extracts from that data base a subtotal of 43 years, or half of the years. However, of those 43 years in his subset, 40 of the 43 (or over 90 percent) are from the time period 1926 to 1965, with only three observations being years since 1965 (i.e., nearly 50 years ago). In other words, what Mr. Moul has done is to take the Morningstar 1926 to 2011 time period and for practical periods segregate it into two subperiods (with three minor exceptions) – 1926 to 1965 and 1965 to 2011. He then bases *today's* PSE&G equity risk premium on the 1926 to 1965 market returns, largely ignoring all observations between 1966 and 2011, which is the last half century.

Mr. Moul's method of using the historical data base is unreasonable and lacks any credibility. In addition, the equity risk premium value of 7.0 percent is based largely on non-utility market data. It is not surprising that it produces such illogical and overstated results.

F. Comparable Earnings

Q. HOW DID MR. MOUL DEVELOP HIS COMPARABLE EARNINGS ESTIMATE OF 11.15 PERCENT?

A. Mr. Moul assembled a large group of non-regulated companies and recorded their historical and projected earned return on equity. In other words, it is nothing more than a compilation of accounting returns.

Q. IS COMPARABLE EARNINGS A COST OF EQUITY METHOD?

A. No, and I do not read Mr. Moul's testimony as asserting otherwise. For this reason, the comparable earnings data set simply cannot address the capital attraction standard because it fails to measure the return that investors actually require, which is the prospective market return on capital that they invest today. For example, the simple fact that the achieved accounting return for a company is, say 18 percent, tells us nothing about what rate of return investors expect to earn from investing today in that stock. To state the obvious, the expected return depends on the price of the stock.

Q. ARE THERE OTHER PROBLEMS WITH MR. MOUL'S COMPARABLE EARNINGS?

A. Yes, there are numerous problems. As examples, the return on equity for unregulated companies can be distorted by equity accounting write downs, which inflate the reported accounting return on equity. This is typically not an issue for utilities. An additional concern is that some unregulated firms may possess and exercise market power. Utilities, of course, possess market power (as monopolies), but cost of service regulation prevents them from exercising it. Mr. Moul concedes that he has not investigated whether the accounting ROEs in his study have been increased due to the presence of market power. (Response to RCR-ROR-11.) Earnings that have been affected by the possession and exercise of market power cannot be referenced as a legitimate benchmark for setting the utility fair rate of return.

Mr. Moul's Comparable Earnings study is of no use either in determining PSE&G's current cost of equity or establishing a fair return on equity for the solar programs.

V. OTHER CONSIDERATIONS

Q. THE PREVIOUS SECTION FOR YOUR TESTIMONY ADDRESSED THE COST OF EQUITY STUDIES ALLEGED TO SUPPORT THE 10.3 PERCENT ROE REQUEST FOR THE SOLAR TRACKERS. WHAT ARE THE OTHER ISSUES RAISED IN REBUTTAL?

A. Both Mr. Moul and Mr. Swetz oppose reducing the return on equity, as recommended by Ms. Crane, for the following additional reasons:

- Both witnesses either deny or deemphasize the argument that the solar tracker mechanisms are very low in risk.
- Mr. Moul seems to concede that capital costs have declined to some degree since the 2009/2010 rate case, but he argues that this need not be recognized at this time because he believes that capital costs eventually will increase.
- Mr. Moul argues that too low of an authorized ROE will undermine investment incentives in the solar program.
- Mr. Moul takes issue with Ms. Crane's observation that state commission ROE awards have declined sharply recently and support 9.75 percent.

Q. AS A CONCEPTUAL MATTER, WHY IS IT REASONABLE FOR PURPOSES OF A TRACKER TO UPDATE THE COST OF CAPITAL FROM THE LAST RATE CASE?

A. For purposes of this question, I shall assume there has been a material reduction in the cost of capital since the last rate case, a notion that Mr. Moul to some degree seems to accept. The purpose of the tracker is to provide accurate, actual program cost recovery, no more and no less. If we acknowledge that the cost of capital has declined, but fail to reflect that cost saving in the solar tracker, then we are intentionally allowing the utility to charge customers for more than the program actually costs. Intentionally overcharging ratepayers is particularly objectionable given that the tracker mechanism is structured to provide dollar-for-dollar recovery.

The need to update the cost of debt in the tracker seems particularly obvious since there is really no dispute over the current embedded cost rate, i.e., 5.35 percent. PSE&G's cost of equity, while more controversial, clearly has declined since 2009 and is well below 10.3 percent, as my testimony demonstrates. Mr. Crane's 9.75 percent is more than fair for use in the solar program trackers.

Q. HAVE PSE&G WITNESSES BEEN ABLE TO SUPPORT THEIR ASSERTIONS THAT THE SOLAR INVESTMENTS ARE SUBJECT TO THE SAME OR SIMILAR RISK AS PSE&G AS A WHOLE?

A. No. Mr. Moul is dismissive of the entire issue arguing that the "Solar Programs are not dissimilar in risk from the overall PSE&G utility business."[4] He has absolutely no basis for such an assertion, and it clearly is not true, as discussed by Rate Counsel witness Crane. The only risk that Mr. Swetz could point to is that the PSE&G solar programs are exposed to prudence disallowances. The reality is that PSE&G has never experienced a prudence disallowance associated with any of its energy efficiency or renewable energy programs. (Response to RCR-ROR-17.)

The salient point is not that such trackers are risk free, but rather that it is indisputable that they are lower in risk than conventional utility cost recovery. Contrary to Mr. Moul's concern, Rate Counsel is not seeking to quantify and impose a specific rate of return reduction for this lower risk, although doing so would not be

[4] In the response to RCR-ROR-2, Mr. Moul argues for ignoring the issue because there is no readily available method of quantifying the lowered risk.

unreasonable. Rather this low-risk cost recovery helps to provide a further compelling argument for updating to recognize declining capital costs.

Ultimately, PSE&G in this docket is proposing single issue ratemaking. In this context, it is one sided and unfair to its customers to disregard the clearly documented cost of capital savings.

Q. MR. MOUL ARGUES THAT TODAY'S ULTRA-LOW CAPITAL COSTS EVENTUALLY WILL INCREASE AND FOR THAT REASON THE 10.3 PERCENT ROE SHOULD BE RETAINED. PLEASE COMMENT.

A. This argument is both inaccurate and unpersuasive. It is inaccurate because the Company's response to RCR-A-51 states that rate of return will be periodically updated over time when the Company completes base rate cases. PSE&G, of course, to a large extent controls the timing of when future base rate cases will take place. It is therefore the Company's own position that rate of return can be revisited at times of its choosing.

The argument is also unpersuasive because Mr. Moul provides no market evidence that capital markets will soon reverse and that PSE&G's cost of equity will move sharply upwards. The fundamental conditions that have given rise to today's very low capital costs are expected to persist for some extended period of time. Mr. Moul has no basis for claiming that "markets today are wrong" and that current low-cost capital market conditions must be disregarded as ephemeral.

Q. MR. MOUL EXPRESSES CONCERN THAT AT A LOWER RATE OF RETURN PSE&G WILL LACK INCENTIVE TO INVEST IN RENEWABLE RESOURCES. IS HE CORRECT?

A. Mr. Moul is correct that if the authorized return on equity were to be set at a sufficiently low level, for example, well below the Company's current cost of equity, doing so could distort investment incentives. This possibility, however, is not the case here because the 9.75 percent recommended by Ms. Crane clearly is not below PSE&G's cost of equity, particularly in the context of the solar tracker mechanism. On the other hand, retaining the 10.3 percent requested by the Company exceeds its cost of equity thereby creating a perverse incentive to overinvest.

Q. MR. MOUL AT PAGE 10 OF HIS REBUTTAL TESTIMONY CITES CERTAIN 2012 RETURN ON EQUITY AWARDS IN OTHER STATES TO VALIDATE THE REASONABLENESS OF THE REQUESTED 10.3 PERCENT. IS THIS INFORMATION PERSUASIVE?

A. No, it is not. Mr. Moul cites the Regulatory Research Associates (RRA) survey of state regulator ROE awards for electric utilities in 2012, which he attaches to his testimony as Exhibit PRM-2. He is indeed correct that there have been some rate of return on equity awards at or above 10.3 percent. RRA notes that the average award for electric utilities in 2012, excluding some special case awards in Virginia,[5] was 10.01 percent. This average result is roughly midway between the requested 10.3 percent and Ms. Crane's 9.75 percent.

The problem is that the 10.01 percent 2012 ROE average is a combination of state commission ROE awards for vertically-integrated electric utilities and delivery service electric utilities. It is obviously the latter that is relevant to PSE&G. Using Mr. Moul's Exhibit PRM-2, I have extracted the 2012 ROE awards for delivery service electric utilities.

[5] RRA discusses the average award in 2012 excluding the Virginia results because those very high returns are associated with generation plant surcharges where a ROE bonus was mandated by statute.

Company	State	Date	Award
Comm. Edison	Illinois	5/29	10.05%
Orange & Rockland	New York	6/15	9.40
Delmarva Power	Maryland	7/20	9.81
PEPCO	Maryland	7/20	9.31
Ameren	Illinois	9/19	10.05
PEPCO	D.C.	2/26	9.50
Lone Star Transmission	Texas	10/12	9.60
Atlantic City	New Jersey	10/23	9.75
Delmarva Power	Delaware	11/29	9.75
Ameren	Illinois	12/5	9.71
PPL Electric	Pennsylvania	12/5	10.40
Comm. Edison	Illinois	12/19	9.71
Narragansett	Rhode Island	12/20	9.50
Average			**9.74%**

There is only one delivery service ROE award materially above 10 percent, the PPL Electric decision cited by Mr. Moul (which, as he notes, includes a management performance bonus). Nearly all others are at or below 10 percent, with the average ROE award being 9.74 percent. I believe that Mr. Moul's RRA survey for 2012 (Exhibit PRM-2) helps to validate the reasonableness of Ms. Crane's recommendation.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

BEFORE THE STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF PUBLIC SERVICE ELECTRIC AND GAS COMPANY FOR APPROVAL OF AN EXTENSION OF A SOLAR GENERATION INVESTMENT PROGRAM AND ASSOCIATED COST RECOVERY MECHANISM AND FOR CHANGES IN THE TARIFF FOR ELECTRIC SERVICE, B.P.U. N.J. NO. 15 ELECTRIC PURSUANT TO N.J.S.A. 48:2-21, 48:21-21.1 AND N.J.S.A. 48:3-98.1	)	**BPU DOCKET NO. EO12080721**

SCHEDULES ACCOMPANYING THE
SURREBUTTAL TESTIMONY OF MATTHEW I. KAHAL
ON BEHALF OF THE
NEW JERSEY DIVISION OF RATE COUNSEL

STEFANIE A. BRAND, ESQ.
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FILED: March 1, 2013

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

Trends in Capital Costs

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

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

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

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

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

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

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

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

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

	Annualized Inflation (CPI)	10-Year Treasury Yield	3-Month Treasury Yield	Single A Utility Yield	Baa Utility Yield
2011					
January	1.6%	3.4%	0.1%	5.6%	6.1%
February	2.1	3.6	0.1	5.7	6.1
March	2.7	3.4	0.1	5.6	6.0
April	2.2	3.5	0.1	5.6	6.0
May	3.6	3.2	0.0	5.3	5.7
June	3.6	3.0	0.0	5.3	5.7
July	3.6	3.0	0.0	5.3	5.7
August	3.8	2.3	0.0	4.7	5.2
September	3.9	2.0	0.0	4.5	5.1
October	3.5	2.2	0.0	4.5	5.2
November	3.0	2.0	0.0	4.3	4.9
December	3.0	2.0	0.0	4.3	5.1
2012					
January	2.9	2.0	0.0	4.3	5.1
February	2.9	2.0	0.0	4.4	5.0
March	2.7	2.2	0.1	4.5	5.1
April	2.3	2.1	0.1	4.4	5.1
May	1.7	1.8	0.1	4.2	5.0
June	1.7	1.6	0.1	4.1	4.9
July	1.4	1.5	0.1	3.9	4.9
August	1.7	1.7	0.1	4.0	4.9
September	2.0	1.7	0.1	4.0	4.8
October	2.2	1.8	0.1	3.9	4.5
November	1.8	1.7	0.1	3.8	4.4
December	1.7	1.7	0.1	4.0	4.6
2013					
January	1.6	1.9	0.1	4.2	4.7

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

APPENDIX 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 shifted to electric utility restructuring, mergers and various aspects of regulation.

Mr. Kahal has provided expert testimony on more than 350 occasions before state and federal regulatory commissions 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 in the firm. During that time, he supervised multi-million dollar support contracts with the State of Maryland and directed the technical work conducted both by Exeter professional staff and numerous subcontractors. Additionally, Mr. Kahal took the lead role at Exeter in consulting to the firm's other governmental and private clients in the areas of financial analysis, utility mergers, electric restructuring and utility purchase power contracts.

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

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

Publications and Consulting Reports:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Conference and Workshop Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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365.	2010-2213369 April 2011	Duquesne Light Company	Pennsylvania	Consumer Advocate	Merger Issues
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

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380.	U-32153 July 2012	Cleco Power	Louisiana	Commission Staff	Environmental Compliance Plan
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.	EO12080721 March 2013	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Tracker ROE
393.	EO12080726 March 2013	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Tracker ROE

BEFORE THE STATE OF NEW JERSEY

BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF PUBLIC SERVICE ELECTRIC AND GAS COMPANY FOR APPROVAL OF A SOLAR LOAN III PROGRAM AND ASSOCIATED COST RECOVERY MECHANISM AND FOR CHANGES IN THE TARIFF FOR ELECTRIC SERVICE, B.P.U.N.J. No. 15 ELECTRIC PURSUANT TO N.J.S.A. 48:2-21 AND N.J.S.A. 48:2-21.1	)	**BPU DOCKET NO. EO12080726**

SURREBUTTAL TESTIMONY OF MATTHEW I. KAHAL
ON BEHALF OF THE
NEW JERSEY DIVISION OF RATE COUNSEL

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I. QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

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

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

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

Q. WHAT IS YOUR PROFESSIONAL BACKGROUND?

A. I have been employed in the area of energy, utility and telecommunications consulting for the past 35 years working on a wide range of topics. Most of my work has focused on electric utility integrated planning, plant licensing, environmental issues, mergers and financial issues. I was a co-founder of Exeter Associates, and from 1981 to 2001 I was employed at Exeter Associates as a Senior Economist and Principal. During that time, I took the lead role at Exeter in performing cost of capital and financial studies. In recent years, the focus of much of my professional work has shifted to electric utility 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, the U.S. Congress and federal court in more than 380 separate regulatory cases. My testimony has addressed a variety of subjects including fair rate of return, resource planning, financial assessments, load forecasting, competitive restructuring, rate design, purchased power contracts, merger economics and other regulatory policy issues. These cases have involved electric, gas, water and telephone utilities. A list of these cases 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, the Maine Public Advocate, Maryland Department of Natural Resources and Energy Administration, and MCI.

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

A. Yes, I have done so on numerous occasions involving electric, gas and water utilities on a range of issues, including cost of capital, mergers and electric restructuring.

II. OVERVIEW OF FINDINGS

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY AT THIS TIME?

A. I have been asked by the Division of Rate Counsel ("Rate Counsel") to respond to the Rebuttal Testimony of Public Service Electric & Gas Company ("PSE&G" or "the Company") witness Mr. Paul Moul on the appropriate cost of equity to use in the solar program cost recovery. Mr. Moul's rebuttal testimony takes issue with Rate Counsel witness Andrea Crane who recommended lowering the Company's proposed cost of equity of 10.3 percent to 9.75 percent. Mr. Moul supports the use of the higher figure of 10.3 percent.

I also respond briefly to the Rebuttal testimony of PSE&G witness Stephen Swetz on the inherent risks confronting PSE&G with its solar cost recovery tracker mechanism and the appropriate cost of debt. Mr. Swetz asserts that the proper rate of return to use at this time in the solar cost recovery mechanism is the 10.3 percent approved in the Company's most recent base rate case, BPU Docket No. GR0905042, which was concluded by a settlement agreement in early 2010.

Q. HAVE YOU PREVIOUSLY TESTIFIED IN THIS PROCEEDING?

A. No. However, I testified on behalf of Rate Counsel in the Company's most recent base rate case in BPU Docket No. GR0905042 on the subject of fair rate of return. That base rate case proceeding extended through the 2009/2010 time period, which was directly following the financial crises of late 2008/early 2009. Ultimately, as noted above, that case was resolved by a settlement agreement in early 2010.

Q. WHAT IS YOUR POSITION ON THE APPROPRIATE RATE OF RETURNS TO USE IN THIS CASE?

A. I disagree with Mr. Moul that PSE&G's cost of equity today is 10.3 percent or more. In fact, it is far below 10.3 percent. Ms. Crane's recommendation of 9.75 percent is entirely reasonable – and in fact conservatively high – given current market conditions. In addition, I do not agree with what I understand Mr. Swetz's position to be that a stale embedded cost of debt taken from the Company's 2009/2010 base rate case should be used. However, I do not object to the use of the updated 5.35 percent figure for the embedded cost of debt as of November 2012 that he presents in his rebuttal testimony if that calculation is accurate.

In my opinion it is entirely appropriate to use in the solar cost recovery mechanism a cost of equity benchmark of 9.75 percent, or even less, in conjunction with the Company's current embedded cost of long-term debt. Moreover, it is my understanding that 9.75 percent is the most recent Board-approved cost of equity established in an electric utility base rate case.[1]

The key questions for the Board to consider are the following:

(1) As a policy matter, in implementing a cost recovery tracker for a special program, such as a solar investment program, is it proper to recognize a decline in capital costs since the last full base rate case, assuming the decline can be clearly documented?

(2) As a factual matter, have market capital costs declined materially since the time of the Company's most recent base rate case in 2009/2010?

[1] I/M/O The Petition of Atlantic City Electric Company for Approval of Amendments to its Tariff to Provide for an Increase in Rates and Charges for Electric Service Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1 and for Other Appropriate Relief, BPU Docket No. ER11080469 (Order Approving Stipulation, Oct. 23, 2012) at 4.

(3) Setting aside trends over time, does the objective cost of capital evidence support a cost of equity today for PSE&G of 9.75 percent or less?

(4) Does the cost recovery mechanism that the utility intends to employ for cost recovery involve less risk, in an overall sense, than rate recovery under "standard" rate base/rate of return regulation, which is based on conventional base rate cases?

Q. WHAT IS YOUR POSITION ON THE FIRST QUESTION CONCERNING WHETHER A REDUCTION IN THE COST OF CAPITAL MERITS RECOGNITION IN A TRACKER-TYPE COST RECOVERY MECHANISM?

A. I do believe that any such reduction, if documented, should be employed in the cost recovery tracker in place of an out-of-date rate of return from the last base rate case. This is precisely Rate Counsel witness Crane's recommendation. As I understand the tracker, its purpose is to reimburse the utility exactly for the costs that it incurs (including capital costs) in operating the Board-approved program. Quite simply, charging ratepayers through the tracker mechanism for program-related capital costs that exceed the actual capital costs would overcharge those customers and overcompensate the utility shareholders. That is neither the purpose nor the intent of the cost tracker.

I was not able to find any substantive discussion in the Company's rebuttal filing that would justify overcharging customers in the tracker mechanism and ignoring the readily observable capital cost decline. This issue is discussed further in Section IV of my Surrebuttal Testimony.

Q. YOUR DISCUSSION CONCERNING THE FIRST QUESTION IS BASED ON THE ASSUMPTION THAT THE COST OF CAPITAL SINCE THE COMPANY'S LAST BASE RATE CASE HAS DECLINED. IS THAT, IN FACT, THE CASE?

A. Yes, it is. Section III of my testimony documents the general decline in capital costs since the 2009/2010 base rate case and explains the reasons for this declining trend. For example, long-term interest rates since that time period have declined by at least a full percentage point or more. The Company's embedded cost of debt has declined materially, as acknowledged by the Company.

Q. ASIDE FROM MARKET TRENDS SINCE 2009/2010, IS THERE PERSUASIVE EVIDENCE THAT THE COST OF EQUITY FOR PSE&G IS AT OR BELOW THE 9.75 PERCENT THAT MS. CRANE RECOMMENDS?

A. Yes, I present such evidence in Section IV of my testimony. Mr. Moul attempts to show that PSE&G's current cost of capital is at or above the proposed 10.3 percent, presenting a collection of studies using the Discounted Cash Flow (DCF), Capital Asset Pricing Model (CAPM), Risk Premium (RP) and Comparable Earnings (CE) methods. However, he obtains such results only by including inappropriate adders that have nothing to do with the cost of capital methods or PSE&G's actual cost of equity. When Mr. Moul's DCF and CAPM studies are corrected, after removing the extraneous "adders" unrelated to the cost of equity, they produce cost of equity estimates below Ms. Crane's 9.75 percent recommendation. Such results comport with common sense, given that capital costs have declined sharply since the Company's 2009/2010 rate case when 10.3 percent was approved.

Q. WHAT RESULTS DID YOU OBTAIN WHEN CORRECTING MR. MOUL'S ANALYSES?

A. My correction to Mr. Moul's' DCF study produces a cost of equity estimate of 9.34 to 9.61 percent, and my correction to his CAPM study produces a cost of equity of about 8.5 percent. Technically, these estimates apply to the proxy group selected by Mr. Moul. However, the majority of these proxy companies have substantial relatively risky regulated and/or unregulated generation. Therefore, the proxy group cost of equity figures in my corrections to Mr. Moul's studies may somewhat overstate PSE&G's cost of equity.

I have not attempted to correct Mr. Moul's Risk Premium and Comparable Earnings studies. The Risk Premium approach he takes has no value at all in estimating the utility cost of equity, and his Comparable Earnings study does not even pretend to estimate PSE&G's cost of equity. Rather, it is nothing more than a compilation of accounting earnings which tells us nothing about the actual returns on invested capital that investors required.

Q. HAVE YOU CONDUCTED YOUR OWN INDEPENDENT COST OF EQUITY STUDY?

A. No, I have not. In the spirit of surrebuttal testimony, I am limiting my analysis to correcting Mr. Moul's own studies, relying almost entirely on data provided in his testimony. In other recent electric and gas utility cases, I have obtained midpoint DCF estimates within the range of about 9.0 to 9.5 percent, or well below Ms. Crane's recommendation.

Q. THE FOURTH QUESTION CONCERNS THE RISK ATTRIBUTES CONFRONTING PSE&G FROM ITS SOLAR INVESTMENTS UNDER

ITS PLANNED AND PROPOSED COST RECOVERY. PLEASE COMMENT.

A. Mr. Swetz provides some brief rebuttal testimony to Ms. Crane suggesting that PSE&G has a prudence obligation and exposure with respect to this and similar programs, and this creates risk. I agreed with Mr. Swetz that the Company has such an obligation, and in that sense cost recovery is not entirely risk free. But this argument misses the point. The issue is not whether PSE&G has *any* risk associated with these programs, but rather whether such risk is comparable to that under standard regulation, based on cost recovery in base rate cases. Base rate case recovery of costs is the context to the current 10.3 percent return on equity. Unquestionably, cost recovery is far more certain under the fully reconcilable cost recovery tracker proposed for the solar program. It is therefore appropriate for the Board to at least consider this fact in determining whether it is reasonable to use a 9.75 percent return on equity, instead of the higher 10.3 percent, in the solar program tracker.

Q. MR. MOUL CITES TO COMMISSION AWARDS OF ROEs FOR 2012. DOES THIS SURVEY SUPPORT HIS RECOMMENDATION?

A. No. This survey shows that electric utility ROE awards in 2012 averaged about 10.0 percent. However, Mr. Moul fails to mention that these awards, on average, were above 10.0 percent for vertically-integrated electrics and below 10.0 percent for the delivery service electrics. PSE&G, of course, is a delivery service utility. In addition, these awards are in standard base rate cases and would overstate the cost of equity used in a tracker.

Q. MR. MOUL ARGUES THAT THE 10.3 PERCENT ROE SHOULD NOT BE LOWERED BECAUSE CAPITAL COSTS IN THE FUTURE WILL BE HIGHER. DO YOU AGREE?

A. No, I do not. This is speculation on Mr. Moul's part and contrary to market evidence. It is true that capital markets are not static and do change over time – in both directions. It is, however, absurd to argue that the Board should ignore the clear and indisputable market evidence that a sharp decline in capital costs has occurred since 2009/2010. Based on Mr. Moul's logic, the ROE award could never change.

Capital costs are very low at present due to market fundamentals, and there is no reason to expect that to change (including the Fed's accommodative policies) any time soon. I discuss these fundamental forces in Section III of my testimony.

III. CAPITAL COST TRENDS IN RECENT YEARS

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 2012, on page 1 of Schedule MIK-1. Pages 2, 3 and 4 of that Schedule show monthly data for January 2007 through December 2012. 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., calendar 2012), Treasury and utility long-term bond rates have declined even further to near or below the lowest levels in many decades.

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.[2] The Fed has also sought to exert downward pressure on long-term interest rates through its policy of "quantitative easing." Quantitative easing is a policy whereby the Fed

[2] 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.

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 more abundant. Although that program ended this past summer, 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 indicated 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 low and have trended down and, for at least an extended period of time, this very low short- and long-term interest rate and cost of capital environment is expected to continue.

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

A. Yes. The latest 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."

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. A weak economy (as we have at this time) exerts downward pressure on interest rates and capital costs generally because the demand for capital 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 recently noted. Europe's Euro-zone continuing sovereign debt crisis likely contributes somewhat to lower U.S. interest rates, as U.S. securities are valued as a relative "safe haven" for global capital. This "safe haven" benefit for U.S. assets may have abated slightly in the last two or three months, but it could return if Euro-zone financial stability is not achieved and sustained.

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, that appears to be the case. I have consulted the latest "consensus" forecasts published by *Blue Chip Economic Indicators* (Blue Chip), January 10, 2012 edition, which is a survey compilation of approximately 40 major forecast organizations. The "consensus" calls for real GDP growth of 2.0 percent in 2013 and 2.6 percent in 2014 and inflation (GDP deflator) of 1.8 percent and 1.9 percent in 2013 and 2014, respectively. The October 2012 edition of Blue Chip also publishes a consensus 10-year inflation forecast of 2.1 percent per year, almost no change from the near term. Thus, both the near- and long-term economic outlooks are for sluggish 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 have exhibited more volatility than bond markets. Following the onset of the financial crisis about four 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 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 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 August and September 2011. The larger fundamental concerns of investors, based on reporting by the financial press, include the unraveling of the Euro-zone sovereign debt crisis (and its potential adverse impact on the European banking system) and the expectations by investors of the potential for further weakening in the U.S. economy (and to some extent, the global economy). In the fourth quarter of 2011, the stock market recovered, and for calendar 2011 overall, the stock market was approximately flat or provided only very modest returns for investors. In general, 2012 was a positive year for the stock market, as has been the case in January 2013.

The effects of these economic events on U.S. utilities (such as PSE&G), however, are difficult to interpret. It would seem that the Euro-zone and global economic issues would have little to do directly with U.S. electric utilities. The stock market improvement over the past year may reflect increased investor interest in U.S. common equities, including utilities. At the same time, the continuing economic weakness tends to exert downward pressure on capital costs, interest rates and inflation. Thus, despite the turmoil in global financial markets, the U.S. provides a generally low capital cost environment for good quality utilities.

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

A. Yes, to a large extent I have done so. As a general matter, utility stocks have been reasonably stable during 2012. Specifically, I present DCF evidence that relies on utility stock market data from the last half of 2012 as developed by Mr. Moul. Such market data directly incorporate the economic forces and monetary policy choices described above. The use of a recent six months of market data is reasonable for assessing PSE&G's current cost of capital as it reflects recent market and economic trends.

Q. PLEASE RELATE THESE CAPITAL COST TRENDS TO THE 2010 SETTLEMENT THAT ESTABLISHED THE AUTHORIZED ROE FOR PSE&G.

A. As noted earlier, PSE&G's last base rate case took place in 2009, with a settlement reached in 2010. Both the Company's and Rate Counsel's market and cost of capital data were from that time period. The information shown on Schedule MIK-1 illustrates trends since that time period. During 2009/2010, long-term A-rated utility bonds were providing yields of about 6 percent, with 10-year Treasury bonds yielding about 3.0 to 3.5 percent. During the last half of 2012, Single A utility bond yields were in the 4 to 4.5 percent range with 10-year Treasury security yields in the 1.5 to 2.0 percent range. These are very sharp reductions from 2009/2010 conditions and are at least indicative of a very sharp reduction in the cost of equity for credit worthy, stable utilities such as PSE&G.

IV. MR. MOUL'S COST OF EQUITY ESTIMATES

A. Overview of Mr. Moul's Estimates

Q. IN REBUTTING MS. CRANE, HOW DID MR. MOUL SUPPORT THE COMPANY'S REQUEST FOR A RETURN ON EQUITY OF 10.3 PERCENT?

A. Mr. Moul did so primarily by conducting his own cost of equity (plus Comparable Earnings) studies, obtaining the following results:

DCF:	10.90%
Risk Premium:	11.66
CAPM:	9.39
Comparable Earnings:	11.15
Average:	10.78%
Average w/o Comparable Earnings:	10.65%

The average of his three cost of equity studies is 10.65 percent, which is somewhat greater than the requested 10.3 percent, and the average is a slightly higher 10.78 percent if the Comparable Earnings measure is included.

Mr. Moul's DCF and CAPM studies are based on a ten-company proxy group of electric utility companies that he selected. The majority of these companies are vertically integrated (six of the ten, as acknowledged by Mr. Moul), meaning their market cost of equity is also reflective of the risks of generation supply. Yet, Mr. Moul makes no downward risk adjustment for PSE&G, which is a low-risk delivery service utility.

Q. WHAT EXPLAINS MR. MOUL'S RELATIVELY HIGH COST OF EQUITY ESTIMATION RESULTS?

A. In the case of the DCF and CAPM studies, which are based on his ten-company proxy group, he includes two extraneous adders that have nothing to do with the PSE&G cost of equity. The first is his so-called "leverage adjustment," which he proposes in order to compensate investors for the fact that standard BPU ratemaking practice is to use a book value instead of market value capital structure. This adjustment is 0.8 percent in his DCF study and 0.7 percent in his CAPM study. (Mr. Moul refers to it as the "Hamada" adjustment in the CAPM.) To be clear, Mr. Moul includes this adjustment because he believes PSE&G shareholders are entitled to additional compensation *over and above* the cost of equity due to the Board's book value ratemaking practice.

The second adder, 0.16 percent, is for PSE&G's flotation expense, i.e., expenses incurred when PSE&G or its parent issues new common equity. I do not object to flotation expense recovery in principle, provided that such costs can be documented. That is, there must be some evidence that there are actual flotation expenses incurred or to be incurred by PSE&G that are in need of recovery. In the case of PSE&G and Mr. Moul's rebuttal testimony, there is no such evidence.

Q. IF THESE TWO IMPROPER ADJUSTMENTS ARE REMOVED, WHAT ARE MR. MOUL'S DCF AND CAPM RESULTS?

A. Using all of Mr. Moul's input data and assumptions, but removing these two improper adjustments, his studies would produce the following results:

DCF: 4.68% (dividend yield) + 5.25% (growth rate) = 9.93%

CAPM: 3.00% + 0.69 (7.99) = 8.52%

This range of 8.5 to 9.9 percent clearly validates the reasonableness of Ms. Crane's 9.75 percent even before accounting for the fact that (a) PSE&G is somewhat less risky than Mr. Moul's ten-company proxy group; and (b) the solar program cost recovery mechanism is much lower in risk than conventional base rate case cost recovery.

Q. THE RISK PREMIUM STUDY PRODUCES A MUCH HIGHER 11.66 PERCENT ESTIMATE. WHY IS THIS ESTIMATE SO HIGH?

A. Mr. Moul employs an extremely unusual risk premium method in his testimony, apparently abandoning the risk premium method he has used in past years. Using historical stocks versus bonds for selected years, he calculates a 7.0 percent risk premium relative to a current single A utility bond yield of 4.5 percent. Mr. Moul's previous risk premium methodology (employed up until now) estimated a utility risk premium value of 5.5 percent, or about 1.5 percent lower. While in my opinion even the 5.5 percent is excessive, had Mr. Moul stayed with his previous methodology, he would have obtained a risk premium cost of equity estimate of 10.0 percent (excluding an adjustment for flotation expense).

Q. IS MR. MOUL EMPLOYING AN ACCEPTED RISK PREMIUM METHOD?

A. No, he is not. Analysts frequently make use of historical market returns data series to estimate the equity risk premium (typically for the overall stock market and not for an individual firm or industry). But unlike Mr. Moul, they use the entire historical data series, not selected years. Mr. Moul's study method is unprecedented and bears no resemblance to other risk premium studies.

Q. WHAT WEIGHT SHOULD BE GIVEN TO MR. MOUL'S COMPARABLE EARNINGS STUDY?

A. None, since it has nothing to do with PSE&G's cost of equity. This study is nothing more than a compilation of accounting returns on equity, earned historically and projected for a group of unregulated companies. Accounting returns are unrelated to prospective market returns which is what investors focus on in deciding whether to purchase a company's stock. It is therefore the market returns expectation measure (e.g., using the DCF model) that address the crucial "capital attraction standard" of a fair rate of return. For example, whether a company has achieved an accounting return on equity of 5, 10 or 15 percent for some time period, by itself, tells us nothing about that company's cost of equity.

B. <u>The DCF Estimate</u>

Q. SETTING ASIDE THE LEVERAGE AND FLOTATION ADDERS, IS THE UNADJUSTED 9.9 PERCENT DCF ESTIMATE REASONABLE?

A. While removing the two improper "adders" greatly improves the realism of Mr. Moul's DCF study, I believe that his 9.9 percent estimate is still too high. In particular, Mr. Moul's study assumes a long-run growth rate of 5.25 percent, but he does not fully explain the basis for this figure. (See Mr. Moul's rebuttal testimony, page 23.) He provides a lengthy discussion advocating the use of securities analyst projections of five-year earnings growth, but the 5.25 percent appears to be his judgment based on his informal perusal of this evidence.

While I agree with Mr. Moul that a proxy group growth rate of 5.25 percent falls within his range of evidence, it appears to be near the higher end of the range. For example, his Schedule 4 presents nine separate measures of projected growth, and eight of the nine measures are *lower* than 5.25 percent. More specifically, five of the nine measures are his preferred measure of securities analyst earnings growth rate estimates, and four of the five measures are below 5.25 percent. Thus, based on his own evidence (including his preferred measures), his DCF growth rate estimate is excessive.

Q. WHAT WOULD BE A MORE REALISTIC ESTIMATE?

A. Mr. Moul on Schedule 4 and in testimony cites to five separate sources of securities analyst earnings growth rates for his proxy companies that he believes should be employed:

Yahoo First Call:	4.48%
SNL:	5.01
Zacks:	4.40
Morningstar:	5.69
Value Line:	5.20
Average:	4.96%

Based on my experience, First Call, Zacks and Value Line are well-known sources of analyst earnings projections available to investors and used by witnesses in rate cases. SNL and Morningstar may be more recent entrants and are not as widely cited. The average of First Call, Zacks and Value Line is 4.69 percent.

A more reasonable DCF estimate would employ a growth rate range of 4.69 to 4.96 percent, based on these published securities analyst projections. I have also accepted, for surrebuttal purposes, Mr. Moul's proxy growth dividend yield for the last six months of 2012 of 4.54 percent. (See Mr. Moul's Schedule 2.) This produces the following DCF proxy group results:

DCF cost of equity = D_o/P_o (1.0 + 0.5g) + g

Lower end: 4.54% (1.0235) + 4.69% = 9.34%

Upper end: 4.54% (1.0248) + 4.96% = 9.61%

A more reasonable DCF estimate for the proxy group, from Mr. Moul's own data set, would be 9.34 to 9.61 percent, which confirms the fact that Ms. Crane's 9.75 percent value is both reasonable and conservatively high.

This DCF range, of course, does not account for PSE&G's inherently lower risk than the proxy group or the very low risk nature of a solar tracker.

C. The Flotation Expense Adder

Q. WHY DO YOU OPPOSE THE FLOTATION EXPENSE ADDER?

A. Mr. Moul recommends including within the solar program cost recovery mechanisms a 0.16 percent return on equity adder to recover the flotation expense allegedly associated with operating these programs. But he has provided no evidence that such costs have been or will be incurred by PSE&G. To the contrary, all available evidence suggests there are no such costs to be recovered. The fact that other utilities may have in the past incurred or will incur these costs has nothing to do with appropriate cost recovery within the PSE&G solar program trackers.

Q. WHAT IS YOUR EVIDENCE THAT SUCH COSTS HAVE NOT AND WILL NOT BE INCURRED BY PSE&G?

A. Common stock issuances, if any, are undertaken by the publically-traded entity Public Service Enterprise Group (PSEG), not the PSE&G utility subsidiary. The response to RCR-ROR-6 states that PSEG has not had a public issuance of common stock within the past three years. RCR-ROR-7 requested information concerning prospective PSEG stock issuances, and the Company refused to provide the information. Thus, Company data responses provide no evidence of any flotation expense.

The Value Line Investment Survey provides both a historical data series on PSEG shares outstanding and projected increases over the next five years (until 2017). The November 23, 2012 report on PSEG indicates that there has been no significant change in shares outstanding since 2005, or about the last eight years. Value Line further projects no change in PSEG shares outstanding between now and 2017. This suggests no PSEG (and therefore PSE&G) flotation expense during 2005 to 2017, or a 12-year period of time.

There is simply no factual basis for Mr. Moul's 0.16 percent flotation expense adder for use in the solar tracker mechanisms. These are phantom expenses.

D. <u>The Leverage Adjustment</u>

Q. WHY DOES MR. MOUL INCLUDE HIS LEVERAGE ADDER IN HIS DCF AND CAPM STUDIES?

A. His rebuttal testimony clearly states that the purpose of the leverage adjustment is to provide PSE&G shareholders with additional compensation because a book value rather than a market value capital structure is used for ratemaking. For example, at page 24, lines 14-15 he states, "if book values are used to compute the capital structure ratios, then an adjustment is required." This is a candid admission that the leverage adder is not part of the utility cost of equity, as measured by the standard DCF formula, but is included due to capital structure ratemaking practices.

Q. IS THERE ANY BASIS FOR ASSERTING THAT THE COMBINATION OF THE STANDARD DCF COST OF EQUITY AND A BOOK VALUE CAPITAL STRUCTURE HAS FAILED TO ADEQUATELY COMPENSATE INVESTORS?

A. No, such a criticism has no validity. This standard practice (a market cost of equity coupled with a book value capital structure) is the essence of cost-based ratemaking that fully meets the capital attraction standard and has been used successfully by the BPU (and other regulatory commissions) for decades. I am also not aware of PSE&G in past cases advocating an ROE adder above its cost of equity due to the Board's use of a book value capital structure.

Q. IS CAPITAL STRUCTURE IN DISPUTE IN THIS CASE?

A. No. Both the Company and Rate Counsel accept the use of a *book value* capital structure for rate setting.

Q. PLEASE EXPLAIN WHY THE LEVERAGE ADJUSTMENT IS NOT PART OF THE COST OF EQUITY AND IMPROPER?

A. As I explained, using Mr. Moul's own data and approach, the proxy group DCF estimate is about 9.3 to 9.6 percent, based on available market data. The DCF results automatically reflect all information and risks associated with the ten proxy companies, as perceived by investors. Investors are fully aware of the companies' use of debt leverage and that all regulators use book value capital structure for rate making. Hence, the 9.3 to 9.6 percent DCF estimate range therefore already fully accounts for the fact that utility regulators routinely set rates using book value capital structures for all ten proxy companies. It also fully accounts for these companies' actual use of debt leverage to finance operations.

While Mr. Moul does not directly claim that his leverage adder is part of the cost of equity, he does assert that investors either require or merit this additional compensation. He is wrong. Cost-based ratemaking adequately and fairly compensates investors. If that were not the case, the ten proxy companies could not attract capital (and they clearly do). Investor requirements for compensation are automatically captured in the standard DCF formula.

There is one other possibility to be considered. An adder conceivably could be justified if the PSE&G ratemaking capital structure is more leverage than the actual proxy group average capital structure. Mr. Moul's Schedule 5, however, puts that concern to rest. This shows an actual proxy group average capital structure of 46 percent equity and 54 percent debt – somewhat more leverage than PSE&G's 51 percent equity 49 percent debt capital structure. Thus, if debt leverage is a relevant risk factor, then the proxy group DCF study results would merit a downward, not an upward adjustment.

Q. IS THERE PROFESSIONAL REGULATORY ACCEPTANCE OF MR. MOUL'S LEVERAGE ADJUSTMENT?

A. Very little. I do not recall PSE&G cost of equity witnesses in past cases advocating this adder or making the argument that additional compensation is required due to the use of a book value capital structure. Mr. Moul cites to certain cases in Pennsylvania several years ago in which some form of leverage adder was included, but he could cite no cases since 2007 or in any other state. (Response to RCR-ROR-8 and 9.) I have participated in numerous other rate cases on the cost of equity issue in various other jurisdictions. In those cases, this type of adjustment is not supported by other cost of equity experts be they commission staff, consumer advocate or utility-sponsored (other than Mr. Moul). There is also no support for this adjustment in the professional literature on cost of capital or regulatory ratemaking.

Q. DOESN'T MR. MOUL CITE AS AUTHORITY FOR HIS ADJUSTMENT THE WORKS OF DOCTORS MODIGLIANI, MILLER AND HAMADA?

A. He purports to apply their formulas, but he does in a manner that is highly misleading and that has nothing to do with the underlying financial theory. Modigliani, Miller and Hamada have not advocated the inclusion of a rate of return "adder" to the actual DCF or CAPM cost of equity because state regulators employ book value capital structures for ratemaking. Rather, their formulas are relevant to a very different issue, i.e., if PSE&G is more leveraged than the ten proxy companies. But Mr. Moul's Schedule 5 demonstrates that this is not the case.

Q. SHOULD THE LEVERAGE ADDER BE REJECTED?

A. Yes. It has no place in either the DCF or CAPM studies, and the notion that conventional cost-based ratemaking fails to adequately compensate investors must be rejected as without foundation.[3]

E. Risk Premium Study

Q. WHAT IS YOUR OBJECTION TO MR. MOUL'S RISK PREMIUM STUDY?

A. As noted above, Mr. Moul has inexplicably changed his Risk Premium methodology in his rebuttal testimony in this case, as compared to his past testimony, which has resulted in the equity risk premium increasing from 5.5 percent to 7.0 percent, or a 27 percent increase.

Q. WHAT ACCOUNTS FOR THE INCREASE?

A. A more conventional approach to estimating the risk premium, widely used in the professional literature, is to compare market returns on stocks and bonds over the historic period for which data are available. Mr. Moul previously used this approach. In this case, the first problem is that Mr. Moul employs only those years when long-term Treasury yields were "low," i.e., a subset of his historical data base. He justifies this selectivity arguing that the risk premium increases when market bond yields are low, although he provides no support for that assertion (other than his own risk premium data series).

The second problem with Mr. Moul's 7.0 percent risk premium estimate, even if valid, has nothing to do with PSE&G and its risk profile. It appears to be based entirely on the historical market returns on "large company stocks" (i.e., predominantly non utilities) versus long-term corporate (not utility) bonds. Thus, the

[3] Please note that in the CAPM the leverage adjustment is used to increase the proxy group beta from 0.69 to 0.78, which increase the CAPM estimate by about 0.7. Since the corrected CAPM estimate is 8.5 percent, I do not address any further in my surrebuttal testimony. This should not be interpreted as my concurrence with other aspects of Mr. Moul's CAPM study.

7.0 percent risk premium and the resulting roughly 11.5 percent cost of equity at best is applicable to the overall stock market, not the ten company proxy group or PSE&G. It is important to note that in his CAPM study, Mr. Moul found an overall stock market required return (i.e., cost of equity) of 11.0 percent. In order for his Risk Premium study to be valid, one would be forced to believe that PSE&G has a higher cost of equity than the overall stock market. Clearly, such an illogical result cannot be correct.

Finally, inspection of Mr. Moul's Risk Premium data base reveals a serious problem. Mr. Moul begins with annual market returns observations obtained from Morningstar for the time period 1926-2011 – 86 total observations. (See his Schedule 8, page 2 of 2.) He then extracts from that data base a subtotal of 43 years, or half of the years. However, of those 43 years in his subset, 40 of the 43 (or over 90 percent) are from the time period 1926 to 1965, with only three observations being years since 1965 (i.e., nearly 50 years ago). In other words, what Mr. Moul has done is to take the Morningstar 1926 to 2011 time period and for practical periods segregate it into two subperiods (with three minor exceptions) – 1926 to 1965 and 1965 to 2011. He then bases *today's* PSE&G equity risk premium on the 1926 to 1965 market returns, largely ignoring all observations between 1966 and 2011, which is the last half century.

Mr. Moul's method of using the historical data base is unreasonable and lacks any credibility. In addition, the equity risk premium value of 7.0 percent is based largely on non-utility market data. It is not surprising that it produces such illogical and overstated results.

F. Comparable Earnings

Q. HOW DID MR. MOUL DEVELOP HIS COMPARABLE EARNINGS ESTIMATE OF 11.15 PERCENT?

A. Mr. Moul assembled a large group of non-regulated companies and recorded their historical and projected earned return on equity. In other words, it is nothing more than a compilation of accounting returns.

Q. IS COMPARABLE EARNINGS A COST OF EQUITY METHOD?

A. No, and I do not read Mr. Moul's testimony as asserting otherwise. For this reason, the comparable earnings data set simply cannot address the capital attraction standard because it fails to measure the return that investors actually require, which is the prospective market return on capital that they invest today. For example, the simple fact that the achieved accounting return for a company is, say 18 percent, tells us nothing about what rate of return investors expect to earn from investing today in that stock. To state the obvious, the expected return depends on the price of the stock.

Q. ARE THERE OTHER PROBLEMS WITH MR. MOUL'S COMPARABLE EARNINGS?

A. Yes, there are numerous problems. As examples, the return on equity for unregulated companies can be distorted by equity accounting write downs, which inflate the reported accounting return on equity. This is typically not an issue for utilities. An additional concern is that some unregulated firms may possess and exercise market power. Utilities, of course, possess market power (as monopolies), but cost of service regulation prevents them from exercising it. Mr. Moul concedes that he has not investigated whether the accounting ROEs in his study have been increased due to the presence of market power. (Response to RCR-ROR-11.) Earnings that have been affected by the possession and exercise of market power cannot be referenced as a legitimate benchmark for setting the utility fair rate of return.

Mr. Moul's Comparable Earnings study is of no use either in determining PSE&G's current cost of equity or establishing a fair return on equity for the solar programs.

V. OTHER CONSIDERATIONS

Q. THE PREVIOUS SECTION FOR YOUR TESTIMONY ADDRESSED THE COST OF EQUITY STUDIES ALLEGED TO SUPPORT THE 10.3 PERCENT ROE REQUEST FOR THE SOLAR TRACKERS. WHAT ARE THE OTHER ISSUES RAISED IN REBUTTAL?

A. Both Mr. Moul and Mr. Swetz oppose reducing the return on equity, as recommended by Ms. Crane, for the following additional reasons:

- Both witnesses either deny or deemphasize the argument that the solar tracker mechanisms are very low in risk.
- Mr. Moul seems to concede that capital costs have declined to some degree since the 2009/2010 rate case, but he argues that this need not be recognized at this time because he believes that capital costs eventually will increase.
- Mr. Moul argues that too low of an authorized ROE will undermine investment incentives in the solar program.
- Mr. Moul takes issue with Ms. Crane's observation that state commission ROE awards have declined sharply recently and support 9.75 percent.

Q. AS A CONCEPTUAL MATTER, WHY IS IT REASONABLE FOR PURPOSES OF A TRACKER TO UPDATE THE COST OF CAPITAL FROM THE LAST RATE CASE?

A. For purposes of this question, I shall assume there has been a material reduction in the cost of capital since the last rate case, a notion that Mr. Moul to some degree seems to accept. The purpose of the tracker is to provide accurate, actual program cost recovery, no more and no less. If we acknowledge that the cost of capital has declined, but fail to reflect that cost saving in the solar tracker, then we are intentionally allowing the utility to charge customers for more than the program actually costs. Intentionally overcharging ratepayers is particularly objectionable given that the tracker mechanism is structured to provide dollar-for-dollar recovery.

The need to update the cost of debt in the tracker seems particularly obvious since there is really no dispute over the current embedded cost rate, i.e., 5.35 percent. PSE&G's cost of equity, while more controversial, clearly has declined since 2009 and is well below 10.3 percent, as my testimony demonstrates. Mr. Crane's 9.75 percent is more than fair for use in the solar program trackers.

Q. HAVE PSE&G WITNESSES BEEN ABLE TO SUPPORT THEIR ASSERTIONS THAT THE SOLAR INVESTMENTS ARE SUBJECT TO THE SAME OR SIMILAR RISK AS PSE&G AS A WHOLE?

A. No. Mr. Moul is dismissive of the entire issue arguing that the "Solar Programs are not dissimilar in risk from the overall PSE&G utility business."[4] He has absolutely no basis for such an assertion, and it clearly is not true, as discussed by Rate Counsel witness Crane. The only risk that Mr. Swetz could point to is that the PSE&G solar programs are exposed to prudence disallowances. The reality is that PSE&G has never experienced a prudence disallowance associated with any of its energy efficiency or renewable energy programs. (Response to RCR-ROR-17.)

The salient point is not that such trackers are risk free, but rather that it is indisputable that they are lower in risk than conventional utility cost recovery. Contrary to Mr. Moul's concern, Rate Counsel is not seeking to quantify and impose a specific rate of return reduction for this lower risk, although doing so would not be

[4] In the response to RCR-ROR-2, Mr. Moul argues for ignoring the issue because there is no readily available method of quantifying the lowered risk.

unreasonable. Rather this low-risk cost recovery helps to provide a further compelling argument for updating to recognize declining capital costs.

Ultimately, PSE&G in this docket is proposing single issue ratemaking. In this context, it is one sided and unfair to its customers to disregard the clearly documented cost of capital savings.

Q. MR. MOUL ARGUES THAT TODAY'S ULTRA-LOW CAPITAL COSTS EVENTUALLY WILL INCREASE AND FOR THAT REASON THE 10.3 PERCENT ROE SHOULD BE RETAINED. PLEASE COMMENT.

A. This argument is both inaccurate and unpersuasive. It is inaccurate because the Company's response to RCR-A-51 states that rate of return will be periodically updated over time when the Company completes base rate cases. PSE&G, of course, to a large extent controls the timing of when future base rate cases will take place. It is therefore the Company's own position that rate of return can be revisited at times of its choosing.

The argument is also unpersuasive because Mr. Moul provides no market evidence that capital markets will soon reverse and that PSE&G's cost of equity will move sharply upwards. The fundamental conditions that have given rise to today's very low capital costs are expected to persist for some extended period of time. Mr. Moul has no basis for claiming that "markets today are wrong" and that current low-cost capital market conditions must be disregarded as ephemeral.

Q. MR. MOUL EXPRESSES CONCERN THAT AT A LOWER RATE OF RETURN PSE&G WILL LACK INCENTIVE TO INVEST IN RENEWABLE RESOURCES. IS HE CORRECT?

A. Mr. Moul is correct that if the authorized return on equity were to be set at a sufficiently low level, for example, well below the Company's current cost of equity, doing so could distort investment incentives. This possibility, however, is not the case here because the 9.75 percent recommended by Ms. Crane clearly is not below PSE&G's cost of equity, particularly in the context of the solar tracker mechanism. On the other hand, retaining the 10.3 percent requested by the Company exceeds its cost of equity thereby creating a perverse incentive to overinvest.

Q. MR. MOUL AT PAGE 10 OF HIS REBUTTAL TESTIMONY CITES CERTAIN 2012 RETURN ON EQUITY AWARDS IN OTHER STATES TO VALIDATE THE REASONABLENESS OF THE REQUESTED 10.3 PERCENT. IS THIS INFORMATION PERSUASIVE?

A. No, it is not. Mr. Moul cites the Regulatory Research Associates (RRA) survey of state regulator ROE awards for electric utilities in 2012, which he attaches to his testimony as Exhibit PRM-2. He is indeed correct that there have been some rate of return on equity awards at or above 10.3 percent. RRA notes that the average award for electric utilities in 2012, excluding some special case awards in Virginia,[5] was 10.01 percent. This average result is roughly midway between the requested 10.3 percent and Ms. Crane's 9.75 percent.

The problem is that the 10.01 percent 2012 ROE average is a combination of state commission ROE awards for vertically-integrated electric utilities and delivery service electric utilities. It is obviously the latter that is relevant to PSE&G. Using Mr. Moul's Exhibit PRM-2, I have extracted the 2012 ROE awards for delivery service electric utilities.

[5] RRA discusses the average award in 2012 excluding the Virginia results because those very high returns are associated with generation plant surcharges where a ROE bonus was mandated by statute.

Company	State	Date	Award
Comm. Edison	Illinois	5/29	10.05%
Orange & Rockland	New York	6/15	9.40
Delmarva Power	Maryland	7/20	9.81
PEPCO	Maryland	7/20	9.31
Ameren	Illinois	9/19	10.05
PEPCO	D.C.	2/26	9.50
Lone Star Transmission	Texas	10/12	9.60
Atlantic City	New Jersey	10/23	9.75
Delmarva Power	Delaware	11/29	9.75
Ameren	Illinois	12/5	9.71
PPL Electric	Pennsylvania	12/5	10.40
Comm. Edison	Illinois	12/19	9.71
Narragansett	Rhode Island	12/20	9.50
Average			**9.74%**

There is only one delivery service ROE award materially above 10 percent, the PPL Electric decision cited by Mr. Moul (which, as he notes, includes a management performance bonus). Nearly all others are at or below 10 percent, with the average ROE award being 9.74 percent. I believe that Mr. Moul's RRA survey for 2012 (Exhibit PRM-2) helps to validate the reasonableness of Ms. Crane's recommendation.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

BEFORE THE STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF PUBLIC SERVICE ELECTRIC AND GAS COMPANY FOR APPROVAL OF A SOLAR LOAN III PROGRAM AND ASSOCIATED COST RECOVERY MECHANISM AND FOR CHANGES IN THE TARIFF FOR ELECTRIC SERVICE, B.P.U.N.J. No. 15 ELECTRIC PURSUANT TO N.J.S.A. 48:2-21 AND N.J.S.A. 48:2-21.1	))))))))))	**BPU DOCKET NO. EO12080726**

SCHEDULES ACCOMPANYING THE
SURREBUTTAL TESTIMONY OF MATTHEW I. KAHAL
ON BEHALF OF THE
NEW JERSEY DIVISION OF RATE COUNSEL

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FILED: March 1, 2013

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

Trends in Capital Costs

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

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

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

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

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

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

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

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

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

	Annualized Inflation (CPI)	10-Year Treasury Yield	3-Month Treasury Yield	Single A Utility Yield	Baa Utility Yield
2011					
January	1.6%	3.4%	0.1%	5.6%	6.1%
February	2.1	3.6	0.1	5.7	6.1
March	2.7	3.4	0.1	5.6	6.0
April	2.2	3.5	0.1	5.6	6.0
May	3.6	3.2	0.0	5.3	5.7
June	3.6	3.0	0.0	5.3	5.7
July	3.6	3.0	0.0	5.3	5.7
August	3.8	2.3	0.0	4.7	5.2
September	3.9	2.0	0.0	4.5	5.1
October	3.5	2.2	0.0	4.5	5.2
November	3.0	2.0	0.0	4.3	4.9
December	3.0	2.0	0.0	4.3	5.1
2012					
January	2.9	2.0	0.0	4.3	5.1
February	2.9	2.0	0.0	4.4	5.0
March	2.7	2.2	0.1	4.5	5.1
April	2.3	2.1	0.1	4.4	5.1
May	1.7	1.8	0.1	4.2	5.0
June	1.7	1.6	0.1	4.1	4.9
July	1.4	1.5	0.1	3.9	4.9
August	1.7	1.7	0.1	4.0	4.9
September	2.0	1.7	0.1	4.0	4.8
October	2.2	1.8	0.1	3.9	4.5
November	1.8	1.7	0.1	3.8	4.4
December	1.7	1.7	0.1	4.0	4.6
2013					
January	1.6	1.9	0.1	4.2	4.7

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

APPENDIX 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 shifted to electric utility restructuring, mergers and various aspects of regulation.

Mr. Kahal has provided expert testimony on more than 350 occasions before state and federal regulatory commissions 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 in the firm. During that time, he supervised multi-million dollar support contracts with the State of Maryland and directed the technical work conducted both by Exeter professional staff and numerous subcontractors. Additionally, Mr. Kahal took the lead role at Exeter in consulting to the firm's other governmental and private clients in the areas of financial analysis, utility mergers, electric restructuring and utility purchase power contracts.

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

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

Publications and Consulting Reports:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Conference and Workshop Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Expert Testimony
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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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	Docket Number	Utility	Jurisdiction	Client	Subject
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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	Docket Number	Utility	Jurisdiction	Client	Subject
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	NA	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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	Docket Number	Utility	Jurisdiction	Client	Subject
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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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

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365.	2010-2213369 April 2011	Duquesne Light Company	Pennsylvania	Consumer Advocate	Merger Issues
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

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	Docket Number	Utility	Jurisdiction	Client	Subject
380.	U-32153 July 2012	Cleco Power	Louisiana	Commission Staff	Environmental Compliance Plan
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.	EO12080721 March 2013	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Tracker ROE
393.	EO12080726 March 2013	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Tracker ROE