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DIRECT TESTIMONY

OF

JOHN J. REED

ON BEHALF OF

AMEREN MISSOURI

July 2019

Ameren Exhibit No. 14
Date 3/11/20 Reporter JMB
File No. ER-2019-0335

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DIRECT TESTIMONY

OF

JOHN J. REED

I. INTRODUCTION

1

2 **Q. Please state your name and business address.**

3 A. My name is John J. Reed. I am President and Chief Executive Officer of Concentric Energy
4 Advisors, Inc. ("Concentric") and CE Capital Advisors, Inc. ("CE Capital"), which has its
5 headquarters at 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts
6 01752.

7 **Q. On whose behalf are you submitting this testimony?**

8 A. I am testifying on behalf of Union Electric Company d/b/a Ameren Missouri ("Ameren
9 Missouri" or the "Company").

10 **Q. Please describe your educational background and professional experience in the
11 energy and utility industries.**

12 A. I have more than 40 years of experience in the energy industry and have worked as an
13 executive in, and consultant and economist to, the energy industry. Over the past 30 years,
14 I have directed the energy consulting services of Concentric, Navigant Consulting, and
15 Reed Consulting Group. I have served as Vice Chairman and Co-CEO of the nation's
16 largest publicly-traded consulting firm and as Corporate Economist for the nation's largest
17 gas utility.

18 I have provided regulatory policy and regulatory economics support to more than
19 100 energy and utility clients and have provided expert testimony on regulatory, economic,
20 and financial matters on more than 200 occasions before the Federal Energy Regulatory

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1 Commission (“FERC”), Canadian regulatory agencies, state regulatory agencies, various
2 state and federal courts, and arbitration panels in the United States and Canada. I have also
3 previously appeared before the Missouri Public Service Commission (the “Commission”)
4 as an expert on regulation and ratemaking issues. I am a graduate of the Wharton School
5 of Business at the University of Pennsylvania, and previously attended the University of
6 Kansas. My curriculum vitae, as well as a listing of my prior testimonies, is provided in
7 Schedule JJR-D1.

8 **Q. Please describe Concentric's activities in energy and utility engagements.**

9 A. Concentric provides financial, regulatory, and economic advisory services to many energy
10 and utility clients across North America. Our regulatory, economic, and market analysis
11 services include utility ratemaking and regulatory advisory services, energy market
12 assessments, market entry and exit analysis, corporate and business unit strategy
13 development, demand forecasting, resource planning, and energy contract negotiations.
14 Our financial advisory activities include both buy and sell side merger, acquisition and
15 divestiture assignments, due diligence and valuation assignments, project and corporate
16 finance services, and transaction support services. In addition, Concentric provides
17 litigation support services on a wide range of financial and economic issues on behalf of
18 clients throughout North America. CE Capital is a fully-registered broker-dealer securities
19 firm specializing in merger and acquisition activities. As CEO of CE Capital, I hold several
20 securities licenses that cover all forms of securities and investment banking activities.

21 **II. PURPOSE OF TESTIMONY**

22 **Q. What is the purpose of your direct testimony?**

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1 A. Ameren Missouri has filed this rate proceeding requesting that new rates for electric service
2 be established based upon the recovery of prudently incurred costs as well as a return on
3 and of its investment in plant in service and other investments reflected in the Company's
4 rate base.

5 The purpose of my direct testimony is to provide my assessment and
6 recommendation pertaining to the reasonableness of Ameren Service Company's ("AMS")
7 services and associated costs billed to Ameren Missouri during the test year.

8 III. OVERVIEW OF AMEREN MISSOURI

9 **Q. Please provide an overview of Ameren Missouri.**

10 A. Ameren Missouri is an operating energy company that is a subsidiary of Ameren
11 Corporation. The Company provides energy to approximately 1.2 million electric and
12 130,000 natural gas customers in central and eastern Missouri. The Company's service
13 area covers 64 counties and more than 500 communities including the greater St. Louis
14 area.

15 **Q. Please describe Ameren Corporation.**

16 A. Ameren Corporation ("AMC") is the parent company of Ameren Missouri and consists of
17 AMC and all of its subsidiaries. AMC was formed in 1997 as a result of the merger of
18 Union Electric Company and Central Illinois Public Service Company ("CIPS"). In its
19 1997 order approving the merger of Union Electric and CIPS, the Missouri Commission
20 also approved the formation of AMS, which is a centralized service company that provides
21 various corporate support services to AMC affiliates at cost.

1 In 2003, AMC acquired Cilcorp, and its operating utility Central Illinois Light
2 Company. AMC acquired Illinois Power Company from Dynegy in 2004. AMC's Illinois
3 utilities merged to become Ameren Illinois Company ("AIC") in 2010.

4 Presently, AMC's operations consist of rate regulated utilities operating in
5 Missouri, Illinois, and in interstate commerce under the jurisdiction of the FERC.

6 **Q. Does Ameren Missouri receive services from AMC?**

7 A. No. AMC has no employees and provides no services to Ameren Missouri.

8 **IV. SERVICES PROVIDED BY AMS TO AMEREN MISSOURI**

9 **Q. Please describe AMS.**

10 A. AMS is a service company that was formed to take advantage of synergies gained by
11 eliminating redundant functions at both Ameren Missouri and CIPS subsequent to their
12 merger that could more cost-effectively be combined into one service company.

13 **Q. What services does AMS provide to Ameren Missouri?**

14 A. AMS provides administrative support services. AMS' services include typical corporate
15 functions such as accounting, legal, environmental, building management, information
16 technology, etc. The preponderance of transactions pertains to corporate shared services
17 provided by AMS to Ameren Missouri.

18 **Q. How does Ameren Missouri determine which services to procure from AMS?**

19 A. As discussed in the direct testimony of Ameren Missouri witness Ben Hasse in File No.
20 EO-2017-0176, Ameren Missouri and AMS follow yearly, and on an ongoing basis, a Joint
21 Planning and Procurement Policy which reflects a planning process for each budget cycle
22 including reviews as each budget year progresses. During that process, Ameren Missouri
23 determines its need for various services, the value of those services, and the level of the

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1 services it will receive from AMS. I have attached the Policy to my testimony as Schedule
2 JJR-D2.

3 **Q. Does Ameren Missouri also have the option to self-provide or use a third-party to**
4 **provide some or all of these services?**

5 A. Yes, except for those services that necessarily arise from AMC's status as a publicly traded
6 company that owns 100% of Ameren Missouri's stock, Ameren Missouri has the option to
7 self-provide a service, utilize the service of a non-affiliated service provider, or retain AMS
8 to provide defined services.

9 **Q. Are the services provided by AMS to Ameren Missouri necessary and appropriate?**

10 A. Yes. The services that Ameren Missouri receives from AMS are both necessary and
11 appropriate. The manner in which the services are provided to Ameren Missouri by AMS
12 is consistent with how numerous other regulated utility companies obtain such services.

13 **Q. Are the services provided by AMS to Ameren Missouri governed by a Cost**
14 **Allocation Manual ("CAM")?**

15 A. Yes. The manner by which AMS' services are provided and charged to Ameren Missouri
16 is set forth in a CAM which is currently before this Commission for review and approval.
17 Among other things, the CAM:

- 18 • Codifies recordkeeping and access to records requirements, including documentation
19 of affiliate transactions, and the continued provision of detailed affiliate transaction
20 reporting for all products and services provided by AMS, not just to Ameren Missouri,
21 but to all AMC affiliates;
- 22 • Codifies certain detailed reporting requirements;

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- 1 • Requires that all affiliate transactions be conducted under a written contract between
2 Ameren Missouri and AMS;
- 3 • Requires extensive training with respect to Affiliate Transactions Rules compliance,
4 and sharing of training materials with Staff prior to their use so that they may provide
5 their input; and
- 6 • Requires the formation and implementation of an Ameren Missouri CAM Team to aid
7 in Ameren Missouri's compliance with the Affiliate Transactions Rules, subject to
8 approved variances.

9 **Q. Are service companies, such as AMS, common in the energy industry?**

10 A. Yes. As a result of industry mergers and acquisitions, many stand-alone, single
11 jurisdictional energy companies have merged or been acquired. In an effort to increase
12 efficiencies, ensure consistent practices throughout the organization, and reduce costs, the
13 post-merger integration of common functions at an affiliated service company has been a
14 common trend throughout the United States. Service companies similar to AMS file Form
15 60 annual reports with the FERC. The Form 60 report is an annual regulatory report
16 requirement under 18 CFR 369.1 for centralized service companies. The report is designed
17 to collect financial information from centralized service companies subject to the
18 jurisdiction of the FERC.

19 **Q. Have you prepared an exhibit identifying the service companies which filed a Form**
20 **60 annual report, and the affiliated companies to which the service companies**
21 **provided services, and the services provided?**

22 A. Yes, I have included this information in Schedule JJR-D3.

23 **Q. Please describe what Schedule JJR-D3 shows.**

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1 A. Schedule JJR-D3 identifies the service companies and affiliated companies to which
2 services are provided, as well as the services provided to the affiliated companies.
3 Schedule JJR-D3 shows that 45 utility service companies filed FERC Form 60 annual
4 reports. Reviewing these reports, the service companies provided services to 869 affiliated
5 companies, including many regulated utilities.

6 **Q. Based upon your review of the scope of services offered by AMS to Ameren Missouri,**
7 **are the services provided consistent with those of other service companies in the**
8 **energy industry?**

9 A. Yes. In my experience, the services provided by AMS to Ameren Missouri are consistent
10 with those provided by other service companies to affiliated regulated utilities. Schedule
11 JJR-D3 further supports my experience and conclusion.

12 **Q. Based upon your experience, is the use of the shared services model prevalent today**
13 **in the energy industry?**

14 A. Yes. Based upon both my personal knowledge of the energy industry, as well as the
15 number of Form 60 reports filed with the FERC, service companies continue to be widely
16 used throughout the energy industry in the United States.

17 **V. COST OF AMS' SERVICES**

18 **Q. Does AMS direct charge for its services when the service is only to one affiliate?**

19 A. Yes, it does.

20 **Q. When the direct assignment of costs is not possible, are AMS' services provided to**
21 **Ameren Missouri and its other affiliated companies at the fully distributed cost of**
22 **providing those services?**

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1 A. Yes, they are (and that is true for directly charged services as well). All costs incurred by
2 AMS are either directly charged (when the cost applies only to one affiliate) or allocated
3 using a service request system. Regardless of whether the services are directly assigned or
4 allocated, the cost of the services is always priced at AMS' fully distributed cost with no
5 mark-up or profit component. As discussed in Company testimony filed in File No.
6 EO-2017-0176, a fully distributed cost study is currently being conducted to examine two
7 primary items: (a) whether a greater proportion of AMS costs can be direct charged and
8 (b) whether improvements can reasonably be made in the allocation factors used to charge
9 allocated costs.

10 **Q. How does CSR 240.20-015 define "fully distributed cost"?**

11 A. Section (1)(F) of the Code defines fully distributed cost as "a methodology that examines
12 all costs of an enterprise in relation to all the goods and services that are produced. Fully
13 distributed cost requires recognition of all costs incurred directly or indirectly used to
14 produce a good or service. Costs are assigned either through a direct or allocated approach.
15 Costs that cannot be directly assigned or indirectly allocated (e.g., general and
16 administrative) must be included in the fully distributed cost calculation through a general
17 allocation."

18 **Q. Are the costs of AMS' services the same as if Ameren Missouri were to self-provide
19 the services?**

20 A. The services are, at worst, the same as if Ameren Missouri were to self-provide the services.
21 It is more likely, however, that due to the economies of scale realized by centralizing the
22 shared services at AMS, the services are provided at a cost lower than if Ameren Missouri
23 were to self-provide the services on a stand-alone basis.

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1 **Q. Please explain.**

2 A. There are inherent efficiencies realized by consolidating common functions at one
3 company, as opposed to requiring each operating company to individually perform each
4 service. Given that AMS provides similar services to Ameren Missouri, AIC, and other
5 affiliated companies, AMS is likely able to perform the required services with fewer
6 personnel, and thus at a lower cost, than if each AMC subsidiary were to be individually
7 fully staffed to provide all services. In other words, there are economies of scale realized
8 by consolidating similar functions across the AMC companies.

9 **Q. Based upon your review of the manner by which AMS charges Ameren Missouri for
10 its services, can you conclude that AMS' costs are market based?**

11 A. Yes. AMS' services are provided at cost, without mark-up or profit, which consist
12 primarily of the wages, salaries, and benefits of AMS employees. The wages, salaries, and
13 benefits AMS pays and provides are market based. Therefore, it is reasonable to conclude
14 that AMS' costs are market based.

15 **Q. Does AMS participate in surveys to assess the wages, salaries, and benefits paid and
16 provided to its employees?**

17 A. Yes. To ensure that the employees are provided a reasonable compensation package, the
18 AMS Human Resources Department routinely benchmarks wages, salaries, and benefits
19 against local, regional, and national companies. Its goal is to provide a total compensation
20 package that is reflective of the market. Therefore, employees of AMC subsidiaries receive
21 market-based wages, salaries, and benefits. Ameren witness Kelly Hasenfratz will discuss
22 in greater detail how the Company establishes market-based compensation and benefits in
23 her testimony filed in this matter.

1 **Q. Does Ameren Missouri also utilize benchmarking to assess the reasonableness of**
2 **AMS' charges as well as its total operating costs?**

3 A. Yes. The Company appropriately periodically participates in and reviews the results of
4 benchmarking studies to assess AMS' costs, as well as Ameren Missouri's overall
5 operating expenses.

6 **Q. What additional steps has Ameren Missouri taken to ensure the reasonableness of the**
7 **cost of services provided by AMS to its operating companies?**

8 A. Ameren Missouri has formed a CAM team and meets extensive reporting and
9 recordkeeping requirements, going well beyond existing legislative and regulatory
10 requirements, to continually oversee the dealings between AMS and the operating
11 companies. In my experience, Ameren Missouri is going beyond typical practices in
12 overseeing such dealings, including the use of a dedicated team of employees to oversee
13 CAM compliance, as well as with its reporting activities to monitor and enforce compliance
14 with the requirements set forth in the CAM.

15 **Q. Do you believe that Ameren Missouri would be able to receive the services provided**
16 **by AMS from an unaffiliated company at a lower cost?**

17 A. No. AMS follows well-established and well-designed procurement policies and
18 procedures that provide for solicitation of competitive bids when appropriate so that it is
19 obtaining qualified service providers, and other goods it needs to provide its services, at
20 reasonable, market-based prices. Given that AMS provides its services to Ameren
21 Missouri at cost, and that it benchmarks its wages, salaries, and benefits to the market, I do
22 not believe that Ameren Missouri could receive its services at a lower cost from a non-
23 affiliated service provider.

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1 **Q. Can you provide examples of services that AMS has outsourced, on behalf of Ameren**
2 **Missouri, to a non-affiliated service provider?**

3 A. Yes. Examples of services outsourced by AMS, on behalf of Ameren Missouri, include
4 lock box services, printing and distribution of customer bills, certain vegetation
5 management services, and janitorial services.

6 **VI. HISTORICAL COST ANALYSIS**

7 **Q. Have you prepared an analysis of how Ameren Missouri's customers have benefited**
8 **from the formation of AMS?**

9 A. Yes. An analysis of Union Electric's administrative and general ("A&G") expense levels
10 from 1999 to 2018 was prepared to determine if its customers have benefited from the
11 formation of AMS concurrent with the merger with CIPS, CILCO and IP. In 2018, 96%
12 of the dollars allocated to the Ameren Missouri electric distribution business from AMS
13 were booked to administrative and general expenses.

14 **Q. Please explain the analysis.**

15 A. Starting with data from 1990, the reported A&G expense levels were collected as reported
16 in FERC Form 1s. As previously mentioned, UE & CIPS merged in 1997. From that point
17 forward, the historical actual expense levels were escalated using the gross domestic
18 product implicit price deflator for each year through 2018.

19 The same analysis was performed for the acquisition of CILCO in 2003 and Illinois
20 Power in 2004.

21 As shown in Schedule JJR-D4, the A&G cost levels for the merged companies are
22 consistently lower than the sum of the individual stand-alone operating companies'

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1 escalated A&G expense levels. This indicates that the merged companies, including AMS'
2 allocated costs, are lower than they would likely have been absent the mergers.

3 **Q. Have you also performed an assessment of Ameren Missouri's costs compared to**
4 **those of similar utilities?**

5 A. Yes. I compared Ameren Missouri's total non-fuel operations and maintenance ("O&M")
6 expense and administrative and general ("A&G") expense against three peer groups:

- 7 1. National Electric Utilities with regulated generation;
- 8 2. Midwest Electric Utilities with regulated generation; and
- 9 3. National Electric Utilities with regulated generation and 500,000 to 2,000,000
10 customers.

11 **Q. What years did the benchmarking analyses review?**

12 A. The five most recent years for which data were available (i.e., 2014-2018) were used to
13 perform the analyses.

14 **Q. What was the source of the data used to perform the benchmarking analyses?**

15 A. The analysis utilized data obtained from the S&P Global Market Intelligence platform.
16 The source of the data was the annual FERC Form 1 filings made by electric utilities.

17 **Q. Did you make any adjustments to the source data?**

18 A. No.

19 **Q. How did you normalize the benchmarking analyses to account for differences in the**
20 **size of the utilities?**

21 A. To normalize issues related to the size of the companies in the comparison, all costs were
22 evaluated on a per customer basis.

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1 **Q. How many companies were included in electric utilities with regulated generation**
2 **group?**

3 A. There were 52 utilities including Ameren Missouri.

4 **Q. How did Ameren Missouri compare to its peers when reviewing total non-fuel O&M**
5 **cost per customer of the national electric utilities with regulated generation peer**
6 **group?**

7 A. As shown on Schedule JJR-D5, Ameren Missouri has had below (i.e., better than) the
8 national average non-fuel O&M costs in every year of the analysis. Over the five-year
9 period, Ameren Missouri's costs have also increased at about one half of the rate that
10 national average costs grew.

11 **Q. How did Ameren Missouri compare to its peers when reviewing just the A&G portion**
12 **of these O&M expenses on a per customer basis?**

13 A. As shown on Schedule JJR-D6, out of the 52 companies in the peer group, Ameren
14 Missouri's A&G expense per customer has shown a dramatic improvement on both an
15 absolute and relative basis over the past five years. In 2014, Ameren Missouri's A&G cost
16 per customer was 4.5% above the national average, but by 2018 they were 18.5% below
17 the national average.

18 **Q. Does this significant improvement come as a surprise to you?**

19 A. No, it does not. At the end of 2012, Ameren Services formed a new Continuous
20 Improvement Integration group that focused on identifying opportunities to reduce costs,
21 improve productivity, improve reliability, improve customer satisfaction, or increase
22 revenue across Ameren. The department leverages the results of benchmarking studies, as

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1 well as other techniques to help identify potential improvement projects while reviewing
2 the services and costs of the Ameren Services Business and Corporate Services group.

3 **Q. Is it possible that these results are biased by the inclusion of higher-cost utilities on
4 the east and west coasts, as opposed to Midwestern utilities?**

5 A. No, in fact Ameren Missouri's costs are even more competitive when compared to Midwest
6 utilities. As shown on Schedule JJR-D7, Ameren Missouri posted results that were 25%
7 below the average for Midwest utilities for total non-fuel O&M costs in 2018. On this
8 basis of comparison, Ameren Missouri is a top performer.

9 **Q. How did Ameren Missouri compare to its Midwest peers when reviewing A&G
10 expense per customer?**

11 A. As shown on Schedule JJR-D8, Ameren Missouri's A&G cost per customer was more than
12 28% below the regional average in 2018, and its performance gap over its peers had been
13 widening over the past five years. Again, this shows very substantial benefits from AMS'
14 Continuous Improvement Plan and shows a high level of productivity gains over that period
15 of time.

16 **Q. When the comparisons are limited to the larger utilities, which presumably have
17 economies of scale as AMS has been able to achieve, how does Ameren Missouri
18 compare to the national averages?**

19 A. As shown on Schedule JJR-D9, Ameren Missouri achieved slightly below-average cost
20 levels for total non-fuel O&M in each of the last three years. Even when compared to the
21 smaller subset of 21 other larger utilities, Ameren Missouri is performing well.

22 **Q. When compared to the larger companies, how did Ameren Missouri look for just the
23 A&G portion of O&M expense?**

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1 A. As shown on Schedule JJR-D10, Ameren Missouri improved its A&G cost per customer
2 in each year examined, while the peer group average increased year-over-year in three of
3 the four year-over-year periods. In 2018, Ameren Missouri's A&G cost per customer was
4 at the peer group average. This improvement again shows the focus that AMS has had
5 on continuous improvement.

6 **Q. What can be concluded from the results of this analysis?**

7 A. As a result of the mergers of Union Electric, CIPS, CILCO, and IP, the Company has been
8 able to drive down costs of the business. The source of reduced costs is from the
9 consolidation of common corporate and A&G functions which now reside at AMS. These
10 savings result from the elimination of duplicative positions (e.g., a CEO and CFO and
11 Treasurer at each operating company, multiple CIOs, multiple General Counsels, etc.), as
12 well as economies of scale attributable to the provisioning of services by a smaller number
13 of employees than the four individual companies could have achieved. In addition, AMS
14 and Ameren Missouri have had a successful continuous improvement campaign over the
15 past six years that has brought Ameren Missouri's largest measure of cost, Total Non-Fuel
16 O&M per customer, down to well below the peer group average levels for all three of the
17 peer groups I have examined. These campaigns have delivered significant savings for
18 customers, while maintaining compensation at competitive levels for employees working
19 at AMC subsidiaries.

20 **Q. Based upon your review of AMS and the services that it provides to its affiliated
21 companies, what are your observations and conclusions?**

22 A. My observations and conclusions are as follows:

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- 1 • The use of a shared services organizations, such as AMS, is reasonable and consistent
2 with utility industry practices;
- 3 • The scope of services offered by AMS to its affiliated companies is consistent with
4 other utility shared services companies with which I am familiar;
- 5 • Customers of Ameren Missouri have benefited from the existence of, and services
6 provided by, AMS.

7 **Q. Does this conclude your direct testimony?**

8 **A. Yes, it does.**



John J. Reed
Chairman and Chief Executive Officer

John J. Reed is a financial and economic consultant with more than 42 years of experience in the energy industry. Mr. Reed has also been the CEO of an NASD member securities firm, and Co-CEO of the nation's largest publicly traded management consulting firm (NYSE: NCI). He has provided advisory services in the areas of mergers and acquisitions, asset divestitures and purchases, strategic planning, project finance, corporate valuation, energy market analysis, rate and regulatory matters and energy contract negotiations to clients across North and Central America. Mr. Reed's comprehensive experience includes the development and implementation of nuclear, fossil, and hydroelectric generation divestiture programs with an aggregate valuation in excess of \$20 billion. Mr. Reed has also provided expert testimony on financial and economic matters on more than 400 occasions before the FERC, Canadian regulatory agencies, state utility regulatory agencies, various state and federal courts, and before arbitration panels in the United States and Canada. After graduation from the Wharton School of the University of Pennsylvania, Mr. Reed joined Southern California Gas Company, where he worked in the regulatory and financial groups, leaving the firm as Chief Economist in 1981. He served as executive and consultant with Stone & Webster Management Consulting and R.J. Rudden Associates prior to forming REED Consulting Group (RCG) in 1988. RCG was acquired by Navigant Consulting in 1997, where Mr. Reed served as an executive until leaving Navigant to join Concentric as Chairman and Chief Executive Officer.

REPRESENTATIVE PROJECT EXPERIENCE

Executive Management

As an executive-level consultant, worked with CEOs, CFOs, other senior officers, and Boards of Directors of many of North America's top electric and gas utilities, as well as with senior political leaders of the U.S. and Canada on numerous engagements over the past 25 years. Directed merger, acquisition, divestiture, and project development engagements for utilities, pipelines and electric generation companies, repositioned several electric and gas utilities as pure distributors through a series of regulatory, financial, and legislative initiatives, and helped to develop and execute several "roll-up" or market aggregation strategies for companies seeking to achieve substantial scale in energy distribution, generation, transmission, and marketing.

Financial and Economic Advisory Services

Retained by many of the nation's leading energy companies and financial institutions for services relating to the purchase, sale or development of new enterprises. These projects included major new gas pipeline projects, gas storage projects, several non-utility generation projects, the purchase and sale of project development and gas marketing firms, and utility acquisitions. Specific services provided include the development of corporate expansion plans, review of acquisition candidates, establishment of divestiture standards, due diligence on acquisitions or financing, market entry or expansion studies, competitive assessments, project financing studies, and negotiations relating to these transactions.



Litigation Support and Expert Testimony

Provided expert testimony on more than 400 occasions in administrative and civil proceedings on a wide range of energy and economic issues. Clients in these matters have included gas distribution utilities, gas pipelines, gas producers, oil producers, electric utilities, large energy consumers, governmental and regulatory agencies, trade associations, independent energy project developers, engineering firms, and gas and power marketers. Testimony has focused on issues ranging from broad regulatory and economic policy to virtually all elements of the utility ratemaking process. Also frequently testified regarding energy contract interpretation, accepted energy industry practices, horizontal and vertical market power, quantification of damages, and management prudence. Has been active in regulatory contract and litigation matters on virtually all interstate pipeline systems serving the U.S. Northeast, Mid-Atlantic, Midwest, and Pacific regions.

Also served on FERC Commissioner Terzic's Task Force on Competition, which conducted an industry-wide investigation into the levels of and means of encouraging competition in U.S. natural gas markets and served on a "Blue Ribbon" panel established by the Province of New Brunswick regarding the future of natural gas distribution service in that province.

Resource Procurement, Contracting and Analysis

On behalf of gas distributors, gas pipelines, gas producers, electric utilities, and independent energy project developers, personally managed or participated in the negotiation, drafting, and regulatory support of hundreds of energy contracts, including the largest gas contracts in North America, electric contracts representing billions of dollars, pipeline and storage contracts, and facility leases.

These efforts have resulted in bringing large new energy projects to market across North America, the creation of hundreds of millions of dollars in savings through contract renegotiation, and the regulatory approval of a number of highly contested energy contracts.

Strategic Planning and Utility Restructuring

Acted as a leading participant in the restructuring of the natural gas and electric utility industries over the past fifteen years, as an adviser to local distribution companies, pipelines, electric utilities, and independent energy project developers. In the recent past, provided services to most of the top 50 utilities and energy marketers across North America. Managed projects that frequently included the redevelopment of strategic plans, corporate reorganizations, the development of multi-year regulatory and legislative agendas, merger, acquisition and divestiture strategies, and the development of market entry strategies. Developed and supported merchant function exit strategies, marketing affiliate strategies, and detailed plans for the functional business units of many of North America's leading utilities.

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2002 - Present)

Chairman and Chief Executive Officer

CE Capital Advisors (2004 - Present)

Chairman, President, and Chief Executive Officer



Navigant Consulting, Inc. (1997 - 2002)

President, Navigant Energy Capital (2000 - 2002)
Executive Director (2000 - 2002)
Co-Chief Executive Officer, Vice Chairman (1999 - 2000)
Executive Managing Director (1998 - 1999)
President, REED Consulting Group, Inc. (1997 - 1998)

REED Consulting Group (1988 - 1997)

Chairman, President and Chief Executive Officer

R.J. Rudden Associates, Inc. (1983 - 1988)

Vice President

Stone & Webster Management Consultants, Inc. (1981 - 1983)

Senior Consultant
Consultant

Southern California Gas Company (1976 - 1981)

Corporate Economist
Financial Analyst
Treasury Analyst

EDUCATION AND CERTIFICATION

B.S., Economics and Finance, Wharton School, University of Pennsylvania, 1976
Licensed Securities Professional: NASD Series 7, 63, 24, 79 and 99 Licenses

BOARDS OF DIRECTORS (PAST AND PRESENT)

Concentric Energy Advisors, Inc.
Navigant Consulting, Inc.
Navigant Energy Capital
Nukem, Inc.
New England Gas Association
R. J. Rudden Associates
REED Consulting Group



AFFILIATIONS

American Gas Association

Energy Bar Association

Guild of Gas Managers

International Association of Energy Economists

Northeast Gas Association

Society of Gas Lighters

Society of Utility and Regulatory Financial Analysts

ARTICLES AND PUBLICATIONS

"Maximizing U.S. federal loan guarantees for new nuclear energy," *Bulletin of the Atomic Scientists* (with John C. Slocum), July 29, 2009

"Smart Decoupling – Dealing with unfunded mandates in performance-based ratemaking," *Public Utilities Fortnightly*, May 2012



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Alaska Regulatory Commission				
Chugach Electric	12/86	Chugach Electric	Docket No. U-86-11	Cost Allocation
Chugach Electric	5/87	Enstar Natural Gas Company	Docket No. U-87-2	Tariff Design
Chugach Electric	12/87	Enstar Natural Gas Company	Docket No. U-87-42	Gas Transportation
Chugach Electric	11/87 2/88	Chugach Electric	Docket No. U-87-35	Cost of Capital
Anchorage Municipal Light & Power	9/17	Anchorage Municipal Light & Power	Docket No. U-16-094 Docket No. U-17-008	Project Prudence
Alberta Utilities Commission				
Alberta Utilities (AltaLink, EPCOR, ATCO, ENMAX, FortisAlberta, AltaGas)	1/13	Alberta Utilities	Application 1566373, Proceeding ID 20	Stranded Costs
Arizona Corporation Commission				
Tucson Electric Power	7/12	Tucson Electric Power	Docket No. E- 01933A-12-0291	Cost of Capital
UNS Energy and Fortis Inc.	1/14	UNS Energy, Fortis Inc.	Docket No. E- 04230A-00011 and Docket No. E- 01933A-14-0011	Merger
California Energy Commission				
Southern California Gas Co.	8/80	Southern California Gas Co.	Docket No. 80-BR-3	Gas Price Forecasting
California Public Utility Commission				
Southern California Gas Co.	3/80	Southern California Gas Co.	TY 1981 G.R.C.	Cost of Service, Inflation
Pacific Gas Transmission Co.	10/91 11/91	Pacific Gas & Electric Co.	App. 89-04-033	Rate Design
Pacific Gas Transmission Co.	7/92	Southern California Gas Co.	A. 92-04-031	Rate Design
San Diego Gas & Electric Company	4/19	San Diego Gas & Electric Company	A. 19-04-XXX	Risk Premium, ROE



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Colorado Public Utilities Commission				
AMAX Molybdenum	2/90	Commission Rulemaking	Docket No. 89R-702G	Gas Transportation
AMAX Molybdenum	11/90	Commission Rulemaking	Docket No. 90R-508G	Gas Transportation
Xcel Energy	8/04	Xcel Energy	Docket No. 031-134E	Cost of Debt
Public Service Company of Colorado	6/17	Public Service Company of Colorado	Docket No. 17AL-0363G	Return on Equity (Gas)
CT Public Utilities Regulatory Authority				
Connecticut Natural Gas	12/88	Connecticut Natural Gas	Docket No. 88-08-15	Gas Purchasing Practices
United Illuminating	3/99	United Illuminating	Docket No. 99-03-04	Nuclear Plant Valuation
Southern Connecticut Gas	2/04	Southern Connecticut Gas	Docket No. 00-12-08	Gas Purchasing Practices
Southern Connecticut Gas	4/05	Southern Connecticut Gas	Docket No. 05-03-17	LNG/Trunkline
Southern Connecticut Gas	5/06	Southern Connecticut Gas	Docket No. 05-03-17PH01	LNG/Trunkline
Southern Connecticut Gas	8/08	Southern Connecticut Gas	Docket No. 06-05-04	Peaking Service Agreement
SJW Group and Connecticut Water Service	4/19	SJW Group and Connecticut Water Service	Docket 19-04-XX	Customer Benefits, Public Interest
District of Columbia PSC				
Potomac Electric Power Company	3/99 5/99 7/99	Potomac Electric Power Company	Docket No. 945	Divestiture of Gen. Assets & Purchase Power Contracts
AltaGas Ltd./WGL Holdings	4/17 8/17 10/17	AltaGas Ltd./WGL Holdings	Docket No. 1142	Merger Standards, Public Interest Standard
Federal Energy Regulatory Commission				
Safe Harbor Water Power Corp.	8/82	Safe Harbor Water Power Corp.		Wholesale Electric Rate Increase
Western Gas Interstate Company	5/84	Western Gas Interstate Company	Docket No. RP84-77	Load Forecast Working Capital



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Southern Union Gas	4/87 5/87	El Paso Natural Gas Company	Docket No. RP87-16-000	Take-or-Pay Costs
Connecticut Natural Gas	11/87	Penn-York Energy Corporation	Docket No. RP87-78-000	Cost Allocation/Rate Design
AMAX Magnesium	12/88 1/89	Questar Pipeline Company	Docket No. RP88-93-000	Cost Allocation/Rate Design
Western Gas Interstate Company	6/89	Western Gas Interstate Company	Docket No. RP89-179-000	Cost Allocation/Rate Design, Open-Access Transportation
Associated CD Customers	12/89	CNG Transmission	Docket No. RP88-211-000	Cost Allocation/Rate Design
Utah Industrial Group	9/90	Questar Pipeline Company	Docket No. RP88-93-000, Phase II	Cost Allocation/Rate Design
Iroquois Gas Trans. System	8/90	Iroquois Gas Transmission System	Docket No. CP89-634-000/001; CP89-815-000	Gas Markets, Rate Design, Cost of Capital, Capital Structure
Boston Edison Company	1/91	Boston Edison Company	Docket No. ER91-243-000	Electric Generation Markets
Cincinnati Gas and Electric Co., Union Light, Heat and Power Company, Lawrenceburg Gas Company	7/91	Texas Gas Transmission Corp.	Docket No. RP90-104-000, RP88-115-000, RP90-192-000	Cost Allocation, Rate Design, Comparability of Service
Ocean State Power II	7/91	Ocean State Power II	ER89-563-000	Competitive Market Analysis, Self-dealing
Brooklyn Union/PSE&G	7/91	Texas Eastern	RP88-67, et al	Market Power, Comparability of Service
Northern Distributor Group	9/92 11/92	Northern Natural Gas Company	RP92-1-000, et al	Cost of Service
Canadian Association of Petroleum Producers and Alberta Pet. Marketing Comm.	10/92 7/97	Lakehead Pipe Line Co. L.P.	IS92-27-000	Cost Allocation, Rate Design
Colonial Gas, Providence Gas	7/93 8/93	Algonquin Gas Transmission	RP93-14	Cost Allocation, Rate Design



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Iroquois Gas Transmission	94	Iroquois Gas Transmission	RP94-72-000	Cost of Service, Rate Design
Transco Customer Group	1/94	Transcontinental Gas Pipeline Corporation	Docket No. RP92-137-000	Rate Design, Firm to Wellhead
Pacific Gas Transmission	2/94 3/95	Pacific Gas Transmission	Docket No. RP94-149-000	Rolled-In vs. Incremental Rates, Rate Design
Tennessee GSR Group	1/95 3/95 1/96	Tennessee Gas Pipeline Company	Docket Nos. RP93-151-000, RP94-39-000, RP94-197-000, RP94-309-000	GSR Costs
PG&E and SoCal Gas	8/96 9/96	El Paso Natural Gas Company	RP92-18-000	Stranded Costs
Iroquois Gas Transmission System, L.P.	97	Iroquois Gas Transmission System, L.P.	RP97-126-000	Cost of Service, Rate Design
BEC Energy - Commonwealth Energy System	2/99	Boston Edison Company/ Commonwealth Energy System	EC99-33-000	Market Power Analysis - Merger
Central Hudson Gas & Electric, Consolidated Co. of New York, Niagara Mohawk Power Corporation, Dynegy Power Inc.	10/00	Central Hudson Gas & Electric, Consolidated Co. of New York, Niagara Mohawk Power Corporation, Dynegy Power Inc.	Docket No. EC01-7-000	Market Power 203/205 Filing
Wyckoff Gas Storage	12/02	Wyckoff Gas Storage	CP03-33-000	Need for Storage Project
Indicated Shippers/Producers	10/03	Northern Natural Gas	Docket No. RP98-39-029	Ad Valorem Tax Treatment
Maritimes & Northeast Pipeline	6/04	Maritimes & Northeast Pipeline	Docket No. RP04-360-000	Rolled-In Rates
ISO New England	8/04 2/05	ISO New England	Docket No. ER03-563-030	Cost of New Entry
Transwestern Pipeline Company, LLC	9/06	Transwestern Pipeline Company, LLC	Docket No. RP06-614-000	Business Risk
Portland Natural Gas Transmission System	6/08	Portland Natural Gas Transmission System	Docket No. RP08-306-000	Market Assessment, Natural Gas Transportation, Rate Setting



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Portland Natural Gas Transmission System	5/10 3/11 4/11	Portland Natural Gas Transmission System	Docket No. RP10-729-000	Business Risks, Extraordinary and Non-recurring Events Pertaining to Discretionary Revenues
Morris Energy	7/10	Morris Energy	Docket No. RP10-79-000	Impact of Preferential Rate
Gulf South Pipeline	10/14	Gulf South Pipeline	Docket No. RP15-65-000	Business Risk, Rate Design
BNP Paribas Energy Trading, GP South Jersey Resource Group, LLC	2/15	Transcontinental Gas Pipe Line Corporation	Docket No. RP06-569-008 and RP07-376-005	Regulatory Policy, Incremental Rates, Stacked Rate
Tallgrass Interstate Gas Transmission, LLC	10/15 12/15	Tallgrass Interstate Gas Transmission, LLC	Docket No. RP16-137-000	Market Assessment, Rate Design, Rolled-in Rate Treatment
Florida Public Service Commission				
Florida Power and Light Co.	10/07	Florida Power & Light Co.	Docket No. 070650-EI	Need for New Nuclear Plant
Florida Power and Light Co.	5/08	Florida Power & Light Co.	Docket No. 080009-EI	New Nuclear Cost Recovery, Prudence
Florida Power and Light Co.	3/09 8/09	Florida Power & Light Co.	Docket No. 080677-EI	Benchmarking in Support of ROE
Florida Power and Light Co.	3/09 5/09 8/09	Florida Power & Light Co.	Docket No. 090009-EI	New Nuclear Cost Recovery, Prudence
Florida Power and Light Co.	3/10 5/10 8/10	Florida Power & Light Co.	Docket No. 100009-EI	New Nuclear Cost Recovery, Prudence
Florida Power and Light Co.	3/11 7/11	Florida Power & Light Co.	Docket No. 110009-EI	New Nuclear Cost Recovery, Prudence
Florida Power and Light Co.	3/12 7/12	Florida Power & Light Co.	Docket No. 120009-EI	New Nuclear Cost Recovery, Prudence



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Florida Power and Light Co.	3/12 8/12	Florida Power & Light Co.	Docket No. 120015- EI	Benchmarking in Support of ROE
Florida Power and Light Co.	3/13 7/13	Florida Power & Light Co.	Docket No. 130009	New Nuclear Cost Recovery, Prudence
Florida Power and Light Co.	3/14	Florida Power & Light Co.	Docket No. 140009	New Nuclear Cost Recovery, Prudence
Florida Power and Light Co.	3/15 7/15	Florida Power & Light Co.	Docket No. 150009	New Nuclear Cost Recovery, Prudence
Florida Power and Light Co.	10/15	Florida Power and Light Co.	Docket No. 150001	Recovery of Replacement Power Costs
Florida Power and Light Co.	3/16	Florida Power & Light Co.	Docket No. 160021- EI	Benchmarking in Support of ROE EI
Florida Senate Committee on Communication, Energy and Utilities				
Florida Power and Light Co.	2/09	Florida Power & Light Co.		Securitization
Hawai'i Public Utility Commission				
Hawaiian Electric Light Company, Inc.	6/00	Hawaiian Electric Light Company, Inc.	Docket No. 99-0207	Standby Charge
NextEra Energy, Inc. Hawaiian Electric Companies	4/15 8/15 10/15	Hawaiian Electric Company, Inc.; Hawaii Electric Light Company, Inc., Maui Electric Company, Ltd., NextEra Energy, Inc.	Docket No. 2015- 0022	Merger Application
Idaho Public Utilities Commission				
Hydro One Limited and Avista Corporation	9/18 11/18	Hydro One Limited and Avista Corporation	Case No. AVU-E-17- 09 Case No. AVU-G-17- 05	Governance, Financial Integrity and Ring-fencing Merger Commitments
Illinois Commerce Commission				



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Renewables Suppliers (Algonquin Power Co., EDP Renewables North America, Invenergy, NextEra Energy Resources)	3/14	Renewables Suppliers	Docket No. 13-0546	Application for Rehearing and Reconsideration, Long-term Purchase Power Agreements
WE Energies Corporation	8/14 12/14 2/15	WE Energies/Integrys	Docket No. 14-0496	Merger Application
Indiana Utility Regulatory Commission				
Northern Indiana Public Service Company	10/01	Northern Indiana Public Service Company	Cause No. 41746	Valuation of Electric Generating Facilities
Northern Indiana Public Service Company	1/08 3/08	Northern Indiana Public Service Company	Cause No. 43396	Asset Valuation
Northern Indiana Public Service Company	8/08	Northern Indiana Public Service Company	Cause No. 43526	Fair Market Value Assessment
Indianapolis Power & Light Company	12/14	Indianapolis Power & Light Company	Cause No. 44576	Asset Valuation
Indianapolis Power & Light Company	12/16	Indianapolis Power & Light Company	Cause No. 44893	Rate Recovery for New Plant Additions, Valuation of Electric Generating Facilities
Iowa Utilities Board				
Interstate Power and Light	7/05	Interstate Power and Light and FPL Energy Duane Arnold, LLC	Docket No. SPU-05- 15	Sale of Nuclear Plant
Interstate Power and Light	5/07	City of Everly, Iowa	Docket No. SPU-06-5	Municipalization
Interstate Power and Light	5/07	City of Kalona, Iowa	Docket No. SPU-06-6	Municipalization
Interstate Power and Light	5/07	City of Wellman, Iowa	Docket No. SPU-06- 10	Municipalization
Interstate Power and Light	5/07	City of Terril, Iowa	Docket No. SPU-06-8	Municipalization
Interstate Power and Light	5/07	City of Rolfe, Iowa	Docket No. SPU-06-7	Municipalization



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Kansas Corporation Commission				
Great Plains Energy Kansas City Power and Light Company	1/17	Great Plains Energy, Kansas City Power & Light Company, and Westar Energy	Docket No. 16-KCPE-593-ACQ	Merger Standards, Acquisition Premium, Ring-Fencing, Public Interest Standard
Great Plains Energy Kansas City Power and Light Company	8/17 2/18	Great Plains Energy, Kansas City Power & Light Company, and Westar Energy	Docket No. 18-KCPE-095-MER	Merger Standards, Transaction Value, Merger Benefits, Ring-Fencing,
Maine Public Utility Commission				
Northern Utilities	5/96	Granite State and PNGTS	Docket No. 95-480, 95-481	Transportation Service and PBR
Maryland Public Service Commission				
Eastalco Aluminum	3/82	Potomac Edison	Docket No. 7604	Cost Allocation
Potomac Electric Power Company	8/99	Potomac Electric Power Company	Docket No. 8796	Stranded Cost & Price Protection
AltaGas Ltd./WGL Holdings	4/17 9/17 1/18 2/18	AltaGas Ltd./WGL Holdings	Docket No. 9449	Merger Standards, Public Interest Standard
Mass. Department of Public Utilities				
Haverhill Gas	5/82	Haverhill Gas	Docket No. DPU #1115	Cost of Capital
New England Energy Group	1/87	Commission Investigation		Gas Transportation Rates
Energy Consortium of Mass.	9/87	Commonwealth Gas Company	Docket No. DPU-87-122	Cost Allocation, Rate Design
Mass. Institute of Technology	12/88	Middleton Municipal Light	DPU #88-91	Cost Allocation, Rate Design
Energy Consortium of Mass.	3/89	Boston Gas	DPU #88-67	Rate Design
PG&E Bechtel Generating Co./ Constellation Holdings	10/91	Commission Investigation	DPU #91-131	Valuation of Environmental Externalities
Coalition of Non-Utility Generators		Cambridge Electric Light Co. & Commonwealth Electric Co.	DPU 91-234 EFSC 91-4	Integrated Resource Management



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
The Berkshire Gas Company Essex County Gas Company Fitchburg Gas and Elec. Light Co.	5/92	The Berkshire Gas Company Essex County Gas Company Fitchburg Gas & Elec. Light Co.	DPU #92-154	Gas Purchase Contract Approval
Boston Edison Company	7/92	Boston Edison	DPU #92-130	Least Cost Planning
Boston Edison Company	7/92	The Williams/Newcorp Generating Co.	DPU #92-146	RFP Evaluation
Boston Edison Company	7/92	West Lynn Cogeneration	DPU #92-142	RFP Evaluation
Boston Edison Company	7/92	L'Energia Corp.	DPU #92-167	RFP Evaluation
Boston Edison Company	7/92	DLS Energy, Inc.	DPU #92-153	RFP Evaluation
Boston Edison Company	7/92	CMS Generation Co.	DPU #92-166	RFP Evaluation
Boston Edison Company	7/92	Concord Energy	DPU #92-144	RFP Evaluation
The Berkshire Gas Company Colonial Gas Company Essex County Gas Company Fitchburg Gas and Electric Company	11/93	The Berkshire Gas Company Colonial Gas Company Essex County Gas Company Fitchburg Gas and Electric Co.	DPU #93-187	Gas Purchase Contract Approval
Bay State Gas Company	10/93	Bay State Gas Company	Docket No. 93-129	Integrated Resource Planning
Boston Edison Company	94	Boston Edison	DPU #94-49	Surplus Capacity
Hudson Light & Power Department	4/95	Hudson Light & Power Dept.	DPU #94-176	Stranded Costs
Essex County Gas Company	5/96	Essex County Gas Company	Docket No. 96-70	Unbundled Rates
Boston Edison Company	8/97	Boston Edison Company	D.P.U. No. 97-63	Holding Company Corporate Structure
Berkshire Gas Company	6/98	Berkshire Gas Mergeco Gas Co.	D.T.E. 98-87	Merger Approval
Eastern Edison Company	8/98	Montaup Electric Company	D.T.E. 98-83	Marketing for Divestiture of its Generation Business
Boston Edison Company	98	Boston Edison Company	D.T.E. 97-113	Fossil Generation Divestiture
Boston Edison Company	2/99	Boston Edison Company	D.T.E. 98-119	Nuclear Generation Divestiture
Eastern Edison Company	12/98	Montaup Electric Company	D.T.E. 99-9	Sale of Nuclear Plant



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
NStar	9/07 12/07	NStar, Bay State Gas, Fitchburg G&E, NE Gas, W. MA Electric	DPU 07-50	Decoupling, Risk
NStar	6/11	NStar, Northeast Utilities	DPU 10-170	Merger Approval
Town of Milford	1/19 3/19 5/19	Milford Water Company	DPU 18-60	Valuation Analysis
Mass. Energy Facilities Siting Council				
Mass. Institute of Technology	1/89	M.M.W.E.C.	EFSC-88-1	Least-Cost Planning
Boston Edison Company	9/90	Boston Edison	EFSC-90-12	Electric Generation Markets
Silver City Energy Ltd. Partnership	11/91	Silver City Energy	D.P.U. 91-100	State Policies, Need for Facility
Michigan Public Service Commission				
Detroit Edison Company	9/98	Detroit Edison Company	Case No. U-11726	Market Value of Generation Assets
Consumers Energy Company	8/06 1/07	Consumers Energy Company	Case No. U-14992	Sale of Nuclear Plant
WE Energies	12/11	Wisconsin Electric Power Co	Case No. U-16830	Economic Benefits, Prudence
Consumer Energy Company	7/13	Consumers Energy Company	Case No. U-17429	Certificate of Need, Integrated Resource Plan
WE Energies	8/14 3/15	WE Energies/Integrays	Case No. U-17682	Merger Application
Minnesota Public Utilities Commission				
Xcel Energy/No. States Power	9/04	Xcel Energy/No. States Power	Docket No. G002/GR-04-1511	NRG Impacts
Interstate Power and Light	8/05	Interstate Power and Light and FPL Energy Duane Arnold, LLC	Docket No. E001/PA-05-1272	Sale of Nuclear Plant
Northern States Power Company d/b/a Xcel Energy	11/05	Northern States Power Company	Docket No. E002/GR-05-1428	NRG Impacts on Debt Costs



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Northern States Power Company d/b/a Xcel Energy	09/06 10/06 11/06	NSP v. Excelsior	Docket No. E6472/M-05-1993	PPA, Financial Impacts
Northern States Power Company d/b/a Xcel Energy	11/06	Northern States Power Company	Docket No. G002/GR-06-1429	Return on Equity
Northern States Power	11/08 05/09	Northern States Power Company	Docket No. E002/GR-08-1065	Return on Equity
Northern States Power	11/09 6/10	Northern States Power Company	Docket No. G002/GR-09-1153	Return on Equity
Northern States Power	11/10 5/11	Northern States Power Company	Docket No. E002/GR-10-971	Return on Equity
Northern States Power Company d/b/a Xcel Energy	1/16	Northern States Power Company	Docket No. E002/GR-15-826	Industry Perspective
Missouri House Committee on Energy and the Environment				
Ameren Missouri	3/16	Ameren Missouri	HB 2816	Performance Based Ratemaking
Missouri Public Service Commission				
Missouri Gas Energy	1/03 04/03	Missouri Gas Energy	Case No. GR-2001-382	Gas Purchasing Practices, Prudence
Aquila Networks	2/04	Aquila-MPS, Aquila L&P	Case Nos. ER-2004-0034 HR-2004-0024	Cost of Capital, Capital Structure
Aquila Networks	2/04	Aquila-MPS, Aquila L&P	Case No. GR-2004-0072	Cost of Capital, Capital Structure
Missouri Gas Energy	11/05 2/06 7/06	Missouri Gas Energy	Case Nos. GR-2002-348 GR-2003-0330	Capacity Planning
Missouri Gas Energy	11/10 1/11	KCP&L	Case No. ER-2010-0355	Natural Gas DSM



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Missouri Gas Energy	11/10 1/11	KCP&L GMO	Case No. ER-2010-0356	Natural Gas DSM
Laclede Gas Company	5/11	Laclede Gas Company	Case No. CG-2011-0098	Affiliate Pricing Standards
Union Electric Company d/b/a Ameren Missouri	2/12 8/12	Union Electric Company	Case No. ER-2012-0166	ROE, Earnings Attrition, Regulatory Lag
Union Electric Company d/b/a Ameren Missouri	6/14	Noranda Aluminum Inc.	Case No. EC-2014-0223	Ratemaking, Regulatory and Economic Policy
Union Electric Company d/b/a Ameren Missouri	1/15 2/15	Union Electric Company	Case No. ER-2014-0258	Revenue Requirements, Ratemaking Policies
Great Plains Energy Kansas City Power and Light Company	8/17 2/18 3/18	Great Plains Energy, Kansas City Power & Light Company, and Westar Energy	Docket No. EM-2018-0012	Merger Standards, Transaction Value, Merger Benefits, Ring-Fencing,
Missouri Senate Committee on Commerce, Consumer Protection, Energy and the Environment				
Ameren Missouri	3/16	Ameren Missouri	SB 1028	Performance Based Ratemaking
Montana Public Service Commission				
Great Falls Gas Company	10/82	Great Falls Gas Company	Docket No. 82-4-25	Gas Rate Adjustment Clause
National Energy Board of Canada				
Alberta-Northeast	2/87	Alberta Northeast Gas Export Project	Docket No. GH-1-87	Gas Export Markets
Alberta-Northeast	11/87	TransCanada Pipeline	Docket No. GH-2-87	Gas Export Markets
Alberta-Northeast	1/90	TransCanada Pipeline	Docket No. GH-5-89	Gas Export Markets
Independent Petroleum Association of Canada	1/92	Interprovincial Pipe Line, Inc.	RH-2-91	Pipeline Valuation, Toll
The Canadian Association of Petroleum Producers	11/93	Transmountain Pipe Line	RH-1-93	Cost of Capital
Alliance Pipeline L.P.	6/97	Alliance Pipeline L.P.	GH-3-97	Market Study
Maritimes & Northeast Pipeline	97	Sable Offshore Energy Project	GH-6-96	Market Study
Maritimes & Northeast Pipeline	2/02	Maritimes & Northeast Pipeline	GH-3-2002	Natural Gas Demand Analysis



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TransCanada Pipelines	8/04	TransCanada Pipelines	RH-3-2004	Toll Design
Brunswick Pipeline	5/06	Brunswick Pipeline	GH-1-2006	Market Study
TransCanada Pipelines Ltd.	12/06 4/07	TransCanada Pipelines Ltd.: Gros Cacouna Receipt Point Application	RH-1-2007	Toll Design
Repsol Energy Canada Ltd	3/08	Repsol Energy Canada Ltd	GH-1-2008	Market Study
Maritimes & Northeast Pipeline	7/10	Maritimes & Northeast Pipeline	RH-4-2010	Regulatory Policy, Toll Development
TransCanada Pipelines Ltd	9/11 5/12	TransCanada Pipelines Ltd.	RH-3-2011	Business Services and Tolls Application
Trans Mountain Pipeline LLC	6/12 1/13	Trans Mountain Pipeline LLC	RH-1-2012	Toll Design
TransCanada Pipelines Ltd	8/13	TransCanada Pipelines Ltd	RE-001-2013	Toll Design
NOVA Gas Transmission Ltd	11/13	NOVA Gas Transmission Ltd	OF-Fac-Gas-N081- 2013-10 01	Toll Design
Trans Mountain Pipeline LLC	12/13	Trans Mountain Pipeline LLC	OF-Fac-Oil-T260- 2013-03 01	Economic and Financial Feasibility, Project Benefits
Energy East Pipeline Ltd.	10/14	Energy East Pipeline	Of-Fac-Oil-E266- 2014-01 02	Economic and Financial Feasibility, Project Benefits
NOVA Gas Transmission Ltd	5/16	NOVA Gas Transmission Ltd	GH-003-2015	Certificate of Public Convenience and Necessity
TransCanada PipeLines Limited	4/17 9/17	TransCanada PipeLines Limited	Dawn LTFP Service Application	Public Interest, Toll Design
NOVA Gas Transmission Ltd	10/17	NOVA Gas Transmission Ltd	MH-031-2017	Toll Design
NOVA Gas Transmission Ltd	3/19	NOVA Gas Transmission Ltd	System Rate Design and Services Application	Tolling Changes
New Brunswick Energy and Utilities Board				
Atlantic Wallboard/JD Irving Co	1/08	Enbridge Gas New Brunswick	MCTN #298600	Rate Setting for EGNB



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Atlantic Wallboard/Flakeboard	9/09 6/10 7/10	Enbridge Gas New Brunswick	NBEUB 2009-017	Rate Setting for EGNB
Atlantic Wallboard/Flakeboard	1/14	Enbridge Gas New Brunswick	NBEUB Matter 225	Rate Setting for EGNB
NH Public Utilities Commission				
Bus & Industry Association	6/89	P.S. Co. of New Hampshire	Docket No. DR89-091	Fuel Costs
Bus & Industry Association	5/90	Northeast Utilities	Docket No. DR89-244	Merger & Acquisition Issues
Eastern Utilities Associates	6/90	Eastern Utilities Associates	Docket No. DF89-085	Merger & Acquisition Issues
EnergyNorth Natural Gas	12/90	EnergyNorth Natural Gas	Docket No. DE90-166	Gas Purchasing Practices
EnergyNorth Natural Gas	7/90	EnergyNorth Natural Gas	Docket No. DR90-187	Special Contracts, Discounted Rates
Northern Utilities, Inc.	12/91	Commission Investigation	Docket No. DR91-172	Generic Discounted Rates
Public Service Co. of New Hampshire	7/14	Public Service Co. of NH	Docket No. DE 11-250	Prudence
Public Service Co. of New Hampshire	7/15 11/15	Public Service Co. of NH	Docket No. 14-238	Restructuring and Rate Stabilization
New Jersey Board of Public Utilities				
Hilton/Golden Nugget	12/83	Atlantic Electric	B.P.U. 832-154	Line Extension Policies
Golden Nugget	3/87	Atlantic Electric	B.P.U. No. 837-658	Line Extension Policies
New Jersey Natural Gas	2/89	New Jersey Natural Gas	B.P.U. GR89030335J	Cost Allocation, Rate Design
New Jersey Natural Gas	1/91	New Jersey Natural Gas	B.P.U. GR90080786J	Cost Allocation, Rate Design
New Jersey Natural Gas	8/91	New Jersey Natural Gas	B.P.U. GR91081393J	Rate Design, Weather Normalization Clause
New Jersey Natural Gas	4/93	New Jersey Natural Gas	B.P.U. GR93040114J	Cost Allocation, Rate Design



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
South Jersey Gas	4/94	South Jersey Gas	BRC Dock No. GR080334	Revised Levelized Gas Adjustment
New Jersey Utilities Association	9/96	Commission Investigation	BPU AX96070530	PBOP Cost Recovery
Morris Energy Group	11/09	Public Service Electric & Gas	BPU GR 09050422	Discriminatory Rates
New Jersey American Water Co.	4/10	New Jersey American Water Co.	BPU WR 1040260	Tariff Rates and Revisions
Electric Customer Group	1/11	Generic Stakeholder Proceeding	BPU GR10100761 and ER10100762	Natural Gas Ratemaking Standards and pricing
New Mexico Public Service Commission				
Gas Company of New Mexico	11/83	Public Service Co. of New Mexico	Docket No. 1835	Cost Allocation, Rate Design
Southwestern Public Service Co., New Mexico	12/12	SPS New Mexico	Case No. 12-00350-UT	Rate Case, Return on Equity
PNM Resources	12/13 10/14 12/14	Public Service Co. of New Mexico	Case No. 13-00390-UT	Nuclear Valuation, In Support of Stipulation
New York State Public Service Commission				
Iroquois Gas Transmission	12/86	Iroquois Gas Transmission System	Case No. 70363	Gas Markets
Brooklyn Union Gas Company	8/95	Brooklyn Union Gas Company	Case No. 95-6-0761	Panel on Industry Directions
Central Hudson, ConEdison and Niagara Mohawk	9/00	Central Hudson, ConEdison and Niagara Mohawk	Case No. 96-E-0909 Case No. 96-E-0897 Case No. 94-E-0098 Case No. 94-E-0099	Section 70, Approval of New Facilities
Central Hudson, New York State Electric & Gas, Rochester Gas & Electric	5/01	Joint Petition of NiMo, NYSEG, RG&E, Central Hudson, Constellation and Nine Mile Point	Case No. 01-E-0011	Section 70, Rebuttal Testimony
Rochester Gas & Electric	12/03	Rochester Gas & Electric	Case No. 03-E-1231	Sale of Nuclear Plant
Rochester Gas & Electric	1/04	Rochester Gas & Electric	Case No. 03-E-0765 Case No. 02-E-0198 Case No. 03-E-0766	Sale of Nuclear Plant; Ratemaking Treatment of Sale



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Rochester Gas and Electric and NY State Electric & Gas Corp	2/10	Rochester Gas & Electric NY State Electric & Gas Corp	Case No. 09-E-0715 Case No. 09-E-0716 Case No. 09-E-0717 Case No. 09-E-0718	Depreciation Policy
National Fuel Gas Corporation	9/16 9/16	National Fuel Gas Corporation	Case No. 16-G-0257	Ring-fencing Policy
NextEra Energy Transmission New York	8/18	NextEra Energy Transmission New York	Case No. 18-T-0499	Certificate of Need for Transmission Line, Vertical Market Power
Nova Scotia Utility and Review Board				
Nova Scotia Power	9/12	Nova Scotia Power	Docket No. P-893	Audit Reply
Nova Scotia Power	8/14	Nova Scotia Power	Docket No. P-887	Audit Reply
Nova Scotia Power	5/16	Nova Scotia Power	2017-2019 Fuel Stability Plan	Used and Useful Ratemaking
NSP Maritime Link ("NSPML")	12/16 2/17 5/17	NSP Maritime Link ("NSPML")	NSPML Interim Cost Assessment Application	Used and Useful Ratemaking
Oklahoma Corporation Commission				
Oklahoma Natural Gas Company	6/98	Oklahoma Natural Gas Company	Case PUD No. 980000177	Storage Issues
Oklahoma Gas & Electric Company	5/05 9/05	Oklahoma Gas & Electric Company	Cause No. PUD 200500151	Prudence of McLain Acquisition
Oklahoma Gas & Electric Company	3/08	Oklahoma Gas & Electric Company	Cause No. PUD 200800086	Acquisition of Redbud Generating Facility
Oklahoma Gas & Electric Company	8/14 1/15	Oklahoma Gas & Electric Company	Cause No. PUD 201400229	Integrated Resource Plan
Ontario Energy Board				
Market Hub Partners Canada, L.P.	5/06	Natural Gas Electric Interface Roundtable	File No. EB-2005- 0551	Market-based Rates for Storage



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Ontario Power Generation	9/13 2/14 5/14	Ontario Power Generation	EB-2013-0321	Prudence Review of Nuclear Project Management Processes
Oregon Public Utilities Commission				
Hydro One Limited and Avista Corporation	8/18 10/18	Hydro One Limited and Avista Corporation	Docket No. UM 1897	Reasonableness and Sufficiency of the Governance, Bankruptcy, and Financial Ring-Fencing Stipulated Settlement Commitments
Pennsylvania Public Utility Commission				
ATOC	4/95	Equitrans	Docket No. R-00943272	Rate Design, Unbundling
ATOC	3/96 4/96	Equitrans	Docket No. P-00940886	Rate Design, Unbundling
Rhode Island Public Utilities Commission				
Newport Electric	7/81	Newport Electric	Docket No. 1599	Rate Attrition
South County Gas	9/82	South County Gas	Docket No. 1671	Cost of Capital
New England Energy Group	7/86	Providence Gas Company	Docket No. 1844	Cost Allocation, Rate Design
Providence Gas	8/88	Providence Gas Company	Docket No. 1914	Load Forecast, Least-Cost Planning
Providence Gas Company and The Valley Gas Company	1/01 3/02	Providence Gas Company and The Valley Gas Company	Docket No. 1673 and 1736	Gas Cost Mitigation Strategy
The New England Gas Company	3/03	New England Gas Company	Docket No. 3459	Cost of Capital
Texas Public Utility Commission				
Southwestern Electric	5/83	Southwestern Electric		Cost of Capital, CWIP
P.U.C. General Counsel	11/90	Texas Utilities Electric Company	Docket No. 9300	Gas Purchasing Practices, Prudence
Oncor Electric Delivery Company	8/07	Oncor Electric Delivery Company	Docket No. 34040	Regulatory Policy, Rate of Return, Return of Capital and Consolidated Tax Adjustment



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Oncor Electric Delivery Company	6/08	Oncor Electric Delivery Company	Docket No.35717	Regulatory policy
Oncor Electric Delivery Company	10/08 11/08	Oncor, TCC, TNC, ETT, LCRA TSC, Sharyland, STEC, TNMP	Docket No. 35665	Competitive Renewable Energy Zone
CenterPoint Energy	6/10 10/10	CenterPoint Energy/Houston Electric	Docket No. 38339	Regulatory Policy, Risk, Consolidated Taxes
Oncor Electric Delivery Company	1/11	Oncor Electric Delivery Company	Docket No. 38929	Regulatory Policy, Risk
Cross Texas Transmission	8/12 11/12	Cross Texas Transmission	Docket No. 40604	Return on Equity
Southwestern Public Service	11/12	Southwestern Public Service	Docket No. 40824	Return on Equity
Lone Star Transmission	5/14	Lone Star Transmission	Docket No. 42469	Return on Equity, Debt, Cost of Capital
CenterPoint Energy Houston Electric, LLC	6/15	CenterPoint Energy Houston Electric, LLC	Docket No. 44572	Distribution Cost Recovery Factor
NextEra Energy, Inc.	10/16 2/17	Oncor Electric Delivery Company LLC, NextEra Energy	Docket No. 46238	Merger Application, Ring-fencing, Affiliate Interest, Code of Conduct
CenterPoint Energy Houston Electric, LLC	4/19	CenterPoint Energy Houston Electric, LLC	Docket No. 49421	Incentive Compensation
Texas Railroad Commission				
Western Gas Interstate Company	1/85	Southern Union Gas Company	Docket 5238	Cost of Service
Atmos Pipeline Texas	9/10 1/11	Atmos Pipeline Texas	GUD 10000	Ratemaking Policy, Risk
Atmos Pipeline Texas	1/17 4/17	Atmos Pipeline Texas	GUD 10580	Ratemaking Policy, ROE, Rate Design Policy
Texas State Legislature				
CenterPoint Energy	4/13	Association of Electric Companies of Texas	SB 1364	Consolidated Tax Adjustment Clause Legislation



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Utah Public Service Commission				
AMAX Magnesium	1/88	Mountain Fuel Supply Company	Case No. 86-057-07	Cost Allocation, Rate Design
AMAX Magnesium	4/88	Utah P&L/Pacific P&L	Case No. 87-035-27	Merger & Acquisition
Utah Industrial Group	7/90 8/90	Mountain Fuel Supply	Case No. 89-057-15	Gas Transportation Rates
AMAX Magnesium	9/90	Utah Power & Light	Case No. 89-035-06	Energy Balancing Account
AMAX Magnesium	8/90	Utah Power & Light	Case No. 90-035-06	Electric Service Priorities
Questar Gas Company	12/07	Questar Gas Company	Docket No. 07-057-13	Benchmarking in Support of ROE
Vermont Public Service Board				
Green Mountain Power	8/82	Green Mountain Power	Docket No. 4570	Rate Attrition
Green Mountain Power	12/97	Green Mountain Power	Docket No. 5983	Cost of Service
Green Mountain Power	7/98 9/00	Green Mountain Power	Docket No. 6107	Rate Development
Washington Utilities and Transportation Commission				
Hydro One Limited and Avista Corporation	9/18	Hydro One Limited and Avista Corporation	Docket No. U-170970	Reasonableness and Sufficiency of the Governance, Bankruptcy, and Financial Ring-Fencing Stipulated Settlement Commitments
Wisconsin Public Service Commission				
WEC & WICOR	11/99	WEC	Docket No. 9401-YO-100 Docket No. 9402-YO-101	Approval to Acquire the Stock of WICOR
Wisconsin Electric Power Company	1/07	Wisconsin Electric Power Co.	Docket No. 6630-EI-113	Sale of Nuclear Plant
Wisconsin Electric Power Company	10/09	Wisconsin Electric Power Co.	Docket No. 6630-CE-302	CPCN Application for Wind Project
Northern States Power Wisconsin	10/13	Xcel Energy (dba Northern States Power Wisconsin)	Docket No. 4220-UR-119	Fuel Cost Adjustments



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Wisconsin Electric Power Company	11/13	Wisconsin Electric Power Co.	Docket No. 6630-FR-104	Fuel Cost Adjustment
Wisconsin Gas LLC	5/14	Wisconsin Gas LLC	Docket No. 6650-CG-233	Gas Line Expansion, Reasonableness
WE Energy	8/14 1/15 3/15	WE Energy/Integrus	Docket No. 9400-YO-100	Merger Approval
Wisconsin Public Service Corporation	1/19	Madison Gas and Electric Company and Wisconsin Public Service Corporation	Docket No. 5-BS-228	Evaluation of Models Used in Resource Investment Decisions



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
American Arbitration Association				
Michael Polsky	3/91	M. Polsky vs. Indeck Energy		Corporate Valuation, Damages
ProGas Limited	7/92	ProGas Limited v. Texas Eastern		Gas Contract Arbitration
Attala Generating Company	12/03	Attala Generating Co v. Attala Energy Co.	Case No. 16-Y-198-00228-03	Power Project Valuation, Breach of Contract, Damages
Nevada Power Company	4/08	Nevada Power v. Nevada Cogeneration Assoc. #2		Power Purchase Agreement
Sensata Technologies, Inc./EMS Engineered Materials Solutions, LLC	1/11	Sensata Technologies, Inc./EMS Engineered Materials Solutions, LLC v. Pepco Energy Services	Case No. 11-198-Y-00848-10	Change in Usage Dispute, Damages
Sandy Creek Energy Associates, L.P.	9/17	Sandy Creek Energy Associates, L.P. vs. Lower Colorado River Authority	Case No. 01-16-0002-6892	Power Purchase Agreement, Analysis of Damages
Canadian Arbitration Panel				
Hydro-Québec	4/15 5/16 7/16	Hydro-Fraser et al v. Hydro-Québec		Electric Price Arbitration
Commonwealth of Massachusetts, Appellate Tax Board				
NStar Electric Company	8/14	NStar Electric Company	Docket No. F316346 Docket No. F319254	Valuation Methodology
Western Massachusetts Electric Company	2/16	Western Massachusetts Electric Company v. Board of Assessors of The City of Springfield	Docket No. 315550 Docket No. 319349	Valuation Methodology
Commonwealth of Massachusetts, Suffolk Superior Court				
John Hancock	1/84	Trinity Church v. John Hancock	C.A. No. 4452	Damages Quantification
Court of Common Pleas of Philadelphia County, Civil Division				
Sunoco Marketing & Terminals L.P.	11/16	Sunoco Marketing & Terminals, L.P. v. South Jersey Resources Group	Case No. 150302520	Damages Quantification



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
State of Colorado District Court, County of Garfield				
Questar Corporation, et al	11/00	Questar Corporation, et al.	Case No. 00CV129-A	Partnership Fiduciary Duties
State of Delaware, Court of Chancery, New Castle County				
Wilmington Trust Company	11/05	Calpine Corporation vs. Bank of New York and Wilmington Trust Company	C.A. No. 1669-N	Bond Indenture Covenants
Illinois Appellate Court, Fifth Division				
Norweb, PLC	8/02	Indeck No. America v. Norweb	Docket No. 97 CH 07291	Breach of Contract, Power Plant Valuation
Independent Arbitration Panel				
Alberta Northeast Gas Limited	2/98	ProGas Ltd., Canadian Forest Oil Ltd., AEC Oil & Gas		
Ocean State Power	9/02	Ocean State Power vs. ProGas Ltd.	2001/2002 Arbitration	Gas Price Arbitration
Ocean State Power	2/03	Ocean State Power vs. ProGas Ltd.	2002/2003 Arbitration	Gas Price Arbitration
Ocean State Power	6/04	Ocean State Power vs. ProGas Ltd.	2003/2004 Arbitration	Gas Price Arbitration
Shell Canada Limited	7/05	Shell Canada Limited and Nova Scotia Power Inc.		Gas Contract Price Arbitration
International Court of Arbitration				
Wisconsin Gas Company, Inc.	2/97	Wisconsin Gas Co. vs. Pan-Alberta	Case No. 9322/CK	Contract Arbitration
Minnegasco, A Division of NorAm Energy Corp.	3/97	Minnegasco vs. Pan-Alberta	Case No. 9357/CK	Contract Arbitration
Utilicorp United Inc.	4/97	Utilicorp vs. Pan-Alberta	Case No. 9373/CK	Contract Arbitration
IES Utilities	97	IES vs. Pan-Alberta	Case No. 9374/CK	Contract Arbitration



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Mitsubishi Heavy Industries, Ltd., and Mitsubishi Nuclear Energy Systems, Inc.	12/15 2/16	Southern California Edison Company, Edison Material Supply LLC, San Diego Gas & Electric Co., and the City of Riverside vs. Mitsubishi Heavy Industries, Ltd., and Mitsubishi Nuclear Energy Systems, Inc.	Case No. 19784/AGF/RD	Damages Arising Under a Nuclear Power Equipment Contract
International Chamber of Commerce				
Senvion GmbH	4/17	Senvion GmbH v. EDF Renewable Energy, Inc.	Case No. 01-15-0005-4590	Breach-Related Damages, Unfair Competition, Unjust Enrichment
Senvion GmbH	9/17	Senvion GmbH v. EEN CA Lac Alfred Limited Partnership, et al.	Case No. 21535	Breach-Related Damages
Senvion GmbH	12/17	Senvion GmbH v. EEN CA Massif du Sud Limited Partnership, et al.	Case No. 21536	Breach-Related Damages
State of New Jersey, Mercer County Superior Court				
Transamerica Corp., et al.	7/07 10/07	IMO Industries Inc. vs. Transamerica Corp., et al.	Docket No. L-2140-03	Breach-Related Damages, Enterprise Value
State of New York, Nassau County Supreme Court				
Steel Los III, LP	6/08	Steel Los II, LP & Associated Brook, Corp v. Power Authority of State of NY	Index No. 5662/05	Property Seizure
Province of Alberta, Court of Queen's Bench				
Alberta Northeast Gas Limited	5/07	Cargill Gas Marketing Ltd. vs. Alberta Northeast Gas Limited	Action No. 0501-03291	Gas Contracting Practices
Quebec Superior Court, District of Gaspé				
Senvion Canada and Senvion GmbH	2/19	Senvion Canada and Senvion GmbH v. Suspendem Rope Access		Breach-Related Damages, Reimbursement of Liquidated Damages, Reimbursement of Scheduled Maintenance Penalties



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
State of New Hampshire, Judicial Court-Rockingham Superior Court				
Public Service Company of New Hampshire d/b/a Eversource Energy	10/18	Public Service Company of New Hampshire d/b/a Eversource Energy v. City of Portsmouth	Case No. 218-2016-CV-00899 Case No. 218-2017-CV-00917	Valuation of Transmission and Distribution Assets
State of New Hampshire, Superior Court-Merrimack County				
Public Service Company of New Hampshire d/b/a Eversource Energy	3/19	Public Service Company of New Hampshire d/b/a Eversource Energy v. Town of Bow	Docket No. 217-2015-CV-00469, Docket No. 217-2016-CV-00474, Docket No. 217-2017-CV-00422	Valuation of Transmission and Distribution Assets
State of Rhode Island, Providence City Court				
Aquidneck Energy	5/87	Laroche vs. Newport		Least-Cost Planning
State of Texas, Hutchinson County Court				
Western Gas Interstate	5/85	State of Texas vs. Western Gas Interstate Co.	Case No. 14,843	Cost of Service
State of Utah, Third District Court				
PacifiCorp & Holme, Roberts & Owen, LLP	1/07	USA Power & Spring Canyon Energy vs. PacifiCorp. et al.	Civil No. 050903412	Breach-Related Damages
U.S. Bankruptcy Court, District of New Hampshire				
EUA Power Corporation	7/92	EUA Power Corporation	Case No. BK-91-10525-JEY	Pre-Petition Solvency
U.S. Bankruptcy Court, District of New Jersey				
Ponderosa Pine Energy Partners, Ltd.	7/05	Ponderosa Pine Energy Partners, Ltd.	Case No. 05-21444	Forward Contract Bankruptcy Treatment
U.S. Bankruptcy Court, No. District of New York				
Cayuga Energy, NYSEG Solutions, The Energy Network	09/09	Cayuga Energy, NYSEG Solutions, The Energy Network	Case No. 06-60073-6-sdg	Going Concern



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
U.S. Bankruptcy Court, So. District of New York				
Johns Manville	5/04	Enron Energy Mktg. v. Johns Manville; Enron No. America v. Johns Manville	Case No. 01-16034 (AJG)	Breach of Contract, Damages
U.S. Bankruptcy Court, Northern District of Texas				
Southern Maryland Electric Cooperative, Inc., and Potomac Electric Power Company	11/04	Mirant Corporation, et al. v. SMECO	Case No. 03-4659; Adversary No. 04-4073	PPA Interpretation, Leasing
U.S. Court of Federal Claims				
Boston Edison Company	7/06 11/06	Boston Edison Company v. United States	No. 99-447C No. 03-2626C	Spent Nuclear Fuel Breach, Damages
Consolidated Edison Company	7/07	Consolidated Edison Company	No. 06-305T	Evaluation of Lease Purchase Option
Consolidated Edison Company	2/08 6/08	Consolidated Edison Company v. United States	No. 04-0033C	Spent Nuclear Fuel Breach, Damages
Vermont Yankee Nuclear Power Corporation	6/08	Vermont Yankee Nuclear Power Corporation v. United States	No. 03-2663C	Spent Nuclear Fuel Breach, Damages
Virginia Electric and Power Company d/b/a Dominion Virginia Power	3/19	Virginia Electric and Power Company d/b/a Dominion Virginia Power v. United States	No. 17-464C	Double Recovery, Cost Recovery of Infrastructure Improvements
U. S. District Court, Boulder County, Colorado				
KN Energy, Inc.	3/93	KN Energy vs. Colorado GasMark, Inc.	Case No. 92 CV 1474	Gas Contract Interpretation
U. S. District Court, Northern California				
Pacific Gas & Electric Co./PGT PG&E/PGT Pipeline Exp. Project	4/97	Norcen Energy Resources Limited	Case No. C94-0911 VRW	Fraud Claim
U. S. District Court, District of Connecticut				
Constellation Power Source, Inc.	12/04	Constellation Power Source, Inc. v. Select Energy, Inc.	Civil Action 304 CV 983 (RNC)	ISO Structure, Breach of Contract



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
U.S. District Court, Northern District of Illinois, Eastern Division				
U.S. Securities and Exchange Commission	4/12	U.S. Securities and Exchange Commission v. Thomas Fisher, Kathleen Halloran, and George Behrens	Case No. 07 C 4483	Prudence, PBR
U. S. District Court, Massachusetts				
Eastern Utilities Associates & Donald F. Pardus	3/94	NECO Enterprises Inc. vs. Eastern Utilities Associates	Civil Action No. 92-10355-RCL	Seabrook Power Sales
U. S. District Court, Montana				
KN Energy, Inc.	9/92	KN Energy v. Freeport MacMoRan	Docket No. CV 91-40-BLG-RWA	Gas Contract Settlement
U.S. District Court, New Hampshire				
Portland Natural Gas Transmission and Maritimes & Northeast Pipeline	9/03	Public Service Company of New Hampshire vs. PNGTS and M&NE Pipeline	Docket No. C-02-105-B	Impairment of Electric Transmission Right-of-Way
U. S. District Court, Southern District of New York				
Central Hudson Gas & Electric	11/99 8/00	Central Hudson v. Riverkeeper, Inc., Robert H. Boyle, John J. Cronin	Civil Action 99 Civ 2536 (BDP)	Electric Restructuring, Environmental Impacts
Consolidated Edison	3/02	Consolidated Edison v. Northeast Utilities	Case No. 01 Civ. 1893 (JGK) (HP)	Industry Standards for Due Diligence
Merrill Lynch & Company	1/05	Merrill Lynch v. Allegheny Energy, Inc.	Civil Action 02 CV 7689 (HB)	Due Diligence, Breach of Contract, Damages
U. S. District Court, Eastern District of Virginia				
Aquila, Inc.	1/05 2/05	VPEM v. Aquila, Inc.	Civil Action 304 CV 411	Breach of Contract, Damages
U. S. District Court, Western District of Virginia				
Washington Gas Light Company	8/15 9/15	Washington Gas Light Company v. Mountaineer Gas Company	Civil Action No. 5:14-cv-41	Nominations and Gas Balancing, Lost and Unaccounted for Gas, Damages

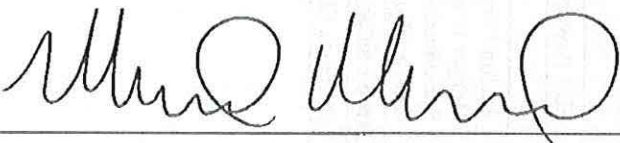


SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
U. S. District Court, Portland Maine				
ACEC Maine, Inc. et al.	10/91	CIT Financial vs. ACEC Maine	Docket No. 90-0304-B	Project Valuation
Combustion Engineering	1/92	Combustion Eng. vs. Miller Hydro	Docket No. 89-0168P	Output Modeling, Project Valuation
U.S. Securities and Exchange Commission				
Eastern Utilities Association	10/92	EUA Power Corporation	File No. 70-8034	Value of EUA Power
U.S. Tax Court in Illinois				
Exelon Corporation	4/15 6/15	Exelon Corporation, as Successor by Merger to Unicom Corporation and Subsidiaries et al. v. Commission of Internal Revenue	Docket Nos. 29183-13, 29184-13	Valuation of Analysis of Lease Terms and Quantify Plant Values
Council of the District of Columbia Committee on Consumer and Regulatory Affairs				
Potomac Electric Power Co.	7/99	Potomac Electric Power Co.	Bill 13-284	Utility Restructuring




Joint Planning and Procurement Procedure for Purchasing Ameren Services Company Products and Services

Effective Date: [9/26/18]

Approved By:  Date: 9/26/18

**Michael Moehn
President – Ameren Missouri**

Approved By:  Date: 9/26/18

**Marty Lyons
President – Ameren Services Company**

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1.0 Purpose

- 1.1 The purpose of this document is to establish the procedure used by Ameren Missouri for planning for and purchasing products and services from Ameren Services Company (AMS) in an efficient process.

This process is designed to allow Ameren Missouri to determine its need for, the nature of, and the value of the products and services offered by AMS. This process contemplates that Ameren Missouri will analyze and evaluate practical alternatives, if any, including performing the service or developing the product within Ameren Missouri, before Ameren Missouri makes commitments to purchase AMS products and services from AMS. This procedure allows Ameren Missouri to explore additional opportunities for obtaining the products or services it needs, and to increase the value of the products and services AMS provides to Ameren Missouri by either reducing the cost or increasing the service level.

- 1.2 It is understood that Ameren Missouri is responsible to perform adequate review and evaluation to support its decision to procure specific AMS products and services for the current year as well as the following budget year. It is understood that Ameren Missouri is responsible to ensure AMS provides all necessary information to facilitate a review of the products, services, and billings received from AMS, in order to determine whether Ameren Missouri should dispute or question AMS charges.

2.0 Scope

- 2.1 This procedure applies to all expenditures made by Ameren Missouri for AMS products and services, whether charged to balance sheet or income statement accounts.
- 2.2 This procedure does not apply to transactions under the Money Pool Agreement, under the Tax Allocation Agreement, or to products or services purchased by AMS as agent for Ameren Missouri on Ameren Missouri's behalf.
- 2.3 This procedure applies to current year AMS expenditures charged to Ameren Missouri and to development of the annual budget of AMS expenditures charged to Ameren Missouri for the following year.

3.0 AMS Joint Planning and Procurement Process

- 3.1 AMS planning and procurement is done on an annual basis, beginning no later than the end of September, so that it may be completed prior to the final Ameren Missouri board meeting of the year, normally held in December.
- 3.2 An initial comprehensive joint planning and procurement meeting is held between representatives of Ameren Missouri and AMS.

3.2.1 The President of Ameren Missouri, the Sr. Vice President – Customer and Power Operations, the Sr. Vice President and Chief Nuclear Officer, and the Vice President – External Affairs and Communications will ensure that they have obtained the views of employees within their organizations as necessary to properly evaluate the products and services available from AMS.

3.2.2 AMS Officers (Vice President or Sr. Vice President) representing each AMS organization providing products or services to Ameren Missouri will ensure that they have obtained information from employees in their organizations as necessary to properly provide Ameren Missouri with relevant information regarding the products and services available from AMS.

3.2.3 By a deadline to be determined by Ameren Missouri each year, AMS will provide to Ameren Missouri detailed information for Ameren Missouri to review in advance of the initial comprehensive planning and procurement meeting. This deadline shall be far enough in advance of the meeting to allow for in-depth review by Ameren Missouri leaders and for broader dissemination and in-depth review by Ameren Missouri employees at lower levels of the Company. The information provided by AMS shall include:

3.2.3.1 Descriptions of the individual services and products AMS is willing to provide Ameren Missouri, with details defining what is included in the product or service,

3.2.3.2 AMS' assessment of opportunities for Ameren Missouri to consider alternatives for obtaining the product or service or to increase the value derived from each product and service to Ameren Missouri by reducing the cost or increasing the service level.

3.2.3.3 Projected aggregate annual AMS costs related to its products and services provided to Ameren Missouri, including year-over-year comparisons,

3.2.3.4 Projected annual costs for each AMS product and service offered, including year-over-year actual historical costs comparisons.

3.2.3.4 Records of AMS' exercise of its authority as agent for Ameren Missouri during the prior year.

3.2.3.5 Any additional information requested by Ameren Missouri from AMS needed to prepare for the initial comprehensive planning and procurement meeting. Ameren Missouri and AMS are expected to document and communicate their current positions regarding AMS transactions at the time any material issue/matter develops and not wait until this annual initial comprehensive planning and procurement meeting.

3.2.4 Ameren Missouri will assign company resources as necessary to review the detailed information in advance of the initial comprehensive planning and procurement meeting, and ensure that:

3.2.4.1 Ameren Missouri understands the full nature of the products and services that AMS offers to Ameren Missouri.

3.2.4.2 Ameren Missouri evaluates the nature and extent of the products and services it will receive for the coming year.

3.2.4.3 Ameren Missouri evaluates practical alternatives, if any, such as providing them within Ameren Missouri or outsourcing them to third parties other than AMS, to determine if such actions would increase the value derived from the products and services.

3.2.4.4 Ameren Missouri assesses and provides feedback to AMS on opportunities for AMS to increase the value of products and services it is willing to provide to Ameren Missouri, either by reducing costs or increasing service levels.

3.2.4.5 Ameren Missouri assesses and provides feedback to AMS on opportunities for AMS to provide value to Ameren Missouri and other Ameren affiliates by providing new or additional products and services needed by Ameren Missouri, at a lower cost or with a higher service level than Ameren Missouri could otherwise do on its own.

3.2.4.6 Ameren Missouri assesses and provides feedback to AMS regarding the nature and extent of AMS' historical exercise of its authority as Ameren Missouri's agent and provides instructions with respect to any limits on such authority or consultation required by AMS with Ameren Missouri with respect to exercise of such authority during the upcoming year.

3.2.5 If the first meeting is not conclusive regarding the products, services, and price terms between AMS and Ameren Missouri, follow-up actions will be agreed to by AMS and Ameren Missouri, which may include additional meetings of the appropriate Ameren Missouri and AMS representatives.

3.3 Once Ameren Missouri agrees to the purchase of specific AMS products and/or services, Ameren Missouri will adjust its budgets to reflect the results of decisions made in this joint planning and procurement process and ensure that appropriate parties enter these results in the budget system before required deadlines.

3.4 Ameren Missouri will ensure that the individual products and services that AMS is to provide to Ameren Missouri are documented contemporaneously and also reflected in Ameren Missouri's next CAM filing.

4.0 Oversight/Approval Process

4.1 Ameren Missouri understands its responsibility to ensure payments to AMS are consistent with the products and services approved by Ameren Missouri. In order to support payments to AMS, Ameren Missouri will establish a monitoring process documenting the receipt of the specified product and/or service from AMS, as agreed to with Ameren Missouri, as well as Ameren Missouri's level of satisfaction with the received product or service as compared to the specified conditions for the received product or service outlined in the Ameren Missouri – AMS General Services Agreement, and will establish a monitoring process for AMS' exercise of agency authority on Ameren Missouri's behalf. Ameren Missouri shall ensure that its agreement with AMS includes a billing format that facilitates the Ameren Missouri approval process.

5.0 Internal Audit

5.1 Ameren Missouri shall initially conduct annual audits to assess the level of compliance with this procedure and to identify corrective actions, if any, necessary to ensure ongoing compliance and satisfaction of Ameren Missouri's stated responsibilities. After three years and upon a showing of a high level of compliance and responsibility satisfaction, these audits may be conducted not less than once every four years.

Line No.	Service Company	Operating Companies	Services Provided by Affiliated Services Company
1	AES US Services, LLC	<ol style="list-style-type: none"> 1. Indianapolis Power & Light Company 2. IPALCO Enterprises, Inc. 3. AES Corporation (on behalf of US Generation Plants) 4. The Dayton Power and Light 5. AES Ohio Generation, LLC 6. DPL Inc 7. Miami Valley Lighting, LLC 8. Miami Valley Insurance Company 9. MacGregor Park, Inc. 10. AES Alamos, LLC 11. AES Redondo Beach, LLC 12. AES Hawaii, Inc. 13. AES WR Limited Partnership 14. AES Shady Point, LLC 15. AES Wind Generation, LLC 16. AES ES Tait, LLC 17. THE AES Corporation 18. AES Business Development 19. AES Huntington Beach Energy, LLC 20. AES Es Alamos, LLC 21. AES Alamos Energy LLC 22. AES Distributed Energy, Inc. 	<ul style="list-style-type: none"> • Executive Staff • Controller • Technical Accounting • Financial Reporting • Regulatory Accounting • Fixed Assets • Accounts Payable • Payroll • Operational Accounting • General Accounting • Revenue Accounting • Treasury • Plant Managers • Financial Planning • Tax • Risk Management • Settlements • Legal Services • Environmental Policy • Human Resources Operations & Talent Acquisition • Human Resources - Total Rewards • Human Resources - Talent Development • Network • Communications • Customer Service • T & D Metering Services & Safety • T&D Reliability Programs • T&D Engineering • T&D Systems Operating • Infrastructure Security • Safety • Governance & Audit Programs • Internal Audit • Supply Chain • Logistics & Material Mgmt. - T&D • Business Intelligence & Analytics • Strategic Sourcing

			<ul style="list-style-type: none"> • Logistics & Material Mgmt. - Generation • IT Management • IT Infrastructure • IT Competitive Generation Applications • IT Enterprise Applications • IT Collaboration Services • IT Strategy, Security & Governance • IT T&D Applications • Human Resources Employee Relations • Merchant Portfolio Strategy • Market Operations - Systems and Analysis • A&PM Leadership/APEX • A&PM NERC • A&PM Performance • A&PM Technical Services • Generation Central Services - Workforce Development • A&PM Planning • Central Hedging & Market Analysis • A&PM Asset Management • T&D Asset Strategy • Public Affairs • A&PM Engineering
2	Algonquin Power & Utilities Corp	<ol style="list-style-type: none"> 1. Algonquin Power Trust 2. Liberty Utilities (Sub) Corp. 3. Liberty Utilities (CalPeco) LLC 4. Liberty Utilities (Granite State Electric) Corp. 5. Liberty Utilities (Energy North Natural Gas) Corp. 6. Liberty Utilities (Midstates Natural Gas) Corp. 7. Liberty Utilities (Canada) Corp. 8. Liberty Utilities (Peach State Natural Gas) Corp. 	<ul style="list-style-type: none"> • Legal Costs • Tax Services • Audit • Investor Relations • Director Fees and Insurance • Licenses, Fees and Permits • Escrow and Transfer Agent Fees • Other Professional Services • Executive and Strategic Management • Other Administration Costs

		<ol style="list-style-type: none"> 9. Liberty Utilities (Pine Bluff Water) Corp. 10. Liberty Energy Utilities (New Hampshire) Corp. 11. Liberty Utilities (New England Natural Gas) Corp. 12. Liberty Utilities (White Hall Water) Corp. 13. Liberty Utilities (White Hall Sewer) Corp. 14. Liberty Utilities Co. 15. Liberty Utilities (Park Water) Corp. 16. Empire, 17. Liberty Utilities (Woodson-Hensley Water) Corp. 	
3	Allegheny Energy Service Corporation	<ol style="list-style-type: none"> 1. FirstEnergy Service Company 	<ul style="list-style-type: none"> • All charges recorded at Allegheny Service Corporation are allocated 100% to FirstEnergy Service Company monthly
4	Alliant Energy Corporate Services, Inc	<ol style="list-style-type: none"> 1. Alliant Energy Corporation 2. Alliant Energy SPE LLC 3. Wisconsin Power and Light Company 4. Interstate Power and Light Company 5. Alliant Energy Resources, LLC 6. Heartland Energy Group, Inc. 7. AE Field Services, LLC 8. Industrial Energy Applications Delaware, Inc. 9. Alliant Energy Transportation, Inc. 10. Cedar Rapids and Iowa City Railway Company 11. El Barge Services, Inc. 12. Williams Bulk Transfer, Inc. 13. Alliant Energy Investments, Inc. 	<ul style="list-style-type: none"> • Accounting • Administrative • Corporate • Corporate Secretary • Customer Service • Customer Assistance and Customer Relations • Electric System Maintenance • Electric Distribution Engineering and Construction • Environmental Affairs • Facilities • Finance • Fuels • Gas Acquisition and Dispatch • Gas System Maintenance • Gas Transmission and Distribution Engineering and Construction • Human Resources • Information Systems • Insurance and Risk Management

		<ol style="list-style-type: none"> 14. Iowa Land and Building Company 15. Alliant Energy International, Inc. 16. Alliant Energy Generation, Inc. 17. Sheboygan Power, LLC 18. Franklin County Holdings, LLC 19. Franklin County Wind, LLC 20. Alliant Energy Finance, LLC 21. Iowa Growth and Development, LLC 22. Comprehensive Energy Solutions, LLC 23. AE Development Holdco, LLC 24. AER Biofuels, LLC 	<ul style="list-style-type: none"> • Internal Auditing • Investor Relations • Legal • Materials Management • Meters • Power Engineering and Construction Planning • Power Planning • Public and Community Affairs • Rates • Real Estate and Right of Way • Shareowner Services • Transportation
5	Ameren Services Company	<ol style="list-style-type: none"> 1. Ameren Corporation 2. Ameren Development Company 3. Ameren Energy Medina Valley Cogen, LLC 4. Ameren Illinois Company 5. Ameren Transmission Company of Illinois 6. Union Electric Company 7. ATX East, LLC 8. ATX Southwest, LLC 	<ul style="list-style-type: none"> • Human Resources • Corporate Communications • General Counsel • Corporate Operations, Continuous Improvement, Data Analytics • Strategy, Innovation, Economic Development • Treasurers • Controllers • Tax • Internal Audit • Supply Services • Ameren Services Center • Information Technology • Environmental Services • Financial Services • Transmission Services • Energy Delivery Technical Services
6	American Electric Power Service Corporation	<ol style="list-style-type: none"> 1. AEP Amazon 2. AEP Appalachian Transmission Company, Inc. 3. AEP C&I Company LLC 4. AEP Coal, Inc. 5. AEP Credit, Inc. 6. AEP Desert Sky GP, LLC 	<ul style="list-style-type: none"> • Corporate Human Resources • Information Technology • Real Estate and Workplace Services • Chief Administrative Officer Administration • Audit Services • Legal

		<ol style="list-style-type: none"> 7. AEP Desert Sky LP II, LLC 8. AEP Energy Partners, Inc. 9. AEP Energy Service Gas Holding Company 10. AEP Energy Services, Inc. 11. AEP Energy Supply LLC 12. AEP Energy, Inc 13. AEP Generating Company 14. AEP Generation Resources 15. AEP Indiana Michigan Transmission Company, Inc. 16. AEP Investments, Inc. 17. AEP Kentucky Coal, LLC 18. AEP Kentucky Transmission Company, Inc. 19. AEP Nonutility Funding LLC 20. AEP Ohio Transmission Company, Inc. 21. AEP Oklahoma Transmission Company, Inc. 22. AEP OnSite Partners, LLC 23. AEP Pro Serv, Inc. 24. AEP Properties, LLC 25. AEP Renewables, LLC 26. AEP Retail Energy Partners LLC 27. AEP Southwestern Transmission Company, Inc. 28. AEP System Pool 29. AEP T&D Services, LLC 30. AEP Texas Company 31. AEP Transmission Company, LLC 32. AEP Transmission Holding Company, LLC 	<ul style="list-style-type: none"> • Chief Executive Officer Administration • Corporate Accounting • Corporate Planning & Budgeting • Investor Relations • Risk and Strategic Initiatives • Supply Chain & Fleet Operations • Treasury • Chief Financial Officer Administration • Aviation • Cyber Risk & Security Services • Physical Security • Chief Security Officer Administration • Commercial Operations • Energy Supply Administration • Chief Customer Officer • Corporate Communications • Federal Affairs • Regulatory Services • External Affairs Administration • Environmental Services • Fossil and Hydro Generation • Generation Business Services • Generation Engineering and Technical Services - Engineering Services • Generation Engineering and Technical Services - Project and Construction • Regulated Commercial Operations • Generation Administration • Corporate Safety & Health • Transmission Asset Strategy & Policy • Transmission Business Operations Programs • Transmission Controls and Field Services • Transmission Grid Development • Transmission Administration • Utility Operations
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		<p>33. AEP Transmission Partner LLC</p> <p>34. AEP Utility Funding LLC</p> <p>35. AEP West Virginia Transmission Company, Inc.</p> <p>36. AEP Wind GP, LLC</p> <p>37. AEP Wind Holding Company, LLC</p> <p>38. AEP Wind LP II, LLC</p> <p>39. American Electric Power Company</p> <p>40. Appalachian Power Company</p> <p>41. Blackhawk Coal Company</p> <p>42. Bold Transmission, LLC</p> <p>43. BSE Solutions LLC</p> <p>44. Cardinal Operating Company</p> <p>45. Cedar Coal Company</p> <p>46. Central Appalachian Coal Company</p> <p>47. Central Coal Company</p> <p>48. Conesville Coal Preparation Company</p> <p>49. CSW Energy, Inc.</p> <p>50. Desert Sky Wind Farm LP</p> <p>51. Dolet Hills Lignite Co, LLC,</p> <p>52. Electric Transmission America</p> <p>53. Electric Transmission TX, LLC</p> <p>54. Franklin Real Estate Company</p> <p>55. Grid Assurance LLC</p> <p>56. Indiana Michigan Power Company</p> <p>57. Kentucky Power Company</p> <p>58. Kingsport Power Company</p> <p>59. Ohio Franklin Realty, LLC</p> <p>60. Ohio Power Company</p> <p>61. Oxbow Lignite Company, LLC</p>	
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		<p>62. Public Liability 63. Public Service Company of Oklahoma 64. RITELine Indiana, LLC 65. Snowcap Coal Company, Inc. 66. Solar LLCs 67. Southern Appalachian Coal Company 68. Southwestern Electric Power Company 69. Transource Energy, LLC 70. Transource Maryland 71. Transource Missouri, LLC 72. Transource Pennsylvania 73. Transource West Virginia, LLC 74. Trent Wind Farm LP 75. United Sciences Testing, Inc. 76. Wheeling Power Company</p>	
7	ATC Management Inc	<p>1. American Transmission Company LLC 2. ATC Development Manager Inc</p>	<ul style="list-style-type: none"> • Asset Management • Business Administration Services • Compliance & Risk Management • Corporate • Corporate Communications • Facilities • Finance & Accounting • Human Resources • Information Technology • Legal • Officers • Business Development • Construction • Corporate Security • Customer Relations • Environmental & Local Relations • Governmental Relations • Public Affairs • Real Estate • Regulatory Relations & Policy • System Operations

8	Avangrid Service Company	<ol style="list-style-type: none"> 1. Scottish Power UK PLC 2. AVANGRID Networks, Inc. 3. New York State Electric & Gas Corporation 4. Rochester Gas and Electric Corporation 5. Central Maine Power Company 6. CMP Group, Inc. 7. The Union Water Power Company 8. Maine Electric Power Company, Inc. 9. Chester SVC Partnership 10. Maine Natural Gas Corporation 11. AVANGRID Networks NY Transco 12. UIL Holdings Corporation 	<ul style="list-style-type: none"> • System Planning • Innovation • Environment & Quality • Real Estate and General Services • Corporate Security • IT • Human Resources • Purchasing • Insurance • Finance and Treasury • Risks • Control • Administration • Tax • Communications • Legal Services • Corporate Development • DG Business and Regulation • External Audit • Secretary of the Board • Internal Audit • Compliance
9	Black Hills Service Company, LLC	<ol style="list-style-type: none"> 1. Wyodak Resources Dev Corp 2. Black Hills Wyoming LLC 3. Black Hills Electric Generation LLC 4. Black Hills Non-Regulated Holdings LLC 5. Black Hills Colorado IPP, LLC 6. Generation Development Co LLC 7. N780BH LLC 8. Black Hills Exploration & Production LLC 9. Black Hills Power Inc 10. Cheyenne Light Fuel and Power 11. Black Hills Utility Holdings Inc 12. Black Hills Kansas Gas Utility Co LLC 13. Black Hills Iowa Gas Utility Co LLC 	<ul style="list-style-type: none"> • Environmental Services • Property Accounting • Accounting Systems • Accounts Payable • Tax • Credit and Risk • General Accounting • Insurance • Internal Audit • Legal • Corporate Affairs • Budget and Forecast • Accounting-Central Services • Engineering Rotation Program • Internal Audit • In-House Creative Solutions • Records Management • Supply Chain Management • Contract Management • Strategic Sourcing • Fleet Services • Facilities • Governmental Affairs • IT Administration

		<ol style="list-style-type: none"> 14. Black Hills Nebraska Gas Utility Co LLC 15. Black Hills Colorado Electric Utility Co LP 16. Black Hills Colorado Gas Utility Co LP 17. Black Hills Northwest Wyoming Gas Utility Co 18. Black Hills Shoshone Pipeline LLC 19. Black Hills Energy Arkansas, Inc 20. Black Hills Gas Distribution Colorado 21. Black Hills Gas Distribution Nebraska 22. Black Hills Gas Distribution Wyoming 23. Rocky Mountain Natural Gas LLC 24. Black Hills Energy Services Company 25. Black Hills Corporation 	<ul style="list-style-type: none"> • IT Business Applications Wholesale & Enterprise • IT Business Applications Web Service Support • IT Business Applications Financial & HR Systems • IT Infrastructure Services • IT Communications • IT User Services Corporate Security • IT Compliance • Material Management • Continuous Improvement • IT Helpdesk/Technology Integration • Procurement • Corporate Development • Corporate Governance • Shareholder Services • Executive Management • Finance & Treasury • Financial Reporting • Safety • Human Resources Regulated • Compensation & Benefits • Organizational Development & Training • Power Delivery Management • Accounting-Generations Services • IT Business Applications Regulated • Assets Blended • Accounting Accruals • Benefits • BHSC portion of the Rapid city Plant Street • Facility • Midlands Data Facility and Bellevue • Data Center Facility • Corporate Development • Corporate Governance • Shareholder Services • Executive Management • Finance & Treasury • Financial Reporting • Safety
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			<ul style="list-style-type: none"> • Human Resources Regulated • Compensation & Benefits • Organizational Development & Training • Power Delivery Management • Accounting-Generations Services • IT Business Applications Regulated • Generation Plant Operations • CPGS Plant Operations • Rapid City Plant Street Facility • Baken Park Facility • Denver Office Facility
10	Black Hills Utility Holdings, Inc	<ol style="list-style-type: none"> 1. Black Hills Power Inc 2. Cheyenne Light Fuel and Power 3. Black Hills Kansas Gas Utility Company LLC 4. Black Hills Iowa Gas Utility Company LLC 5. Black Hills Nebraska Gas Utility Company LLC 6. Black Hills Colorado Electric Utility Company LP 7. Black Hills Colorado Gas Utility Company LP 8. Black Hills Northwest Wyoming 9. Black Hills Shoshone Pipeline 10. Black Hills Energy Arkansas 11. Black Hills Gas Distribution Colorado 12. Black Hills Gas Distribution Nebraska 13. Black Hills Gas Distribution Wyoming 14. Rocky Mountain Natural Gas 15. Black Hills Energy Service Company 16. Black Hills Gas Holdings LLC 17. Black Hills Utility Money Pool Company 	<ul style="list-style-type: none"> • BHUH Benefits Loading • BHUH Accounting Accruals • All Blended Assets • Electric Blended Assets • Gas Blended Assets • Electric Engineering Services • Regulatory Services Utility • Operations Management • Business Development • Power Supply and Renewables • Electric Ops Communications • Gas Engineering Management • Gas Supply Services Administration • Computer Aided Dispatch • FAME Assets • Work Management Assets • Regulated Generation Assets • Customer Blended Assets • Gas • Engineering Services • GIS Support • General Meter Shop • Customer Serv Call Centers • Customer Serv Supp / LV • Billing • Customer Serv Billing/Collections • Customer Serv Field Resource Center • Repair Business Marketing • Regulatory Affairs • Energy Efficiency/DSM • Transmission Planning

			<ul style="list-style-type: none"> • T&D Engineering • NERC Compliance • FERC Tariff and Compliance • Transmission and Distribution Reliability • NERC Transmission and Tech Support • Transmission Service Management • Substation/Protection Eng • Engineering Resources • Elec Maint Services • Vegetation Management
<p>11</p>	<p>CenterPoint Energy Service Company, LLC</p>	<ol style="list-style-type: none"> 1. CenterPoint Energy Houston Electric, LLC 2. CenterPoint Energy Resources Corp. 3. CenterPoint MRT Services Company 4. Enable Midstream Partners, LP 5. National Furnace Company 6. Arkansas Louisiana Finance Corp 7. CenterPoint Energy Funding Company 8. CenterPoint Energy Properties, Inc 9. CenterPoint Energy Arkla 10. CenterPoint Energy Minnesota Gas 11. Minnesota Intrastate Pipeline Company 12. CenterPoint Energy Services, Inc. 13. CenterPoint Energy Intrastate Pipelines, LLC 14. CenterPoint Energy Entex 15. CenterPoint Energy Mobile Energy Solutions, Inc. 16. Allied Materials Corporation 17. CenterPoint Energy Investment Management, Inc. 	<ul style="list-style-type: none"> • Administrative and service functions involving system-wide coordination • Strategy and compliance functions

		<ol style="list-style-type: none"> 18. CenterPoint Energy, Inc. 19. Utility Holding, LLC 20. CenterPoint Energy Southeastern Pipelines Holding, LLC 21. Labo Land Holdings, LLC 22. CenterPoint Energy Intelligent Energy Solutions, LLC 	
12	Columbia Pipeline Group Service Company	<ol style="list-style-type: none"> 1. Columbia Gas Transmission LLC 2. Columbia Gulf Transmission Co 3. Columbia Midstream Group, LLC 4. Columbia Pipeline Group Inc 5. Columbia Energy Ventures LLC 6. Crossroads Pipeline Company 7. Columbia Pipeline Partners LP 8. CNS Microwave Inc 9. Columbia Energy Group 10. Columbia Remainder Corp 	<ul style="list-style-type: none"> • Auditing • Business Unit Services • Corporate Affairs • Finance and Accounting • Human Resources and Employee Engagement • Information Technology • Legal Services • Office of CEO and President
13	Dominion Resources Services, Inc	<ol style="list-style-type: none"> 1. CNG Coal Company 2. CNG Power Services Corporation 3. Dominion Cove Point, Inc. 4. Dominion ACP Holding, Inc. 5. Dominion Capital, Inc. 6. Dominion Energy Carolina Gas Services, Inc. 7. Dominion Energy Carolina Gas Transmission, LLC 8. Dominion Energy Cove Point LNG, LP 9. Dominion Energy Fairless, LLC 10. Dominion Energy Field Services, Inc. 	<ul style="list-style-type: none"> • Accounting Services • Audit • Business Planning • Corporate Secretary • Energy Marketing • Environment • Executive • External Affairs • General Services • Legal • Operations • Travel Services • Aviation • Accounting • Information Technology • Electronic Transmission and Computer Services and Software Pooling • Human Resources

		<ol style="list-style-type: none"> 11. Dominion Energy Fuel Services, Inc. 12. Dominion Energy Gas Holdings, LLC 13. Dominion Energy Generation Marketing, Inc. 14. Dominion Energy Kewaunee, Inc. 15. Dominion Energy Manchester Street, Inc. 16. Dominion Energy Midstream GP, LLC 17. Dominion Energy Nuclear Connecticut, Inc. 18. Dominion Energy Overthrust Pipeline, LLC 19. Dominion Energy Payroll Company, Inc 20. Dominion Energy Privatization Texas, LLC 21. Dominion Energy Questar Corporation 22. Dominion Energy Questar Pipeline, LLC 23. Dominion Energy Solar CA, LLC 24. Dominion Energy Solutions, Inc. 25. Dominion Energy Technical Solutions, Inc. 26. Dominion Energy Terminal Company, Inc. 27. Dominion Energy Transmission, Inc. 28. Dominion Energy, Inc. 29. Dominion Generation, Inc. 30. Dominion Greenbrier Pipeline Co, LLC 31. Dominion Greenbrier, Inc. 32. Dominion Iroquois, Inc. 33. Dominion Lands, Inc. 34. Dominion Natrium Holdings, Inc. 	<ul style="list-style-type: none"> • Business Services • Corporate Planning • Supply Chain • Tax • Customer Services • Treasury/ Finance
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		<ol style="list-style-type: none"> 35. Dominion Products and Services, Inc. 36. Dominion Solar Holdings II, LLC 37. Dominion Solar Projects D, Inc. 38. Dominion Solar Projects IV, Inc. 39. Dominion Solar Services, Inc. 40. Dominion Voltage, Inc. 41. Hope Gas, Inc. 42. Questar Field Services, LLC 43. Questar Gas Company 44. Questar Southern Trails Pipeline Company 45. The East Ohio Gas Company 46. Tioga Properties, LLC 47. Virginia Electric and Power Company 48. Virginia Power Nuclear Services Company 49. Virginia Power Services Energy Corp., Inc. 50. Virginia Power Services, LLC 51. WexPro Company 52. Dominion Solar Projects V, Inc. 	
<p>14</p>	<p>Duke Energy Business Services, LLC</p>	<ol style="list-style-type: none"> 1. Bison Insurance Company, Ltd 2. CINCAP V LLC 3. Cinergy Corp 4. Cinergy Investments, Inc. 5. Cinergy Receivables Co LLC 6. DE Commercial Enterprises Inc 7. DE Renewables Commercial LLC 8. DE Services Canada, LTD 9. DE Transmission Holding Company, LLC 10. DEGS NC Solar LLC 11. DEGS Solar, LLC 12. DEGS Wind I, LLC 	<ul style="list-style-type: none"> • Information Systems • Meters • Transportation • System Maintenance • Marketing and Customer Relations • Transmission and Distribution Engineering and Construction • Power Engineering and Construction • Human Resources • Supply Chain • Facilities • Accounting • Power and Gas Planning and Operations • Public Affairs • Legal • Rates

		<ol style="list-style-type: none"> 13. DETMI Management, Inc. 14. Duke Energy Carolinas, LLC 15. Duke Energy Corp 16. Duke Energy Florida (f/k/a Progress Energy Florida) 17. Duke Energy Gen Service, Inc 18. Duke Energy Indiana, Inc. 19. Duke Energy International, LLC 20. Duke Energy Kentucky, Inc. 21. Duke Energy North America, LLC 22. Duke Energy Ohio, Inc. 23. Duke Energy Pipeline Holding 24. Duke Energy Progress (f/k/a Progress Energy Carolinas, Inc.) 25. Duke Energy Registration Services, Inc. 26. Duke Generation Services Holding Co. Inc. 27. Duke Investments, LLC 28. Duke Technologies Inc. 29. Frontier Windpower LLC 30. KO Transmission 31. Piedmont Natural Gas Company Inc 32. Progress Energy Inc 33. Texas Eastern Arabian Ltd. 	<ul style="list-style-type: none"> • Finance • Rights of Way • Internal Auditing • Environmental • Health and Safety • Fuels • Investor Relations • Planning • Executive • Nuclear Development
15	Entergy Enterprises, Inc	<ol style="list-style-type: none"> 1. EAM Nelson Holding, LLC 2. EK Holding III, LLC 3. EN Services LP 4. Entergy Asset Management 5. Entergy Corporation 6. Entergy Global, LLC 7. Entergy Int Holdings Ltd, LLC 	<ul style="list-style-type: none"> • Administration • Capital Project Excellence • Chief Administrative Officer • Corporate • Corporate - Legal Services • Corporate - Office of the Chief • Executive Officer • Corporate - Public Relations • Corporate Support – General

		<ol style="list-style-type: none"> 8. Entergy International Ltd, LLC 9. Entergy Nighthawk, L.P. 10. Entergy Nuclear FitzPatrick, LLC 11. Entergy Nuclear Generation Company 12. Entergy Nuclear Holding Corp-No. 1 13. Entergy Nuclear Indian Point 2, LLC 14. Entergy Nuclear Indian Point 3, LLC 15. Entergy Nuclear Nebraska, LLC 16. Entergy Nuclear Operations, Inc. 17. Entergy Nuclear Palisades, LLC 18. Entergy Nuclear Power Mktg, LLC 19. Entergy Nuclear Vermont Investment Corp 20. Entergy Nuclear Vermont Yankee LLC 21. Entergy Nuclear, Inc. 22. Entergy Power E&C Holding, LLC 23. Entergy Power Ops U.S. Inc. 24. Entergy Power RS, LLC 25. Entergy Power, LLC 26. Entergy Resources, Inc. 27. Entergy Services, Inc. 28. Entergy Solutions Ltd 29. Entergy Tech Holding Co-Parent 30. EP Gas Holding Corp 31. EP Gas Operations Corp 32. EWO Marketing LLC 33. EWO WIND II – EPGC 34. TLG Services, Inc. 35. Varibus, LLC 	<ul style="list-style-type: none"> • Entergy Asset Management – EAM • Finance - Finance and Accounting • Finance - Risk Management • Human Resources • Information Technology • Operations and Performance • Supply Chain • System Benefits • Transmission • Wholesale Ops - Energy Management • Wholesale Ops Corporate Support • Wholesale Ops External Affairs • Wholesale Ops Finance • Wholesale Ops Marketing
16	Entergy Nuclear Operations, Inc	<ol style="list-style-type: none"> 1. Entergy Arkansas, Inc. 2. Entergy Corporation 3. Entergy Enterprises, Inc. 	<ul style="list-style-type: none"> • Administration • Capital Project Excellence • Chief Administrative Officer

		<ol style="list-style-type: none"> 4. Entergy Louisiana, LLC 5. Entergy Nuclear Holding Corp-No. 1 6. Entergy Nuclear FitzPatrick, LLC 7. Entergy Nuclear Generation Company 8. Entergy Nuclear Indian Point 2, LLC 9. Entergy Nuclear Indian Point 3, LLC 10. Entergy Nuclear Nebraska, LLC 11. Entergy Nuclear Palisades, LLC 12. Entergy Nuclear Power Marketing, LLC 13. Entergy Nuclear Vermont Yankee, LLC 14. Entergy Nuclear, Inc. 15. Entergy Operations Inc. 16. Entergy Services, Inc. 17. System Energy Resources, Inc. 18. TLG Services, Inc 	<ul style="list-style-type: none"> • Corporate • Corporate - Legal Services • Corporate - Office of the Chief Executive Officer • Corporate - Public Relations • Corporate Support - General • Customer Service and Operations Support • Customer Service Support • Distribution • Finance - Finance and Accounting • Finance - Risk Management • Fossil Operations • Gas Operations • Human Resources • Information Technology • Nuclear - Non-Regulated • Nuclear - Regulated • Nuclear Corporate Support • Nuclear Operations • Operations and Performance • President • Regulatory • Supply Chain • System Benefits • System Planning • Transmission • Utility Management and Support Services • Utility Support - Distribution • Utility Support - Operations • Wholesale Ops Corporate Support • Wholesale Ops External Affairs • Wholesale Ops Finance • Wholesale Ops Marketing
<p>17</p>	<p>Entergy Operations, Inc.</p>	<ol style="list-style-type: none"> 1. Entergy Arkansas, Inc., 2. Entergy Corporation, 3. Entergy Enterprises, Inc., 4. Entergy Louisiana, LLC, 5. Entergy Nuclear Holding Corp-No. 1, 6. Entergy Nuclear FitzPatrick, LLC, 7. Entergy Nuclear Generation Company, 	<ul style="list-style-type: none"> • Administration, • Capital Project Excellence • Chief Administrative Officer, Corporate • Corporate - Legal Services • Corporate - Office of the Chief Executive, Officer • Corporate - Public Relations • Corporate Support - General • Customer Service and Operations Support

		<ol style="list-style-type: none"> 8. Entergy Nuclear Indian Point 2, LLC, 9. Entergy Nuclear Indian Point 3, LLC, 10. Entergy Nuclear Nebraska, LLC, 11. Entergy Nuclear Palisades, LLC, 12. Entergy Nuclear Power Marketing, LLC, 13. Entergy Nuclear Vermont Yankee, LLC, 14. Entergy Nuclear, Inc., 15. Entergy Operations Inc., 16. Entergy Services, Inc., 17. System Energy Resources, Inc., 18. TLG Services, Inc 	<ul style="list-style-type: none"> • Customer Service Support, Distribution • Finance - Finance and Accounting • Finance - Risk Management • Fossil Operations • Gas Operations • Human Resources • Information Technology • Nuclear - Non-Regulated • Nuclear - Regulated • Nuclear Corporate Support • Nuclear Operations • Operations and Performance • President • Regulatory • Supply Chain • System Benefits • System Planning • Transmission • Utility Management and Support Services • Utility Support - Distribution • Utility Support - Operations • Wholesale Ops Corporate Support • Wholesale Ops External Affairs • Wholesale Ops Finance • Wholesale Ops Marketing
18	Entergy Services, Inc	<ol style="list-style-type: none"> 1. Entergy Arkansas, Inc., 2. Entergy Corporation, 3. Entergy Enterprises, Inc., 4. Entergy Louisiana, LLC, 5. Entergy Mississippi, Inc., 6. Entergy New Orleans, LLC, 7. Entergy Nuclear Operations, Inc., 8. Entergy Operations, Inc., 9. Entergy Services, Inc., 10. Entergy Texas, Inc., 11. System Energy Resources, Inc. 	<ul style="list-style-type: none"> • Administration • Capital Project Excellence • Chief Administrative Officer, Corporate • Corporate - Legal Services • Corporate - Office of the Chief Executive Officer • Corporate - Public Relations • Corporate Support - General • Customer Service and Operations Support • Customer Service Support, Distribution • Finance - Finance and Accounting • Finance - Risk Management • Fossil Operations • Gas Operations

			<ul style="list-style-type: none"> • Human Resources • Information Technology • Nuclear - Non-Regulated • Nuclear - Regulated • Nuclear Corporate Support • Operations and Performance • President • Regulatory • Supply Chain • System Benefits • System Planning • Transmission • Utility Management and Support Services • Utility Support - Distribution • Utility Support - Operations • Wholesale Ops Corporate Support • Wholesale Ops External Affairs • Wholesale Ops Finance
<p>19</p>	<p>Eversource Energy Service Company</p>	<ol style="list-style-type: none"> 1. Connecticut Light and Power Company 2. Eversource Energy Parent 3. Eversource Energy Transmission Ventures Inc. 4. Eversource Gas Transmission II LLC 5. Eversource Gas Transmission LLC 6. Eversource Investment LLC 7. Eversource Investment Service Company 8. Eversource LNG Service Company LLC 9. Harbor Electric Energy Company 10. Hopkinton LNG Corp 11. HWP Company 12. North Atlantic Energy Corporation 13. North Atlantic Energy Service Corporation 14. Northeast Generation Services Company 15. Northern Pass Transmission LLC 	<ul style="list-style-type: none"> • Benefits • Building Rent and Maintenance • Corporate Relations • Customer Group • Depreciation • Electric Distribution • Energy Supply • Engineering and Emergency Prep • Enterprise Energy Strat + Bus Dev • ERM and Claims + Insurance • Finance and Accounting • General Administration • Human Resources • Information Technology • Internal Audit + Security • Investor Relations • Legal • Miscellaneous • New Business Improvement • Operations Administration • Operations Services • Supply Chain + Env Affs + Property Mgmt • Taxes • Transmission

		16. NSTAR Electric Company 17. NSTAR Gas Company 18. NU Enterprises Properties Inc 19. Public Service Company of New Hampshire 20. Renewable Properties Inc 21. The Rocky River Realty Company 22. Western Massachusetts Electric Company 23. Yankee Energy System Inc 24. Yankee Gas Services Company	
20	Exelon Business Services Company, LLC	1. Atlantic City Electric Co. 2. ATNP Finance Company 3. Baltimore Gas and Electric Company 4. BGE Home Products & Services, LLC 5. Clinton Battery Utility, LLC 6. Colorado Bend II Power, LLC 7. Commonwealth Edison Company 8. Constellation Energy Comm Grp. 9. Constellation Energy Nuclear Group, LLC (dba CENG, LLC) 10. Constellation Mystic Pwr, LLC 11. Constellation NewEnergy, Inc 12. Constellation Power Source Gen. 13. Constellation Power, Inc. 14. Delmarva Power & Light Co. 15. Exelon Corporation 16. Exelon Enterprises Company, LLC	<ul style="list-style-type: none"> • Communications • Corporate Governance (including Corporate Secretary) • Corporate Security • Corporate Strategy • Corporate Development • Executive • Finance • General Company Activities including interest severance and income taxes • Government Affairs and Public Policy • Legal Services • Transmission Operations and Planning • Human Resources • Human Resources - Labor Relations • Real Estate Services • Supply – purchasing / activities related to materials • Supply – purchasing / activities related to services • Supply – combined materials and services related purchasing / activities • Supply Administration • Credit card purchases • IT related to corporate governance areas

		<ol style="list-style-type: none"> 17. Exelon Framingham, LLC 18. Exelon Generation Company, LLC 19. Exelon Generation Finance Company, LLC 20. Exelon Generation Texas Power, LLC 21. Exelon New Boston, LLC 22. Exelon New England Holdings, LLC 23. Exelon Nuclear Security, LLC 24. Exelon PowerLabs, LLC 25. Exelon Transmission Company, LLC 26. Exelon West Medway, LLC 27. Exelon West Medway II, LLC 28. Exelon Wind, LLC 29. Exelon Wyman, LLC 30. ExTex LaPorte Limited Partnership 31. PECO Energy Company 32. PEPCO Holdings Inc. 33. PHI Service Company 34. Potomac Electric Power Co. 35. RITELine Illinois, LLC 36. RITELine Transmission Development, LLC 37. Wolf Hollow II Power, LLC. 	<ul style="list-style-type: none"> • IT related to utility customer systems • IT related to Human Resources • IT projects and applications • IT governance and other items of general nature
<p>21</p>	<p>FirstEnergy Service Company</p>	<ol style="list-style-type: none"> 1. FirstEnergy Corp. 2. FirstEnergy Solutions Corporation 3. FirstEnergy Generation, LLC 4. FirstEnergy Nuclear Generation, LLC 5. Allegheny Energy Supply, LLC 6. Allegheny Generating Company 7. FirstEnergy Nuclear Operating Company 	<ul style="list-style-type: none"> • Chairman of the Board • President & CEO • FirstEnergy Service Company • President • FE Utilities • Transmission • Distribution Support • Utility Operations • Compliance & Reg. Services • Customer Service • Energy Efficiency • President • FE Generation & CNO

		<ol style="list-style-type: none"> 8. American Transmission Systems Incorporated 9. FirstEnergy Transmission, LLC 10. Trans-Allegheny Interstate Line Company 11. AET PATH Company, LLC 12. PATH, LLC 13. AYE Series 14. PATH Allegheny Transmission Company, LLC 15. PATH Allegheny Virginia Transmission Corporation 16. PATH Allegheny Maryland Transmission Co, LLC 17. Mid-Atlantic Interstate Transmission, LLC 18. FirstEnergy Ventures Corporation 19. Bay Shore Power Company 20. FirstEnergy Properties, Inc. 21. Allegheny Ventures 22. The Cleveland Electric Illuminating Company 23. Jersey Central Power & Light Company 24. Metropolitan Edison Company 25. Monongahela Power Company 26. Ohio Edison Company 27. The Potomac Edison Company 28. Pennsylvania Electric Company 29. Pennsylvania Power Company 30. The Toledo Edison Company 31. West Penn Power Company 	<ul style="list-style-type: none"> • Environmental • EVP & Chief Financial Officer • Strategic Planning & Operations • Corporate Services & CIO • Supply Chain • Controller • Treasury • Corporate Risk • Business Development • Integrated System Planning & Development • Internal Auditing • Legal • Rates & Regulatory Affairs • Corporate • Real Estate • Records Management • External Affairs & Communications • Corporate Affairs & Community Involvement • Federal Affairs & Energy Policy • Local Affairs & Economic Development • State Affairs • Human Resources • FE Generation & CNO • Marketing & Branding
22	Great Plains Energy Services Incorporated	<ol style="list-style-type: none"> 1. KCP&L Greater Missouri Operations Company 	<ul style="list-style-type: none"> • Administrative • Management

		<ol style="list-style-type: none"> 2. Kansas City Power & Light Company 3. Great Plains Energy Incorporated 4. KLT Investments Inc. 	<ul style="list-style-type: none"> • Environmental • Support Services
23	GridLiance Management, LLC	<ol style="list-style-type: none"> 5. Midcontinent MCN LLC, 6. South Central MCN LLC, 7. Mid-Atlantic MCN LLC, 8. GridLiance West Transco LLC, 9. GridLiance Heartland LLC, 10. GridLiance West Holdings LLC 	<ul style="list-style-type: none"> • Legal • Payroll • Record-keeping • Administrative • IT services
24	Iberdrola USA Management Corporation	<ol style="list-style-type: none"> 1. Avangrid, Inc. 2. Cayuga Energy, LLC 3. Avangrid Renewables, LLC 4. Avangrid Networks, Inc. 5. New York State Electric and Gas Corporation 6. Rochester Gas and Electric Corporation 7. RGS Energy Group, Inc. 8. Avangrid Solutions, Inc. 9. Central Maine Power Company 10. CMP Group, Inc. 11. The Union Water Power Company 12. Maine Electric Power Company 13. NORVARCO 14. Chester SVC Partnership 15. CNE Energy Services Group 16. Ten Transmission Company 17. Avangrid Enterprises, Inc. 18. Maine Natural Gas Corporation 19. Enstor Gas, LLC 	<ul style="list-style-type: none"> • Innovation • Environment & Quality • Real Estate and General Services • Corporate Security • IT • Human Resources • Purchasing • Insurance • Finance and Treasury • Risks • Control • Administration • Tax • Communications • Legal Services • Corporate Development • DG Business and Regulation • External Audit • Secretary of the Board • Internal Audit • Compliance

		<p>20. Iberdrola Canada Energy</p> <p>21. Iberdrola S.A.</p> <p>22. Scottish Power</p>	
25	IntegrYS Business Support, LLC	<p>1. AMP Trillium, LLC</p> <p>2. Combined Locks Energy Center, LLC</p> <p>3. Compass Energy Gas Services, LLC</p> <p>4. Compass Energy Services, Inc.</p> <p>5. IES - Natural Gas, LLC</p> <p>6. IntegrYS Energy Group, Inc.</p> <p>7. IntegrYS Energy of New York, Inc.</p> <p>8. IntegrYS Energy Services, Inc.</p> <p>9. IntegrYS Solar, LLC</p> <p>10. IntegrYS Transportation Fuels, LLC</p> <p>11. LGS Renewables 1, LC</p> <p>12. Michigan Gas Utilities Corporation</p> <p>13. Minnesota Energy Resources Corporation</p> <p>14. North Shore Gas Company</p> <p>15. Penvest, Inc.</p> <p>16. Peoples Energy, LLC</p> <p>17. Pinnacle CNG Company, LLC</p> <p>18. Pinnacle CNG Systems, LLC</p> <p>19. Solar Hold 2008-1, LLC</p> <p>20. The Peoples Gas Light and Coke Company</p> <p>21. Trillium USA Company, LLC</p> <p>22. Trillium USA, LLC</p> <p>23. Upper Peninsula Power Company</p> <p>24. Winnebago Energy Center, LLC</p> <p>25. Wisconsin Public Service Corporation</p> <p>26. Wisconsin River Power Company</p> <p>27. WPS Empire State, Inc.</p> <p>28. WPS Investments, LLC</p>	<ul style="list-style-type: none"> • Administrative services • Corporate development • Corporate secretary • Environmental • Executive management • Governmental Relations • Corporate Communications and Regulatory Processes • Financial services • Human resources • Information technology • Legal services • Supply chain • Engineering Services • Gas supply • Customer relations • Project Services

		<p>29. WPS Power Development, Inc</p>	
<p>26</p>	<p>LG&E and KU Services Company</p>	<ol style="list-style-type: none"> 1. Louisville Gas and Electric Company 2. Kentucky Utilities Company 3. Western Kentucky Energy Corp. 4. FCD LLC 5. LG&E and KU Capital LLC 6. PPL Corporation 7. PPL Services Corporation 8. PPL Electric Utilities Corporation 	<ul style="list-style-type: none"> • Customer Service • Sales and Marketing • Economic Development and Major Accounts • Meter Reading Services • Cash Remittance • Billing Integrity • Energy Efficiency • Smart Grid Strategy • Field Services • CCS Retail Business Readiness • Project Engineering • System Laboratory • Generation • Generation Services and Safety • Fuel Procurement • Project Development • Strategy • Reliability and Tariffs • Operations and Construction • Reliability and Compliance • Energy Marketing • Market Forecasting • Load Forecasting • Generation Planning and Analysis • Network Trouble and Dispatch • Electric Engineering • Distribution Asset Management • Forestry • Substation Construction and Maintenance • Budgeting • Financial Planning • Accounting and Reporting • Property Accounting • Revenue Accounting • Payroll • Tax Accounting • Compliance and Reporting • Treasury and Corporate Finance • Risk Management • Credit Administration • Energy Marketing Trading Controls • Supply Chain

			<ul style="list-style-type: none"> • Accounts Payable • IT Security • IT Applications Development and Support • IT Infrastructure and Operations • IT Governance • IT Business Services • IT Major Projects • Legal • Compliance • Environmental Affairs • Regulatory Affairs
27	Liberty Energy Utilities (New Hampshire) Corp	<ol style="list-style-type: none"> 1. Liberty Utilities (Granite State Electric) Corp. 2. Liberty Utilities (EnergyNorth Natural Gas) Corp. 3. Liberty Utilities (Canada) Corp. 4. Liberty Utilities (Midstates Natural Gas) Corp. 5. Liberty Utilities (Calpeco Electric) LLC 	<ul style="list-style-type: none"> • No services listed
28	Liberty Utilities (Canada) Corp	<ol style="list-style-type: none"> 6. Liberty Utilities (Calpeco Electric) LLC 7. Liberty Utilities (Pine Bluff) Inc. 8. Liberty Utilities (Midstates Natural Gas) Corp. 9. Liberty Utilities (Peach State Natural Gas) Corp. 10. Liberty Utilities (Sub) Corp. 11. Liberty Energy Utilities (New Hampshire) Corp. 12. Liberty Utilities (Granite State Electric) Corp. 13. Liberty Utilities (EnergyNorth Natural Gas) Corp. 14. Liberty Utilities (New England Gas Co) Corp. 15. Liberty Utilities (White Hall Water) Corp. 	<ul style="list-style-type: none"> • Information Technology • Human Resources • Training • Environment • Health, Safety and Security • Facilities and Building Rent • Procurement • Executive and Strategic Management • Technical Services • Utility Planning • Risk Management • Financial Reporting • Planning & Administration • Compliance • Treasury • Internal Audit • External Communications • Legal Costs

		<ol style="list-style-type: none"> 16. Liberty Utilities (White Hall Sewer) Corp. 17. Algonquin Power & Utilities Corp. 18. Algonquin Power Trust 19. Liberty Utilities Co 20. Liberty Utilities Energy Solutions Corp. 21. Liberty Utilities (Pipeline & Transmission) Corp. 22. Davis Road LLP 23. Mountain Water Company 24. Liberty Utilities (Park Water) Corp. 25. Liberty Utilities (Apple Valley Ranchos Water) Corp. 26. Liberty Utilities Services Corp. 27. Algonquin Power Tinker Transmission 28. Empire Electric District 29. Liberty Utilities (Woodson-Hensley Water) Corp. 30. Blue Duchess Co Inc 31. Blue Duchess Co S.a.r.l. 32. Green Duchess Co Inc 33. Green Duchess Co S.a.r.l. 34. Éoliennes Belle-Rivière Inc. 35. Great Bay Solar I, LLC 36. Project Co (Odell Wind Farm, LLC) 37. Deerfield Wind Energy, LLC 38. Windelectric Inc. 	
<p>29</p>	<p>Liberty Utilities Service Corp</p>	<ol style="list-style-type: none"> 1. Liberty Utilities (Peach State Natural Gas) Corp. 2. Liberty Utilities Energy Solutions Corp. 3. Liberty Utilities (CalPeco Electric) LLC 4. Liberty Utilities (Sub) Corp. 	<ul style="list-style-type: none"> • Information Technology • Human Resources • Training • Environment • Health, Safety and Security • Facilities and Building Rent • Procurement • Executive and Strategic Management

		<ol style="list-style-type: none"> 5. Liberty Utilities (Pine Bluff Water) Inc. 6. Liberty Utilities (New England Gas Co) Corp. 7. Liberty Energy (Midstates Natural Gas) Corp. 8. Liberty Utilities (Canada) Corp. 9. Liberty Utilities Co 10. Algonquin Power & Utilities Corp. 11. Liberty Utilities (Pipeline & Transmission) Corp. 12. Liberty Energy Utilities (New Hampshire) Corp. 13. Algonquin Windsor Locks 14. Liberty Utilities (Park Water) Corp. 15. Liberty Utilities (White Hall Water) Corp. 16. Liberty Utilities (White Hall Sewer) Corp. 17. Liberty Utilities (Woodson-Hensley Water) Corp. 18. Empire District Electric Company 19. Liberty Power 20. Algonquin Power Sanger LLC 	<ul style="list-style-type: none"> • Technical Services • Utility Planning • Risk Management • Financial Reporting • Planning and Administration • Compliance • Treasury • Internal Audit • External Communications • Legal Costs
30	National Grid Engineering & Survey, Inc	<ol style="list-style-type: none"> 1. Boston Gas Company 2. Brooklyn Union Gas-KEDNY 3. Colonial Gas Company 4. Massachusetts Electric Co 5. Nantucket Electric Co 6. NE Electric Trans Corp 7. NE Hydro-Trans Corp 8. NE Hydro-Trans Elec Co 9. New England Power Company 10. NG Corporation 11. NG Development Holdings Corp 12. NG Energy Trading Srvcs 	<ul style="list-style-type: none"> • Maintenance and Construction • Electric Power Plant Operations • Management of Complex Construction Projects • Resource Planning and Response and Operations Performance activities

		<ol style="list-style-type: none"> 13. NG Gas East Corp-KEDLI 14. NG Generation LLC 15. NG Glenwood Energy Center 16. NG LNG LP Regulated Entity 17. NG Port Jeff Energy Center 18. NG Services, Inc. 19. NG USA Parent 20. NGUSA Service Company 21. Niagara Mohawk Power Corp 22. Transgas Inc 23. Narragansett Electric Co 	
<p>31</p>	<p>National Grid USA Service Company Inc</p>	<ol style="list-style-type: none"> 1. Boston Gas Company 2. Brooklyn Union Gas-KEDNY 3. Colonial Gas Company 4. EUA Energy Investment 5. GridAmerica Holdings Inc. 6. Massachusetts Electric Co 7. Nantucket Electric Co 8. Narragansett Electric Co 9. NE Electric Trans Corp 10. NE Hydro-Trans Corp 11. NE Hydro-Trans Elec Co 12. New England Power Company 13. NG Development Holdings Corp 14. NG Energy Management LLC 15. NG Energy Trading Svcs 16. NG Engineering Svcs, LLC 17. NG Gas East Corp-KEDLI 18. NG Generation LLC 19. NG Glenwood Energy Center 20. NG Holdings, Inc. 	<ul style="list-style-type: none"> • Resource Planning • Emergency Planning PMO • Maintenance and Construction • Operations Performance • Control Center Operations • LNG Operations • Operations Support • Asset Management • Gas Systems Engineering • Electric Systems Engineering • Investment Planning • FERC Operations • Standards • Codes and Policies • Regulatory Support and Reporting • Safety • Health • Environment • Energy Solutions Delivery • Energy Products • Market Strategy and Implementation • Customer and Business Strategy • Energy Procurement • Lead Intake • Customer Analytics and Risk Management • Customer Care • Customer Operations Support • Regulatory Strategy

		<p>21. NG LNG LP Regulated Entity</p> <p>22. NG NE Holdings 2 LLC</p> <p>23. NG Port Jeff Energy Center</p> <p>24. NG Services, Inc.</p> <p>25. NG UK</p> <p>26. NG USA Parent</p> <p>27. Niagara Mohawk Power Corp</p> <p>28. Transgas Inc</p> <p>29. Valley Appliance & Merch</p> <p>30. Wayfinder Group, Inc.</p> <p>31. Granite St Elec-Post Sale</p> <p>32. EnergyNorth Gas-Post Sale</p> <p>33. NG Electric Services</p> <p>34. PSEG Electric Serv TSA Co</p>	<ul style="list-style-type: none"> • Pricing and Federal Affairs • Labor & Employee Relations • US HR Business Partner • Recruiting • Inclusion & Diversity • HR Operations • Compensation • Benefits & Pensions • Technical Training • Employee Services (SDC) • Procure to Pay (SDC) • Response Team (SDC) • Billing Operations (SDC) • Credit and Collections (SDC) • Business Process Excellence • Property Strategy • Facilities Management • Accounting Services • Finance Business Partnering • IS Finance • Corporate Planning and Reporting • US Jurisdictions (NY • MA • RI • Fed • and LI) • Solution Delivery • Service Delivery • Relationship Management • IS Security • Corporate Counsel • Litigation • Environment and Employment • Federal and State Regulatory • Technical Training • HR Business Partners • US Treasury • US Tax • US Insurance • Business Resiliency • US Investor Relations • Ethics and Business Conduct • Records Management • Real Estate • Corporate Counsel • Procurement Strategy • Sourcing
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			<ul style="list-style-type: none"> • Communications and Brand • Federal Affairs • Government Relations • Media Relations • Internal Audit • Business Development • Strategy
32	NiSource Corporate Services Company	<ol style="list-style-type: none"> 1. Columbia Gas of Kentucky Inc 2. Columbia Gas of Maryland Inc 3. Columbia Gas of Massachusetts 4. Columbia Gas of Ohio Inc 5. Columbia Gas of Pennsylvania Inc 6. Columbia Gas of Virginia Inc 7. Columbia Gas of Ohio Receivables Corp 8. Columbia Gas of PA Receivables Corp 9. EnergyUSA Inc Indiana 10. EnergyUSA TPC Corp 11. NiSource Capital Markets Inc 18. NiSource Development Co Inc 19. NiSource Energy Technologies Inc 20. NiSource Finance Corp 21. NiSource Inc. 22. NiSource Insurance Corp Inc 23. Northern Indiana Public Svc Co 	<ul style="list-style-type: none"> • Accounting and Statistical Services • Auditing Services • Budget Services • Business Services • Corporate Services • Customer Billing, Collection, and Contact Services • Employee Services • Engineering and Research Services • Facility Services • Gas Dispatching Services • Information Services • Information Technology Services • Insurance Services • Land/Surveying Services • Legal Services • Officers, Operations Support and Planning Services • Purchasing, Storage and Disposition Services • Regulatory Services • Tax Services • Transportation Services • Treasury Services
33	Northeast Utilities Service Company	<ol style="list-style-type: none"> 1. NU Parent 2. North Atlantic Energy Corporation 3. Public Service Company of New Hampshire Properties Inc 4. The Connecticut Light and Power Company 5. Select Energy Contracting, Inc. 6. NSTAR Electric Company 	<ul style="list-style-type: none"> • Capital Expenditures • Labor • Operating Revenues • Customers • Direct Charged Costs • Facilities Floor Space • Gross Plant Assets • Invoices Processed • Common - Gross Plant Assets & Net Income • PC Counts • Vehicles

		<ol style="list-style-type: none"> 7. Select Energy, Inc. 8. Hopkinton LNG Corp 9. NSTAR Communications, Inc. 10. Harbor Electric Energy Company 11. NSTAR Gas Company 12. Western Massachusetts Electric Company 13. The Rocky River Realty Company 14. E.S. Boulos 15. Northeast Nuclear Energy Company 16. NUSCO Eliminations 17. NU Enterprises, Inc. 18. North Atlantic Energy Service Corporation 19. Yankee Energy System, Inc. 20. Yankee Gas Services Company 21. Yankee Energy Financial Services Company 22. Yankee Energy Services Company 23. HWP Company 24. Northeast Services Generation Company 25. Northeast Utilities Transmission Ventures, Inc. 26. Northern Pass Transmission, LLC 27. Renewable Properties, Inc. 	<ul style="list-style-type: none"> • Customer Handle Time • Miscellaneous
34	PHI Service Company	<ol style="list-style-type: none"> 1. Potomac Electric Company 2. Delmarva Power & Light Company 3. Atlantic City Electric Company 4. Exelon Business Services Company, LLC 5. Pepco Energy Services, Inc 6. Pepco Holdings LLC 7. Atlantic Southern Properties, Inc 	<ul style="list-style-type: none"> • Executive Management • Procurement and Administrative Services • Security • Storeroom Procurement and Materials Management • Vehicle Resource Management • General Services • Building Services (facilities cost) • Real Estate Services • Conference Center Usage • Mail

		<p>8. Conectiv Properties & Investments, Inc</p> <p>9. Atlantic City Electric Transition Funding, LLC</p> <p>10. Conectiv Holding Company, Inc.</p> <p>11. Potomac Capital Investments Corporation</p> <p>12. Conectiv Thermal Systems, Inc.</p>	<ul style="list-style-type: none"> • Records Retention Management and Reprographic Services • Financial Services and Corporate Expenses • Accounts Payable • Payroll Accounting Services • Asset and Project Accounting Services • All Other Financial Services • Salary Accruals • Other Corporate Expenses • Insurance Coverage and Services • Property Insurance • General Liability Insurance • Directors and Officers Insurance • Vehicle Insurance • Insurance Administration Services • Miscellaneous Insurance • Claims Administration Services • Human Resources • Cost of Benefits • Executive Compensation Services • All Other Human Resources Services • Legal Services • Audit Services • Customer Services • Special Billing • All Other Customer Services • Information Technology • Telephone and Related Items • Infrastructure and Application Systems Support • Mainframe and Operating Systems • Storage • Other IT Services • External Affairs • Utility Customer Communications • All other External Affairs • Environmental Services • Safety Services
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			<ul style="list-style-type: none"> • Regulated Electric and Gas Delivery System • Operations Services • Meter Maintenance and Testing Services • Power Procurement and Energy Planning • Other Delivery Services • Internal Consulting Services
35	PNMR Services Company	1. PNM, PNMR Holding Company, TNMP	<ul style="list-style-type: none"> • Financial Systems • Accounts Payable • Asset Management • Direct-PNMR Utility • Utility General • Direct-PNM Utility • IT Telecommunications • IT Infrastructure • Building services • Aztec Building • Internal Audit • Workman's' Compensation • Property Insurance • Legal Services
36	PPL EU Services Corporation	<ol style="list-style-type: none"> 1. PPL Services Corporation 2. PPL Strategic Development, LLC 3. PPL Electric Utilities Corporation 4. PPL Infrastructure Services, LLC 5. PPL TransLink, Inc. 	<ul style="list-style-type: none"> • Communications • Safety • Training • Vehicle/Equipment Leases • Office Supplies • Interior Structures • Equipment Preventative Maintenance • Operations • Furniture Maintenance & Repair • Grounds Maintenance • Cleaning Services • Facilities Projects • Tenant Services • Customer Requests • Rent - Electric Utilities Buildings • Rent - Plaza Building • Rent - Windsor Data Center • NERC Support • Electric Usage • FM Software • Energy Acquisition • IT Oversight

			<ul style="list-style-type: none"> • Keystone Solar Future Project • Planning & Analysis • Property Accounting • Strategic Development Support • Human Resources • Administrative and Leadership Functions • Contract Management • Corporate & Indirect Supply • Materials Sourcing • Warehouse Support • Supply Chain • Technical Development & Improvement
37	PPL Services Corporation	<ol style="list-style-type: none"> 1. PPL Corporation 2. PPL Capital Funding, Inc. 3. PPL Strategic Development, LLC 4. PPL Eu Services Corporation 5. CEP Reserves, Inc. 6. CEP Lending, Inc. 7. PPL Electric Utilities Corporation 8. PPL Infrastructure Services, LLC 9. PPL TransLink, Inc. 10. PPL Uk Holdings, LLC 11. PPL Global, LLC 12. PMDC International Holdings, Inc. 13. PPL Barbados SRL, LG&E and JU Services Company 	<ul style="list-style-type: none"> • Auditing • SOX Control Testing • Sox Compliance • Business Ethics • Office Of President - Net Jet • Corporate Compliance Officer • Strategic Development Support • Access and Identity Management • Cyber Security Risk Management • Cyber Security Monitoring and Protections • Compliance • Records Separation • Financial Support • Accounting Services • International Tax Compliance & Planning • Tax Compliance & Reporting-EU • Audit/PCAOB Fees • Financial Reporting • Internal Reporting • Financial Consulting Services • FinSupport for Delaware Co's • Investor Relations • Billing • Remittance Processing • Credit Services • Vendor Servicing(Corporate Disbursements) • Cash Processing Scanning Svcs • Pensions Domestic Only

			<ul style="list-style-type: none"> • Pensions Pennsylvania Only • Stock Based Compensation • Compensation & Benefits • Insurance Services-General • Financial Information Group • Strategic Development Support • Post Retirement / Medical and Life Insurance • Medical/Dental/Life Insurance/Other Insurance • Workers Compensation/Survivors Income Protection • Diversity • Asset Protection • Executive Services • Records Separation • HR-All Empl Services • HR-Salaried Empl Services • Consulting • Acquisition & Departure of Employees • HR-BU Empl Services • HR&S Projects • Implement new systems applications and infrastructure • Manage ISD-Discretionary Costs • Manage ISD-Sustenance Costs • Enhance applications infrastructure and client services • Support for existing systems applications and infrastructure Hardware • Records Separation • Legal Services • Government Affairs & Communications • Records Separation • Annual Meeting/Proxy • Board Services • PPL/EU Corporate Issues • Acquisition-Disposal of Materials and Services • Storage of Goods
38	Progress Energy Service Company, LLC	On December 31, 2015 Progress Energy Service	<ul style="list-style-type: none"> • No services listed

		was legally merged into Duke Energy Business Services	
39	SCANA Services, Inc	<ol style="list-style-type: none"> 1. South Carolina Electric & Gas Company, Inc. 2. South Carolina Fuel Company, Inc. 3. Public Service Company of North Carolina Incorporated 4. SCANA Energy Marketing, Inc. 5. South Carolina Generating Company, Inc. 6. SCANA Corporation (Parent Company) 	<ul style="list-style-type: none"> • Information systems technology services • Customer-related billing • Mailing • Remittance processing • Call center and customer communications services for electric and gas customers • Marketing-related services • Gas measurement services and fleet management services • Employee services • Administrative services including procurement • Finance • Accounting • Risk management and public affairs corporate governance services including legal • Investor relations • Shareholder services • Corporate compliance • Corporate secretarial • Strategic planning and certain executive administrative services • Telecommunications services • Gas supply and capacity management services • Gas system management and monitoring services • Gas control coordination and gas engineering services
40	Southern Company Services, Inc	<ol style="list-style-type: none"> 1. The Southern Company 2. Alabama Power Company 3. Georgia Power Company 4. Gulf Power Company 5. Mississippi Power Company 6. Southern Electric Generating Company 7. Southern Nuclear Operating Company 	<ul style="list-style-type: none"> • Accounting • Auditing • Executive and Corporate • External Affairs • Finance • Human Resources • Information Technology • Insurance • Legal and General Counsel • Marketing Services • Supply Chain Management • System Air

		<ol style="list-style-type: none"> 8. Southern Company Holdings, Inc. 9. Southern Communications Services, Inc. 10. Southern Power Company 11. Southern Company Gas 12. PowerSecure International 	<ul style="list-style-type: none"> • Treasury • Information Technology • SCG Exec and Corporate Support • Transmission, Engineering, Environmental and Research • Chief Production Officer
41	Southern Nuclear Operating Company, Inc	<ol style="list-style-type: none"> 1. Alabama Power Company 2. Georgia Power Company 3. Southern Nuclear Services, LLC 4. Southern Nuclear Development, LLC 	<ul style="list-style-type: none"> • No services listed
42	TECO Services, Inc	<ol style="list-style-type: none"> 1. TECO Energy, Inc. 2. TECO Finance 3. TECO Energy Source 4. TECO Gemstone 5. TECO Pipeline Holding Co 6. SeaCoast Gas Transmission 7. Tampa Electric Co 8. Peoples Gas System 9. TECO Partners 10. New Mexico Gas Company 11. Bridgeport Energy LLC 12. Emera Caribbean Holdings Ltd 13. Emera Caribbean Inc 14. Emera Energy Generation II LLC 15. Emera Energy Inc. 16. Emera Energy US Sub #1 17. Emera Inc. 18. Emera Maine 19. Emera US Holdings Inc 20. Grand Bahama Power Co 21. ICD Utilities Ltd. 22. Nova Scotia Power Inc. 23. Rumford Power Inc 24. Scotia Power US Ltd. 25. Tiverton Power LLC 	<ul style="list-style-type: none"> • Accounts Payable • Claim Management • Corporate Communications • Emergency Management • Human Resources • Information Technology • Procurement

43	Unitil Service Corporation	<ol style="list-style-type: none"> 1. Unitil Energy Systems, Inc. 2. Fitchburg Gas and Electric Light Company 3. UNITIL Realty Corp. 4. UNITIL Resources, Inc. 5. UNITIL Corp. 6. Northern Utilities, Inc 7. Granite State Gas Transmission, Inc 	<ul style="list-style-type: none"> • Regulatory Services • Distributed Energy Resources • Human Resources • Administrative Services • Executive • Finance • Information Systems • Accounting • Engineering • Energy Contracts • Financial Services • Business Continuity & Compliance • Customer Service • Distribution Engineering • Communication Services • Gas Engineering • Energy Measurement & Control • Gas Operations • Operations Services • Business Development
44	WEC Business Services LLC	<ol style="list-style-type: none"> 1. Bluewater Gas Storage, LLC 2. Bostco LLC 3. Elm Road Generating Station Supercritical, LLC 4. Integrys Holding, Inc. 5. Michigan Gas Utilities Corporation 6. Minnesota Energy Resources Corporation 7. North Shore Gas Company 8. Peoples Energy, LLC 9. The Peoples Gas Light and Coke Company 10. Upper Michigan Energy Resources Corporation 11. WEC Energy Group, Inc. 12. W.E. Power, LLC 13. Wisconsin Electric Power Company 14. Wisconsin Energy Capital Corporation 15. Wisconsin Gas LLC 16. Wisconsin Public Service Corporation 	<ul style="list-style-type: none"> • Administrative • Communications • Customer Service • Environmental • Executive Management • External Affairs • Finance • Human Resources • Information Technology • Legal and Governance • Supply Chain • Operational Support and Development • Wholesale Energy and Fuels

		17. Wisconsin Public Service Foundation, Inc. 18. Wisconsin River Power Company 19. Wispark LLC 20. WPS Power Development, LLC	
45	Xcel Energy Services Inc	1. NSP-Minnesota 2. PSCo, SPS 3. NSP-Wisconsin 4. Xcel Energy, Inc. 5. Xcel Energy Joint Ventures 6. e-prime, Inc. 7. Eloigne Company 8. Xcel Energy WYCO, Inc. 9. Capital Services, LLC 10. Nicollet Projects I, LLC 11. Xcel Energy Transmission Development Company, LLC 12. Xcel Energy Transmission Holding Company, LLC 13. NCE Communications, Inc. 14. Xcel Energy Wholesale Group Inc. 15. Xcel Energy Ventures Inc. 16. Chippewa and Flambeau Improvement Company 17. Xcel Energy Southwest Transmission Company, LLC 18. WestGas Interstate, Inc. 19. 1480 Welton, Inc. 20. P.S.R. Investments, Inc. 21. Clearwater Investments, Inc. 22. Xcel Energy Ventures Holdings 23. Xcel Energy Retail Holdings Inc. 24. Xcel Energy Performance Contracting Inc.	<ul style="list-style-type: none"> • Rates & Regulation • Energy Supply Engineering and Environmental • Energy Supply Business Resources • Energy Markets Regulated Trading & Marketing • Energy Markets - Fuel Procurement • Energy Delivery Marketing • Energy Delivery Construction • Operations & Maintenance (COM) • Energy Delivery Engineering/Design • Marketing & Sales • Customer Service • Business Systems • Aviation Services • Facilities Administrative Services • Supply Chain • Supply Chain Special Programs • Human Resources • Finance & Treasury • Accounting • Financial Reporting & Taxes • Payment & Reporting • Receipts Processing • Payroll • Executive Management Services • Investor Relations • Internal Audit • Legal • Claims Services • Corporate Communications • Employee Communications • Corporate Strategy & Business Development • Government Affairs

		<p>25. Xcel Energy West Transmission Company, LLC</p> <p>26. Energy Impact Fund Investments</p> <p>27. Reddy Kilowatt Corporation</p> <p>28. Quixx Corporation</p> <p>29. Xcel Energy Communications Group Inc.</p> <p>30. Xcel Energy International, Inc.</p> <p>31. Xcel Energy Markets Holdings, Inc.</p> <p>32. Nicollet Holdings Company</p> <p>33. Seren Innovations, Inc.</p> <p>34. United Power and Land Company</p> <p>35. NSP Lands, Inc.</p>	<ul style="list-style-type: none"> • Facilities & Real Estate
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Administrative and General Expense Detailed Analysis

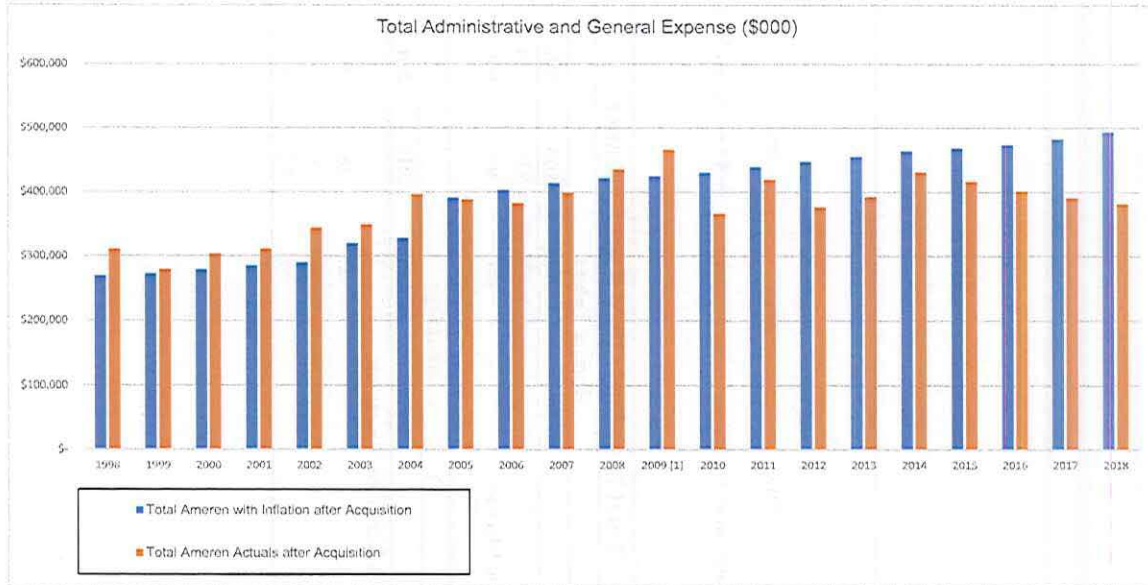
Total Administrative and General (\$000)

Inflated after Acquisition

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009 [1]	2010	2011	2012	2013	2014	2015	2016	2017	2018
Union Electric	199,146	201,386	204,292	208,861	213,453	216,826	220,840	226,784	233,851	240,938	247,408	252,241	254,151	257,104	262,477	267,516	272,204	277,348	280,325	283,386	288,771	295,278
CIPS (merger completed 12/31/1997)	66,040	66,783	67,747	69,262	70,784	71,903	73,234	75,205	77,549	79,899	82,045	83,647	84,280	85,260	87,042	88,713	90,267	91,973	92,960	93,975	95,761	97,919
CILCO (acquisition closed 1/31/2003)	27,607	27,500	55,274	16,810	18,876	25,074	25,538	26,226	27,043	27,862	28,611	29,169	29,390	29,732	30,353	30,936	31,478	32,073	32,417	32,771	33,394	34,146
IP (acquisition closed 9/30/2004)	76,303	86,538	86,766	71,635	47,579	46,025	58,861	49,599	52,521	54,113	55,566	56,651	57,080	57,744	58,950	60,082	61,135	62,290	62,959	63,647	64,856	66,317
Total Ameren with Inflation after Acquisition	199,146	268,169	272,039	278,123	284,237	288,729	319,612	328,215	390,964	402,812	413,630	421,708	424,902	429,839	438,822	447,246	455,085	463,684	468,662	473,780	482,782	493,661

Actuals

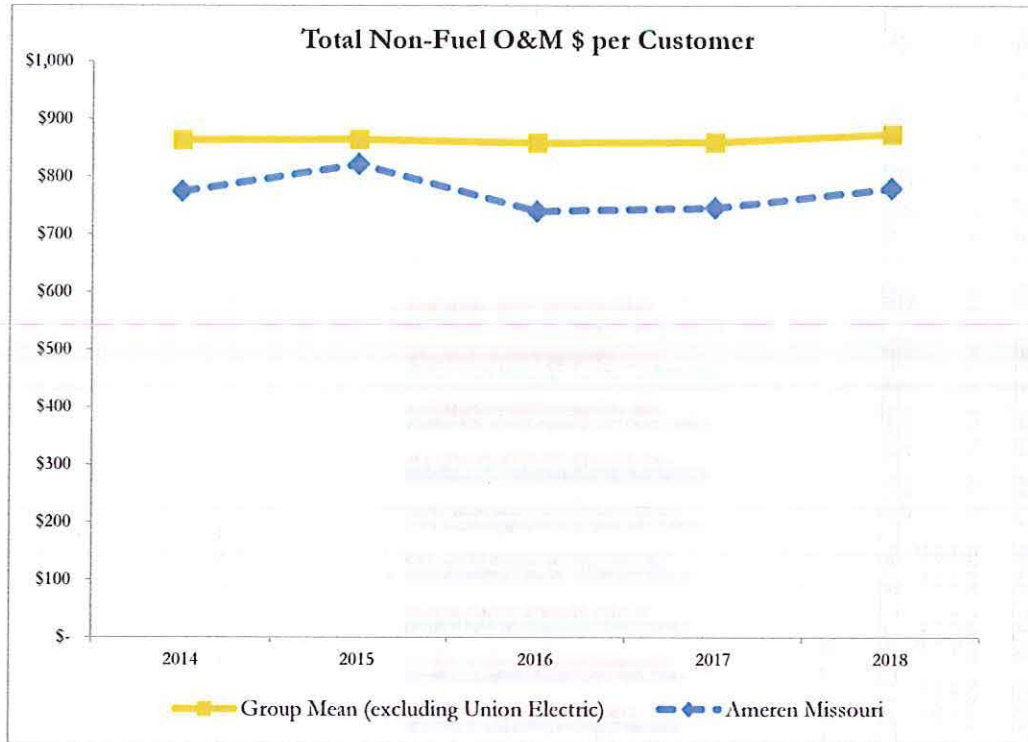
Union Electric	199,146	235,628	192,515	244,247	249,441	277,472	246,451	231,682	243,224	245,282	265,020	272,687	250,628	240,384	275,201	236,903	251,904	278,701	264,623	251,783	234,050	235,012
CIPS (merger completed 12/31/1997)	66,040	74,783	85,870	58,680	61,203	66,541	51,665	52,737	41,305	39,765	39,944	47,871	40,468									
CILCO (acquisition closed 1/31/2003)	27,607	27,500	55,274	16,810	18,876	25,074	51,181	61,881	36,057	30,052	32,037	27,610	97,824									
IP (acquisition closed 9/30/2004)	76,303	86,538	86,766	71,635	47,579	46,025	58,861	49,599	67,543	67,716	61,571	86,449	77,172									
Ameren Illinois														126,171	143,958	139,418	140,454	151,672	151,661	149,707	157,181	146,610
Total Ameren Actuals after Acquisition	199,146	310,411	278,385	302,927	310,644	344,013	349,297	395,899	388,129	382,815	398,572	434,617	466,092	366,555	419,159	376,321	392,358	430,373	416,284	401,490	391,231	381,622



NOTES

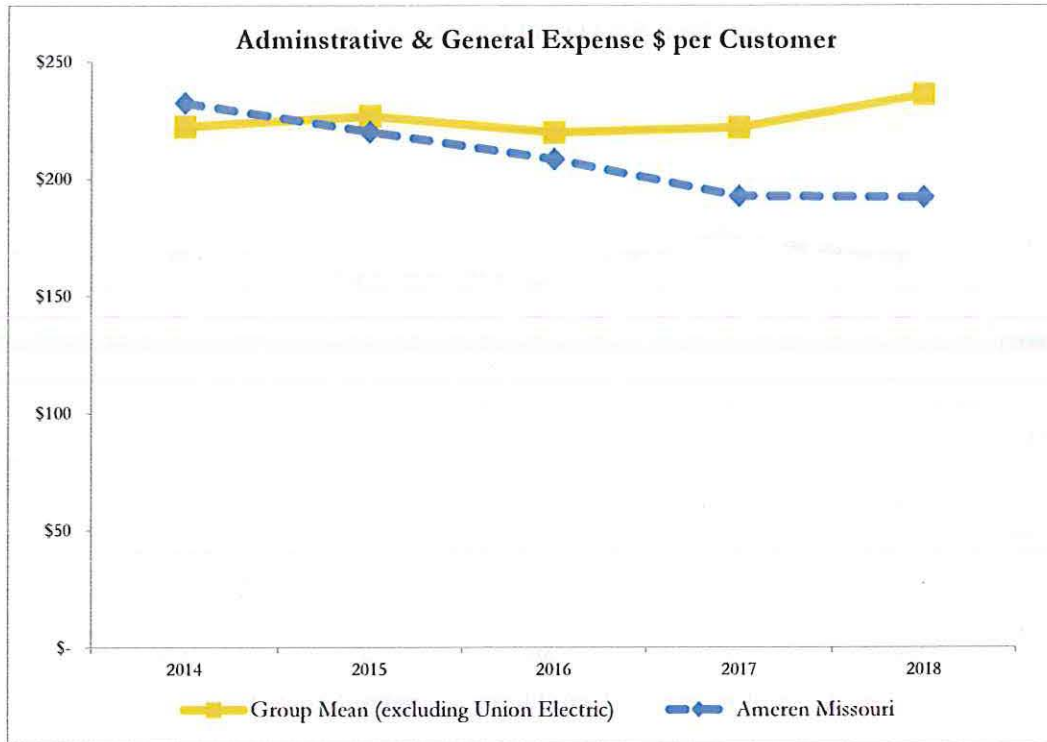
[1] Amount for CILCO in 2009 ties to the Form 1 which includes \$57,483 of intercompany billings recorded in account 921. In the Company's filing in Docket #12-0001, that amount was excluded.

National Electric Utilities With Regulated Generation



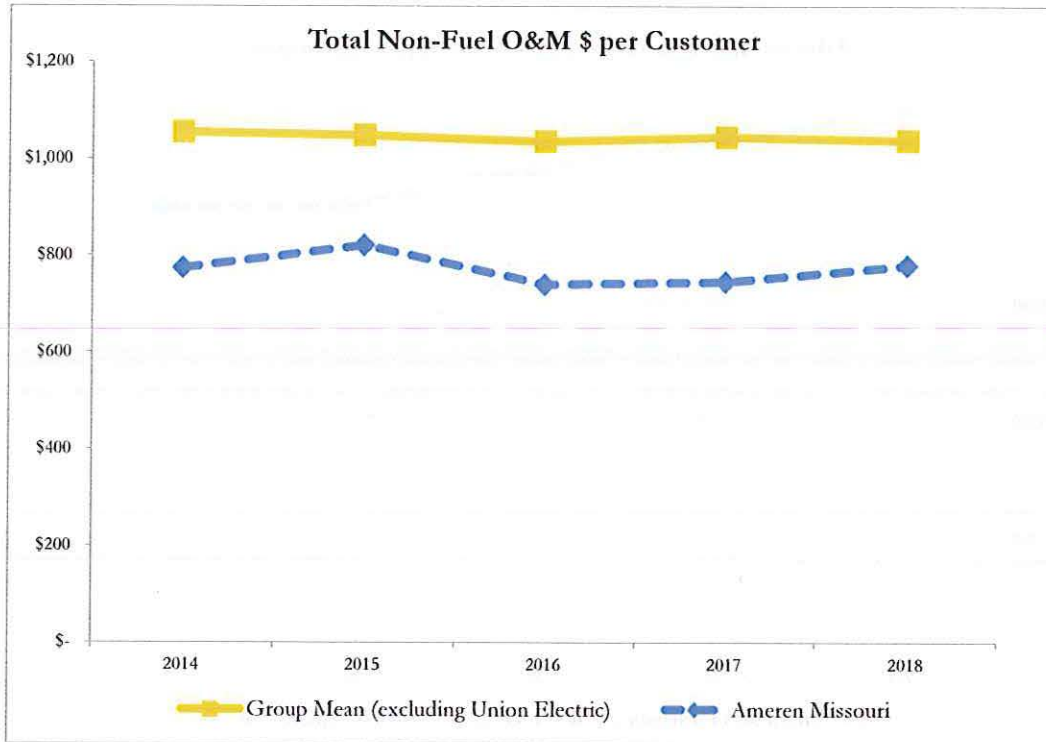
Total Non-Fuel O&M \$ per Customer					
<i>Annual Values</i>					
	2014	2015	2016	2017	2018
Ameren Missouri	774	821	740	746	779
Group Mean (excluding Union Electric)	863	865	859	859	874
<i>Rankings</i>					
	2014	2015	2016	2017	2018
National Electric Utilities With Regulated Generation					
Ameren Missouri	25	28	19	18	23
Quartile	2	3	2	2	2
Total Ranked	52	52	52	52	52

National Electric Utilities With Regulated Generation



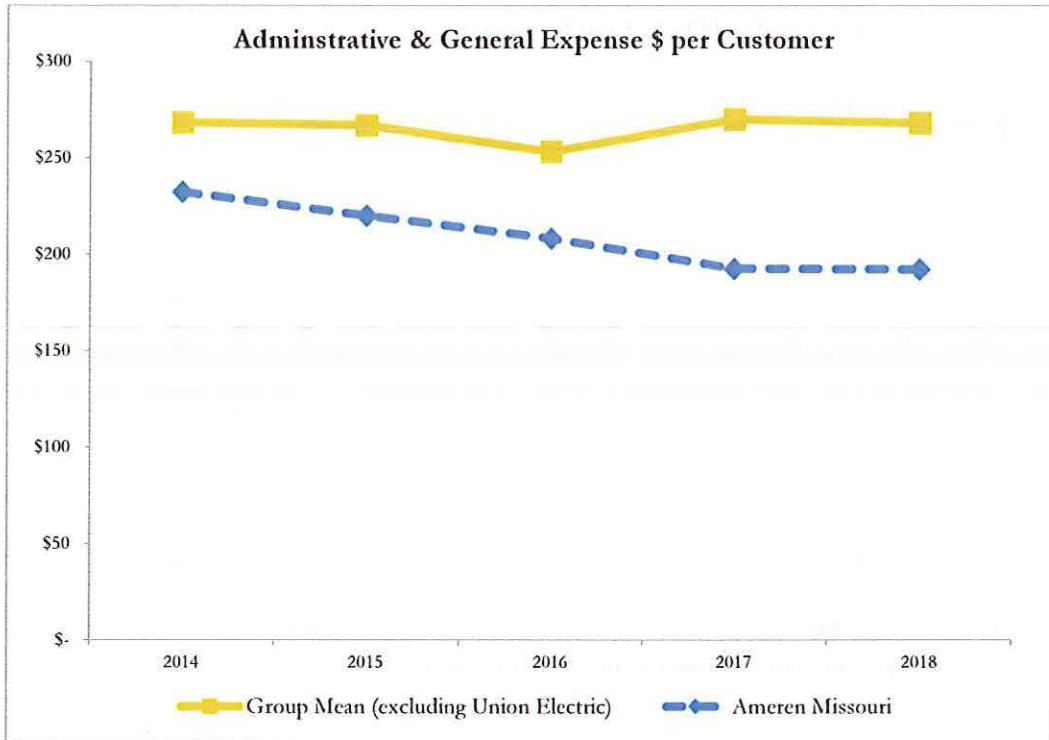
Adminstrative & General Expense \$ per Customer					
<i>Annual Values</i>					
	2014	2015	2016	2017	2018
Ameren Missouri	232	220	208	193	192
Group Mean (excluding Union Electric)	222	227	220	222	236
<i>Rankings</i>					
	2014	2015	2016	2017	2018
Electric - Utilities, With Regulated Generation					
Ameren Missouri	30	30	30	26	22
Quartile	3	3	3	2	2
Total Ranked	52	52	52	52	52

Midwest Electric Utilities With Regulated Generation



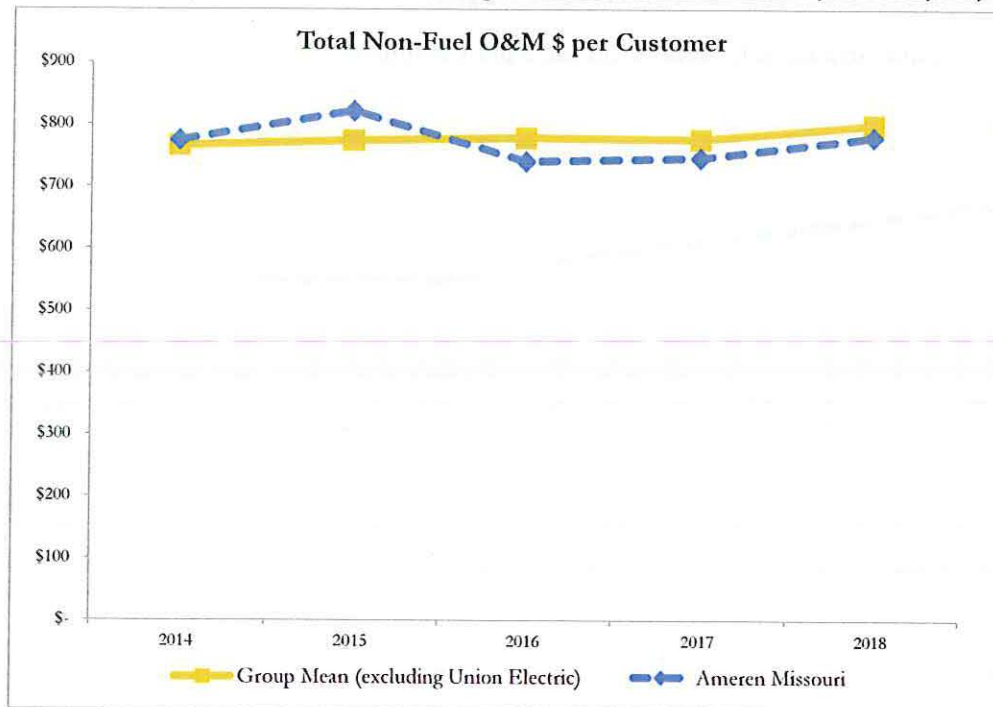
Total Non-Fuel O&M \$ per Customer					
<i>Annual Values</i>					
	2014	2015	2016	2017	2018
Ameren Missouri	774	821	740	746	779
Group Mean (excluding Union Electric)	1,055	1,048	1,036	1,045	1,038
<i>Rankings</i>					
	2014	2015	2016	2017	2018
Midwest Electric Utilities With Regulated Generation					
Ameren Missouri	6	6	1	1	4
Quartile	2	2	1	1	1
Total Ranked	18	18	18	18	18

Midwest Electric Utilities With Regulated Generation



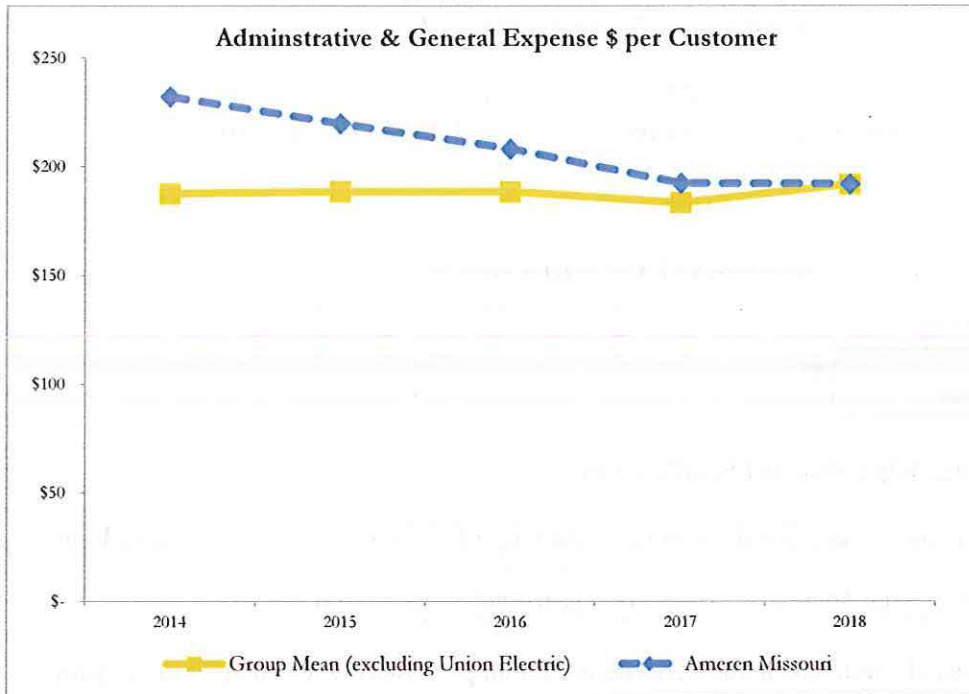
Adminstrative & General Expense \$ per Customer					
<i>Annual Values</i>					
	2014	2015	2016	2017	2018
Ameren Missouri	232	220	208	193	192
Group Mean (excluding Union Electric)	268	267	253	270	268
<i>Rankings</i>					
	2014	2015	2016	2017	2018
Electric - Midwest Utilities With Regulated Generation					
Ameren Missouri	7	6	7	5	5
Quartile	2	2	2	2	2
Total Ranked	18	18	18	18	18

National Electric Utilities With Regulated Generation & 500,000 to 2,000,000 Customers



Total Non-Fuel O&M \$ per Customer					
<i>Annual Values</i>					
	2014	2015	2016	2017	2018
Ameren Missouri	774	821	740	746	779
Group Mean (excluding Union Electric)	766	773	778	776	800
<i>Rankings</i>					
	2014	2015	2016	2017	2018
National Electric Utilities With Regulated Generation & 500,000 to 2,000,000 Customers					
Ameren Missouri	12	14	10	9	11
Quartile	3	3	2	2	3
Total Ranked	21	21	21	21	21

National Electric Utilities With Regulated Generation & 500,000 to 2,000,000 Customers



Adminstrative & General Expense \$ per Customer					
<i>Annual Values</i>					
	2014	2015	2016	2017	2018
Ameren Missouri	232	220	208	193	192
Group Mean (excluding Union Electric)	188	189	189	183	192
<i>Rankings</i>					
	2014	2015	2016	2017	2018
National Electric Utilities With Regulated Generation & 500,000 to 2,000,000 Customers					
Ameren Missouri	16	15	15	13	11
Quartile	4	3	3	3	3
Total Ranked	21	21	21	21	21

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a)
Ameren Missouri's Tariffs to Decrease Its Revenues) File No. ER-2019-0335
for Electric Service.)

AFFIDAVIT OF JOHN REED

STATE OF Massachusetts)
) ss
CITY OF Marlborough)

John Reed, being first duly sworn on his oath, states:

1. My name is John Reed. I work in the City of Marlborough, and I am employed by Concentric Energy Advisors, Inc. as Chairman and Chief Executive Officer.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of 16 pages and Schedule(s) JJR-D1 to JJR-D10, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.


John Reed

Subscribed and sworn to before me this 27 day of June, 2019.


Notary Public

My commission expires:

