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DIRECT TESTIMONY

OF

JOHN J. REED

ON BEHALF OF

AMEREN MISSOURI

June 14, 2019

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I. INTRODUCTION

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 100
19		energy and utility clients and have provided expert testimony on regulatory, economic, and

financial matters on more than 200 occasions before the Federal Energy Regulatory Commission ("FERC"), Canadian regulatory agencies, state regulatory agencies, various state and federal courts, and arbitration panels in the United States and Canada. I have also previously appeared before the Missouri Public Service Commission (the "Commission") as an expert on regulation and ratemaking issues. I am a graduate of the Wharton School of Business at the University of Pennsylvania, and previously attended the University of Kansas. My curriculum vitae, as well as a listing of my prior testimonies is provided in Schedule JJR-1.

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

A.

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

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your direct testimony?

- A. The purpose of my direct testimony is to provide my assessment and recommendation pertaining to the stipulation and agreement and the cost allocation manual ("CAM") filed by Ameren Missouri in this docket, which is supported by the Staff of the Commission.
- Q. Is the purpose of this proceeding to assess and approve the dollars paid by Ameren
 Missouri to affiliated companies for services provided?
- A. No. In this proceeding the Commission has been asked to approve the CAM, which will govern interactions between Ameren Missouri and its affiliate companies, and to approve certain variances reflected in it. Ameren Missouri is also asking the Commission to formalize the commitments Ameren Missouri made in the stipulation and agreement.²

 The stipulation and agreement does not approve any costs or make any determinations on the need for or prudence of those costs or interactions. Such issues, if any, are left to future rate proceedings.
- Q. Are there Missouri legal requirements that govern a utility's transactions with affiliated companies?
- 15 A. Yes, 4 CSR 240-20.015 and 4 CSR 240-40.015 of Missouri Code of State Regulations
 16 addresses affiliated transactions for electric and gas utilities, respectively. Ameren
 17 Missouri is both an electric and gas utility and the proposed CAM applies to both electric
 18 and gas utility affiliate transactions. The regulations are intended to prevent regulated
 19 utilities from subsidizing their nonregulated operations. To put another way, and as I

¹ It is my understanding that Ameren Missouri is requesting approval of the CAM it submitted on May 15, 2019 (covering calendar year 2018) in substitution of the CAM submitted with the stipulation and agreement. I have also reviewed the later CAM and it is in all material respects the same as the one submitted with the stipulation and agreement except for its substitution of 2018 data for the 2017 data contained in the originally-submitted CAM.

² As I understand it, given an objection to the stipulation and agreement by the Missouri Office of the Public Counsel, the Commission cannot literally "approve" the stipulation and agreement.

discuss below, the regulations are designed to prevent unfair preferential treatment of affiliates to the detriment of the Company's customers. In order to accomplish this objective, the rule sets forth financial and evidentiary standards and recordkeeping requirements applicable to any Commission regulated electrical corporation whenever such corporation participates in transactions with any affiliated entity (except with regard to HVAC services as defined in section 386.754, RSMo.). The rule and its effective enforcement are intended to provide the public with the assurance that their rates are not adversely impacted by nonregulated activities.

A.

Q. Has the Commission described the intent of the affiliate transaction rules in prior orders?

Yes, on at least two occasions in recent years. In its July 1, 2008 Report and Order in File No. EM-2007-0374, the Commission granted Greater Missouri Operations ("GMO") and KCP&L a variance to the Affiliate Transactions Rule for all transactions between GMO and KCP&L, except for wholesale power transactions, which would be based on rates approved by the FERC. At page 264 of the Commission's Report and Order, it noted that "the purpose of the Commission's Affiliate Transactions Rule is to prevent cross-subsidization of regulated utility's non-regulated operations, not to prevent transactions at cost between two regulated affiliates." Last year when the Commission approved the merger of Great Plains Energy (KCP&L's and GMO's parent) and Westar Energy it essentially extended that variance to Westar Energy, KCP&L and GMO's affiliated utility in Kansas operating under the supervision of the Kansas Corporation Commission.

Q. In this proceeding, is the Company requesting the Commission's approval of its CAM?

- 1 A. Yes, as I noted earlier it is.
- 2 Q. Does the proposed CAM request certain waivers from the requirements of 4 CSR
- 3 240-20.015 and 4 CSR 240-40.015?
- 4 A. Yes, it does. Company witnesses Tom Byrne and Laura Moore address the requested
- 5 variances.
- 6 Q. Is the intent of the CAM for which Commission approval has been requested to
- 7 articulate how Ameren Missouri will comply with the affiliate transaction rules?
- 8 A. Yes, it is.
- 9 Q. Does the stipulation and agreement between the parties to this proceeding reflect
- 10 certain commitments on Ameren Missouri's part?
- 11 A. Yes. Per the stipulation and agreement, Ameren Missouri is committed to undertake a
- number of initiatives, including:³
- Putting affiliate transaction training that meets certain parameters specified in the
- 14 CAM in place after obtaining the Staff's input on that training;
- Implementing a CAM Team;
- Completing a General Office Building ("GOB") space study;
- Performing annual audits (commencing in 2020 for calendar year 2019);
- Completing purchasing rate costs and inventory handling loading studies by
- December 31, 2019 (and results implemented in 2020);
- Putting written contracts into place with affiliates other than Ameren Services,
- subject, however, to any required approvals by the Illinois Commerce Commission

³ Stipulation and Agreement, File No. EO-2017-0176, pp. 4-5

1		for contracts with affiliates subject to Illinois Commerce Commission jurisdiction;
2		and
3		• Performing a fully distributed cost study to examine whether improvements in
4		allocation factors can be made and to examine whether a greater proportion of AMS
5		costs can be directly charged.
6	Q.	What is the status of those requirements
7	A.	It is my understanding that all of the commitments have been met or are in the process of
8		being met (some are future commitments and others depend on the resolution of this
9		docket). Ameren Missouri witnesses Byrne, Moore and Hasse address the status of these
10		commitments in their testimonies.
11	Q.	What is your overall assessment of the stipulation and agreement and proposed
12		CAM?
13	A.	I believe the stipulation and agreement and the CAM provide an appropriate framework
13 14	A.	I believe the stipulation and agreement and the CAM provide an appropriate framework for managing Ameren Missouri's affiliated transactions, and provide effective protections
	A.	
14	A.	for managing Ameren Missouri's affiliated transactions, and provide effective protections
14 15	A.	for managing Ameren Missouri's affiliated transactions, and provide effective protections to Ameren Missouri's customers to ensure that the need for and reasonableness of all costs
141516	A.	for managing Ameren Missouri's affiliated transactions, and provide effective protections to Ameren Missouri's customers to ensure that the need for and reasonableness of all costs stemming from affiliate transactions can be fully addressed as needed in future Ameren
14151617	A.	for managing Ameren Missouri's affiliated transactions, and provide effective protections to Ameren Missouri's customers to ensure that the need for and reasonableness of all costs stemming from affiliate transactions can be fully addressed as needed in future Ameren Missouri rate cases.
1415161718	A. Q.	for managing Ameren Missouri's affiliated transactions, and provide effective protections to Ameren Missouri's customers to ensure that the need for and reasonableness of all costs stemming from affiliate transactions can be fully addressed as needed in future Ameren Missouri rate cases. III. OVERVIEW OF AMEREN MISSOURI AND KEY AFFILIATES FROM
14 15 16 17 18		for managing Ameren Missouri's affiliated transactions, and provide effective protections to Ameren Missouri's customers to ensure that the need for and reasonableness of all costs stemming from affiliate transactions can be fully addressed as needed in future Ameren Missouri rate cases. III. OVERVIEW OF AMEREN MISSOURI AND KEY AFFILIATES FROM WHICH IT RECEIVES OR TO WHICH IT PROVIDES SERVICES

- customers in central and eastern Missouri. The Company's service area covers 64 counties and more than 500 communities including the greater St. Louis area.
- 3 Q. Please describe Ameren Corporation.
- A. As set forth in the CAM, Ameren Corporation ("AMC") is the parent company of Ameren

 Missouri and consists of AMC and all of its subsidiaries on a consolidated basis. AMC

 was formed in 1997 as a result of the merger of Union Electric Company and Central

 Illinois Public Service Company ("CIPS"). In 2003, AMC acquired Cilcorp and its

 operating utility Central Illinois Light Company. AMC acquired Illinois Power Company

 from Dynegy in 2004. AMC's Illinois utilities merged to become Ameren Illinois

 Company ("AIC") in 2010.
- 11 Q. Does Ameren Missouri receive services from Ameren Corporation?
- 12 A. No. AMC has no employees and provides no services to Ameren Missouri.
- 13 Q. In addition to Ameren Missouri, what are AMC's other primary subsidiaries?
- A. As detailed in the CAM, AMC's principal subsidiaries are Union Electric Company d/b/a
 Ameren Missouri, AIC, and Ameren Transmission Company of Illinois ("ATXI"). AMC
 also has three wholly-owned direct FERC rate regulated subsidiaries, and three whollyowned direct non-state regulated subsidiaries, including Ameren Services Company
 ("AMS").
- 19 Q. Do all of AMC's subsidiaries have employees?
- 20 A. No. Only Ameren Missouri, AIC and AMS have employees.
- 21 Q. Does Ameren Missouri receive services from, or provide services to, AIC?

⁴ Only one of the FERC rate regulated subsidiaries, ATXI, has substantial assets which include transmission lines located in Missouri which have been approved by the Commission.

A. Yes. As discussed in greater detail by Ameren Missouri witness Moore, there are 1 transactions between Ameren Missouri and AIC, and as noted earlier, those will all be 2 covered by a formal written contract once this docket is completed, subject to required ICC 3 approval. Such transactions include activities such as intercompany billing project charges, 4 storeroom issues and handling charges, electric service for Ameren Missouri assets in 5 6 Illinois, transfers of meters and line transformers, rent, and lab testing. Ameren Missouri and AIC also provide services related to service restoration to their sister companies in 7 emergencies, such as following severe storms. 8

9 Q. Does the proposed CAM address the dealings between Ameren Missouri and AIC?

10 A. Yes, it does.

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Q. Does Ameren Missouri receive services from AMS?

12 A. Yes. As Ms. Moore testifies, nearly all transactions between Ameren Missouri and 13 affiliated companies (97% of the dollars in 2018) pertain to corporate shared services 14 provided by AMS to Ameren Missouri.

Q. Please describe AMS.

AMS is a Missouri corporation which provides its services at cost, without any mark-up or profit component. When Ameren Missouri and CIPS merged, AMS was formed to take advantage of synergies gained by eliminating redundant functions at both Ameren Missouri and CIPS that could more cost-effectively be combined into one service company. Those same redundancies were eliminated when Cilcorp and Illinois Power were later acquired by AMC, which allowed shared services costs to be spread over additional affiliates. AMS' services include typical corporate functions such as accounting, legal, environmental,

building management, shareholder services, executive management, information technology, etc.

Q. Was the formation of the service company required by law?

A. Yes. The Public Utility Holding Company Act of 1935 ("PUHCA") directed the United

States Securities and Exchange Commission ("SEC") to flatten the corporate structure of

utilities to remove unnecessary corporate layers. Individual operating utility companies

were required to centralize certain business operations into central service companies, but

all service companies would be subject to SEC and Federal Power Commission regulation.

In 1977, the Federal Power Commission was replaced by the FERC.

At the time of Ameren's formation, PUHCA required the utilization of such a service company and required that services be provided at cost. As a result, when a state utility commission regulated a utility in a particular state, the ratepayers of that state would pay only the share of any common service company expenses associated with that state's electric company allocated to it under SEC-approved formulas to prevent a holding company from double recovery of its expenses when it operates in more than one state and to ensure each state paid its fair share of costs.

Although PUHCA has now been largely repealed, some functions formerly assigned to the SEC under PUHCA were transferred to the FERC at the time of the PUHCA repeal by Congress' adoption of the Energy Policy Act of 2005. FERC regulations adopted under that Act continue to require the use of cost-based pricing for service companies.⁵

⁵ 18 CFR § 35.44 – Protection against affiliate cross-subsidization. Section (b)(3) of the rule states: "A franchised public utility that has captive customers or that owns or provides transmission service over jurisdictional transmission facilities, may only purchase or receive non-power goods and services from a centralized service company at cost."

- 1 Q. Did the Missouri PSC approve the merger of Union Electric and CIPS, as well as the
- **2 formation of AMS?**
- 3 A. Yes. In its 1997 order approving the merger of Ameren Missouri (then d/b/a as Union
- 4 Electric) and CIPS, the Missouri Commission also approved the formation of AMS and its
- 5 provision of services to Ameren Missouri.
- 6 Q. Are service companies, such as AMS, common in the energy industry?
- 7 A. Yes. As a result of industry mergers and acquisitions, many stand-alone, single
- 8 jurisdictional energy companies have merged or been acquired. In an effort to increase
- 9 efficiencies, ensure consistent practices throughout the organization, and reduce costs, the
- post-merger integration of common functions at an affiliated service company has been a
- common trend throughout the United States. Service companies similar to AMS file Form
- 60 annual reports with the FERC. The Form 60 report is an annual regulatory support
- requirement under 18 CFR 369.1 for centralized service companies. The report is designed
- to collect financial information from centralized service companies subject to the
- iurisdiction of the FERC.
- 16 Q. Have you prepared an exhibit identifying the service companies which filed a Form
- 17 60 annual report, and the affiliated companies to which the service companies
- provided services, and the services provided?
- 19 A. Yes, I have. Schedule JJR-2 identifies the service companies, and affiliated companies to
- which services are provided, as well as the services provided to the affiliated companies.
- 21 Q. Please describe what Schedule JJR-2 shows.
- 22 A. Schedule JJR-2 shows that 45 utility service companies filed FERC Form 60 annual
- 23 reports. Reviewing these reports, the service companies provided services to 869 affiliated

- companies, including many regulated utilities. As noted, those service companies are required by FERC regulations to provide their services at cost, just as AMS provides its services at cost to Ameren Missouri and its affiliates.
- Q. Based upon your review of the scope of services offered by AMS to Ameren Missouri,
 are the services provided consistent with those of other service companies in the
 energy industry?
- 7 A. Yes. In my experience, the services provided by AMS to Ameren Missouri are consistent
 8 with those provided by other service companies to affiliated regulated utilities. Schedule
 9 JJR-2 further supports my experience and conclusion.
- 10 Q. Based upon your experience, would you agree that the use of the shared services
 11 model, delivered through affiliated service companies, remains prevalent today in the
 12 energy industry?
- 13 A. Yes. Based upon both my personal knowledge of the energy industry, as well as the 14 number of Form 60 reports filed with the FERC, I believe it is accurate to state that service 15 companies are widely used throughout the energy industry in the United States.

16 Q. To what do you attribute the extensive use of service companies?

A. Beyond the fact that the PUHCA required the use of service companies, many of the
mergers that have been consummated in the energy industry have been premised, in part,
upon the realization that the combined companies could produce savings from the
elimination of duplication in public company functions and "back room," non-customer
facing corporate functions. There are economies of scale that can be achieved by
eliminating duplicative roles and functions when two companies merge (e.g., one
accounting, human resources, information technology, procurement, etc. function).

1		Further, the staff of merged companies would most likely be able to perform required tasks
2		with fewer staff than the individual operating companies were able to achieve. That is why
3		parties to merger proceedings are frequently seeking to obtain commitments from the
4		acquiring parties to pass along savings achieved as a result of the merger.
5	Q.	What are Missouri's requirements for the pricing of services between affiliated
6		energy companies?
7	A.	As set forth in Section 4 CSR 240-20.015(2), Missouri statutes require that:
8		(A) A regulated electrical corporation shall not provide a financial advantage to an
9		affiliated entity. For the purposes of this rule, a regulated electrical corporation shall
10		be deemed to provide a financial advantage to an affiliated entity if—
11		1. It compensates an affiliated entity for goods or services above the lesser of:
12		A. The fair market price; or
13		B. The fully distributed cost to the regulated electrical corporation to
14		provide the goods or services for itself; or
15		2. It transfers information, assets, goods or services of any kind to an affiliated
16		entity below the greater of:
17		A. The fair market price; or
18		B. The fully distributed cost to the regulated electrical corporation.
19		The requirement that goods or services be provided by the regulated utility to an
20		unregulated affiliated company at the greater of fair market price or the utility's fully
21		distributed cost, while the services provided by the unregulated affiliated company to the
22		regulated utility at the lesser of fair market price or the utility's fully distributed cost is also

commonly referred to as "asymmetrical pricing."

1 Q. Is the Company seeking a waiver from the asymmetrical pricing rule?

2 A. Yes, it is.

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3 Q. Do you believe the cited regulations support the requested waiver?

Yes, I do. Reviewing the rule in its totality indicates that its adoption arose from concerns that might exist if a regulated utility had affiliates whose rates (prices for goods/services it sells) were not regulated by regulatory commissions. The purpose of the provision of the rules reflects this. In addition, while the pricing and preferential treatment provisions of the rule literally appear in separate subsections of the rules, the preferential treatment provision recognizes that the kind of corporate support that AMS provides does not implicate the concerns that I believe led to the rules' adoption. Section (2)(B) of the rules state: "Except as necessary to provide corporate support functions, the regulated electrical corporation shall conduct its business in such a way as not to provide any preferential service, information or treatment to an affiliated entity over another party at any time" (emphasis added). As defined in Section (1)(D) "Corporate support means joint corporate oversight, governance, support systems and personnel, involving payroll, shareholder services, financial reporting, human resources, employee records, pension management, legal services, and research and development activities." The above language supports the conclusion that the Commission wasn't – and shouldn't be – concerned with strict adherence to the aforementioned asymmetrical pricing requirements for the kind of services provided by AMS. The objective of these rules is clearly to prevent unfair preferential treatment to an affiliate where such treatment would be detrimental to the Company's customers. This objective can be met by employing the

- fully distributed cost of providing such services, as long as the fully distributed cost standard is applied to all affiliates.
- Q. Are AMS' services provided to Ameren Missouri and its other affiliated companies at the fully distributed cost of providing those services?
- 5 A. Yes, they are.
- 6 Q. Does 4 CSR 240-20.015 and 4 CSR 40.015 define fully distributed cost?
- A. Yes. Section (1)(F) of each rule defines fully distributed cost as "a methodology that
 examines all costs of an enterprise in relation to all the goods and services that are
 produced. Fully distributed cost requires recognition of all costs incurred directly or
 indirectly used to produce a good or service. Costs are assigned either through a direct or
 allocated approach. Costs that cannot be directly assigned or indirectly allocated (e.g.,
 general and administrative) must be included in the fully distributed cost calculation
 through a general allocation."
- Q. Does Ameren Services Company profit from the services provided to its affiliated companies?
- A. No. All AMS charges reflect the direct cost of providing that service or product. There is no profit margin built into the charges, and AMS operates on a zero profit basis.
- Q. Are the costs of AMS' services therefore the same as if Ameren Missouri were to self provide the services?
- A. The services are, at worst, the same as if Ameren Missouri were to self provide the services.

 It is highly likely, however, that due to the economies of scale realized by centralizing the
 shared services at AMS, the services are provided at a cost lower than if Ameren Missouri
 were to self provide the services on a standalone basis.

Q. Please explain.

A.

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

9 Q. Is it possible that by centralizing the shared services Ameren Missouri could potentially be subsidizing non-regulated affiliates?

No. First, AMC has no material non-regulated operations. Second, as previously mentioned, AMS' services are provided at cost, which is determined by prevailing wages/benefits and actual incurred expenses. Therefore, there is no issue of potential subsidies from ratepayers to unregulated affiliates. The pricing of affiliated services only has a material effect on which jurisdiction's customers are responsible for, and benefit from, the cost of providing a service. Essentially, all costs are attributable to one set of regulated customers or the other (i.e., Ameren Missouri versus AIC versus ATXI). Put another way, the cost standard for affiliate transactions is appropriate because the question being addressed is what costs (which are in any event consistent with the market) should be included in the rates for each set of customers in the AMC utility family.

Q. Aside from the fact that AMC has no significant non-regulated companies, are there other reasons the requested variance regarding pricing is reasonable?

- A. Yes, as I will discuss in greater detail below, the nature of the compensation paid to AMS employees and how it procures goods and services it uses to provide service to Ameren Missouri and its affiliates support the conclusion that the central purpose of the rules will be preserved with the requested variance in place.
- What additional steps does the stipulation and agreement call for Ameren Missouri to take to ensure the reasonableness of the cost of services provided by AMS to its operating companies?
- As called for in the stipulation and agreement, Ameren Missouri has formed a CAM team
 and implemented extensive reporting and recordkeeping requirements which appear to go
 well beyond existing regulatory requirements, to continually oversee the dealings between
 AMS and the operating companies. Based upon my discussions with the Company's CAM
 team, I have concluded that Ameren Missouri's approach, as established by the stipulation
 and agreement, will provide a highly effective means of insuring that Ameren Missouri
 and its affiliates will fully comply with the CAM procedures.
- 15 Q. Are AMS' costs billed to affiliated companies subject to regulatory review other than 16 by the Missouri Commission?
- 17 A. Yes. AMS' costs billed to its affiliated FERC rate regulated subsidiaries have been, and
 18 continue to be, reviewed by the FERC. The FERC has never challenged or disallowed any
 19 of AMS' charges to the Company's transmission customers.

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The Illinois Commerce Commission ("ICC") also reviews AMS' charges to AIC during rate proceedings. The ICC has accepted AMS' charges, as well as the allocation methodology, which reflects fully distributed cost as called for in the stipulation and agreement.

- Q. Would it be practical for the Commission to review and approve each transaction between Ameren Missouri and its affiliated companies?
- A. No. A detailed review of each transaction between Ameren Missouri and its affiliated companies would mire the Commission and the Company in endless and ongoing reviews each year as part of monitoring affiliate transaction rule compliance. In a given year, the transactions would number in the tens of thousands (e.g., every instance where an AMS employee provided work for Ameren Missouri) and involve dozens of functional areas. The CAM establishes appropriate safeguards, and the Commission has the opportunity to review affiliate costs and associated allocation factors in rate proceedings.

IV. COST ALLOCATION MANUAL

- 11 Q. What is the purpose of Ameren Missouri's CAM?
- A. Ameren Missouri's CAM and the reporting it requires provides transparency into processes and procedures that govern how costs are determined and defined, allocated and assigned to Ameren Missouri and its affiliated companies and defines how "fair market price" and "fully distributed cost" are calculated. Further, the CAM helps prevent the regulated utilities from subsidizing non-regulated operations.
- 17 Q. Have you reviewed Ameren Missouri's proposed CAM that is the subject of this 18 proceeding?
- 19 A. Yes, I have.

- Q. What is your independent assessment of the CAM that has been reviewed, commented on and agreed to by parties to this proceeding?
- A. I found Ameren Missouri's CAM to be comprehensive, understandable, logical, straightforward, and in compliance with the Commission's Affiliate Transactions Rules. I

- believe the CAM provides the necessary safeguards to protect Ameren Missouri's customers from potential harm from dealings between Ameren Missouri and its affiliated companies. I also found the CAM to be consistent with if not more robust than those of other companies which I have reviewed.
- 5 Q. As you reviewed Ameren Missouri's CAM, what were some of your observations of the document?
- A. I found that the CAM addressed the key issues that are typically addressed in other regulated companies' CAMs as well as issues that most frequently concern commissions and customers.
 - Commissions and interested parties are typically focused on issues related to customer protections, the pricing of services between regulated and unregulated affiliates, as well as the transfer of assets between affiliated companies, preferential treatment afforded to affiliates of the utility, affiliate marketing materials, record keeping, and training of employees on the requirements of the affiliate rules. Ameren Missouri's proposed CAM appropriately addresses each of these issues.
- 16 Q. You earlier discussed the stipulation and agreement that has been filed with the
 17 Commission in support of the adoption of Ameren Missouri's CAM. Have you
 18 reviewed the stipulation and agreement?
- 19 A. Yes, I have.

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- Q. In the stipulation and agreement, do the parties support a waiver from Section 4 CSR 240-20.015(2) and 4 CSR 240-40.015(2) standards for Ameren Missouri?
- 22 A. Yes, they do.
- 23 O. What are those standards?

- A. The section requires that a regulated electrical corporation shall not provide a financial advantage to an affiliated entity. As discussed earlier, this section of the code employs the asymmetrical pricing rule which is designed to avoid any subsidies from regulated utility customers to the unregulated affiliates when subsidy concerns might exist.
- What is the nature of the waiver that the parties to the stipulation and agreement support?
- A. As discussed earlier, the settling parties support a waiver from the requirement that goods and services be provided at the lower of fair market price or fully distributed cost requirement, i.e. the imposition of the asymmetrical pricing rule.

10 Q. Please explain.

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- 11 A. The current requirement is that the services that Ameren Missouri receives from AMS be
 12 priced at the lower of fair market price or fully distributed cost. Proof of compliance with
 13 the fair market price requirement can be interpreted (and other provisions of the rules
 14 confirm this interpretation) to require that AMC perpetually solicit bids from non-affiliated
 15 companies to compare to AMS' costs of goods and services.
 - The cost of goods and services provided by AMS to its affiliated companies consists of two primary cost components (1) wages and benefits of AMS employees and (2) goods and materials.
 - With regard to wages and benefits, employees of AMC subsidiaries receive market-based wages and benefits. To ensure that the employees are provided a reasonable compensation package, the AMS Human Resources Department routinely benchmarks total compensation packages (i.e., wages and benefits) against local, regional and national companies. Its goal is to provide a total compensation package that represents the median

of the market (i.e., 50th percentile). Therefore, the total cost of Ameren Missouri's and AMS' total wages and benefits are reflective of the market.

A.

Further, AMS provides its goods and services to Ameren Missouri at cost (i.e., without mark-up or profit). All other non-affiliated service providers' services would include a mark-up and/or profit component in the pricing of their goods and services.

In addition, AMS' procurement of labor and other goods and services at market prices and its subsequent charging for its services at cost means that the cost of goods and services provided to Ameren Missouri by AMS can reasonably be concluded to be both priced at market and priced at cost. This is because the wages and benefits paid to all employees of the Ameren companies are benchmarked at the 50th percentile of market and, similarly, AMS uses procurement procedures and policies for non-employee-related costs also designed to ensure that good and services are obtained at market prices. Therefore, the need to perpetually solicit bids to ensure the reasonableness of the Company's wages, benefits, and cost of goods and materials would be unproductive and burdensome, potential bidders would likely stop bidding after a while, and doing so in any event would be contrary to the retention of a high-performing workforce and would increase the total cost of AMS' services provided to Ameren Missouri. In lieu of the imposition of the asymmetrical pricing standard and burdensome and likely impractical documentation requirements, the stipulation and agreement calls for reliance on fully distributed cost for affiliate services.

Q. Can you please elaborate on what is meant by fully distributed cost?

Yes. Fully distributed cost simply means that all costs are considered in the pricing of services and are charged to the beneficiaries of the services provided. The use of fully-distributed cost reflects the economies of scale and scope, which means that fully

distributed cost is less than stand-alone cost, which provides direct customer benefits from

AMS' existence.

3 Q. Are there additional safeguards associated with AMS' services?

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A. Yes. The stipulation and agreement specifically preserve audit rights whereby all rights are reserved for parties to challenge the reasonableness and prudence of AMS' costs in rate proceedings, including any claims about how those costs are allocated. Nothing in the CAM or in the terms of the requested variances affects these rights. These procedures provide an effective and transparent basis for ensuring that costs charged to customers do not create cross subsidies, impair competition or lead to unreasonable rates. The CAM, along with the Company's reliance on market-based compensation, represents a sound basis for granting a waiver of the need to apply asymmetrical pricing, and allows AMS and Ameren Missouri to comply with federal regulations.

13 Q. Is the requested waiver consistent with FERC's affiliate transactions rules?

14 A. Yes, it is. As previously mentioned, federal law requires that all affiliated service
15 companies provide "non-power" services at cost to any utility that has captive customers
16 or that provides service over jurisdictional transmission facilities. The asymmetric pricing
17 rule, such as established by Missouri rules, therefore should not apply to services provided
18 under a service company structure.

Q. Has the Missouri Public Service Commission approved a similar variance for other utilities it regulates?

21 A. Yes. In its July 1, 2008 Report and Order in File No. EM-2007-0374, the Missouri Public 22 Service Commission granted GMO and KCP&L a variance to the Affiliate Transactions 23 Rule for all transactions between GMO and KCP&L except for wholesale power transactions. At paragraph 589, page 187, of the MoPSC Report and Order, the MoPSC noted that "(r)ather than the asymmetrical pricing prescribed in the rule, the Applicants request that the Commission grant a waiver from the rules to the extent necessary to allow KCPL and Aquila to provide services at fully distributed costs, except for wholesale power transactions, which would be based on rates approved by FERC." That waiver was granted by the MoPSC. As earlier noted, that waiver has been extended to dealings between KCP&L, GMO, and Westar.

Q. Does AMS benchmark its costs against that of other companies, and what relevance does this have to the requested waivers?

- 10 A. While I believe that the fact that AMS' services are provided at cost, and that those services
 11 are provided by employees that are provided wages and benefits that reflect the median of
 12 that offered by other companies in the Company's service territory should be sufficient,
 13 Ameren Missouri and AMS also participate in various benchmarking studies comparing
 14 their costs to those of other companies.
- Q. Are there other protections included in the CAM that protect Ameren Missouri's customers?
- 17 A. Yes. In addition to the other safeguards that I have discussed, there are additional
 18 requirements included in the CAM which I believe provide additional safeguards for
 19 Ameren Missouri's customers.

20 Q. What are those additional safeguards?

A. AMS and Ameren Missouri: utilize an annual planning and procurement process in which representatives of AMS and Ameren Missouri evaluate the need for services for the

⁶ Report and Order, File No. EM-2007-0374.

- upcoming year. Therefore, Ameren Missouri has control over both the level and cost of services to be provided to or procured from affiliates in the upcoming year.
- Finally, AMS' invoices are routinely reviewed and must be approved by Ameren Missouri.
- This requirement ensures that Ameren Missouri is only charged for the services that it
- agreed to, for the level of services requested, and that the costs are charged to Ameren
- 6 Missouri based upon the agreed upon allocation factors. These are important controls to
- 7 ensure management oversight and accountability.

8 Q. What is your recommendation in this proceeding?

- Given that AMS is providing its services almost exclusively to regulated affiliates at cost with no markup and given the fact that there is a strong case that cost and market are the same, granting of the requested variance presents no real issue of potential subsidies from ratepayers. The pricing of affiliate services now only has a material effect on which jurisdictions customers are responsible for which costs. All of the costs are attributable to one set of regulated customers or another. Since the issues have evolved from concerns about cross-subsidization of unregulated affiliates to standard questions of jurisdictional separation, the procedures that are incorporated into the CAM should evolve as well. I recommend that the Missouri Public Service Commission approve Ameren Missouri's proposed CAM and the requested variances and otherwise order compliance with the commitments Ameren Missouri made in the stipulation and agreement.
- 20 Q. Does this conclude your direct testimony?
- 21 A. Yes, it does.

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BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of a Union Electric Company d/b/a Ameren Missouri's Cost Allocation Manual (CAM). File No. EO-2017-0176
AFFIDAVIT OF JOHN REED
STATE OF Marlborough) 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, MA, and I am employed Concentric Energy Advisors, Inc. by 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 23 pages and
Schedule(s), 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.
Subscribed and sworn to before me this day of the property of
My commission expires:

WENDY L. PRESTON

Notary Public
COMMONWEALTH OF MASSACHUSETTS

My Commission Expires

April 22, 2022



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 Commis	sion		·			
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	n		·			
Southern California Gas Co.	8/80	Southern California Gas Co.	Docket No. 80-BR-3	Gas Price Forecasting		
California Public Utility Comm	nission					
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 Co	ommission					
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 Commi	ssion			
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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
Florida Senate Committee on	Communic	ation, Energy and Utilities		
Florida Power and Light Co.	2/09	Florida Power & Light Co.		Securitization
Hawai'i Public Utility Commis	sion		•	
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 Commis	sion		•	-
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 Commissio	n			



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 Co	mmission	•	•	
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 Commiss	ion		1	,
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 Commiss	ion			
Northern Utilities	5/96	Granite State and PNGTS	Docket No. 95-480, 95-481	Transportation Service and PBR
Maryland Public Service Com	mission			
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 U	tilities			
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 Comm	nission		•	
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/Integrys	Case No. U-17682	Merger Application
Minnesota Public Utilities Con	nmission			
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	e on Energy an	d the Environment		
Ameren Missouri	3/16	Ameren Missouri	HB 2816	Performance Based Ratemaking
Missouri Public Service Co	mmission			
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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 or	Commerc	e, Consumer Protection, Energy and the	Environment	
Ameren Missouri	3/16	Ameren Missouri	SB 1028	Performance Based Ratemaking
Montana Public Service Comm	ission			
Great Falls Gas Company	10/82	Great Falls Gas Company	Docket No. 82-4-25	Gas Rate Adjustment Clause
National Energy Board of Cana	ıda			
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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 U	tilities Boa	rd		
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 Commissi	on		•	
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 U	Itilities			
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 Co	mmission			
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	Commissi	on		•
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



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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 Comm	ission			
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 Comm	ission		·	
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 Co	mmission		·	
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 (Commissio	1		
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 Commissi	on		<u>.</u>	
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	on			
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 Tran	sportation	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 Com	mission			
WEC & WICOR	11/99	WEC	Docket No. 9401-Y0- 100 Docket No. 9402-Y0- 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



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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/Integrys	Docket No. 9400-Y0- 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



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				55555		
American Arbitration Associa	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 Massachus	etts, Appel	ate 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		



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SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT	
State of Colorado District Cou	rt, County o	of Garfield	+	-	
Questar Corporation, et al	11/00	Questar Corporation, et al.	Case No. 00CV129-A	Partnership Fiduciary Duties	
State of Delaware, Court of Ch	ancery, Ne	w 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 Con	ımerce			
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 Co	ounty Supe	rior 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 Cou	ınty Suprer	ne 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 C	Queen's Ber	ıch		
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, Distri	ct 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, Judic	ial Court-R	ockingham Superior Court	Į.	-	
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, Supe	rior 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, Provide	nce City Co	urt			
Aquidneck Energy	5/87	Laroche vs. Newport		Least-Cost Planning	
State of Texas, Hutchinson Cou	ınty 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 Co	urt				
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	t of New Ha	mpshire			
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. Dis	trict of New	y 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, Northe	rn 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 Co	ounty, Colo	rado		•	
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	Connecticu	t			
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 D	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, Massachus	etts						
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 Hamp	shire		•				
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 I	District of N	ew 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 M	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 C	ommission					
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		

No. 1 AES US Services, LLC 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 Alamitos, 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 Alamitos, LLC 21. AES Alamitos Energy LLC 22. AES Distributed Energy, Inc. 24. Executive Staff 2 Controller 2 Executive Staff 3 Controller 2 Executive Staff 3 Controller 3 Executive Staff 4 Controller 3 Executive Staff 4 Controller 5 Technical Accounting 6 Financial Reporting 7 Regulatory Accounting 8 Reyaletory Accounting 9 Fixed Assets 9 Fixed Assets 9 Fixed Assets 9 Fixed Asceutive Staff 9 Controller 1 Reporting 9 Fixed Asceutive Staff 9 Controller 1 Reporting 9 Fixed Asceutive Staff 9 Controller 1 Reporting 9 Fixed Ascounting 9 Fixed Asceutive Staff 9 Controller 1 Reporting 9 Fixed Asceutive Staff 9 Controller 1 Reporting 9 Regulatory Accounting 9 Fixed Ascounting 9 Fixed Asceutive Staff 9 Cortroller 1 Reporting 9 Fixed Asceutive Staff 9 Cortroller 1 Reporting 9 Regulatory Accounting 9 Fixed Ascounting 9 Fixed Ascounting 9 Regulatory Accounting 9 Fixed Ascounting 9 Regulatory Accounting 9 Fixed Ascounting 9 Fixed Assets 9 Fixed	Line	Service Company	Operating Companies	Services Provided by Affiliated
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 Alamitos, 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 Alamitos, LLC 21. AES Alamitos, LLC 22. AES Distributed Energy, Inc. 10. Indianapolis Power & Light Controller 24. Controller 25. Controller 26. AES Gorporation, Elechnical Accounting 26. Fixed Assets Accounts Payable 26. Payroll 27. Operational Accounting 28. Regulatory Accounting 29. Fixed Assets Accounts Payable 29. Payroll 20. Operational Accounting 29. Fixed Assets Accounts Payable 29. Payroll 20. Operational Accounting 20. Fixed Assets 24. Accounts Payable 29. Payroll 20. Operational Accounting 20. Fixed Assets 24. Accounts Payable 29. Payroll 20. Operational Accounting 20. Fixed Assets 24. Echnical Accounting 21. Fixed Assets 24. Accounts Payable 29. Payroll 20. Operational Accounting 21. Treasury 21. Plant Managers 21. Treasury 22. Plant Managers 22. Estlements 23. AES United 24. Executive Staff 22. Countroller 24. Echnical Requaring 25. Fixed Assets 26. Accounts Payable 29. Payroll 20. Operational Accounting 26. Treasury 29. Plant Managers 20. Treasury 20. Human Resources - Total Rewards 21. Human Resources - Total Rewards 22. Human Resources - Total Rewards 23. Human Resources - Total Rewards 24. Human Resources - Total Rewards 25. Customer Settlements 25. Customer Settlements 26. Customer Settlements 26. Customer Settlements 26. Customer Settlements 27. Technical		a server e confined	Francis Company	
 Business Intelligence & Analytics Strategic Sourcing 		AES US Services, LLC	Light Company IPALCO Enterprises, Inc. AES Corporation (on behalf of US Generation Plants) The Dayton Power and Light AES Ohio Generation, LLC DPL Inc Miami Valley Lighting, LLC Miami Valley Insurance Company MacGregor Park, Inc. AES Alamitos, LLC AES Hawaii, Inc. AES Hawaii, Inc. AES WR Limited Partnership AES Shady Point, LLC AES Wind Generation, LLC AES ES Tait, LLC THE AES Corporation AES Business Development AES Huntington Beach Energy, LLC AES Alamitos Energy LLC AES Alamitos Energy LLC AES Alamitos Energy LLC	 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

		1	
			• 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 &	1. Algonquin Power	Legal Costs
	Utilities Corp	Trust	Tax Services
	•	2. Liberty Utilities (Sub)	• Audit
		Corp.	Investor Relations
		3. Liberty Utilities	Director Fees and Insurance
		(CalPeco) LLC	 Licenses, Fees and Permits
		4. Liberty Utilities	·
		(Granite State Electric)	Escrow and Transfer Agent Food Food
		Corp.	Fees
		5. Liberty Utilities	Other Professional Services
		(Energy North Natural	Executive and Strategic
		Gas) Corp.	Management
		6. Liberty Utilities	Other Administration Costs
		(Midstates Natural	
		Gas) Corp.	
		7. Liberty Utilities	
		(Canada) Corp.	
		8. Liberty Utilities	
		(Peach State Natural	
		Gas) Corp.	

3	Allegheny Energy Service Corporation	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. 11. FirstEnergy Service Company	All charges recorded at Allegheny Service Corporation are allocated 100% to FirstEnergy Service Company
4	Alliant Energy Corporate Services, Inc	 Alliant Energy Corporation Alliant Energy SPE LLC Wisconsin Power and Light Company Interstate Power and Light Company Alliant Energy Resources, LLC Heartland Energy Group, Inc. AE Field Services, LLC Industrial Energy Applications Delaware, Inc. Alliant Energy Transportation, Inc. Cedar Rapids and Iowa City Railway Company EI Barge Services, Inc. Williams Bulk Transfer, Inc. Alliant Energy Investments, Inc. 	 monthly 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 Transmission and Distribution Engineering and Construction Human Resources Information Systems Insurance and Risk Management

5	Ameren Services Company	 Iowa Land and Building Company Alliant Energy International, Inc. Alliant Energy Generation, Inc. Sheboygan Power, LLC Franklin County Holdings, LLC Franklin County Wind, LLC Alliant Energy Finance, LLC Iowa Growth and Development, LLC Comprehensive Energy Solutions, LLC AE Development Holdco, LLC AER Biofuels, LLC Ameren Corporation Ameren Development Company Ameren Energy Medina Valley Cogen, LLC Ameren Illinois Company Ameren Transmission Company of Illinois Union Electric Company ATX East, LLC ATX Southwest, LLC 	 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 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	 AEP Amazon AEP Appalachian Transmission Company, Inc. AEP C&I Company LLC AEP Coal, Inc. AEP Credit, Inc. AEP Desert Sky GP, LLC 	 Corporate Human Resources Information Technology Real Estate and Workplace Services Chief Administrative Officer Administration Audit Services Legal

- 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

- 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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33. AEP Transmission
Partner LLC
34. AEP Utility Funding
LLC
35. AEP West Virginia
Transmission Company,
Inc.
36. AEP Wind GP, LLC
37. AEP Wind Holding
Company, LLC
38. AEP Wind LP II, LLC
39. American Electric
Power Company
40. Appalachian Power
Company
41. Blackhawk Coal
Company
42. Bold Transmission,
LLC
43. BSE Solutions LLC
44. Cardinal Operating
Company
45. Cedar Coal Company
46. Central Appalachian
Coal Company
47. Central Coal Company
48. Conesville Coal
Preparation Company
49. CSW Energy, Inc.
50. Desert Sky Wind Farm
LP
51. Dolet Hills Lignite Co,
LLC,
52. Electric Transmission
America
53. Electric Transmission
TX, LLC
54. Franklin Real Estate
Company
55. Grid Assurance LLC
56. Indiana Michigan
Power Company
57. Kentucky Power
Company
58. Kingsport Power
Company
59. Ohio Franklin Realty,
LLC
60. Ohio Power Company
61. Oxbow Lignite
Company, LLC

6.666666666666666666666666666666666666	Company LLC	 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
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			System Planning
8	Avangrid Service Company	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	 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
0	Disabilitie Comice	Corporation 11. AVANGRID Networks NY Transco 12. UIL Holdings Corporation	 External Audit Secretary of the Board Internal Audit Compliance
9	Black Hills Service Company, LLC	 Wyodak Resources Dev Corp Black Hills Wyoming LLC Black Hills Electric Generation LLC Black Hills Non-Regulated Holdings LLC Black Hills Colorado IPP, LLC Generation Development Co LLC N780BH LLC Black Hills Exploration & Production LLC Black Hills Power Inc Cheyenne Light Fuel and Power Black Hills Utility Holdings Inc Black Hills Kansas Gas Utility Co LLC Black Hills Iowa Gas Utility Co LLC 	 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

14. Black Hills Nebraska IT Business Applications Gas Utility Co LLC Wholesale & Enterprise 15. Black Hills Colorado • IT Business Applications Web Electric Utility Co LP Service Support 16. Black Hills Colorado • IT Business Applications Gas Utility Co LP Financial & HR Systems 17. Black Hills Northwest IT Infrastructure Services Wyoming Gas Utility IT Communications Co • IT User Services Corporate 18. Black Hills Shoshone Security Pipeline LLC • IT Compliance 19. Black Hills Energy • Material Management Arkansas, Inc • Continuous Improvement 20. Black Hills Gas • IT Helpdesk/Technology Distribution Colorado Integration 21. Black Hills Gas • Procurement Distribution Nebraska Corporate Development 22. Black Hills Gas Corporate Governance **Distribution Wyoming** Shareholder Services 23. Rocky Mountain Natural Gas LLC • Executive Management 24. Black Hills Energy • Finance & Treasury Services Company • Financial Reporting 25. Black Hills Corporation 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

	sources Regulated
	tion & Benefits
• Organization	onal Development &
Training	
Power Dela	ivery Management
• Accounting	g-Generations
Services	
• IT Busines	s Applications
Regulated	
	Plant Operations
	nt Operations
	Plant Street Facility
Baken Park	
	fice Facility
	•
	nefits Loading
	counting Accruals
2 Di i II'il II	
There is a line of the property of the propert	ended Assets
4 Pleak Hills Lowe Cos	
Litility Company II C	gineering Services
5. Black Hills Nebraska	Services Utility
Gas Utility Company Operations	Management
LLC Business D	Development
6. Black Hills Colorado • Power Sup	ply and Renewables
Electric Utility • Electric Op	os Communications
Company LP • Gas Engine	eering Management
7. Black Hills Colorado • Gas Supply	
Gas Utility Company Administra	
	Aided Dispatch
8. Black Hills Northwest • FAME Ass	_
	agement Assets
	Generation Assets
	Blended Assets
10. Black Hills Energy • Gas	Dichaca Assets
A 1	a Services
11 Disabilities Con	-
Distribution Coloredo	
12 Plack Hills Gos	•
Distribution Nebraska • Customer S	Serv Call Centers
13 Black Hills Gas • Customer S	Serv Supp / LV
Distribution Wyoming • Billing	~
14 Rocky Mountain • Customer S	
Natural Gas Billing/Col	
15. Black Hills Energy • Customer S	Serv Field Resource
Service Company Center	
16. Black Hills Gas • Repair Bus	siness Marketing
Holdings LLC • Regulatory	Affairs
	ficiency/DSM
	on Planning

	 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
11 CenterPoint Energy Service Company,	 Administrative and service functions involving system-wide coordination Strategy and compliance functions

12	Columbia Pipeline Group Service Company	 CenterPoint Energy, Inc. Utility Holding, LLC CenterPoint Energy Southeastern Pipelines Holding, LLC Labo Land Holdings, LLC Labo Land Holdings, LLC CenterPoint Energy Intelligent Energy Solutions, LLC Columbia Gas Transmission LLC Columbia Gulf Transmission Co Columbia Midstream Group, LLC Columbia Pipeline Group Inc Columbia Energy Ventures LLC Crossroads Pipeline Company Columbia Pipeline Partners LP CNS Microwave Inc Columbia Energy Group Columbia Remainder Corp 	 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	 CNG Coal Company CNG Power Services Corporation Dominion Cove Point, Inc. Dominion ACP Holding, Inc. Dominion Capital, Inc. Dominion Energy Carolina Gas Services, Inc. Dominion Energy Carolina Gas Transmission, LLC Dominion Energy Cove Point LNG, LP Dominion Energy Fairless, LLC Dominion Energy Field Services, Inc. 	 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

11. Dominion Energy Fuel **Business Services** Services, Inc. • Corporate Planning 12. Dominion Energy Gas • Supply Chain Holdings, LLC Tax 13. Dominion Energy **Customer Services** Generation Marketing, • Treasury/ Finance 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,

32. Dominion Iroquois, Inc.33. Dominion Lands, Inc.34. Dominion Natrium Holdings, Inc.

Inc.

		 Jominion Products and Services, Inc. Dominion Solar Holdings II, LLC Dominion Solar Projects D, Inc. Dominion Solar Projects IV, Inc. Dominion Solar Services, Inc. Dominion Voltage, Inc. Hope Gas, Inc. Questar Field Services, LLC Questar Gas Company Questar Southern Trails Pipeline Company The East Ohio Gas Company Tioga Properties, LLC Virginia Electric and Power Company Virginia Power Nuclear Services Company Virginia Power Services Energy Corp., Inc. Virginia Power Services Energy Corp., Inc. WexPro Company Dominion Solar Projects V, Inc. 	
14	Duke Energy Business Services, LLC	Bison Insurance Company, Ltd	Information SystemsMeters
	Scivices, LLC	2. CINCAP V LLC	Transportation
		3. Cinergy Corp4. Cinergy Investments,	System Maintenance Marketing and Customer
		Inc.	Marketing and Customer Relations
		5. Cinergy Receivables Co LLC	Transmission and Distribution
		6. DE Commercial	Engineering and ConstructionPower Engineering and
		Enterprises Inc 7. DE Renewables	Construction
		Commercial LLC	 Human Resources Supply Chain
		8. DE Services Canada, LTD	Supply ChainFacilities
		9. DE Transmission	• Accounting
		Holding Company, LLC	Power and Gas Planning and Operations
		10. DEGS NC Solar LLC	Public Affairs
		11. DEGS Solar, LLC	• Legal
		12. DEGS Wind I, LLC	• Rates

15	Entergy Enterprises, Inc	 DETMI Management, Inc. Duke Energy Carolinas, LLC Duke Energy Corp Duke Energy Florida (f/k/a Progress Energy Florida) Duke Energy Gen Service, Inc Duke Energy Indiana, Inc. Duke Energy Indiana, Inc. Duke Energy Kentucky, Inc. Duke Energy North America, LLC Duke Energy Pipeline Holding Duke Energy Progress (f/k/a Progress Energy Carolinas, Inc.) Duke Energy Registration Services, Inc. Duke Generation Services Holding Co. Inc. Duke Investments, LLC Duke Technologies Inc. Frontier Windpower LLC Frontier Windpower LLC Frontier Windpower LC Frontier Windpower LC Texas Eastern Arabian Ltd. EAM Nelson Holding, 	 Finance Rights of Way Internal Auditing Environmental Health and Safety Fuels Investor Relations Planning Executive Nuclear Development • Administration
15	Emergy Emerprises, inc	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	 Administration Capital Project Excellence Chief Administrative Officer Corporate Corporate - Legal Services Corporate - Office of the Chief Executive Officer Corporate - Public Relations Corporate Support - General

16	Entergy Nuclear	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 Palisades, LLC 19. Entergy Nuclear Vermont Investment Corp 20. Entergy Nuclear Vermont Yankee LLC 21. Entergy Nuclear Vermont Yankee LLC 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	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 Administration
16	Entergy Nuclear Operations, Inc	 Entergy Arkansas, Inc. Entergy Corporation Entergy Enterprises, Inc. 	Administration Capital Project Excellence Chief Administrative Officer Schedule LIP D2

		4. Entergy Louisiana, LLC5. Entergy Nuclear	 Corporate Corporate - Legal Services Corporate - Office of the Chief
		Holding Corp-No. 1 6. Entergy Nuclear	 Corporate - Office of the Chief Executive Officer Corporate - Public Relations
		FitzPatrick, LLC 7. Entergy Nuclear Generation Company	Corporate Support - GeneralCustomer Service and
		8. Entergy Nuclear Indian Point 2, LLC	Operations SupportCustomer Service SupportDistribution
		9. Entergy Nuclear Indian Point 3, LLC	DistributionFinance - Finance and Accounting
		10. Entergy NuclearNebraska, LLC11. Entergy Nuclear	Finance - Risk ManagementFossil Operations
		Palisades, LLC 12. Entergy Nuclear	Gas OperationsHuman ResourcesInformation Technology
		Power Marketing, LLC 13. Entergy Nuclear Vermont Yankee, LLC	 Information Technology Nuclear - Non-Regulated Nuclear - Regulated
		14. Entergy Nuclear, Inc.15. Entergy Operations Inc.	 Nuclear Corporate Support Nuclear Operations
		16. Entergy Services, Inc.17. System Energy	 Operations and Performance President Regulatory
		Resources, Inc. 18. TLG Services, Inc	Supply ChainSystem Benefits
			System PlanningTransmissionUtility Management and
			Support Services • Utility Support - Distribution
			 Utility Support - Operations Wholesale Ops Corporate
			SupportWholesale Ops External AffairsWholesale Ops Finance
17	Entergy Operations, Inc.	Entergy Arkansas, Inc.,	 Wholesale Ops Marketing Administration,
	•	 Entergy Corporation, Entergy Enterprises, 	Capital Project ExcellenceChief Administrative Officer,
		Inc., 4. Entergy Louisiana, LLC,	CorporateCorporate - Legal ServicesCorporate - Office of the Chief
		5. Entergy Nuclear Holding Corp-No. 1,6. Entergy Nuclear	Executive, OfficerCorporate - Public RelationsCorporate Support - General
		FitzPatrick, LLC, 7. Entergy Nuclear Generation Company,	 Customer Service and Operations Support

		 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. 	 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
18	Entergy Services, Inc	 Entergy Arkansas, Inc., Entergy Corporation, Entergy Enterprises, Inc., Entergy Louisiana, LLC, Entergy Mississippi, Inc., Entergy New Orleans, LLC, Entergy Nuclear Operations, Inc., Entergy Operations, Inc., Entergy Services, Inc., Entergy Texas, Inc., System Energy Resources, Inc. 	 Wholesale Ops Marketing 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

			Human Resources
			Information Technology
			Nuclear - Non-Regulated
			Nuclear - Regulated
			 Nuclear - Regulated Nuclear Corporate Support
			Operations and PerformancePresident
			Regulatory Secondary
			• Supply Chain
			System Benefits Section Planning
			• System Planning
			• Transmission
			Utility Management and Suppose of S
			Support Services
			Utility Support - Distribution Utility Support - Operations
			Utility Support - Operations Wiledwards Operations
			Wholesale Ops Corporate Support
			Support Wholesale One External Affairs
			Wholesale Ops External AffairsWholesale Ops Finance
19	Eversource Energy	Connecticut Light and	Benefits
19	Service Company	Power Company	
	Service Company	2. Eversource Energy	Building Rent and Maintenance Compareta Polations
		Parent	Corporate Relations Country of Crown
		3. Eversource Energy	• Customer Group
		Transmission Ventures	Depreciation Floating Distributions
		Inc.	• Electric Distribution
		4. Eversource Gas	• Energy Supply
		Transmission II LLC	• Engineering and Emergency
		5. Eversource Gas	Prep • Enterprise Energy Strat + Bus
		Transmission LLC	Dev
		6. Eversource Investment	• ERM and Claims + Insurance
		LLC	• Finance and Accounting
		7. Eversource Investment	General Administration
		Service Company	Human Resources
		8. Eversource LNG	Information Technology
		Service Company LLCHarbor Electric Energy	 Internal Audit + Security
		Company	Investor Relations
		10. Hopkinton LNG Corp	Legal
		11. HWP Company	Miscellaneous
		12. North Atlantic Energy	New Business Improvement
		Corporation	Operations Administration
		13. North Atlantic Energy	Operations Services
		Service Corporation	 Supply Chain + Env Affs +
		14. Northeast Generation	Property Mgmt
		Services Company	• Taxes
		15. Northern Pass	• Transmission
		Transmission LLC	
	I	<u> </u>	1

		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	 Atlantic City Electric Co. ATNP Finance Company Baltimore Gas and Electric Company BGE Home Products & Services, LLC Clinton Battery Utility, LLC Colorado Bend II Power, LLC Commonwealth Edison Company Constellation Energy Comm Grp. Constellation Energy Nuclear Group, LLC (dba CENG, LLC) Constellation Mystic Pwr, LLC Constellation NewEnergy, Inc Constellation Power Source Gen. Constellation Power, Inc. Delmarva Power & Light Co. Exelon Corporation Exelon Enterprises Company, LLC 	 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 Human Resources 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

		 17. Exelon Framingham, LLC 18. Exelon Generation Company, LLC 19. Exelon Generation Finance Company, LLC 20. Exelon Generation 	 IT related to utility customer systems IT related to Human Resources IT projects and applications IT governance and other items of general nature
		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. 	
21	FirstEnousy Sami-	 33. PHI Service Company 34. Potomac Electric Power Co. 35. RITELine Illinois, LLC 36. RITELine Transmission Development, LLC 37. Wolf Hollow II Power, LLC. 	Chairman Cal D. 1
21	FirstEnergy Service Company	 FirstEnergy Corp. FirstEnergy Solutions Corporation FirstEnergy Generation, LLC FirstEnergy Nuclear Generation, LLC Allegheny Energy Supply, LLC Allegheny Generating Company FirstEnergy Nuclear Operating Company 	 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

		8. American Transmission	Environmental
		Systems Incorporated	
		9. FirstEnergy	• EVP & Chief Financial Officer
		Transmission, LLC	• Strategic Planning &
		10. Trans-Allegheny	Operations
		Interstate Line	Corporate Services & CIO
		Company	Supply Chain
		11. AET PATH Company,	Controller
		LLC	Treasury
		12. PATH, LLC	Corporate Risk
		13. AYE Series	Business Development
		14. PATH Allegheny	• Integrated System Planning &
		Transmission Company,	Development
		LLC	Internal Auditing
		15. PATH Allegheny	• Legal
		Virginia Transmission	• Rates & Regulatory Affairs
		Corporation	• Corporate
		16. PATH Allegheny	Real Estate
		Maryland Transmission	Records Management
		Co, LLC	• External Affairs &
		17. Mid-Atlantic Interstate	Communications
		Transmission, LLC	Corporate Affairs &
		18. FirstEnergy Ventures	Community Involvement
		Corporation	Federal Affairs & Energy
		19. Bay Shore Power	Policy
		Company	Local Affairs & Economic
		20. FirstEnergy Properties,	Development Development
		Inc.	• State Affairs
		21. Allegheny Ventures	Human Resources
		22. The Cleveland Electric	
		Illuminating Company	• FE Generation & CNO
		23. Jersey Central Power &	Marketing & Branding
		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	
22	Great Plains Energy	1. KCP&L Greater	Administrative
	Services Incorporated	Missouri Operations	Management
		Company	
			Schedule JJR-D2

		2. Kansas City Power & Environmental
		Light Company • Support Services
		3. Great Plains Energy
		Incorporated
		4. KLT Investments Inc.
23	GridLiance Management,	5. Midcontinent MCN • Legal
	LLC	LLC, • Payroll
		6. South Central MCN • Record-keeping
		LLC, • Administrative
		7. Mid-Atlantic MCN • IT services
		LLC,
		8. GridLiance West
		Transco LLC,
		9. GridLiance Heartland
		LLC,
		10. GridLiance West
		Holdings LLC
24	Iberdrola USA	1. Avangrid, Inc. • Innovation
	Management Corporation	2. Cayuga Energy, LLC • Environment & Quality
		3. Avangrid Renewables, • Real Estate and General
		LLC Services
		4. Avangrid Networks, • Corporate Security
		Inc.
		5. New York State • Human Resources
		Electric and Gas • Purchasing
		Corporation Insurance
		A Hinance and Ireacury
		Pieks
		/. RGS Energy Group,
		inc.
		o. Availght Solutions,
		me.
		J. Community and Tower
		• • •
		40.361 71
		- Secretary of the Board
		12 NORWARGO
		- *
		6. Rochester Gas and

		20. Il 1	<u> </u>
		20. Iberdrola Canada	
		Energy	
		21. Iberdrola S.A.	
	D : 2	22. Scottish Power	
25	Integrys Business Support,	1. AMP Trillium, LLC	Administrative services
	LLC	2. Combined Locks	Corporate development
		Energy Center, LLC	Corporate secretary
		3. Compass Energy Gas	Environmental
		Services, LLC	 Executive management
		4. Compass Energy	Governmental Relations
		Services, Inc.	Corporate Communications
		5. IES - Natural Gas, LLC	and Regulatory Processes
		6. Integrys Energy Group,	Financial services
		Inc.	Human resources
		7. Integrys Energy of New	Information technology
		York, Inc.	
		8. Integrys Energy	• Legal services
		Services, Inc.	• Supply chain
		9. Integrys Solar, LLC	Engineering Services
		10. Integrys Transportation	• Gas supply
		Fuels, LLC	Customer relations
		11. LGS Renewables 1, LC	Project Services
		12. Michigan Gas Utilities	
		Corporation	
		13. Minnesota Energy	
		Resources Corporation	
		14. North Shore Gas	
		Company	
		15. Penvest, Inc.	
		16. Peoples Energy, LLC	
		17. Pinnacle CNG	
		Company, LLC	
		18. Pinnacle CNG Systems,	
		LLC	
		19. Solar Hold 2008-1,	
		LLC	
		20. The Peoples Gas Light	
		and Coke Company	
		21. Trillium USA	
		Company, LLC	
		22. Trillium USA, LLC	
		23. Upper Peninsula Power	
		Company	
		24. Winnebago Energy	
		Center, LLC	
		25. Wisconsin Public	
		Service Corporation	
		26. Wisconsin River Power	
		Company	
		27. WPS Empire State, Inc.	
		28. WPS Investments, LLC	

	20 WPS Power	1
26 LG&E and KU Services Company	29. WPS Power Development, Inc 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	 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

27	Liberty Energy Utilities (New Hampshire) Corp	1. Liberty Utilities (Granite State Electric) Corp. 2. Liberty Utilities (EnergyNorth Natural Gas) Corp.	 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 No services listed
20		 Liberty Utilities (Canada) Corp. Liberty Utilities (Midstates Natural Gas) Corp. Liberty Utilities (Calpeco Electric) LLC 	
28	Liberty Utilities (Canada) Corp	 Liberty Utilities (CalPeco Electric) LLC Liberty Utilities (Pine Bluff) Inc. Liberty Utilities (Midstates Natural Gas) Corp. Liberty Utilities (Peach State Natural Gas) Corp. Liberty Utilities (Sub) Corp. Liberty Utilities (Sub) Corp. Liberty Energy Utilities (New Hampshire) Corp. Liberty Utilities (Granite State Electric) Corp. Liberty Utilities (EnergyNorth Natural Gas) Corp. Liberty Utilities (New England Gas Co) Corp. Liberty Utilities (White Hall Water) Corp. 	 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

		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.	
29	Liberty Utilities Service	Liberty Utilities (Peach	Information Technology
2)	Corp	State Natural Gas)	Human Resources
	Corp	Corp.	
		2. Liberty Utilities Energy	TrainingEnvironment
		Solutions Corp.	
		3. Liberty Utilities	Health, Safety and Security Facilities and Building Bont
		(CalPeco Electric) LLC	Facilities and Building Rent
		4. Liberty Utilities (Sub)	• Procurement
		Corp.	Executive and Strategic
			Management

		T =
30 National Grid Engine & Survey, Inc	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 (White Hall Sewer) Corp. 18. Empire District Electric Company 19. Liberty Power 20. Algonquin Power Sanger LLC Pering 1. Boston Gas Company 2. Brooklyn Union Gas-KEDNY	 Technical Services Utility Planning Risk Management Financial Reporting Planning and Administration Compliance Treasury Internal Audit External Communications Legal Costs • Maintenance and Construction Electric Power Plant Operations Management of Complex
	•	
	ź -	
	`	
	· -	
	Company	
30 National Grid Engine		Maintenance and Construction
	2. Brooklyn Union Gas-	
		Management of Complex
	3. Colonial Gas Company4. Massachusetts Electric	Construction Projects
	Co	Resource Planning and Response and Operations
	5. Nantucket Electric Co	Performance activities
	6. NE Electric Trans Corp	
	7. NE Hydro-Trans Corp8. NE Hydro-Trans Elec	
	8. NE Hydro-Trans Elec Co	
	9. New England Power	
	Company	
	10. NG Corporation	
	11. NG Development Holdings Corp	
	12. NG Energy Trading	
	Srvcs	

	<u> </u>	12 NG Gog East Com	
		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	
31	National Grid USA	Boston Gas Company	Resource Planning
	Service Company Inc	2. Brooklyn Union Gas-	Emergency Planning PMO
	a sirrior company inc	KEDNY	Maintenance and Construction
		3. Colonial Gas Company	Operations Performance
		4. EUA Energy	Control Center Operations
		Investment	TATO
		5. GridAmerica Holdings	_
		Inc.	Operations Support
		6. Massachusetts Electric	Asset Management
		Co	Gas Systems Engineering
		7. Nantucket Electric Co	Electric Systems Engineering
		8. Narragansett Electric	• Investment Planning
		Co	FERC Operations
		9. NE Electric Trans Corp	Standards
		10. NE Hydro-Trans Corp	Codes and Policies
		11. NE Hydro-Trans Elec	Regulatory Support and
		Co	Reporting
		12. New England Power	Safety
		Company	Health
		13. NG Development	Environment
		Holdings Corp	Energy Solutions Delivery
		14. NG Energy	Energy Products
		Management LLC	Market Strategy and
		15. NG Energy Trading	Implementation
		Srvcs	Customer and Business Strategy
		16. NG Engineering Srvcs,	Energy Procurement
		LLC	Lead Intake
		17. NG Gas East Corp-	Customer Analytics and Risk
		KEDLI	Management
		18. NG Generation LLC	Customer Care
		19. NG Glenwood Energy Center	Customer Operations Support
			Regulatory Strategy
L		20. NG Holdings, Inc.	

21. NG LNG LP Regulated	•	Pricing and Federal Affairs
Entity		Labor & Employee Relations
22. NG NE Holdings 2		US HR Business Partner
LLC		Recruiting
23. NG Port Jeff Energy		•
Center	•	Inclusion & Diversity
24. NG Services, Inc.	•	HR Operations
25. NG UK	•	Compensation
26. NG USA Parent	•	Benefits & Pensions
27. Niagara Mohawk Power		Technical Training
Corp		Employee Services (SDC)
28. Transgas Inc		Procure to Pay (SDC)
29. Valley Appliance &		Response Team (SDC)
Merch	•	Billing Operations (SDC)
30. Wayfinder Group, Inc.	•	Credit and Collections (SDC)
31. Granite St Elec-Post	•	Business Process Excellence
Sale	•	Property Strategy
32. EnergyNorth Gas-Post	•	Facilities Management
Sale	•	Accounting Services
33. NG Electric Services	•	Finance Business Partnering
34. PSEG Electric Serv		IS Finance
TSA Co	•	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
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Corporate CounselProcurement Strategy

• Sourcing

	I	T	0 1 1 1 1 1
			• Communications and Brand
			• Federal Affairs
			Government Relations
			Media Relations
			Internal Audit
			 Business Development
			• Strategy
32	NiSource Corporate	1. Columbia Gas of	• Accounting and Statistical
	Services Company	Kentucky Inc	Services
		2. Columbia Gas of	Auditing Services
		Maryland Inc 3. Columbia Gas of	Budget Services
		Massachusetts	Business Services
		4. Columbia Gas of Ohio	• Corporate Services
		Inc	• Customer Billing, Collection,
		5. Columbia Gas of	and Contact Services
		Pennsylvania Inc	Employee Services
		6. Columbia Gas of	• Engineering and Research
		Virginia Inc	Services
		7. Columbia Gas of Ohio	• Facility Services
		Receivables Corp	Gas Dispatching Services
		8. Columbia Gas of PA	• Information Services
		Receivables Corp	• Information Technology
		9. EnergyUSA Inc Indiana	Services
		10. EnergyUSA TPC Corp	• Insurance Services
		11. NiSource Capital	 Land/Surveying Services
		Markets Inc	• Legal Services
		18. NiSource Development Co Inc	 Officers, Operations Support and Planning Services
		19. NiSource Energy	Purchasing, Storage and
		Technologies Inc	Disposition Services
		20. NiSource Finance Corp	Regulatory Services
		21. NiSource Inc.	• Tax Services
		22. NiSource Insurance	Transportation Services
		Corp Inc	Transportation ServicesTreasury Services
		23. Northern Indiana Public	11043417 50171005
		Svc Co	
33	Northeast Utilities Service	1. NU Parent	 Capital Expenditures
	Company	2. North Atlantic Energy	• Labor
		Corporation	 Operating Revenues
		3. Public Service	• Customers
		Company of New	Direct Charged Costs
		Hampshire Properties	 Facilities Floor Space
		Inc A The Connecticut Light	• Gross Plant Assets
		4. The Connecticut Light	• Invoices Processed
		and Power CompanySelect Energy	• Common - Gross Plant Assets
		Contracting, Inc.	& Net Income
		6. NSTAR Electric	• PC Counts
		Company	• Vehicles
	<u> </u>	Company	

		7 Calact Engineer Inc.	C (II 11 Tr.
		 Select Energy, Inc. Hopkinton LNG Corp NSTAR Communications, Inc. 	 Customer Handle Time Miscellaneous
		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.	
34	PHI Service Company	1. Potomac Electric	Executive Management
		Company 2. Delmarva Power &	Procurement and Administrative Services
		Light Company	Security
		3. Atlantic City Electric Company	• Storeroom Procurement and Materials Management
		4. Exelon Business Services Company,	Vehicle Resource Management
		LLC 5. Pepco Energy Services,	Building Services (facilities
		Inc	cost)Real Estate Services
		6. Pepco Holdings LLC 7. Atlantic Southern Properties, Inc	Conference Center Usage Mail

8. Conectiv Properties &	Records Retention Management
Investments, Inc 9. Atlantic City Electric	and Reprographic Services
ž	• Financial Services and
Transition Funding, LLC	Corporate Expenses
10. Conectiv Holding	• Accounts Payable
Company, Inc.	Payroll Accounting Services
11. Potomac Capital Investments	• Asset and Project Accounting Services
Corporation	All Other Financial Services
12. Conectiv Thermal	Salary Accruals
Systems, Inc.	Other Corporate Expenses
Systems, mer	• 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

			 Regulated Electric and Gas Delivery System Operations Services
			 Meter Maintenance and Testing Services Power Procurement and Energy Planning Other Delivery Services
35	PNMR Services Company	1. PNM, PNMR Holding Company, TNMP	 Internal Consulting Services 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	 PPL Services Corporation PPL Strategic Development, LLC PPL Electric Utilities Corporation PPL Infrastructure Services, LLC PPL TransLink, Inc. 	 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 - Windsor Data Center NERC Support Electric Usage FM Software Energy Acquisition IT Oversight

37 P	2 3 4 5 6 7 8	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	 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 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 Internal Reporting Financial Consulting Services FinSupport for Delaware Co's Investor Relations Billing Remittance Processing Credit Services Vendor Servicing(Corporate
			 Vendor Servicing(Corporate Disbursements) Cash Processing Scanning Svcs Pensions Domestic Only

	1	1	l -	D : D 1 : 0.1
			•	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	On December 31, 2015	•	No services listed
	Company, LLC	Progress Energy Service	<u> </u>	

39	SCANA Services, Inc	was legally merged into Duke Energy Business Services 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)	 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 corvices
40	Southern Company Services, Inc	 The Southern Company Alabama Power Company Georgia Power Company Gulf Power Company Mississippi Power Company Southern Electric 	gas engineering services Accounting Auditing Executive and Corporate External Affairs Finance Human Resources Information Technology Insurance Legal and General Counsel
		Generating Company 7. Southern Nuclear Operating Company	 Legal and General Counsel Marketing Services Supply Chain Management System Air

8. Southern Company Holdings, Inc. 9. Southern Communications Services, Inc. 10. Southern Power Company 11. Southern Company Gas 12. PowerSecure International 41 Southern Nuclear Operating Company, Inc 8. Southern Company Holdings, Inc. 9. SCG Exec and Corporate Support • Transmission, Engineering, Environmental and Research • Chief Production Officer • No services listed
9. Southern Communications Services, Inc. 10. Southern Power Company 11. Southern Company Gas 12. PowerSecure International 41 Southern Nuclear 9. Southern Support Transmission, Engineering, Environmental and Research Chief Production Officer • No services listed
Communications Services, Inc. 10. Southern Power Company 11. Southern Company Gas 12. PowerSecure International 41 Southern Nuclear Communications Support Transmission, Engineering, Environmental and Research Chief Production Officer No services listed
Services, Inc. 10. Southern Power Company 11. Southern Company Gas 12. PowerSecure International 41 Southern Nuclear 1. Alabama Power No services listed
10. Southern Power Company 11. Southern Company Gas 12. PowerSecure International 41 Southern Nuclear 1. Alabama Power No services listed
10. Southern Power Company 11. Southern Company Gas 12. PowerSecure International 41 Southern Nuclear 1. Alabama Power No services listed
11. Southern Company Gas 12. PowerSecure International 41 Southern Nuclear 1. Alabama Power • No services listed
11. Southern Company Gas 12. PowerSecure International 41 Southern Nuclear 1. Alabama Power • No services listed
International 41 Southern Nuclear 1. Alabama Power ◆ No services listed
41 Southern Nuclear 1. Alabama Power • No services listed
Operating Company, Inc. Company
operating company, me company
2. Georgia Power
Company
3. Southern Nuclear
Services, LLC
4. Southern Nuclear
Development, LLC
42 TECO Services, Inc 1. TECO Energy, Inc. • Accounts Payable
2. TECO Finance • Claim Management
3. TECO Energy Source • Corporate Communications
4. TECO Gemstone • Emergency Management
5. TECO Pipeline Holding Human Resources
Co.
6. SeaCoast Gas Information Technology Procurement
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.

43	Unitil Service Corporation	5. 6. 7.	Unitil Energy Systems, Inc. Fitchburg Gas and Electric Light Company UNITIL Realty Corp. UNITIL Resources, Inc. UNITIL Corp. Northern Utilities, Inc Granite State Gas Transmission, Inc		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	11. 12. 13. 14.	Bluewater Gas Storage, LLC Bostco LLC Elm Road Generating Station Supercritical, LLC Integrys Holding, Inc. Michigan Gas Utilities Corporation Minnesota Energy Resources Corporation North Shore Gas Company Peoples Energy, LLC The Peoples Gas Light and Coke Company Upper Michigan Energy Resources Corporation WEC Energy Group, Inc. W.E. Power, LLC Wisconsin Electric Power Company Wisconsin Energy Capital Corporation Wisconsin Gas LLC Wisconsin Public Service Corporation	• • • • • • • • •	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 18. Wisconsin River Power Company 19. Wispark LLC 20. WPS Power Development, LLC • Rates & Regulation • Energy Supply Engineering an Environmental • Energy Supply Business Resources • Energy Markets Regulated Trading & Marketing • Energy Markets Fuel				
3. NSP-Wisconsin 4. Xcel Energy, Inc. 5. Xcel Energy Joint Ventures 6. e-prime, Inc. 7. Fl. in Constant of the	45 Xc	cel Energy Services Inc	Service Foundation, Inc. 18. Wisconsin River Power Company 19. Wispark LLC 20. WPS Power Development, LLC 1. NSP-Minnesota	I —
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 LLC 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. 8. Maintenance (COM) 6. Energy Delivery Construction Operations & Maintenance (COM) 6. Energy Delivery Engineering/Design 6. Maintenance (Som) 6. Maintenance (CoM) 6. Energy Delivery Engineering/Design 6. Maintenance (Com) 6. Business Systems 6. Aviation Services 6. Supply Chain Secvices 6. Supply Chain Secvices 6. Facilities Administrative 6. Service 6. Pacilities Administrative 6. Supply Chain 6. Energy Delivery Construction 6. Operations & 6. Maintenance (COM) 6. Energy Delivery 6. Maintenance (Com) 6. Business Systems 6. Aviation Services 6. Supply Chain 6. Supply			 NSP-Wisconsin Xcel Energy, Inc. Xcel Energy Joint Ventures e-prime, Inc. Eloigne Company Xcel Energy WYCO, Inc. Capital Services, LLC Nicollet Projects I, LLC Xcel Energy Transmission Development Company, LLC Xcel Energy Transmission Holding Company, LLC NCE Communications, Inc. Xcel Energy Wholesale Group Inc. Xcel Energy Ventures Inc. Chippewa and Flambeau Improvement Company Xcel Energy Southwest Transmission Company, LLC WestGas Interstate, Inc. 1480 Welton, Inc. P.S.R. Investments, Inc. Clearwater Investments, Inc. Xcel Energy Ventures Holdings Xcel Energy Retail Holdings Inc. Xcel Energy Performance 	 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 Employee Communications Corporate Strategy & Business Development

25. Xcel Energy West	Facilities & Real Estate
Transmission Company,	
LLC	
26. Energy Impact Fund	
Investments	
27. Reddy Kilowatt	
Corporation	
28. Quixx Corporation	
29. Xcel Energy	
Communications Group	
Inc.	
30. Xcel Energy	
International, Inc.	
31. Xcel Energy Markets	
Holdings, Inc.	
32. Nicollet Holdings	
Company	
33. Seren Innovations, Inc.	
34. United Power and Land	
Company	
35. NSP Lands, Inc.	