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June 30, 2014

The Honorable Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

Re: *Cordova Energy Company LLC*  
Docket No. ER11-3876-\_\_\_\_  
*MidAmerican Energy Company*  
Docket No. ER14-\_\_\_\_-000  
*Saranac Power Partners, L.P.*  
Docket No. ER10-2611-\_\_\_\_

Dear Secretary Bose:

Pursuant to Order No. 697<sup>1</sup> and Section 35.37 of the Commission's Regulations, Cordova Energy Company LLC ("Cordova"), MidAmerican Energy Company ("MidAmerican") and Saranac Power Partners, L.P. ("Saranac") (hereinafter "Applicants") hereby submit their updated triennial market power analysis focusing on the generation owned and controlled by the Applicants and their affiliates in the Northeast Region.<sup>2</sup> As discussed below, the Applicants own generation in the PJM and NYISO balancing authority areas ("BAAs") within that

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<sup>1</sup> *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, Order No. 697, FERC Stats. & Regs. ¶ 31,252 (2007) ("Order No. 697"), *order on clarification*, 121 FERC ¶ 61,260 (2007) ("Clarifying Order"), *order on reh'g*, Order No. 697-A, FERC Stats. & Regs. ¶ 31,268 (2008), *subsequent history omitted*.

<sup>2</sup> The "Northeast Region" includes PJM Interconnection, L.L.C. ("PJM"), New York Independent System Operator, Inc. ("NYISO"), and ISO New England Inc. ("ISO-NE"). See Order No. 697, Appendix D.

region. In addition, as discussed more fully below, MidAmerican also proposes a minor revision to its market-based rate (“MBR”) tariff.

This filing is supported by the affidavit of Mr. Rodney Frame (“Frame Affidavit”) of the Analysis Group, Inc., which is included as Attachment A hereto. The Frame Affidavit and the accompanying exhibits demonstrate that the Applicants pass the Commission’s horizontal market power screens in the PJM and NYISO market areas within the Northeast Region, and that the changes in generation and transmission ownership since the Applicants’ most-recent triennial filings do not affect the conclusion that the Applicants continue to meet the Commission’s standards for market-based pricing authority in the Northeast Region. In addition to the Frame Affidavit, exhibits, and accompanying workpapers, the Applicants submit as Attachment B hereto the generation and transmission asset data required under Appendix B to 18 C.F.R. Subpart H. The Applicants also include in Attachment C a form of protective agreement for parties who request access to privileged information contained in Mr. Frame’s workpapers, which are being submitted confidentially. Finally, for its proposed revision to the MBR tariff, MidAmerican is submitting the Clean and Marked Tariff Attachments and tariff record in the MidAmerican eTariff database.

## **I. BACKGROUND**

### **A. The Applicants**

The Applicants are indirect subsidiaries of Berkshire Hathaway Energy Company (“BHEC”), formerly known as MidAmerican Energy Holdings Company. Cordova is an exempt wholesale generator under the Public Utility Holding Company Act.<sup>3</sup> Cordova operates the Cordova Energy Center, a 521.2 MW (summer rating) gas-fired generating facility located in Rock Island County, Illinois (the “Cordova Facility”), that is interconnected with the transmission system of Commonwealth Edison Company (“ComEd”) and electrically located in PJM. Cordova entered into a multi-year tolling power sales agreement with El Paso Merchant Energy, L.P. (“El Paso”) that fully committed to El Paso all of the capacity and energy from the Cordova Facility. The agreement since has been assigned to a subsidiary of Exelon Corporation.<sup>4</sup>

MidAmerican, incorporated under the laws of the State of Iowa, is a combination gas and electric company and a public utility under the Federal Power

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<sup>3</sup> *Cordova Energy Co. LLC*, 87 FERC ¶ 62,157 (1999).

<sup>4</sup> The Commission accepted the El Paso agreement by letter order dated September 11, 2001, in Docket No. ER01-2595. Cordova continues to perform under the agreement pursuant to Cordova’s MBR tariff.

Act. MidAmerican provides regulated retail electric service to approximately 739,000 customers in Iowa, Illinois and South Dakota, and regulated retail natural gas service and transportation to approximately 719,000 customers in Iowa, Illinois, Nebraska and South Dakota. MidAmerican's retail electric service is regulated by the Iowa Utilities Board ("IUB"), the Illinois Commerce Commission ("ICC"), and the South Dakota Public Utilities Commission ("SDPUC"). MidAmerican's retail gas service is regulated by the IUB, the ICC, the SDPUC and various Nebraska municipalities. MidAmerican is a transmission-owning member of the Midcontinent Independent System Operator, Inc. ("MISO") within the Central Region. MidAmerican owns an extensive transmission system over which MISO provides transmission service pursuant to MISO's Open Access Transmission, Energy and Operating Reserve Markets Tariff. Including the new wind generation discussed below, MidAmerican has in excess of 8,800 MW (summer seasonal ratings except for wind powered and hydroelectric generating facilities, which are nameplate ratings) of net owned and contracted capacity. This amount includes ownership in six jointly-owned coal-fired generating units and one jointly-owned nuclear unit. Except as discussed immediately below, MidAmerican's generation is located within MISO's market area in the Central Region (NERC Region MRO).

MidAmerican owns an undivided twenty-five percent interest in the Quad Cities Station ("QCS"), which is located in Rock Island County, Illinois, on the westernmost edge of PJM. Although QCS geographically is located within the MidAmerican service territory and directly tied to the MidAmerican transmission system through facilities owned and operated by MidAmerican, the facility electrically is included within the PJM BAA, with the metering point within the QCS 345 kV substation forming part of the border between the Northeast and Central Regions. Similarly, the Cordova Facility is located in the immediate vicinity of QCS and is geographically within the MidAmerican service territory. In addition to being interconnected to the ComEd transmission system, Cordova also is interconnected to the MidAmerican transmission system through facilities owned and operated by MidAmerican.

In December 2013, MidAmerican added 44 MW (nameplate) of new wind generating capacity (the Vienna II wind facility), and in 2014 and 2015, MidAmerican plans to bring into service 1,006 MW (nameplate) of additional wind generation capacity (collectively "New Wind Generation"), all of which will be in the MISO market. The facilities to be added in 2014 consist of Lundgren (251 MW), Macksburg (112.6 MW), and Wellsburg (140.8 MW), and the Highland facility (502 MW) will be added in 2015.

Saranac, which is owned 75% by BHEC and 25% by non-affiliated entities, owns and operates a cogeneration facility (the “Saranac Facility”) in the NYISO BAA. The output of the Saranac Facility is bid into the NYISO markets. As shown on Attachment B, the generation and transmission asset table, the Saranac Facility currently is rated at 251.4 MW, which is the rating used by Mr. Frame in his analysis.

### **B. Affiliates in the Eastern Interconnection**

No other affiliates own or control generation in the PJM or NYISO markets in the Northeast Region. The Applicants are, however, affiliated with several entities in other areas of the country that have obtained market-based rate authority.<sup>5</sup> In the Eastern Interconnection, for example, the Applicants are affiliated with Bishop Hill Energy II LLC (“Bishop Hill II”), which owns and operates a nominal 81.0 MW wind generating resource in Illinois in the MISO BAA within the Central Region. Bishop Hill II completed construction of the wind facility in November 2012 and it was placed into commercial service in December 2012. Bishop Hill II has entered into a 20-year power purchase agreement to produce energy and deliver Renewable Energy Credits totaling approximately 85% of the expected energy output of the facility. The balance of the output from Bishop Hill II is sold into the MISO market. Bishop Hill II has been granted market-based rate authority<sup>6</sup> and has filed a notice of self-certification of exempt wholesale generator status.<sup>7</sup>

### **C. Affiliates in the Western Interconnection**

In the Western Interconnection, the Applicants are affiliated with three traditional electric utilities that have obtained market-based rate authority. PacifiCorp, which is located in the Northwest Region, is an Oregon corporation engaged primarily in the business of providing retail electric service to approximately 1.7 million customers in six western states: Utah, Oregon, Wyoming, Washington, Idaho and California. PacifiCorp owns or otherwise controls approximately 11,500 MW of generation capacity and provides open access transmission service pursuant to its tariff on file with the Commission. PacifiCorp operates in two control areas: Pacific Power serves customers in Oregon, Washington and Northern California, and Rocky Mountain Power serves

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<sup>5</sup> Through their affiliate Electric Transmission America, LLC, Applicants also are affiliated with Prairie Wind Transmission, LLC, which in early June 2014 energized about a 78-mile segment of a 345 kV transmission project in Kansas (in the SPP Region).

<sup>6</sup> *Bishop Hill Energy LLC*, 137 FERC ¶ 61,211 (2011).

<sup>7</sup> See *Michigan Wind 2, LLC*, Docket No. EG11-100, *et seq.*, Notice of Effectiveness of Exempt Wholesale Generator Status (Oct. 17, 2011).

customers in Utah, Wyoming and Idaho. Pacific Power and Rocky Mountain Power each is an unincorporated division of PacifiCorp. PacifiCorp obtained market-based rate authority in Docket No. ER97-2801-000.<sup>8</sup>

The Applicants also recently became affiliated with NV Energy, Inc. and its two operating utilities, Nevada Power Company (“Nevada Power”) and Sierra Pacific Power Company (“Sierra Pacific”), both of which are located in Nevada within the Southwest Region.<sup>9</sup> Nevada Power serves customers in southern Nevada, while Sierra Pacific serves customers predominately in northern Nevada. Nevada Power and Sierra Pacific formerly operated separate BAAs, but now operate a single BAA in which they own or otherwise control approximately 7,800 MW of generation capacity. The Commission has granted Nevada Power and Sierra Pacific the authority to sell electric energy, capacity, and ancillary services at market-based rates outside of the formerly-separate Nevada Power and Sierra Pacific BAAs.<sup>10</sup>

In addition to these utilities, the Applicants are affiliated with several other generation-only companies that operate in the Western Interconnection, that are briefly discussed below:

- MidAmerican Renewables, LLC indirectly owns 49 percent of the membership interests in Agua Caliente (the remaining 51 percent is indirectly owned by NRG Energy, Inc., which is not affiliated with MidAmerican).<sup>11</sup> Agua Caliente owns and operates a 290 MW solar photovoltaic electric generating facility in Yuma County, Arizona, which commenced commercial operation in April 2014 and is directly interconnected to the transmission system owned by Pacific Gas & Electric Company (“PG&E”) and operated by the California ISO (“CAISO”). Agua Caliente has entered into a long-term power purchase agreement pursuant to which the entire net electrical output of its generating facility is committed to PG&E. The Commission has granted Agua Caliente

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<sup>8</sup> *PacifiCorp*, 79 FERC ¶ 61,383 (1997).

<sup>9</sup> BHEC’s indirect acquisition of Nevada Power and Sierra Pacific was approved in *Silver Merger Sub, Inc.*, 145 FERC ¶ 61,261 (2013).

<sup>10</sup> *See Sierra Pacific Power Co.*, 95 FERC ¶ 61,193, *reh’g denied*, 96 FERC ¶ 61,050 (2001).

<sup>11</sup> On June 12, 2014, BHEC submitted a filing in *Pinyon Pines Wind I, LLC*, Docket No. ER12-1521-001, in which it explained that BHEC’s indirect interest in Agua Caliente is a passive interest and, therefore, that neither BHEC nor any of its subsidiaries (which would include the Applicants) should be considered as affiliates of Agua Caliente. The Commission has not yet addressed this submission.

authorization to sell energy, capacity and ancillary services at market-based rates.<sup>12</sup>

- Pinyon Pines Wind I and Pinyon Pines Wind II are indirect, wholly-owned subsidiaries of MidAmerican Renewables. Pinyon Pines Wind I owns and operates an approximately 168 MW (nameplate) wind-powered electric generation facility, and Pinyon Pines Wind II owns and operates an approximately 132 MW (nameplate) wind-powered electric generation facility, both located in Kern County, California, and interconnected with the transmission system owned by Southern California Edison Company (“SCE”) and operated by the CAISO. The entire output of these facilities is committed to SCE pursuant to long-term power purchase agreements. The Commission granted Pinyon Pines Wind I and Pinyon Pines Wind II authorization to sell energy, capacity, and ancillary services at market-based rates.<sup>13</sup>
- Solar Star 1 and Solar Star 2 are indirect, wholly-owned subsidiaries of MidAmerican Renewables. Solar Star 1 is developing and constructing a 310 MW (nameplate) solar photovoltaic electric generating facility, and Solar Star 2 is developing and constructing a 276 MW solar (nameplate) photovoltaic electric generating facility, each located in Kern and Los Angeles Counties, California, and interconnected to the SCE transmission system that is operated by the CAISO. The entire output of these facilities is committed to SCE pursuant to long-term power purchase agreements. Construction of these facilities began in 2013 and is expected to be completed in the fourth quarter of 2015. The Commission has granted each of these entities authorization to sell energy, capacity, and ancillary services at market-based rates.<sup>14</sup>
- Topaz is an indirect, wholly-owned subsidiary of MidAmerican Renewables that is constructing a 550 MW (nameplate) solar photovoltaic generating facility in San Luis Obispo County, California, which is interconnected to the transmission system owned by PG&E and operated by the CAISO. The Topaz Facility began trial operation during the first quarter of 2013. A portion of the facility is now in commercial operation, and the Topaz Facility is expected to be in full commercial operation by March 2015. Topaz has entered into a

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<sup>12</sup> *Agua Caliente Solar, LLC*, Docket No. ER12-21-000 (Dec. 1, 2011) (unreported).

<sup>13</sup> *Alta Wind VII, LLC and Alta Wind IX, LLC*, Docket Nos. ER12-1521-000 and ER12-1522-000 (May 31, 2012) (unreported).

<sup>14</sup> *Solar Star California XIX, LLC, Solar Star California XX, LLC*, Docket Nos. ER13-1441 and ER13-1442 (June 20, 2013) (unreported).



long-term power purchase agreement pursuant to which the entire net electrical output of the Topaz Facility is committed to PG&E. The Commission granted Topaz authorization to sell energy, capacity and ancillary services at market-based rates.<sup>15</sup>

- Yuma Cogeneration Associates (“Yuma”) owns and operates a 52.3 MW natural gas-fired cogeneration facility located in Yuma, Arizona. The facility is interconnected with the transmission system owned and operated by Arizona Public Service Company. Yuma sells its output to San Diego Gas and Electric Company under a long-term power purchase agreement. Yuma obtained market-based rate authority in Docket No. ER07-1236-000.<sup>16</sup>
- Applicants also are affiliated with CE Generation, LLC, which indirectly owns, among other things, ten geothermal units in the Imperial Irrigation District BAA. Each of these units has been certified as a qualifying facility (“QF”) under the Public Utility Regulatory Policies Act of 1978. These geothermal facilities have a total generating capacity of 346.6 MW, as indicated on Attachment B. Applicants also are affiliated with CalEnergy LLC, which is a power marketer that was formed for the purpose of marketing the output of the geothermal electric generation facilities. CalEnergy LLC does not own or control any generation facilities, and it has obtained market-based rate authority.<sup>17</sup>

#### **D. ERCOT affiliates**

The Applicants are affiliated with a 212-MW QF (Power Resources, Ltd.) in the Electric Reliability Council of Texas (“ERCOT”) region that has obtained market-based rate authority.<sup>18</sup>

On June 23, 2014, the Applicants became affiliated with TX Jumbo Road Wind, LLC, which is developing and constructing a 300 MW (nameplate) wind-powered electric generation facility in Castro County, Texas in the ERCOT region. TX Jumbo Road Wind, LLC has not filed an application with the Commission for market-based rate authority.

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<sup>15</sup> *Topaz Solar Farms LLC*, Docket No. ER12-1626 (Jun. 14, 2012) (unreported).

<sup>16</sup> *Yuma Cogeneration Assocs.*, Docket No. ER07-1236 (Dec. 4, 2007) (unreported).

<sup>17</sup> *CalEnergy, LLC*, Docket No. ER13-1266 (May 31, 2013) (unreported).

<sup>18</sup> *Power Resources, Ltd.*, Docket No. ER09-762-000 (May 7, 2009) (unreported). Applicants also are affiliated with Electric Transmission Texas, LLC, which builds, owns and operates transmission projects in ERCOT.

## **II. SUMMARY OF THE TRIENNIAL GENERATION MARKET POWER ANALYSIS**

As required by Order No. 697, Mr. Frame conducted the “Pivotal Supplier Analysis” and “Market Share Analysis” and the results, which are discussed in detail in the Frame Affidavit and summarized below, are presented in the format set out in Appendix A to 18 C.F.R. Subpart H. Consistent with the *Clarifying Order*, Mr. Frame’s analyses are based on December 2011-through-November 2012 generation and load data. Mr. Frame’s triennial analyses focus on whether Applicants can exercise market power within the Northeast region, and in particular in the PJM and NYISO BAAs.

Before providing the results of his analyses, Mr. Frame provides background on the Applicants (Section II of the Frame Affidavit) and a description of the Commission’s analytic approach to screening for horizontal market power (Section III of the Frame Affidavit). Attachment 2 to the Frame Affidavit lists each of the generating resources owned or controlled by Applicants and their generation-owning affiliates in the Eastern Interconnection.

Mr. Frame’s discussion of how he applied the Commission’s indicative screens to the Applicants is set out in Section IV of the Frame Affidavit. As he describes more fully in the Frame Affidavit, Mr. Frame made several very conservative assumptions in conducting his analyses. For example, Mr. Frame assumed that MidAmerican’s uncommitted generation in the Central Region and Saranac’s generation in NYISO had a first-call priority on imports into the PJM market in the Northeast Region, regardless of whether MidAmerican or Saranac had firm transmission reservations (P 28), and that MidAmerican’s and Cordova’s total capacity in PJM had a first-call priority for deliveries into the NYISO market (P 29).<sup>19</sup> He also assumed no derates for the substantial amount of wind generation either owned or purchased by MidAmerican, and instead used nameplate ratings (P 21); assumed no planned outages at any of Applicants’ generating facilities during the study period (P 25); treated all of MidAmerican’s long-term wholesale purchases as being under MidAmerican’s “control,” and none of the capacity underlying MidAmerican’s long-term wholesale sales as being under the “control” of the purchasers (P 22); and assigned all of the Cordova Facility’s capacity to Cordova even though the output of the facility was fully contractually committed to a third-party during the study period (P 32, n.42). In

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<sup>19</sup> For purposes of his analyses, Mr. Frame used the Simultaneous Transmission Import Limit (“SIL”) estimates accepted by the Commission in its recent *Order on Simultaneous Transmission Import Limit Values for the Northeast Region*, 147 FERC ¶ 61,190 (2014).



addition, Mr. Frame attributed to the Applicants the capacity of Bishop Hill II (81 MW) and all of the New Wind Generation (1,050 MW), resources that were not in service during the December 2011-November 2012 study period. Attachment 2, p.3, nn. 2, 3 and 5. Each of these assumptions attributed additional capacity to the Applicants. As summarized in Section V (P 32) of the Frame Affidavit and shown on his Attachments 3 and 4, Mr. Frame concludes that the Applicants pass both horizontal market power screens in the PJM and NYISO markets in the Northeast Region.

In addition to including all the New Wind Generation in his analysis of the PJM and NYISO markets in the Northeast Region, Mr. Frame also prepared an analysis that shows the impact of including the New Wind Generation in the MISO market in the Central Region. The results of this analysis are shown in Attachment 5, for which Mr. Frame used the same study period as used for the PJM and NYISO markets, and used all of the same conservative assumptions discussed above except for the imports.<sup>20</sup> Attachment 5 supports Mr. Frame's conclusion that the Applicants would pass both screens in the Central Region as well. Mr. Frame's analysis of the Central Region is provided for informational purposes, and the Applicants do not request Commission action on the Central Region analysis at this time. The Applicants will report further changes in status consistent with the Commission's regulations as the New Wind Generation facilities are placed into service, and triennial analyses for the Central Region will be submitted in accordance with the schedule set out in Appendix D to Order No. 697.

### **III. VERTICAL MARKET POWER**

Sections 35.37(d) and (e) require sellers to provide additional information to assist the Commission's review of vertical market power issues, including potential barriers to entry. In order to address the open-access transmission requirement under Section 35.37(d), the Applicants note that MidAmerican has turned over functional control of its transmission system to MISO, which offers open access transmission service through the MISO tariff. This fully satisfies the requirements of Section 35.28. Other than the limited interconnection facilities at the Cordova Facility, Cordova does not own or operate transmission facilities. The same holds true for the Saranac Facility.

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<sup>20</sup> Because Mr. Frame did not have access to a MISO SIL study for this study period, he conservatively assumed that the only imports into MISO were (i) the entirety of the Cordova capacity, MidAmerican's QCS ownership capacity, and any long-term purchases from first tier BAAs and (ii) the limited OVEC capacity imported to MISO load-serving entities with an ownership interest in the OVEC generation. P 30.

As for the information required under Section 35.37(e)(1), neither Cordova nor MidAmerican owns or controls any intrastate natural gas transportation or intrastate natural gas storage facilities, although MidAmerican does operate natural gas local distribution and storage facilities in the Central Region. As noted above, MidAmerican's LDC services are regulated by the IUB, the ICC, the SDPUC and various Nebraska municipalities. A wholly-owned subsidiary of Saranac, North Country Gas Pipeline Corporation, owns and operates an intrastate pipeline in upstate New York with a capacity of about 100 dekatherm/day. The North Country pipeline runs approximately 22 miles from an interconnection with the TransCanada Pipeline in Napierville, Quebec, to Plattsburgh, New York, where it interconnects with the Saranac Facility and two other customers. No other affiliates own or operate intrastate pipeline or storage facilities in or adjacent to the Northeast Region.

As required under Sections 35.37(e)(2) and (3), the Applicants provide the following information describing the Applicants' ownership or control of sites for generation capacity development, as well as sources of coal supplies and transportation for coal supplies in or first tier to the PJM and NYISO markets:

- Consistent with the Commission's regulations, the Applicants have previously updated the status of their "acquisition of control of ... sites for new generation capacity development."<sup>21</sup> The most recent such submission was in Docket No. LA13-4 on January 14, 2014. At that time, MidAmerican reported a total of ten such sites, each located in the relevant geographic market of MISO (Central Region), with a combined maximum potential amount of reasonably commercially feasible generation of 1,630 MW. Since that submission, site control has been surrendered for one of these sites (representing 70 MW), and five sites (representing approximately 1,050 MW) will be utilized for the New Wind Generation. This will leave MidAmerican with control over four remaining sites, each located in the relevant geographic market of MISO, with a combined maximum potential amount of reasonably commercially feasible generation of approximately 510 MW. The Applicants will use this revised list of four sites as a basis for reporting future changes in status related to acquisition of control of sites for new generation capacity development. MidAmerican's control of these four remaining sites does not raise any entry barrier concerns. Each individual wind generator site consists of the footprint needed for the individual structure and is very small in size. While the individual sites have been geographically grouped to constitute a particular wind farm, the wind farms themselves are dispersed throughout the state of

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<sup>21</sup> 18 C.F.R. § 35.42(d) (2013).

Iowa. Further, there does not appear to be a reasonable limit on the number of potential sites available for further wind development in the Midwest.

As noted above, the Applicants recently became affiliated with TX Jumbo Road Wind, LLC, which is developing and constructing a 300 MW (nameplate) wind-powered electric generation facility in the ERCOT region. Although TX Jumbo Road Wind, LLC has neither placed generation in service nor filed an application for market-based rate authority, it has acquired site control for the project. For the same reasons cited in the paragraph immediately above, TX Jumbo Road Wind, LLC's acquisition of site control does not raise any entry barrier concerns, nor should it call into question the Applicants' continued market-based pricing authority.

- MidAmerican does not own any coal reserves and acquires all the coal it needs for electric generation from unaffiliated suppliers pursuant to long- and short-term contracts.
- MidAmerican owns or controls through lease agreements a fleet of coal rail cars for private use in connection with its coal-fired generation. From time to time, MidAmerican may lease/sublease a small fraction of these rail cars for short-term use. MidAmerican also owns various limited "spur lines" that are dedicated for private local transportation of coal to its generating stations. MidAmerican does not own any other coal transportation equipment or facilities.
- None of Cordova, Saranac or any other affiliate of the Applicants owns or has options on sites for generation capacity development, or owns coal reserves or coal transportation equipment or facilities in the Northeast Region.

Finally, as required by Section 35.37(e)(4), the Applicants affirmatively state that none of the Applicants or any of their affiliates has erected barriers to entry into the relevant market and that they will not erect barriers into the relevant market. As required under Appendix B to Subpart H of Part 35 of the Commission's regulations, also included as Attachment B hereto are updated generation and transmission asset tables.

The information pertaining to horizontal and vertical market power issues demonstrates that there are no market power concerns involving the Applicants that call into question the Applicants' continued market-based pricing authority.

#### **IV. REVISED MARKET-BASED RATE TARIFF**

MidAmerican proposes to revise its MBR tariff to include a provision to enable it to sell ancillary services into the Southwest Power Pool (“SPP”) ancillary service markets. MidAmerican seeks an effective date of March 1, 2014, because that was the start date of SPP ancillary service markets, but MidAmerican has not yet sold any ancillary services in those markets. A marked copy of MidAmerican’s MBR tariff is included to highlight the additional tariff language.

#### **V. CONFIDENTIAL INFORMATION**

Included with the Frame Affidavit and the accompanying exhibits are Mr. Frame’s workpapers, which are found in the attachment labeled “Workpapers.” There are some workpapers that are privileged and thus are included as a separate attachment labeled “Privileged Workpapers.” Per Section 35.37(f), also included as Attachment C hereto is a form of protective agreement under which parties to this proceeding executing the protective agreement may review information in the Privileged Workpapers for which the Applicants seek privileged treatment.

#### **VI. COMMUNICATIONS AND SERVICE**

The Applicants request that all correspondence and communications related to this triennial market power update be made to the following persons:

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A copy of this filing (other than the workpapers) has been served by e-mail on all parties to these dockets. Parties that desire a copy of the workpapers may make arrangements with the undersigned.

#### **VII. CONCLUSION**

The market power analyses set out in the Frame Affidavit and the additional information included with this filing demonstrate that the Applicants meet the Commission’s standards for market-based pricing authority in the Northeast Region. The Applicants respectfully request that the Commission accept for filing this updated triennial market power analysis. In addition, the

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Applicants also request that the Commission accept for filing the revised MBR tariff and permit it to become effective as discussed above.

If you have any questions concerning any aspect of this filing, please do not hesitate to contact the undersigned.

Respectfully submitted,

/s/ Steven J. Ross

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Counsel for the Applicants

Attachments

ATTACHMENT A

Affidavit of Rodney Frame



## ATTACHMENT B

### Generation and Transmission Assets

# ATTACHMENT C

## Form of Protective Agreement

**FORM OF PROTECTIVE AGREEMENT**

**UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION**

<b>Cordova Energy Company LLC</b>	)	<b>Docket No. ER11-3876-___</b>
	)	
<b>MidAmerican Energy Company</b>	)	<b>Docket No. ER14-___-000</b>
	)	
<b>Saranac Power Partners, L.P.</b>	)	<b>Docket No. ER10-2611-___</b>

**PROTECTIVE AGREEMENT**

1. This Protective Agreement shall govern the use of all Protected Materials produced by, or on behalf of, any Participant. Notwithstanding any order terminating this proceeding, this Protective Agreement shall remain in effect until specifically modified or terminated by the Federal Energy Regulatory Commission (“Commission”).

2. This Protective Agreement applies to the following two categories of materials: (A) A Participant may designate as protected those materials which customarily are treated by that Participant as sensitive or proprietary, which are not available to the public, and which, if disclosed freely, would subject that Participant or its customers to risk of competitive disadvantage or other business injury; and (B) A Participant shall designate as protected those materials which contain critical energy infrastructure information, as defined in 18 C.F.R. § 388.113(c)(1) (“Critical Energy Infrastructure Information”).

3. Definitions – For purposes of this Protective Agreement.

(a) The term “Participant” shall mean a Participant as defined in 18 C.F.R. §385.102(b).

(b) (1) The term “Protected Materials” means (A) materials provided by a Participant and designated by such Participant as protected; (B) any information contained in or obtained from such designated materials; (C) any other materials which are made subject to this Protective Agreement by the Commission, by any court or other body having appropriate authority, or by agreement of the Participants; (D) notes of Protected Materials; and (E) copies of Protected Materials. The Participant producing the Protected Materials shall physically mark them, at least on the first page of each document, as “PROTECTED MATERIALS” or with words of similar import as long as the term “Protected Materials” is included in that designation to indicate that they are

Protected Materials. If the Protected Materials contain Critical Energy Infrastructure Information, the Participant producing such information shall additionally mark on each page containing such information the words “Contains Critical Energy Infrastructure Information - Do Not Release.”

(2) The term “Notes of Protected Materials” means memoranda, handwritten notes, or any other form of information (including electronic form) which copies or discloses materials described in Paragraph 5. Notes of Protected Materials are subject to the same restrictions provided in this order for Protected Materials except as specifically provided in this Protective Agreement.

(3) Protected Materials shall not include (A) any information or document contained in the files of the Commission, or any other federal or state agency, or any federal or state court, unless the information or document has been determined to be protected by such agency or court, or (B) information that is public knowledge, or which becomes public knowledge, other than through disclosure in violation of this Protective Agreement, or (C) any information or document labeled as “Non-Internet Public” by a Participant, in accordance with Paragraph 30 of FERC Order No. 630, FERC Stat. & Reg. ¶ 31,140. Protected Materials do include any information or document contained in the files of the Commission that has been designated as Critical Energy Infrastructure Information.

(c) By signing this Protective Agreement, a Participant that has been granted access to Protected Materials certifies its understanding that such access to Protected Materials is provided pursuant to the terms and restrictions of this Protective Agreement, and that such Participants have read the Protective Agreement and agree to be bound by it.

(d) The term “Reviewing Representative” shall mean a person who has executed this Protective Agreement, except that members of the Commission’s Staff need not execute, and who is:

(1) Commission Staff;

(2) an attorney who has made an appearance in this proceeding for a Participant;

(3) an attorney, paralegal, and other employee associated for purposes of this case with an attorney described in Paragraph (2);

(4) an expert or an employee of an expert retained by a Participant for the purpose of advising, preparing for or testifying in this proceeding;

(5) a person designated as a Reviewing Representative by order of the Commission; or

(6) an employee or other representative of Participants appearing in this proceeding with significant responsibility for this docket.

4. Protected Materials shall be made available under the terms of this Protective Agreement only to Participants and only through their Reviewing Representatives as provided in Paragraphs 7-9.

5. Protected Materials shall remain available to Participants until the later of the date that an order terminating this proceeding becomes no longer subject to judicial review, or the date that any other Commission proceeding relating to the Protected Material is concluded and no longer subject to judicial review. If requested to do so in writing after that date, the Participants shall, within fifteen days of such request, return the Protected Materials (excluding Notes of Protected Materials) to the Participant that produced them, or shall destroy the materials, except that copies of filings, official transcripts and exhibits in this proceeding that contain Protected Materials, and Notes of Protected Material may be retained, if they are maintained in accordance with Paragraph 6, below. Within such time period each Participant, if requested to do so, shall also submit to the producing Participant an affidavit stating that, to the best of its knowledge, all Protected Materials and all Notes of Protected Materials have been returned or have been destroyed or will be maintained in accordance with Paragraph 6. To the extent Protected Materials are not returned or destroyed, they shall remain subject to the Protective Agreement.

6. All Protected Materials shall be maintained by the Participant in a secure place. Access to those materials shall be limited to those Reviewing Representatives specifically authorized pursuant to Paragraphs 8-9. The Secretary shall place any Protected Materials filed with the Commission in a non-public file. By placing such documents in a non-public file, the Commission is not making a determination of any claim of privilege. The Commission retains the right to make determinations regarding any claim of privilege and the discretion to release information necessary to carry out its jurisdictional responsibilities. For documents submitted to Commission Staff ("Staff"), Staff shall follow the notification procedures of 18 C.F.R. § 388.112 before making public any Protected Materials.

7. Protected Materials shall be treated as confidential by each Participant and by the Reviewing Representative in accordance with this Protective Agreement executed pursuant to Paragraph 9. Reviewing Representatives that are Commission Staff are required to comply with the requirements of this Protective Agreement but need not execute this Protective Agreement. Protected Materials shall not be used except as necessary for the conduct of this proceeding, nor shall they be disclosed in any manner to any person except a Reviewing Representative who is engaged in the conduct of this

proceeding and who needs to know the information in order to carry out that person's responsibilities in this proceeding. Reviewing Representatives may make copies of Protected Materials, but such copies become Protected Materials. Reviewing Representatives may make notes of Protected Materials, which shall be treated as Notes of Protected Materials if they disclose the contents of Protected Materials.

8. (a) If a Reviewing Representative's scope of employment includes the marketing of energy or the buying or selling of fossil generating assets, the direct supervision of any employee or employees whose duties include the marketing of energy or the buying or selling of fossil generating assets, the provision of consulting services to any person whose duties include the marketing of energy or the buying or selling of fossil generating assets, or the direct supervision of any employee or employees whose duties include the marketing of energy or the buying or selling of fossil generating assets, such Reviewing Representative may not use information contained in any Protected Materials obtained through this proceeding to give any Participant or any competitor of any Participant, including its own employees or the employees of the party it represents, a commercial advantage or any non-public information regarding operation of fossil generating assets.

(b) In the event that a Participant wishes to designate as a Reviewing Representative a person not described in Paragraph 3(d) above, the Participant shall seek agreement from the Participant providing the Protected Materials. If an agreement is reached that person shall be a Reviewing Representative pursuant to Paragraphs 3(d) above with respect to those materials. If no agreement is reached, the Participant shall submit the disputed designation to the Commission for resolution.

9. (a) A Reviewing Representative shall not be permitted to inspect, participate in discussions regarding, or otherwise be permitted access to Protected Materials pursuant to this Protective Agreement unless that Reviewing Representative has first executed this Protective Agreement provided that if an attorney qualified as a Reviewing Representative has executed such agreement, the paralegals, secretarial and clerical personnel under the attorney's instruction, supervision or control need not do so. A copy of each Protective Agreement shall be provided to counsel for the Participant asserting confidentiality prior to disclosure of any Protected Material to that Reviewing Representative.

(b) Attorneys qualified as Reviewing Representatives are responsible for ensuring that persons under their supervision or control comply with this Protective Agreement.

10. Any Reviewing Representative may disclose Protected Materials to any other Reviewing Representative as long as the disclosing Reviewing Representative and the receiving Reviewing Representative both have executed a Protective Agreement. In the



event that any Reviewing Representative to whom the Protected Materials are disclosed ceases to be engaged in these proceedings, or is employed or retained for a position whose occupant is not qualified to be a Reviewing Representative under Paragraph 3(d), access to Protected Materials by that person shall be terminated. Even if no longer engaged in this proceeding, every person who has executed a Protective Agreement shall continue to be bound by the provisions of this Protective Agreement.

11. Subject to Paragraph 17, the Commission shall resolve any disputes arising under this Protective Agreement. Prior to presenting any dispute under this Protective Agreement to the Commission, the parties to the dispute shall use their best efforts to resolve it. Any Participant that contests the designation of materials as protected shall notify the party that provided the protected materials by specifying in writing the materials whose designation is contested. This Protective Agreement shall automatically cease to apply to such materials five (5) business days after the notification is made unless the designator, within said 5-day period, files a motion with the Commission, with supporting affidavits, demonstrating that the materials should continue to be protected. In any challenge to the designation of materials as protected, the burden of proof shall be on the participant seeking protection. If the Commission finds that the materials at issue are not entitled to protection, the procedures of Paragraph 17 shall apply. The procedures described above shall not apply to protected materials designated by a Participant as Critical Energy Infrastructure Information. Materials so designated shall remain protected and subject to the provisions of this Protective Agreement, unless a Participant requests and obtains a determination from the Commission's Critical Energy Infrastructure Information Coordinator that such materials need not remain protected.

12. All copies of all documents reflecting Protected Materials, including the portion of the hearing testimony, exhibits, transcripts, briefs and other documents which refer to Protected Materials, shall be filed and served in sealed envelopes or other appropriate containers endorsed to the effect that they are sealed pursuant to this Protective Agreement. Such documents shall be marked "PROTECTED MATERIALS" and shall be filed under seal and served under seal upon the Commission and all Reviewing Representatives who are on the service list. Such documents containing Critical Energy Infrastructure Information shall be additionally marked "Contains Critical Energy Infrastructure Information - Do Not Release." For anything filed under seal, redacted versions or, where an entire document is protected, a letter indicating such, will also be filed with the Commission and served on all parties on the service list. Counsel for the producing Participant shall provide to all Participants who request the same, a list of Reviewing Representatives who are entitled to receive such material. Counsel shall take all reasonable precautions necessary to assure that Protected Materials are not distributed to unauthorized persons.

If any Participant desires to include, utilize or refer to any Protected Materials or information derived therefrom in testimony or exhibits during these proceedings in such a

manner that might require disclosure of such material to persons other than reviewing representatives, such Participant shall first notify both counsel for the disclosing participant and the Commission of such desire, identifying with particularity each of the Protected Materials. Thereafter, use of such Protected Material will be governed by procedures determined by the Commission.

13. Nothing in this Protective Agreement shall be construed as precluding any Participant from objecting to the use of Protected Materials on any legal grounds.

14. Nothing in this Protective Agreement shall preclude any Participant from requesting the Commission, or any other body having appropriate authority, to find that this Protective Agreement should not apply to all or any materials previously designated as Protected Materials pursuant to this Protective Agreement. The Commission may alter or amend this Protective Agreement as circumstances warrant at any time during the course of this proceeding.

15. Each party governed by this Protective Agreement has the right to seek changes in it as appropriate from the Commission.

16. All Protected Materials filed with the Commission, or any other judicial or administrative body, in support of, or as a part of, a motion, other pleading, brief, or other document, shall be filed and served in sealed envelopes or other appropriate containers bearing prominent markings indicating that the contents include Protected Materials subject to this Protective Agreement. Such documents containing Critical Energy Infrastructure Information shall be additionally marked Contains Critical Energy Infrastructure Information – Do Not Release.”

17. If the Commission finds at any time in the course of this proceeding that all or part of the Protected Materials need not be protected, those materials shall, nevertheless, be subject to the protection afforded by this Protective Agreement for three (3) business days from the date of issuance of the Commission’s decision. None of the Participants waives its rights to seek additional administrative or judicial remedies after the Commission’s decision respecting Protected Materials or Reviewing Representatives, or the Commission’s denial of any appeal thereof. The provisions of 18 C.F.R. §§ 388.112 and 388.113 shall apply to any requests for Protected Materials in the files of the Commission under the Freedom of Information Act. (5 U.S.C. § 552).

18. Nothing in this Protective Agreement shall be deemed to preclude any Participant from independently seeking through discovery in any other administrative or judicial proceeding information or materials produced in this proceeding under this Protective Agreement.

19. None of the Participants waives the right to pursue any other legal or equitable remedies that may be available in the event of actual or anticipated disclosure of Protected Materials.

20. The contents of Protected Materials or any other form of information that copies or discloses Protected Materials shall not be disclosed to anyone other than in accordance with this Protective Agreement and shall be used only in connection with this (these) proceeding(s). Any violation of this Protective Agreement executed hereunder shall constitute a violation of an order of the Commission.

[The next page is the signature page]

IN WITNESS WHEREOF, the Berkshire Hathaway Energy Companies and [the undersigned Recipient] each has caused this Protective Agreement to be signed by its duly authorized representative as of the date set forth below.

By (Recipient): \_\_\_\_\_

Title: \_\_\_\_\_

Representing: \_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Representing: Berkshire Hathaway Energy Companies

Date: \_\_\_\_\_

UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

Cordova Energy Company LLC ) Docket No. ER11-3876-\_\_\_\_  
MidAmerican Energy Company ) Docket No. ER14-\_\_\_\_-000  
Saranac Power Partners, L.P. ) Docket No. ER10-2611-\_\_\_\_

**Affidavit of Rodney Frame**

**I. INTRODUCTION**

1. My name is Rodney Frame. I am an Affiliate with Analysis Group, Inc. (Analysis Group), a consulting firm that provides economic, strategy and financial analyses. My business address is 800 17<sup>th</sup> Street, N.W., Suite 400, Washington, D.C. 20006. Analysis Group employs more than 600 individuals and has offices in Beijing, Boston, Chicago, Dallas, Denver, Los Angeles, Menlo Park, Montreal, New York City, San Francisco and Washington, D.C. I have been employed by Analysis Group since January 1998, previously as a Managing Principal and, since July 2011, as an Affiliate. Prior to joining Analysis Group, I was a Vice President at National Economic Research Associates, Inc., where I was employed from 1984 to January 1998. My professional experience and qualifications are summarized in my résumé, which is included as an appendix to this affidavit.
2. Much of my work involves consulting with electric industry clients on market power and competition issues. I have testified on numerous occasions on these and other topics, before the Federal Energy Regulatory Commission (FERC or Commission),<sup>1</sup> state regulatory commissions, federal and local courts, the Armed

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<sup>1</sup> Attachment 1 is a listing of the abbreviations used in this affidavit and accompanying attachments.

Services Board of Contract Appeals and the Commerce Commission of New Zealand.

## II. BACKGROUND AND PURPOSE OF AFFIDAVIT

3. The Commission uses two “indicative” horizontal market power screens—referred to as the market share screen and the pivotal supplier screen—as part of the process to determine the appropriateness of market-based rate authority by jurisdictional suppliers. These indicative screens originally were set forth on an interim basis in *AEP Power Marketing, Inc. et al.*, 107 FERC ¶ 61,018 (2004) (*AEP I*) and *order on rehearing*, 108 FERC ¶ 61,026 (2004). They were then codified in the Final Rule in *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, Order No. 697, 119 FERC ¶ 61,295 (2007) (Order No. 697); *order clarifying Final Rule*, 121 FERC ¶ 61,260 (2007) (Clarifying Order); *order on rehearing and clarification*, Order No. 697-A, 123 FERC ¶ 61,055 (2008) (Order No. 697-A); *order on rehearing and clarification*, 124 FERC ¶ 61,055 (2008) (July 17, 2008 Order); *order on rehearing and clarification*, Order No. 697-B, 125 FERC ¶ 61,326 (2008); *order on rehearing and clarification*, Order No. 697-C, 127 FERC ¶ 61,284 (2009); *order on rehearing and clarification*, Order No. 697-D, 130 FERC ¶ 61,206 (2010); *order on request for clarification*, 131 FERC ¶ 61,021 (2010); and *order denying rehearing and motion for stay and rescission*, 134 FERC ¶ 61,046 (2011).
  
4. MidAmerican Energy Company (MidAmerican) and Cordova Energy Company LLC (Cordova) each is an indirect wholly-owned subsidiary of Berkshire Hathaway Energy Company (BHEC), which also indirectly owns 75 percent of the membership interests in Saranac Power Partners, L.P. (Saranac).<sup>2</sup> MidAmerican, Cordova and Saranac (collectively, Applicants) each have been authorized by the Commission to make sales of wholesale electricity at market-

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<sup>2</sup> My understanding is that the remaining 25 percent of the membership interest in Saranac is owned by limited partners that are not affiliates of BHEC.



based rates. Under the procedures of Order No. 697 and its progeny, Category 2 sellers<sup>3</sup> are required to provide updated indicative screen analyses on a set schedule every three years and using specified historical study years. Applicants own sufficient electric generating capacity in the “Northeast” region<sup>4</sup> to be considered a Category 2 seller there. Category 2 sellers in the Northeast region that are not also Transmission Owners there<sup>5</sup> are required to provide updated indicative screen analyses during June 2014 and, for those screen analyses, use a study year that begins December 1, 2011 and ends November 30, 2012 (2011/12 Study Year). In my affidavit, I provide updated indicative screen analyses for Applicants for the Northeast region in conformance with the Commission’s triennial reporting requirements.

5. MidAmerican recently has added or currently has under construction in excess of 1,000 MW of new wind generation capacity (New Wind Generation), all of which is in the BAA operated by the Midcontinent Independent System Operator, Inc. (MISO). As of June 1, 2014, MidAmerican had placed in service 44 MW (nameplate rating) of the New Wind Generation with the balance to be added during the remainder of 2014 and during 2015. Adding the New Wind Generation will affect indicative screen results for Applicants in both the MISO BAA, where the New Wind Generation is located, and in the PJM BAA, which is

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<sup>3</sup> Category 2 sellers are sellers that do not qualify as Category 1 sellers. Category 1 sellers are sellers that own or control 500 MW or less of generation capacity in a region, that are not affiliated with a public utility with a franchised service territory, that do not own or control transmission facilities (other than required to connect generators to the grid) and that do not present other vertical market power issues. *See* Order No. 697 at n. 977, P 848 and P 859.

<sup>4</sup> The Northeast region is defined by the Commission in Order No. 697 to include the Balancing Authority Areas (BAA) operated by the PJM Interconnection, L.L.C. (PJM), the New York Independent System Operator (NYISO) and ISO New England Inc. (ISO-NE). Within the PJM BAA, MidAmerican owns 451.8 MW at the Quad Cities nuclear station (Quad Cities)—Quad Cities is owned jointly by MidAmerican and Exelon—and Cordova owns the 521.2 MW Cordova Energy Center. Within the NYISO BAA, Saranac owns the 251.4 MW Saranac natural gas-fired facility (Saranac Facility). None of the Applicants, nor any of their affiliates, owns any generating capacity in the ISO-NE BAA. Except if otherwise noted, the capacity values referred to in this footnote, and elsewhere in this affidavit, represent summer seasonal ratings.

<sup>5</sup> Applicants are Transmission Owners elsewhere but not in the Northeast Region.

first-tier to the MISO BAA.<sup>6</sup> Conservatively, the New Wind Generation is attributed to Applicants in my analysis of the PJM BAA. In addition, at the request of Applicants, I have included indicative screen analyses for the MISO BAA that also incorporate the New Wind Generation.<sup>7</sup>

6. Under the Commission procedures, generation capacity owned or controlled by affiliates within the same firm is combined in the indicative screen computations. Accordingly, the indicative screen analyses herein consider the generation capacity of all BHEC affiliates, including MidAmerican, Cordova, and Saranac, as being owned by a single firm.<sup>8</sup>
7. The remainder of my affidavit is organized as follows: Section III describes the two indicative horizontal market power screens that are used by the Commission in its market-based rate assessments; Section IV describes the application of these indicative screens to Applicants; and Section V presents the results of these indicative screen analyses. As discussed therein, Applicants easily pass both indicative screens in all of the markets studied using conservative computational techniques.

### III. THE INDICATIVE HORIZONTAL MARKET POWER SCREENS

8. An initial step in applying both the market share and pivotal supplier indicative screens is to determine the geographic markets to examine. The Commission has

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<sup>6</sup> Other than the PJM BAA, there are no BAAs that are first-tier to the MISO BAA where Applicants or their affiliates own electric generation capacity.

<sup>7</sup> MISO is in the Central region as demarcated in Order No. 697. Transmission Owners in the Central region, including Applicants, must provide their next triennial update market analysis to FERC during December 2014 using a December 1, 2012-November 30, 2013 Study Year. The MISO analyses provided herein use the same 2011/12 Study Year as is used for the Northeast region BAAs.

<sup>8</sup> The Applicants are affiliated with several other entities that own and control generating assets and which have obtained market-based rate authority. However, with a single exception—none of these affiliates owns any generating capacity that is sufficiently close—*i.e.*, within or first-tier—to Northeast region markets or to the MISO BAA to enter into the indicative screen computations provided herein. The single exception involves Applicants' Bishop Hill Energy II, LLC (Bishop Hill II) affiliate, which owns an 81 MW wind generator located in the MISO BAA. In the analyses herein, Bishop Hill II's generation capacity is combined with that of Applicants.

stated that the “default” geographic market is a “seller’s balancing authority area or the RTO/ISO market, as applicable.”<sup>9</sup> The Commission has also stated that, if appropriate, certain submarkets within an RTO must be considered.<sup>10</sup>

*Market Share Screen*

9. Under the market share screen, the applicant’s<sup>11</sup> uncommitted capacity is expressed as its share of the uncommitted capacity deemed available to serve the relevant geographic market. Both supplies located within the market area being studied and outside supplies that potentially could be imported into that market are considered. The market share screen is applied separately to each of the four seasons of the year.<sup>12</sup> An applicant with a market share of less than 20 percent in each of the four seasons passes the market share screen for the market under study.<sup>13</sup>
  
10. For purposes of the market share screen, an applicant’s uncommitted capacity within a relevant geographic market area is defined as the sum of its installed capacity from generating units that it owns,<sup>14</sup> plus its long-term firm purchases,

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<sup>9</sup> Order No. 697 at P 231. RTO/ISO markets must have “sufficient market structure and a single energy market” in order to be considered as default relevant geographic markets under the Commission’s procedures. *Id.* at P 235.

<sup>10</sup> *Id.* at P 231, P 236 and 246.

<sup>11</sup> As indicated, generation capacity owned or controlled by affiliates within the same firm is combined in the indicative screen computations. Reference to an “applicant’s” uncommitted capacity herein thus refers to an applicant (or applicants) and all affiliates.

<sup>12</sup> For purposes of the indicative screens, the Summer season is comprised of the months of June, July and August; the Fall season is comprised of the months of September, October and November; the Winter season is comprised of the months of December, January and February; and the Spring season is comprised of the months of March, April and May. The Clarifying Order provides that historical study years used for the indicative screens should begin December 1 of one calendar year and extend through November 30 of the following calendar year. *See, e.g.*, P 12 and Appendix D-1 of the Clarifying Order.

<sup>13</sup> *See* Order No. 697 at P 44.

<sup>14</sup> An applicant may use either nameplate or seasonal ratings to determine installed generating capacity, but must choose one or the other and use that measure consistently in its analyses. *See* Order No. 697 at P 343.

less its long-term firm sales,<sup>15</sup> planned outages, operating reserves and native load commitments.<sup>16</sup> An applicant’s appropriate share of imports into the market area (if any) is added to the amount so computed.

11. The uncommitted capacity for the entire market is determined in a manner that is comparable to that described above for the applicant’s uncommitted capacity.
  
12. Imports are limited to simultaneously feasible levels, *i.e.*, simultaneous import limits (SILs) into the market area, computed according to procedures first specified in Appendix E of *AEP I* and explained further since, including in the June 17, 2011 *Order on Simultaneous Transmission Import Limit Values for the Northwest Region and Providing Direction on Submitting Studies*, 135 FERC ¶ 61,254 (2011). After first directly assigning an appropriate amount of SIL to account for transmission reservations and the movement of remote owned and purchased generation, the remaining SIL amounts are allocated *pro rata* between the applicant (and affiliates), on the one hand, and other potential suppliers, on the other hand, based on relative uncommitted capacity holdings in areas that are first-tier to the geographic market being studied.<sup>17</sup>

*Pivotal Supplier Screen*

13. Under the pivotal supplier screen: (i) total uncommitted capacity available to serve a geographic market first is determined as the sum of uncommitted capacity

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<sup>15</sup> Long-term firm purchases are added to the applicant’s owned installed generation capacity, and long-term firm sales are deducted, only when the purchaser acquires control of generating capacity.

<sup>16</sup> In Order No. 697, the Commission adopted the native load definition contained at 18 CFR 33.3(d)(4)(i), which concerns the evaluation of the competitive effects of mergers. This definition provides as follows: “Native load commitments are commitments to serve wholesale and retail power customers on whose behalf the potential supplier, by statute, franchise, regulatory requirement, or contract, has undertaken an obligation to construct and operate its system to meet their reliable electricity needs.” For purposes of the market share screen, the native load “proxy” is the average of the daily native load peak demands during each season. *Id.* at P 135.

<sup>17</sup> *See, e.g.*, July 17, 2008 Order at PP 26-32.

within the market plus potential imports; (ii) a “proxy” for wholesale load is determined and subtracted from the market’s total uncommitted capacity; then (iii) the applicant’s uncommitted capacity is compared to the remainder, which is termed the “net uncommitted supply.” An applicant “passes” the pivotal supplier screen if its uncommitted capacity is less than the net uncommitted supply in the geographic market (including potential imports). Uncommitted capacity is defined in the same way for the pivotal supplier screen as it is for the market share screen with two exceptions. The first exception is that the native load amount is based on the average of the daily native load peak amounts during the month of the market’s annual peak (rather than the average daily peak demand during each season). The second exception is that planned outage amounts are *not* subtracted from market participants’ generation holdings in the determination of uncommitted capacity amounts. The proxy for wholesale load is equal to the single hour’s peak demand in the market less the average of the market’s daily peak native load demands during the market’s peak month. Imports are treated in comparable fashion in applying the pivotal supplier screen as in applying the market share screen and again are limited to SIL amounts.<sup>18</sup>

**IV. APPLYING THE INDICATIVE SCREENS TO APPLICANTS**

14. Attachment 2 is a listing of the Eastern Interconnection generation resources owned or purchased on a long-term basis by Applicants and their affiliates. The listing identifies facility name, capacity rating, BAA location and fuel type.
  
15. Within the Northeast region, BHEC affiliates own the following generating capacity: (i) MidAmerican’s 451.8 MW interest in Quad Cities, which is located in the PJM BAA and owned jointly with Exelon; (ii) Cordova’s 521.2 MW Cordova Energy Center, which is also located in the PJM BAA; and (iii) Saranac’s 251.4 MW Saranac Facility located in the NYISO BAA.<sup>19</sup> Within the

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<sup>18</sup> See, e.g., *AEP I* at PP 94-95 and Order No. 697 at PP 37-38.

<sup>19</sup> MidAmerican also purchases capacity from Exelon that is sourced in PJM.

MISO BAA, Applicant MidAmerican owns more than 8,000 MW of generating capacity (including the New Wind Generation) and Applicants' Bishop Hill II affiliate owns an 81 MW wind generation facility.

16. The remaining generating capacity owned by BHEC affiliates is in Hawaii or the Western Electricity Coordinating Council (WECC) or Electric Reliability Council of Texas (ERCOT) reliability regions and, consequently, sufficiently remote from the markets analyzed herein so as not to be reflected in screen computations for them.<sup>20</sup>
17. Where generation capacity is located within an RTO/ISO with sufficient market structure and a single energy market with Commission-approved market monitoring and mitigation, the default geographic market for applying the indicative screens is the RTO/ISO footprint.<sup>21</sup> Both Northeast region markets analyzed herein (PJM and NYISO) meet these criteria, as does MISO. Accordingly, I apply the indicative screens to Applicants for the PJM, NYISO and MISO markets. The Commission has also determined that there are certain "submarkets" within both PJM and NYISO that, in some cases, need to be examined separately.<sup>22</sup> However, since Applicants do not own or control any generating capacity located in these designated submarkets, I do not provide screen analyses for them.
18. A variety of data relating to loads, generation ownership, long-term purchases and sales (to the extent that they convey control of generating capacity), operating reserve requirements, planned outages and SILs into each market studied must be assembled in order to apply the indicative screens.

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<sup>20</sup> That is, none of the remaining generating capacity owned by BHEC affiliates is located in MISO, any of the three Northeast region BAAs or in any market that is first-tier to these markets.

<sup>21</sup> Order No. 697 at P 235.

<sup>22</sup> *Id.* at P 246.



19. The Commission's procedures provide for the use of historical study years when applying the indicative screens.<sup>23</sup> As indicated, the Clarifying Order provides that the historical study years used to apply the indicative screens should begin December 1 of one calendar year and end November 30 of the following calendar year. In particular, Appendix D-1 of the Clarifying Order provides that Northeast suppliers, including those in PJM and NYISO, should use the 2011/12 Study Year for their triennial screen analyses submitted in June 2014. Accordingly, that is the time period I use herein.
  
20. BHEC provided the Attachment 2 information concerning the names, capacity ratings and locations of the Eastern Interconnection generation capacity owned by its affiliates. Required information concerning generating resources owned by entities other than Applicants generally was taken from EV Power. EV Power is a database product within Ventyx Energy, LLC's (Ventyx) Velocity Suite. Ventyx states that the information in EV Power was assembled from a variety of publicly-available sources, including filings made by industry participants with the Commission and with the Energy Information Administration. This database is a widely used source of industry information and is appropriate for purposes of my analyses herein.
  
21. As indicated, the Commission allows an applicant to apply the indicative screens using either nameplate or seasonal capacity ratings.<sup>24</sup> The analyses herein use seasonal ratings for thermal generators and nameplate ratings for hydro-electric and wind-powered generators.
  
22. Long-term firm capacity purchases are added to the installed capacity owned by an applicant in the process to determine its uncommitted capacity for purposes of applying the indicative screens, while long-term firm sales are subtracted. As a general matter, the transactions where these additions and/or subtractions are

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<sup>23</sup> *Id.* at P 298.

<sup>24</sup> *See* Order No. 697 at P 343.

made are only those where “control” of generation capacity transfers from the seller to the buyer. For purposes of the current analysis, I make the conservative assumption that all of Applicants’ long-term firm capacity purchases during the 2011/12 Study Year in the geographic area covered by the study conveyed to BHEC sufficient control to qualify as BHEC resources for purposes of applying the indicative screens, but that none of its long-term firm capacity sales conveyed analogous control to the buyers. These long-term firm purchases are identified in Attachment 2.

23. I do not explicitly consider purchase and sale transactions of other market participants since these will be largely offsetting.<sup>25</sup>
24. Native load obligations are subtracted from suppliers’ generation holdings in the process to determine uncommitted capacity. MidAmerican is the only one of the Applicants with any native load obligations. These load obligations, which are almost entirely within MISO,<sup>26</sup> were quantified based on information provided by BHEC. Load obligations for MISO taken as a whole were quantified using MISO’s FERC Form No. 714 filings for 2011 and 2012. Load obligations for the PJM and NYISO BAAs were developed using data taken from the PJM and NYISO websites.<sup>27</sup> Because of the conservative computational procedures used herein (and described below) for allocating SIL, it was not necessary to obtain information on load obligations in BAAs other than NYISO, PJM and MISO.

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<sup>25</sup> That is, so long as each of the transacting parties is included in the database, the results of the indicative screens for Applicants will not change, or will not change materially, whether a long-term power sale transaction that does *not* involve Applicants is included in the bucket of the seller-owner of the capacity or the bucket of the buyer. Moreover, while there are a number of data sources that identify long-term purchase and sale transactions, I am unaware of any that identify the subset of such transactions where control conveys to the buyer.

<sup>26</sup> In addition to its load obligations within MISO, MidAmerican also serves a very small amount of “borderline” load in the Western Area Power Administration-Upper Great Plains East and Associated Electric Cooperative, Inc. BAAs. These borderline loads averaged 37 MW per hour during the 2011/12 Study Year. MidAmerican (and the other Applicants) does not have any native load obligations in the PJM and NYISO BAAs.

<sup>27</sup> See <http://www.pjm.com/markets-and-operations/ops-analysis/historical-load-data.aspx> and [http://www.nyiso.com/public/markets\\_operations/market\\_data/load\\_data/index.jsp](http://www.nyiso.com/public/markets_operations/market_data/load_data/index.jsp).

25. Planned outages are subtracted from capacity holdings in the process to determine uncommitted capacity under the market share screen.<sup>28</sup> For this purpose, I used information from MISO's, NYISO's and PJM's 2011 and 2012 FERC Form No. 714 filings. FERC Form No. 714 filings identify MW amounts of planned outages at the time of each monthly peak, albeit for the entire geographic area for which the filing has been made and not for individual generators within it, and also not for any times other than the monthly peaks. The monthly peak (day) planned outage values from the FERC Form No. 714 filings were averaged to obtain seasonal values. For purposes of the current study, I conservatively assumed no planned outages at Applicants' generation facilities and therefore allocated 100 percent of the NYISO, PJM and MISO planned outages to Non-Affiliates.
26. Operating reserves are deducted from owned and controlled generation capacity as part of the process to determine an applicant's (and non-affiliates') uncommitted capacity under the indicative screens. For this purpose, within PJM, operating reserves were considered to be equal to the sum of Day-Ahead Scheduling (Operating) and Regulation reserve requirements based on PJM Manual 12: Balancing Operations and PJM Manual 13: Emergency Operations.<sup>29</sup> Separate amounts were computed for the portions of PJM that reside in the different reliability areas that PJM spans and then summed.<sup>30</sup> For NYISO, I used the operating reserves requirement as found in the NYISO Ancillary Services

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<sup>28</sup> As indicated, planned outages are not reflected in the pivotal supplier screen computations.

<sup>29</sup> See <http://www.pjm.com/documents/manuals/manuals-archive.aspx> and the workpapers accompanying this affidavit.

<sup>30</sup> In particular, Dominion Virginia Power is part of the VACAR Reserve Sharing Group. As such, I allocate it an amount of operating reserves equal to its load proportional share of VACAR's single largest contingency. See "SERC Regional Criteria, Contingency Reserve Policy" (available at [http://www.serc1.org/documents/serc%20standing%20committee%20documents/regional%20criteria/serc%20reg%20criteria\\_contingency%20reserve%20policy\\_rev%205%20\(10-07-11\).pdf](http://www.serc1.org/documents/serc%20standing%20committee%20documents/regional%20criteria/serc%20reg%20criteria_contingency%20reserve%20policy_rev%205%20(10-07-11).pdf)).

- Manual.<sup>31</sup> I used an operating reserve requirement of 1,850 MW for the MISO market—reflecting MISO’s share of the MISO-MBHydro Reserve Sharing Group.<sup>32</sup> Because Applicants have no load obligations within the PJM or NYISO BAAs, none of the operating reserve amounts for these two BAAs were allocated to them. I allocated a load proportional amount of MISO’s 1,850 MW requirement to Applicants based on MidAmerican’s load obligation there.<sup>33</sup>
27. In the indicative screens, imports from outside the relevant market being studied must be limited to the SIL into that relevant market. I used highly conservative procedures to develop and/or assign SIL for each of the three markets studied.
28. For the analysis of the PJM BAA market, I used SIL estimates accepted by the Commission in its recent *Order on Simultaneous Transmission Import Limit Values for the Northeast Region*, 147 FERC ¶ 61,190 (2014) (Northeast SIL Order).<sup>34</sup> Some PJM load-serving entities (LSEs) own shares of the Ohio Valley Electric Corporation (OVEC) and have output rights to a share of the output of OVEC’s generators. A portion of the PJM SIL was assumed to be used to move this capacity from the OVEC BAA to PJM.<sup>35</sup> I then conservatively attributed to Applicants an amount of imports equal to the lesser of (i) 100 percent of Applicants’ Saranac Facility in the NYISO BAA plus 100 percent of their

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<sup>31</sup> See [http://www.nyiso.com/public/webdocs/markets\\_operations/documents/Manuals\\_and\\_Guides/Manuals/Operations/ancserv.pdf](http://www.nyiso.com/public/webdocs/markets_operations/documents/Manuals_and_Guides/Manuals/Operations/ancserv.pdf) for the current version of the NYISO Ancillary Service Manual. Earlier versions are also available on the NYISO website. The operating reserves requirement for NYISO was 1,800 MW for December 2011 through September 2012, and 1,965 MW starting October 2012.

<sup>32</sup> See “SERC Regional Criteria, Contingency Reserve Policy” (available at [http://www.serc1.org/documents/serc%20standing%20committee%20documents/regional%20criteria/serc%20reg%20criteria\\_contingency%20reserve%20policy\\_rev%205%20\(10-07-11\).pdf](http://www.serc1.org/documents/serc%20standing%20committee%20documents/regional%20criteria/serc%20reg%20criteria_contingency%20reserve%20policy_rev%205%20(10-07-11).pdf)).

<sup>33</sup> MidAmerican’s share of MISO’s contingency reserves, so calculated, is approximately 2-3 percent of its load in MISO in each season. I assume that MEC holds contingency reserves equal to the same percent of load for its borderline load.

<sup>34</sup> See P 2 and Appendix A to that order.

<sup>35</sup> This portion of the OVEC capacity is included as Non-Affiliate Installed Capacity within PJM in Attachment 4 reporting the results of the indicative screen analyses for PJM.

- uncommitted capacity in MISO—the NYISO and MISO BAAs each are first-tier to PJM—and (ii) the entirety of the remaining PJM SIL (after the OVEC-related subtraction).<sup>36</sup> The remaining portion of the PJM SIL was assigned to Non-Affiliates.<sup>37</sup>
29. For the analysis of the NYISO BAA market, I also used SIL estimates accepted by the Commission in the Northeast SIL Order.<sup>38</sup> I conservatively attributed to Applicants an amount of imports equal to 100 percent of Applicants’ capacity holdings in PJM including (i) the Cordova Energy Center, (ii) MidAmerican’s share of Quad Cities and (iii) MidAmerican’s long-term firm purchases from Exelon.<sup>39</sup> The remaining portion of the NYISO SIL was assigned to Non-Affiliates.<sup>40</sup>
30. I did not have available a comparable 2011/12 Study Year SIL estimate for the MISO BAA. Accordingly, for the analysis of the MISO BAA market I conservatively assumed that the only import capability into MISO that was available was equal to (i) the entirety of Applicants first-tier generation capacity

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<sup>36</sup> These amounts are included as Applicant Imported Power in Attachment 4 reporting the results of the indicative screen analyses for PJM.

<sup>37</sup> In this regard, note that the quantity of Non-Affiliate uncommitted capacity in the PJM first-tier far exceeds the amount of PJM SIL that is allocated to Non-Affiliates. For example, under the conservative procedures employed herein, 1,703 MW of the PJM SIL are allocated to Non-Affiliates in the Summer season for the Market Share screen. See Line P on Page 2 of Attachment 4. However, in NYISO there are 10,508 MW of “local” Non-Affiliates Uncommitted Capacity in the Summer (Line Q less Line P from Page 2 of Attachment 3) while in MISO there are an additional 36,377 MW (Line Q less Line P from Page 2 of Attachment 5). Note also that in the Spring season for the Market Share screen, under the procedures employed, 100 percent of the remaining net SIL (after the OVEC-related subtraction) was allocated to Applicants and zero was allocated to Non-Affiliates.

<sup>38</sup> See P 2 and Appendix A to that order.

<sup>39</sup> These amounts are included as Applicant Imported Power in Attachment 3 reporting the results of the indicative screen analyses for NYISO.

<sup>40</sup> The quantity of Non-Affiliate uncommitted capacity in the NYISO first-tier far exceeds the amount of NYISO SIL that is allocated to Non-Affiliates. For example, under the conservative procedures employed herein, 6,667 MW of the NYISO SIL are allocated to Non-Affiliates in the Summer season for the Market Share screen. See Line P on Page 2 of Attachment 3. However, just in PJM alone there are 58,540 MW of “local” Non-Affiliate Uncommitted Capacity in the Summer (Line Q less Line P from Page 2 of Attachment 4).

ownership (*i.e.*, its Cordova Energy Center capacity and its interest in Quad Cities) plus long-term purchases from first-tier BAAs and (ii) the limited amounts required to move the OVEC output of MISO LSEs from the OVEC BAA to the MISO BAA.<sup>41</sup> All of the SIL in the first of these categories was conservatively assigned to Applicants. The SIL in the second category is used to import Non-Affiliate Installed Capacity.

31. Because *all* of Applicants' first-tier generation capacity has been moved to the market under study (*i.e.*, PJM, NYISO or MISO, as appropriate) under the conservative procedures described above, it is not necessary separately to consider the effect of any long-term firm transmission reservations that Applicants might have held during the 2011/12 Study Year. There is no more Applicant first-tier capacity that might use any such long-term transmission reservations other than already accounted for under the procedures described above.

## **V. INDICATIVE SCREEN RESULTS**

32. The results of the indicative market screen analysis for Applicants are presented in Attachments 3 (NYISO), 4 (PJM) and 5 (MISO). I present these results using the standardized reporting format adopted by the Commission in Order No. 697. Under this standardized reporting format, each of these attachments consists of two sheets, the first of which (Part I) contains the pivotal supplier screen analysis and the second of which (Part II) contains the market share screen analysis. These attachments indicate that Applicants readily pass the pivotal supplier and market share screens in all three BAA markets even under the conservative

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<sup>41</sup> In this regard, for the analysis of the MISO BAA, the presumed import amounts associated with Quad Cities are included as Applicant Installed Capacity in the summary tables reporting the indicative screen results for MISO (Attachment 5) while the comparable amounts for Applicant long-term purchases are reported as Applicant Long-Term Firm Purchases. The amounts associated with the Cordova Energy Center are reported as Applicant Imported Power. The amounts associated with the OVEC output rights of MISO LSEs are included as Non-Affiliate Installed Capacity.

techniques employed herein.<sup>42</sup> With respect to the pivotal supplier screen, these attachments indicate that wholesale load can be met by other suppliers (*i.e.*, without any supply at all from Applicants) 3.2 times over in NYISO, 2.5 times over in PJM and 2.7 times over in MISO. With respect to the market share screen, Applicants' shares across the four seasons range between 6.1 percent and 7.6 percent in NYISO, between 6.8 percent and 8.8 percent in PJM and between 11.7 percent and 13.3 percent in MISO. These share levels are all well below the 20 percent level used by the Commission to demonstrate satisfaction of the market share screen.

33. These analyses, and information contained in the transmittal letter to which this affidavit is attached, demonstrate that Applicants continue to satisfy the Commission's requirements for market-based rate authority in the Northeast region. They also indicate that, after adding the New Wind Generation, Applicants continue to satisfy the Commission's requirements for market-based rate authority in MISO.
34. My public and confidential workpapers accompany this affidavit.
35. This concludes my affidavit.

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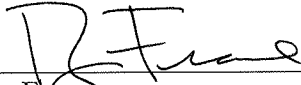
<sup>42</sup> These conservative techniques include the following: (i) assigning all of the New Wind Generation to Applicants in the historical study year notwithstanding that some of it will not enter service until 2015; (ii) assuming that all of MidAmerican's long-term firm purchases convey generation control to it and assuming that none of Applicants' long-term firm sales convey control to buyers; (iii) assuming that the Cordova Energy Center should be assigned to Applicants notwithstanding that it is under long-term contract to another party; (iv) placing Applicants "first-in-line" in the SIL allocation; (v) assuming no planned outages at Applicants' generation facilities; (vi) assuming that there is no SIL available to Non-Affiliates for the analysis of the MISO BAA and (vii) using the nameplate ratings for MidAmerican's wind generators despite the fact that average wind output is less than nameplate ratings.

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

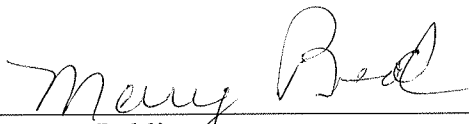
<b>Cordova Energy Company LLC</b>	)	<b>Docket No. ER11-3876-___</b>
<b>MidAmerican Energy Company</b>	)	<b>Docket No. ER11-2044-___</b>
<b>Saranac Power Partners, L.P.</b>	)	<b>Docket No. ER10-2611-___</b>

**Affidavit of Rodney Frame**

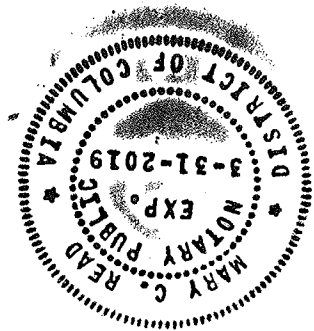
Rodney Frame, being first duly sworn, deposes and says that he has read the foregoing Affidavit of Rodney Frame, and that the matters and things set forth therein are true and correct to the best of his knowledge, information and belief.

  
\_\_\_\_\_  
Rodney Frame

Subscribed and sworn to me this 26<sup>th</sup> day of June, 2014.

  
\_\_\_\_\_  
Notary Public

MARY C. READ  
NOTARY PUBLIC DISTRICT OF COLUMBIA  
My Commission Expires March 31, 2019





## **Attachments**

- 1 List of Abbreviations
- 2 Applicants' Eastern Interconnection Generation
- 3 Pivotal Supplier and Market Share Analysis, NYISO
- 4 Pivotal Supplier and Market Share Analysis, PJM
- 5 Pivotal Supplier and Market Share Analysis, MISO

## **Appendix**

Rodney Frame Resumé

## List of Abbreviations

Abbreviation	Description
2011/12 Study Year	December 1, 2011 through November 30, 2012 time period
<i>AEP I</i>	<i>AEP Power Marketing, Inc. et al.</i> , 107 FERC ¶ 61,018 (2004)
Applicants	MidAmerican, Cordova, and Saranac
BAA	Balancing Authority Area
BHEC	Berkshire Hathaway Energy Company
Bishop Hill II	Bishop Hill Energy II, LLC
Clarifying Order	<i>Order Clarifying Final Rule</i> , 121 FERC ¶ 61,260 (2007)
Cordova	Cordova Energy Company LLC
ERCOT	Electric Reliability Council of Texas
FERC or Commission	Federal Energy Regulatory Commission
ISO	Independent System Operator
ISO-NE	ISO New England Inc.
July 17, 2008 Order	<i>Order on Rehearing and Clarification</i> , 124 FERC ¶ 61,055 (2008)
LSE	Load-serving entity
MidAmerican	MidAmerican Energy Company
MISO	Midcontinent Independent System Operator, Inc.
MW	MegaWatt
New Wind Generation	More than 1,000 MW of new wind generation capacity recently added or currently under construction by MidAmerican
Northeast SIL Order	<i>Order on Simultaneous Transmission Import Limit Values for the Northeast Region</i> , 147 FERC ¶ 61,190 (2014)
NYISO	New York Independent System Operator
Order No. 697	Final Rule in <i>Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities</i> , Order No. 697, 119 FERC ¶ 61,295 (2007)
Order No. 697-A	<i>Order on Rehearing and Clarification</i> , Order No. 697-A, 123 FERC ¶ 61,055 (2008)
OVEC	Ohio Valley Electric Corporation
PJM	PJM Interconnection, L.L.C.
Quad Cities	Quad Cities nuclear station
RTO	Regional Transmission Organization

<b>Abbreviation</b>	<b>Description</b>
Saranac	Saranac Power Partners, L.P.
Saranac Facility	Saranac natural gas-fired facility
SIL	Simultaneous Import Limit
Ventyx	Ventyx Energy, LLC
WECC	Western Electricity Coordinating Council

## Applicants' Eastern Interconnection Generation

Plant Name	Balancing Authority Area	Fuel Type	Summer Capacity (MW)	Winter Capacity (MW)
<b><u>MidAmerican Energy Company</u></b>				
Adair	MISO	Wind	174.8	174.8
Carroll	MISO	Wind	150.0	150.0
Century	MISO	Wind	185.0	185.0
Century Expansion	MISO	Wind	15.0	15.0
Charles City	MISO	Wind	75.0	75.0
Coralville	MISO	Gas	65.9	80.0
Eclipse	MISO	Wind	200.1	200.1
Electrifarm 1	MISO	Gas	59.2	74.7
Electrifarm 2	MISO	Gas	66.5	81.0
Electrifarm 3	MISO	Gas	69.4	88.7
Greater Des Moines	MISO	Gas	492.6	570.0
Intrepid	MISO	Wind	175.5	175.5
Iowa State Fair	MISO	Wind	0.5	0.5
Laurel	MISO	Wind	119.6	119.6
Louisa <sup>1</sup>	MISO	Coal	656.7	660.2
Merle Parr	MISO	Gas	32.6	36.0
Miscellaneous Diesel Oil	MISO	Oil	56.0	56.0
Moline	MISO	Gas	66.7	80.0
Moline Hydro	MISO	Hydro	3.2	3.2
Morninglight	MISO	Wind	101.2	101.2
Neal 1	MISO	Coal	134.3	140.4
Neal 2	MISO	Coal	283.7	293.8
Neal 3 <sup>1</sup>	MISO	Coal	354.2	376.0
Neal 4 <sup>1</sup>	MISO	Coal	261.6	261.7
Ottumwa <sup>1</sup>	MISO	Coal	373.8	345.1
Pleasant Hill 1-2	MISO	Gas	75.8	94.0
Pleasant Hill 3	MISO	Gas	84.2	100.0
Pomeroy I	MISO	Wind	123.0	123.0
Pomeroy II	MISO	Wind	75.0	75.0
Pomeroy III	MISO	Wind	58.5	58.5
Pomeroy IV	MISO	Wind	29.9	29.9
Quad Cities <sup>1</sup>	PJM	Nuclear	451.8	440.1

Plant Name	Balancing Authority Area	Fuel Type	Summer Capacity (MW)	Winter Capacity (MW)
River Hills 1-4	MISO	Gas	58.6	75.2
River Hills 5-6	MISO	Gas	29.2	37.6
River Hills 7-8	MISO	Gas	29.1	37.6
Riverside 3 HS	MISO	Coal	4.0	4.0
Riverside 5	MISO	Coal	133.3	133.3
Rolling Hills	MISO	Wind	443.9	443.9
Sycamore 1	MISO	Gas	75.5	95.0
Sycamore 2	MISO	Gas	73.0	95.0
Victory	MISO	Wind	99.0	99.0
Vienna	MISO	Wind	105.6	105.6
Walnut	MISO	Wind	153.0	153.0
Walter Scott 1	MISO	Coal	37.4	37.7
Walter Scott 2	MISO	Coal	80.8	83.9
Walter Scott 3 <sup>1</sup>	MISO	Coal	556.6	560.6
Walter Scott 4 <sup>1</sup>	MISO	Coal	485.4	488.0
New Wind Generation:				
Highland <sup>2</sup>	MISO	Wind	502.0	502.0
Lundgren <sup>2</sup>	MISO	Wind	251.0	251.0
Macksburg <sup>2</sup>	MISO	Wind	112.6	112.6
Vienna II <sup>3</sup>	MISO	Wind	44.6	44.6
Wellsburg <sup>2</sup>	MISO	Wind	140.8	140.8
Purchases:				
Buena Vista	MISO	Wind	112.5	112.5
Quad Cities	PJM	Nuclear	180.0	180.0
Walter Scott 4	MISO	Coal	50.0	50.0
Other Purchases <sup>4</sup>	MISO	Purchases	14.2	14.2
<b>Total MidAmerican Energy Company</b>			<b>8,843.4</b>	<b>9,121.1</b>
<b><u>MidAmerican Renewables</u></b>				
Bishop Hill II <sup>5</sup>	MISO	Wind	81.0	81.0
Cordova Energy Center <sup>6</sup>	PJM	Gas	521.2	521.2
Saranac	NYISO	Gas	251.4	251.4
<b>Total MidAmerican Renewables</b>			<b>853.6</b>	<b>853.6</b>
<b>Total BHEC Generation Resources</b>			<b>9,697.0</b>	<b>9,974.7</b>

**Source:**

BHEC and affiliates.

**Notes:**

Figures above for wind and hydroelectric facilities represent nameplate ratings provided by BHEC.

- <sup>1</sup> Figures reflect only BHEC's share of jointly-owned facility.
- <sup>2</sup> Highland, Lundgren, Macksburg, and Wellsburg are currently under construction. Lundgren, Macksburg, and Wellsburg are expected to be in full commercial operation in 2014. Highland is expected to be in full commercial operation in 2015. Conservatively, these facilities are included as applicant resources in the 2011/12 study year market screen analyses herein.
- <sup>3</sup> Vienna II entered commercial operation after the 2011/12 study year. Conservatively, this facility is included as an applicant resource in the 2011/12 study year market screen analyses herein.
- <sup>4</sup> Reflects additional MidAmerican purchases included in the 2011/12 study year market screen analyses herein. Includes purchases that do not convey control to MidAmerican.
- <sup>5</sup> Bishop Hill II entered commercial operation in December 2012, after the 2011/12 study year used in the analyses herein. Nevertheless, conservatively, this facility is included as an applicant resource in the 2011/12 study year market screen analyses herein.
- <sup>6</sup> Dispatch and output rights for Cordova Energy Center have been sold to another party on a long-term basis. Nevertheless, conservatively, this facility is attributed to BHEC in the analyses herein.

**Part I - Pivotal Supplier Analysis**  
**NYISO Balancing Authority Area**  
**Applicants: MidAmerican, Cordova, and Saranac**

Row		MW	Reference
	<b>Generation</b>		
	<b>Seller and Affiliate Capacity</b>		
A	Installed Capacity	251	Workpaper - Generation
B	Long-Term Firm Purchases	0	Workpaper - Generation
C	Long-Term Firm Sales	0	Workpaper - Generation
D	Imported Power	1,153	Workpaper - Imports
	<b>Non-Affiliate Capacity</b>		
E	Installed Capacity	38,598	Workpaper - Generation
F	Long-Term Firm Purchases	0	Workpaper - Generation
G	Long-Term Firm Sales	0	Workpaper - Generation
H	Imported Power	6,667	Workpaper - Imports
I	Balancing Authority Area Reserve Requirement	-1,800	Workpaper - Reserves
J	Amount of Line I Attributable to Seller, if any	0	Workpaper - Reserves
K	Total Uncommitted Supply (SUM A,B,C,D,E,F,G,H,I,M)	17,550	
	<b>Load</b>		
L	Balancing Authority Area Annual Peak Load	32,418	Workpaper - Load
M	Average Daily Peak Native Load in Peak Month	-27,319	Workpaper - Load
N	Amount of Line M Attributable to Seller, if any	0	Workpaper - Load
O	Wholesale Load (SUM L,M)	5,099	
P	Net Uncommitted Supply (K-O)	12,451	
Q	Seller's Uncommitted Capacity (SUM A,B,C,D,J,N)	1,404	
	<b>Result of Pivotal Supplier Screen</b>		
	(Pass if Line Q < Line P)	<b>PASS</b>	
	(Fail if Line Q > Line P)		

**Part II - Market Share Analysis**  
**NYISO Balancing Authority Area**  
**Applicants: MidAmerican, Cordova, and Saranac**

Row		Winter (MW)	Spring (MW)	Summer (MW)	Fall (MW)	Reference
<b>Seller and Affiliate Capacity</b>						
A	Installed Capacity	251	251	251	251	Workpaper - Generation
B	Long-Term Firm Purchases	0	0	0	0	Workpaper - Generation
C	Long-Term Firm Sales	0	0	0	0	Workpaper - Generation
D	Seasonal Average Planned Outages	0	0	0	0	Workpaper - Planned Outages
E	Imported Power	1,141	1,141	1,153	1,141	Workpaper - Imports
<b>Capacity Deductions</b>						
F	Average Peak Native Load in the Season	-21,327	-19,355	-25,509	-20,264	Workpaper - Load
G	Amount of Line F Attributable to Seller, if any	0	0	0	0	Workpaper - Load
H	Amount of Line F Attributable to Others, if any	-21,327	-19,355	-25,509	-20,264	Workpaper - Load
I	Balancing Authority Area Reserve Requirement	-1,800	-1,800	-1,800	-1,911	Workpaper - Reserves
J	Amount of Line I Attributable to Seller, if any	0	0	0	0	Workpaper - Reserves
K	Amount of Line I Attributable to Others, if any	-1,800	-1,800	-1,800	-1,911	Workpaper - Reserves
<b>Non-Affiliate Capacity</b>						
L	Installed Capacity	41,518	41,217	38,703	40,308	Workpaper - Generation
M	Long-Term Firm Purchases	0	0	0	0	Workpaper - Generation
N	Long-Term Firm Sales	0	0	0	0	Workpaper - Generation
O	Local Seasonal Average Planned Outages	-4,010	-5,948	-886	-4,384	Workpaper - Planned Outages
P	Uncommitted Capacity Imports	6,958	6,219	6,667	6,989	Workpaper - Imports
<b>Supply Calculation</b>						
Q	Total Competing Supply (SUM L,M,N,O,P,H,K)	21,338	20,333	17,175	20,738	
R	Seller's Uncommitted Capacity (SUM A,B,C,D,E,G,J)	1,393	1,393	1,404	1,393	
S	Total Seasonal Uncommitted Capacity (SUM Q,R)	22,731	21,726	18,580	22,131	
T	<b>Seller's Market Share (R/S)</b>					
	Results (Pass if < 20%)	6.1%	6.4%	7.6%	6.3%	
	(Fail if >= 20%)	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	



**Part I - Pivotal Supplier Analysis**  
**PJM Balancing Authority Area**  
**Applicants: MidAmerican, Cordova, and Saranac**

<b>Row</b>		<b>MW</b>	<b>Reference</b>
	<b>Generation</b>		
	<b>Seller and Affiliate Capacity</b>		
A	Installed Capacity	973	Workpaper - Generation
B	Long-Term Firm Purchases	180	Workpaper - Generation
C	Long-Term Firm Sales	0	Workpaper - Generation
D	Imported Power	4,277	Workpaper - Imports
	<b>Non-Affiliate Capacity</b>		
E	Installed Capacity	192,573	Workpaper - Generation
F	Long-Term Firm Purchases	0	Workpaper - Generation
G	Long-Term Firm Sales	-180	Workpaper - Generation
H	Imported Power	2,110	Workpaper - Imports
I	Balancing Authority Area Reserve Requirement	-9,899	Workpaper - Reserves
J	Amount of Line I Attributable to Seller, if any	0	Workpaper - Reserves
K	Total Uncommitted Supply (SUM A,B,C,D,E,F,G,H,I,M)	56,568	
	<b>Load</b>		
L	Balancing Authority Area Annual Peak Load	154,339	Workpaper - Load
M	Average Daily Peak Native Load in Peak Month	-133,467	Workpaper - Load
N	Amount of Line M Attributable to Seller, if any	0	Workpaper - Load
O	Wholesale Load (SUM L,M)	20,871	
P	Net Uncommitted Supply (K-O)	35,696	
Q	Seller's Uncommitted Capacity (SUM A,B,C,D,J,N)	5,430	
	<b>Result of Pivotal Supplier Screen</b>	(Pass if Line Q < Line P) (Fail if Line Q > Line P)	<b>PASS</b>

**Part II - Market Share Analysis**  
**PJM Balancing Authority Area**  
**Applicants: MidAmerican, Cordova, and Saranac**

Row		Winter (MW)	Spring (MW)	Summer (MW)	Fall (MW)	Reference
<b>Seller and Affiliate Capacity</b>						
A	Installed Capacity	961	961	973	961	Workpaper - Generation
B	Long-Term Firm Purchases	180	180	180	180	Workpaper - Generation
C	Long-Term Firm Sales	0	0	0	0	Workpaper - Generation
D	Seasonal Average Planned Outages	0	0	0	0	Workpaper - Planned Outages
E	Imported Power	5,793	4,269	4,685	5,913	Workpaper - Imports
<b>Capacity Deductions</b>						
F	Average Peak Native Load in the Season	-102,442	-91,726	-122,914	-94,069	Workpaper - Load
G	Amount of Line F Attributable to Seller, if any	0	0	0	0	Workpaper - Load
H	Amount of Line F Attributable to Others, if any	-102,442	-91,726	-122,914	-94,069	Workpaper - Load
I	Balancing Authority Area Reserve Requirement	-7,730	-6,940	-9,144	-6,952	Workpaper - Reserves
J	Amount of Line I Attributable to Seller, if any	0	0	0	0	Workpaper - Reserves
K	Amount of Line I Attributable to Others, if any	-7,730	-6,940	-9,144	-6,952	Workpaper - Reserves
<b>Non-Affiliate Capacity</b>						
L	Installed Capacity	200,702	200,877	192,457	196,884	Workpaper - Generation
M	Long-Term Firm Purchases	0	0	0	0	Workpaper - Generation
N	Long-Term Firm Sales	-180	-180	-180	-180	Workpaper - Generation
O	Local Seasonal Average Planned Outages	-11,062	-28,396	-1,679	-18,796	Workpaper - Planned Outages
P	Uncommitted Capacity Imports	4,483	0	1,703	5,393	Workpaper - Imports
<b>Supply Calculation</b>						
Q	Total Competing Supply (SUM L,M,N,O,P,H,K)	83,772	73,634	60,243	82,280	
R	Seller's Uncommitted Capacity (SUM A,B,C,D,E,G,J)	6,935	5,411	5,838	7,054	
S	Total Seasonal Uncommitted Capacity (SUM Q,R)	90,707	79,045	66,081	89,334	
T	<b>Seller's Market Share (R/S)</b>					
	Results (Pass if < 20%)	7.6%	6.8%	8.8%	7.9%	
	(Fail if >= 20%)	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	

**Part I - Pivotal Supplier Analysis**  
**MISO Balancing Authority Area**  
**Applicants: MidAmerican, Cordova, and Saranac**

Row		MW	Reference
	<b>Generation</b>		
	<b>Seller and Affiliate Capacity</b>		
A	Installed Capacity	8,568	Workpaper - Generation
B	Long-Term Firm Purchases	353	Workpaper - Generation
C	Long-Term Firm Sales	0	Workpaper - Generation
D	Imported Power	521	Workpaper - Imports
	<b>Non-Affiliate Capacity</b>		
E	Installed Capacity	115,197	Workpaper - Generation
F	Long-Term Firm Purchases	0	Workpaper - Generation
G	Long-Term Firm Sales	-173	Workpaper - Generation
H	Imported Power	0	Workpaper - Imports
I	Balancing Authority Area Reserve Requirement	-1,851	Workpaper - Reserves
J	Amount of Line I Attributable to Seller, if any	-91	Workpaper - Reserves
K	Total Uncommitted Supply (SUM A,B,C,D,E,F,G,H,I,M)	37,604	
	<b>Load</b>		
L	Balancing Authority Area Annual Peak Load	96,809	Workpaper - Load
M	Average Daily Peak Native Load in Peak Month	-85,011	Workpaper - Load
N	Amount of Line M Attributable to Seller, if any	-4,172	Workpaper - Load
O	Wholesale Load (SUM L,M)	11,798	
P	Net Uncommitted Supply (K-O)	25,806	
Q	Seller's Uncommitted Capacity (SUM A,B,C,D,J,N)	5,179	
	<b>Result of Pivotal Supplier Screen</b>	(Pass if Line Q < Line P) (Fail if Line Q > Line P)	<b>PASS</b>

**Part II - Market Share Analysis**  
**MISO Balancing Authority Area**  
**Applicants: MidAmerican, Cordova, and Saranac**

Row		Winter (MW)	Spring (MW)	Summer (MW)	Fall (MW)	Reference
<b>Seller and Affiliate Capacity</b>						
A	Installed Capacity	8,845	8,845	8,568	8,845	Workpaper - Generation
B	Long-Term Firm Purchases	355	353	352	351	Workpaper - Generation
C	Long-Term Firm Sales	0	0	0	0	Workpaper - Generation
D	Seasonal Average Planned Outages	0	0	0	0	Workpaper - Planned Outages
E	Imported Power	521	521	521	521	Workpaper - Imports
<b>Capacity Deductions</b>						
F	Average Peak Native Load in the Season	-63,374	-58,021	-76,992	-59,497	Workpaper - Load
G	Amount of Line F Attributable to Seller, if any	-2,952	-2,760	-3,764	-2,826	Workpaper - Load
H	Amount of Line F Attributable to Others, if any	-60,422	-55,261	-73,228	-56,671	Workpaper - Load
I	Balancing Authority Area Reserve Requirement	-1,851	-1,851	-1,851	-1,851	Workpaper - Reserves
J	Amount of Line I Attributable to Seller, if any	-86	-88	-90	-88	Workpaper - Reserves
K	Amount of Line I Attributable to Others, if any	-1,765	-1,763	-1,760	-1,763	Workpaper - Reserves
<b>Non-Affiliate Capacity</b>						
L	Installed Capacity	119,646	119,237	115,151	121,269	Workpaper - Generation
M	Long-Term Firm Purchases	0	0	0	0	Workpaper - Generation
N	Long-Term Firm Sales	-175	-173	-172	-171	Workpaper - Generation
O	Local Seasonal Average Planned Outages	-9,817	-15,495	-3,613	-11,512	Workpaper - Planned Outages
P	Uncommitted Capacity Imports	0	0	0	0	Workpaper - Imports
<b>Supply Calculation</b>						
Q	Total Competing Supply (SUM L,M,N,O,P,H,K)	47,467	46,545	36,377	51,153	
R	Seller's Uncommitted Capacity (SUM A,B,C,D,E,G,J)	6,683	6,871	5,586	6,803	
S	Total Seasonal Uncommitted Capacity (SUM Q,R)	54,151	53,416	41,963	57,956	
T	<b>Seller's Market Share (R/S)</b>					
	Results (Pass if < 20%)	12.3%	12.9%	13.3%	11.7%	
	(Fail if >= 20%)	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	

**RODNEY FRAME**  
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Mr. Frame has consulted with electric utility clients on a variety of matters, including industry restructuring, retail competition, wholesale bulk power markets and competition, market power and mergers, transmission access and pricing, contractual terms for wholesale service, and contracting for non-utility generation. A substantial portion of this work has been in conjunction with litigated antitrust and federal and state regulatory proceedings.

Mr. Frame frequently speaks before electric industry groups on competition-related topics. He has testified in federal and local courts and before federal and state regulatory commissions, the Armed Services Board of Contract Appeals and the Commerce Commission of New Zealand.

Mr. Frame was previously a Managing Principal at Analysis Group and, prior to joining Analysis Group, he was a Vice President at National Economic Research Associates. Mr. Frame graduated from George Washington University and pursued graduate work there under a National Science Foundation Traineeship. His areas of specialization were public finance and urban economics. He completed all requirements for his Ph.D. degree in economics with the exception of the thesis.

**EDUCATION**

1970	B.B.A., George Washington University
1970 - 73	Ph.D. coursework (all requirements for degree in economics completed except thesis), George Washington University

**PROFESSIONAL EXPERIENCE**

1998 -	Analysis Group <i>Affiliate, 2011-</i> <i>Managing Principal, 1998-2011</i>
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- 1984 - 1998      National Economic Research Associates  
*Vice President and Senior Consultant.* Participated in projects dealing with retail competition, wholesale competition, market power assessment and determination of relevant markets for electricity supply, electric utility mergers, transmission access and pricing, partial requirements ratemaking, contractual terms for wholesale service, and contracting for non-utility generation supplies. Principal clients were investor-owned electric utilities.
- 1975 - 1984      Transcomm, Inc.  
*Senior Economist.* Worked on a variety of projects concerning market structure, pricing and cost development in regulated industries. Clients included the U.S. Departments of Commerce, Defense and Energy, the Nuclear Regulatory Commission, the State of Oregon, bulk mailers and various communications equipment manufacturers and service providers. Participated in numerous federal and state regulatory proceedings and was principal investigator for a multi-year Department of Energy study addressing various aspects of electric utility competition.
- 1974 - 1975      *Independent Economic Consultant*  
Advised telephone equipment manufacturers concerning cost and rate development for competitive telephone offerings, analyzed alternative travel agent compensation arrangements and examined nonbank activity by bank holding company firms.
- 1973 - 1974      Program of Policy Studies in Science and Technology  
*Research Staff*
- 1973              Urban Institute  
*Research Staff*

## TESTIFYING EXPERIENCE

- Affidavit on behalf of New Brunswick Energy Marketing Corporation, before the Federal Energy Regulatory Commission in Docket No. ER14-225, providing delivered price test analyses for the New Brunswick BAA, March 12, 2014.
- Affidavit on behalf of New Brunswick Energy Marketing Corporation, before the Federal Energy Regulatory Commission in Docket No. ER14-225, providing market screen analyses for the Northeast region, February 14, 2014.
- Affidavit on behalf of affiliates of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. ER10-2475, *et al.*, providing updated change in status market screen analyses reflecting the merger of MidAmerican and NV Energy, January 2, 2014.
- Affidavit on behalf of affiliates of FirstEnergy Corp., before the Federal Energy Regulatory Commission in Docket No. ER10-2727, *et al.*, providing updated market screen analyses for the Northeast Region, December 20, 2013.

- Supplemental affidavit on behalf of Idaho Power Company, before the Federal Energy Regulatory Commission in Docket No. ER13-1857, providing delivered price test analyses for the Idaho Power BAA, November 7, 2013.
- Affidavit on behalf of Idaho Power Company, before the Federal Energy Regulatory Commission in Docket No. ER13-1857, providing updated market screen analyses for the Northwest region, June 28, 2013.
- Affidavit on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket No. ER10-3246, providing updated market screen analyses for the Northwest region, June 28, 2013.
- Affidavit on behalf of Panoche Energy Center, LLC, before the Federal Energy Regulatory Commission in Docket No. ER10-2538, providing triennial market screen analyses for the Southwest region, June 27, 2013.
- Affidavit on behalf of Agua Caliente Solar, LLC, *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER12-21, *et al.*, providing triennial market screen analyses for the Southwest region, June 26, 2013.
- Affidavit on behalf of Campo Verde Solar, LLC, before the Federal Energy Regulatory Commission in Docket No. ER13-1541, providing market screen analyses to support Campo Verde Solar's application for market-based rate authority, May 23, 2013.
- Affidavit on behalf of Solar Star California XIX, LLC and Solar Star California XX, LLC, before the Federal Regulatory Commission in Docket No. ER13-1441 and Docket No. ER-13-1442, providing market screen analyses to support Solar Star California XIX and Solar Star California XX's applications for market-based rate authority, May 9, 2013.
- Affidavit on behalf of CalEnergy, LLC, *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER13-1255, *et al.*, providing market screen analyses to support CalEnergy applicants' application for market-based rate authority, April 12, 2013.
- Affidavit on behalf of Spectrum Nevada Solar, LLC, before the Federal Energy Regulatory Commission in Docket No. ER13-1101, providing market screen analyses to support Spectrum Nevada Solar's application for market-based rate authority, March 15, 2013.
- Affidavit on behalf of affiliates of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. ER12-21 *et al.*, providing updated market analyses to support continued market-based pricing after acquisition of the Alta Wind VII and Alta Wind IX Facilities, December 7, 2012.
- Direct Testimony on behalf of Ameren Transmission Company of Illinois, before the Illinois Commerce Commission in Docket No. 12-0598, assessing the competitive implications of Ameren's proposed Illinois Rivers Project transmission line, November 7, 2012.
- Affidavit on behalf of affiliates of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. EC-13-1, providing a competitive assessment of MEHC's proposed acquisition of the Alta Wind VII and Alta Wind IX Facilities, October 1, 2012.

- Direct Testimony on behalf of FirstEnergy Solutions Corp, before the Ohio Public Utilities Commission in Case No. 11-346-EL-SSO, assessing the implications of the AEP Pool Agreement for the implementation of a competitive-based procurement by AEP for its standard offer service supply in Ohio, May 4, 2012.
- Affidavit on behalf of Topaz Solar Farms LLC, before the Federal Energy Regulatory Commission in Docket No. ER12-1626, providing market screen analyses to support Topaz Solar Farms' application for market-based rate authority, April 26, 2012.
- Affidavit on behalf of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. EC12-61, providing a competitive assessment of MEHC's proposed acquisition of the Bishop Hill II wind facility, January 20, 2012.
- Affidavit on behalf of ALLETE, Inc., with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket Nos. ER01-2636 and ER10-2819, providing updated market screen analyses for the Central region, December 30, 2011.
- Affidavit on behalf of Plum Point Energy Associates, LLC and Plum Point Services Company, LLC, with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket Nos. ER11-2734 and ER11-2335, providing updated market screen analyses for the Southeast region, December 29, 2011.
- Affidavit on behalf of Orlando CoGen Limited, L.P. and Vandolah Power Company, L.L.C., with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket Nos. ER10-2218 and ER10-2211, providing updated market screen analyses for the Southeast region, December 28, 2011.
- Affidavit on behalf of MidAmerican Energy Holdings Company in Docket No. EC12-52, providing a competitive assessment of MEHC's proposed acquisition of a 49 percent interest in the Agua Caliente solar generating facility, December 15, 2011.
- Affidavit on behalf of various affiliates of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. ER11-3876 *et al.*, providing (i) updated triennial market screen analyses for the Central region and (ii) change in status market screen analyses reflecting 1,001 MW of new wind generation consisting of the Pomeroy IV, Laurel, Rolling Hills, Eclipse, Morninglight and Vienna projects, November 17, 2011.
- Affidavit on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. ER10-2881 *et al.*, providing supplemental updated triennial market screen analyses for the Southeast region, November 4, 2011.
- Affidavit on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket No. ER10-3246 *et al.*, providing change in status DPT and other analyses to support continued market-based pricing by PacifiCorp after acquisition by contract of the West Valley generating station, October 7, 2011.
- Affidavit on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket No. ER10-3246 *et al.*, providing change in status market screen analyses to support continued market-based pricing by PacifiCorp after acquisition by contract of the West Valley generating station, September 14, 2011.



- Affidavit on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. ER10-2881 *et al.*, providing updated triennial market screen analyses for the Southeast region, June 30, 2011.
- Affidavit on behalf of FirstEnergy Operating Companies *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER10-2727 *et al.*, providing updated change in status market screen analyses reflecting the merger of FirstEnergy and Allegheny and ATSI's transfer from the Midwest ISO to PJM, June 30, 2011.
- Affidavit on behalf of various affiliates of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. ER11-3876 *et al.*, providing updated triennial market screen analyses for the Northeast region, June 30, 2011.
- Affidavit on behalf of Astoria Energy LLC and Astoria Energy II LLC, with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket Nos. ER10-2253 and ER10-3319, providing updated triennial market screen analyses for the Northeast region, June 29, 2011.
- Affidavit on behalf of various affiliates of EIF, with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket No. ER10-2480 *et al.*, providing updated triennial market screen analyses for the Northeast region, June 30, 2011.
- Affidavit on behalf the FirstEnergy Operating Companies *et al.*, before the Federal Energy Regulatory Commission in Docket Nos. ER01-1403 *et al.*, applying the Commission's pivotal supplier and market share screens to FirstEnergy, December 29, 2010.
- Additional Testimony on behalf of MidAmerican Energy Company, before the Iowa State Utilities Board in Docket No. RPU-2009-0003, providing updated analyses addressing competitive issues raised in conjunction with MidAmerican's proposed Wind VII project, December 1, 2010.
- Affidavit on behalf of Astoria Energy II LLC, with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket No. ER10-3319, providing indicative screen analyses in support of Astoria II's request for market-based rate authority, September 30, 2010.
- Affidavit on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket No. ER97-2801 *et al.*, providing updated market screen and delivered price test analyses for the Northwest region, June 30, 2010.
- Affidavit on behalf of Idaho Power Company, before the Federal Energy Regulatory Commission in Docket No. ER97-1481-013, providing updated market screen analyses for the Northwest region, June 30, 2010.
- Affidavit on behalf of Lea Power Partners, LLC, with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket No. ER07-751-002, providing updated market screen analyses for the Southwest Power Pool region, March 1, 2010.
- Affidavit on behalf of Northeastern Power Company, with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket No. ER10-720-000, providing indicative screen analyses in support of NEPCO's request for market-based rate authority, February 4, 2010.

- Affidavit on behalf of various affiliates of Covanta Energy Corporation, with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket Nos. ER10-395-000, ER10-409-000 and ER10-410-000, providing indicative screen analyses in support of Covanta affiliates' requests for market-based rate authority, February 1, 2010.
- Affidavit on behalf of Denver City Energy Associates, L.P., with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket No. ER97-4084-011, providing updated market screen analyses for the Southwest Power Pool region, December 22, 2009.
- Affidavit on behalf of Kleen Energy Systems, LLC, with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket No. ER10-308-000, providing indicative screen analyses in support of Kleen's request for market-based rate authority and in support of continued market-based pricing for EIF affiliates after the addition of the Kleen facility, November 25, 2009.
- Expert Report on behalf of Sho-Me Power Electric Cooperative, before the Armed Services Board of Contract Appeals in Case ASBCA No. 56640, comparing Sho-Me's charges to Fort Leonard Wood for full requirements electric service under its Conservation Tariff to market-based prices for full-requirements service, November 11, 2009.
- Affidavit on behalf of Southern Power Company *et al.*, before the Federal Energy Regulatory Commission in Docket No. EC10-15-000, addressing competitive issues raised by the proposed swap of generating capacity whereby Southern Power would acquire the West Georgia generating facility now owned by affiliates of LS Power Development, and LS Power Development would acquire the DeSoto generating facility now owned by Southern Power, November 2, 2009.
- Affidavit on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket No. ER97-2801 *et al.*, providing updated delivered price test and other analyses in support of continued market-based pricing by PacifiCorp after capacity changes to its existing generator fleet and after commercial operation of its new High Plains and McFadden Ridge wind generating facilities, October 2, 2009.
- Answering Testimony on behalf of NV Energy, Public Service Company of New Mexico and Tucson Electric Power Company, before the Federal Energy Regulatory Commission in Docket No. EL02-71, addressing whether a putative failure to file proper and timely quarterly transaction reports masked an accumulation of market power by NVE, PNM and/or TEP, September 17, 2009.
- Rebuttal Testimony on behalf of J.P. Morgan Energy Ventures Corporation, before an arbitration panel in TAQA GEN X LLC (f/k/a BE Red Oak LLC), Ref. No. 16 198 001 80 09, addressing regulatory policy and other issues raised by respondents in a dispute involving the assignment of station power costs under a long-term tolling agreement, July 24, 2009.
- Surrebuttal Testimony on behalf of MidAmerican Energy Company, before the Iowa State Utilities Board in Docket No. RPU-2009-0003, addressing competitive issues raised in conjunction with MidAmerican's proposed ratemaking principles for its Wind VII project, July 17, 2009.
- Direct Testimony on behalf of J.P. Morgan Energy Ventures Corporation, before an arbitration panel in TAQA GEN X LLC (f/k/a BE Red Oak LLC) v. AES RED OAK, L.L.C., Ref. No. 16 198 00180 09, addressing regulatory issues relating to the assignment of station power costs in a long term tolling agreement, July 2, 2009.

- Affidavit on behalf of Southern Company Services, Inc. *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER96-780 *et al.*, in support of continued market-based pricing by Southern Company affiliates after its acquisition by purchase of additional generating capacity, June 30, 2009.
- Affidavit on behalf of various affiliates of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. ER99-2156 *et al.*, requesting that their existing market-based rate authority be extended to include the MidAmerican BAA, May 15, 2009.
- Affidavit on behalf of Southern Power Company, before the Federal Energy Regulatory Commission in Docket No. EC09-70, addressing competitive issues raised by Southern Power's proposed acquisition of Hartwell Energy Limited Partnership, April 20, 2009.
- Affidavit on behalf of Minnesota Power, with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket No. ER01-2636, providing updated market screen analyses for the Central region, December 31, 2008 and February 6, 2009.
- Affidavit on behalf of various affiliates of Northern Star Generation, with Donna Lau Brooks, before the Federal Energy Regulatory Commission in Docket No. ER06-1265 *et al.*, providing updated market screen analyses for the Southeast region, December 30, 2008.
- Affidavit on behalf of the FirstEnergy Operating Companies *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER01-1403 *et al.*, providing updated market screen analyses for the Central region, December 29, 2008.
- Affidavit on behalf of various affiliates of Ameren, before the Federal Energy Regulatory Commission in Docket No. ER00-3412 *et al.*, providing updated market screen analyses for the Central region, December 24, 2008.
- Affidavit on behalf of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. ER99-2156 *et al.*, applying the Commission's pivotal supplier and market share screen to MidAmerican in the Central region, December 3, 2008.
- Affidavit on behalf of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. EC09-26-000, providing competitive analyses supporting MidAmerican's proposed acquisition of the West Valley Project, December 2, 2008.
- Affidavit on behalf of West Valley Holdings, LLC, before the Federal Energy Regulatory Commission in Docket No. ER09-352-000, providing competitive analyses supporting West Valley's application for market-based rate authority, December 2, 2008.
- Affidavit on behalf of Safe Harbor Holding Company, LLC, before the Federal Energy Regulatory Commission in Docket No. ER09-318-000, providing competitive analyses supporting Safe Harbor's application for market-based rate authority, November 24, 2008.
- Affidavit on behalf of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. EC09-25-000, providing competitive analyses associated with MidAmerican's proposed acquisition of an interest in Safe Harbor Water Power Corporation, November 23, 2008.

- Affidavit on behalf of Southern Company Services, Inc., before the Federal Energy Regulatory Commission in Docket No. ER09-88-000, providing assessment of proposed energy auction mechanism as a means to mitigate perceived market power concerns, October 17, 2008.
- Affidavit on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket No. ER97-2801 *et al.*, providing updated delivered price test and other analyses in support of continued market-based pricing by PacifiCorp after its acquisition of new generation capacity and after commercial operation of new generating facilities, October 15, 2008.
- Affidavit on behalf of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. EC09-6, addressing competitive issues raised by MEHC's proposed merger with Constellation Energy Group, October 14, 2008.
- Additional Affidavit on behalf of the FirstEnergy Operating Companies *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER01-1403 *et al.*, providing revised pivotal supplier and market share screen analyses to reflect updated simultaneous import limit values, September 2, 2008.
- Additional Affidavit on behalf of Public Service Electric and Gas Company *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER99-3151 *et al.*, providing revised indicative screen and DPT analyses to reflect updated simultaneous import limit values, and assessing the need for additional market power mitigation measures, September 2, 2008.
- Affidavit on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. ER96-780 *et al.*, providing updated indicative screen analyses, September 2, 2008.
- Affidavit on behalf of Berkshire Power Company, LLC and Waterside Power, LLC, before the Federal Energy Regulatory Commission in Docket Nos. ER99-3502-000 and ER02-1884-000, applying the Commission's pivotal supplier and market share screens, June 30, 2008.
- Affidavit on behalf of Astoria Energy LLC, before the Federal Energy Regulatory Commission in Docket No. ER01-3103, applying the Commission's pivotal supplier and market share screens, June 30, 2008.
- Affidavit on behalf of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. ER96-719-002 *et al.*, applying the Commission's pivotal supplier and market share screens, June 30, 2008.
- Affidavit on behalf of Black River Generation, LLC and Northbrook New York, LLC, before the Federal Energy Regulatory Commission in Docket Nos. ER04-617-003 and ER99-3911-006, applying the Commission's pivotal supplier and market share screens, June 2, 2008.
- Affidavit on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket No. EC08-82, concerning competitive issues raised by PacifiCorp's proposed acquisition of Chehalis Power Generating, LLC, April 29, 2008.
- Affidavit on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket No. ER97-2801 *et al.*, providing updated indicative horizontal market power screen, delivered price test and other analyses to support continued market-based pricing by PacifiCorp after its acquisition by contract of new generation capacity and after commercial operation of certain new generating facilities, March 31, 2008.

- Supplemental affidavit on behalf of the FirstEnergy Operating Companies *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER01-1403 *et al.*, responding to intervenor arguments supporting certain adjustments to previously-submitted horizontal market power screen analyses, March 31, 2008.
- Affidavit on behalf of Idaho Power Company, before the Federal Regulatory Commission in Docket No. ER97-1481, updating Idaho Power's market screen analysis to reflect the addition of its new Danskin No. 1 generator, March 21, 2008.
- Affidavit on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. ER96-780 *et al.*, providing updated market screen analyses to support continued market-based pricing by those affiliates after the operation of Southern Power Company's new Franklin 3 generating facility, February 11, 2008.
- Affidavit on behalf of Public Service Electric and Gas Company *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER99-3151 *et al.*, applying the Commission's pivotal supplier and market share screens to Public Service Electric and Gas Company and its affiliates, providing a delivered price test analysis for PJM East and assessing the need for additional market power mitigation measures, January 14, 2008.
- Affidavit on behalf of the FirstEnergy Operating Companies *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER01-1403 *et al.*, applying the Commission's pivotal supplier and market share screens to the FirstEnergy Operating Companies, January 14, 2008.
- Affidavit on behalf of FirstEnergy Mansfield Unit 1 Corp, before the Federal Energy Regulatory Commission in Docket No. ER08-107, assessing the appropriateness of market-based rate authority for FirstEnergy Mansfield, October 26, 2007.
- Affidavit on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. ER96-780 *et al.*, providing updated market screen analyses to support continued market-based pricing by those affiliates after Southern Companies' purchase of capacity and energy from Calpine, August 31, 2007.
- Affidavit on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket No. ER97-2801, providing updated delivered price test and other analyses to support continued market-based pricing by PacifiCorp after commercial operation of its new Lake Side, Marengo and Goodnoe Hills generating facilities, August 27, 2007.
- Affidavit on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. RM04-7-000, identifying and assessing the significance of various aspects of FERC's Order No. 697, its Final Rule pertaining to regulations governing market-based rate authority for wholesale sales of electricity, July 23, 2007.
- Affidavit on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket No. ER97-2801 *et al.*, providing updated market screen analyses to support continued market-based pricing by PacifiCorp after commercial operation of its new Lake Side, Marengo and Goodnoe Hills generating facilities, June 8, 2007.

- Affidavit on behalf of affiliates of MidAmerican Energy Holdings Company, before the Federal Energy Regulatory Commission in Docket No. ER96-719 *et al.*, concerning the extent to which MidAmerican Energy Company's operation of Council Bluffs Energy Center Unit 4, the Victory Wind Project and the Pomeroy Wind Project represents a significant change in status regarding the characteristics relied upon by the Commission in granting market-based pricing authority to affiliates of MEHC, March 2, 2007.
- Rebuttal Testimony on behalf of Southern Company Services, Inc., before the Federal Energy Regulatory Commission in Docket No. EL04-124 *et al.*, concerning various computational and conceptual issues that arise in applying the Commission's delivered price test to Southern Companies for the Southern Control Area, February 20, 2007.
- Affidavit on behalf of PSEG Energy Resources & Trade LLC *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER99-3151 *et al.*, applying the Commission's pivotal supplier and wholesale market share screens to Public Service Electric and Gas Company and its affiliates, November 29, 2006.
- Affidavit on behalf of PacifiCorp and PPM Energy, Inc., before the Federal Energy Regulatory Commission in Docket No. ER97-2801 *et al.*, providing revised delivered price test analyses to support continued market-based rate authority by PacifiCorp and PPM Energy, Inc., November 6, 2006.
- Affidavit on behalf of Southern Company Services, Inc. *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER96-780 *et al.*, concerning the extent to which Southern Company's acquisition of the Rowan generating station represents a significant change in status regarding the characteristics relied upon by the Commission in granting market-based pricing authority to affiliates of Southern Company, October 2, 2006.
- Affidavit on behalf of Oleander Power Project, L.P., before the Federal Energy Regulatory Commission in Docket No. ER00-3240, applying the Commission's pivotal supplier and wholesale market share screens to affiliates of Southern Company, September 27, 2006.
- Direct Testimony on behalf of Southern Company Services, Inc., before the Federal Energy Regulatory Commission in Docket No. EL04-124 *et al.*, applying the Commission's delivered price test to Southern Companies for the Southern Control Area, September 18, 2006.
- Supplemental Testimony on behalf of PacifiCorp, before the Federal Energy Regulatory Commission in Docket Nos. ER97-2801-007 and ER97-2801-010, providing updated market screen, delivered price test and other analyses to support continued market-based pricing by PacifiCorp after commercial operation of its new Currant Creek, Goshen and Leaning Juniper generators, August 21, 2006.
- Affidavit on behalf of various affiliates of D.E. Shaw, before the Federal Energy Regulatory Commission in Docket No. ER03-879 *et al.*, applying the Commission's pivotal supplier and wholesale market share screens to the D.E. Shaw affiliates, July 24, 2006.
- Affidavit on behalf of DeSoto County Generating Company, LLC, before the Federal Energy Regulatory Commission in Docket No. ER03-1383 *et al.*, demonstrating that the company's acquisition by Southern Power allows certain restrictions on its market-based rate authority to be removed, June 30, 2006.

- Affidavit on behalf of Southern Power Company, before the Federal Energy Regulatory Commission in Docket No. EC06-132-000, concerning competitive issues raised by Southern Power's proposed acquisition of Rowan County Power, LLC from Progress Energy, June 16, 2006.
- Affidavit on behalf of MidAmerican Energy Company and its affiliates, before the Federal Regulatory Commission in Docket No. ER96-719 *et al.*, examining the extent to which MidAmerican's acquisition of PacifiCorp presents a departure from the conditions relied upon by the Commission in granting market-based rate authority to MidAmerican and its affiliates, April 20, 2006.
- Affidavit on behalf of Southern Power Company, before the Federal Energy Regulatory Commission in Docket No. EC06-112-000, concerning competitive issues raised by Southern Power's acquisition of the DeSoto Generating Station from Progress Energy, April 14, 2006.
- Affidavit on behalf of PPM Energy, Inc., before the Federal Energy Regulatory Commission in Docket Nos. EL05-95 and ER03-478, providing a market screen analysis to reflect the change of status as a result of the acquisition of PPM's former affiliate PacifiCorp by MidAmerican Energy Holdings Company, April 10, 2006.
- Supplemental Testimony on behalf of PacifiCorp and PPM Energy, Inc., before the Federal Energy Regulatory Commission in Docket No. ER97-2801-006 *et al.*, providing additional market screen and delivered price test analyses to assess whether PacifiCorp and PPM have market power for wholesale sales of electricity, March 29, 2006.
- Supplemental Testimony on behalf of Public Service Electric and Gas Company and Exelon Corporation, with Michael M. Schnitzer, before the State of New Jersey Board of Public Utilities in BPU Docket No. EM05020106 and OAL Docket No. PUC-1874, addressing analyses provided by PJM's Market Monitoring Unit and market power mitigation measures proposed by Joint Petitioners, March 17, 2006.
- Affidavit on behalf of PSEG Power Connecticut, LLC, before the Federal Energy Regulatory Commission in Docket No. ER99-967, applying the Commission's pivotal supplier and wholesale market share screens to PSEG Connecticut, February 28, 2006.
- Affidavit on behalf of Union Electric Company d/b/a AmerenUE and NRG Audrain Generating, LLC, before the Federal Energy Regulatory Commission in Docket No. EC06-55-000, concerning competitive issues raised by AmerenUE's proposed acquisition of the Audrain generating station from NRG, December 28, 2005.
- Affidavit on behalf of Union Electric Company d/b/a AmerenUE and affiliates of Aquila, Inc., before the Federal Energy Regulatory Commission in Docket No. EC06-56-000, concerning competitive issues raised by AmerenUE's proposed acquisition of the Goose Creek and Raccoon Creek generating stations from Aquila, December 28, 2005.
- Supplemental Rebuttal Testimony on behalf of Public Service Electric and Gas Company and Exelon Corporation, before the Board of Public Utilities of New Jersey in BPU Docket No. EM05020106 and OAL Docket No. PUC-1874-05, responding to testimony on behalf of the BPU staff concerning the horizontal competitive effects of the proposed merger of Public Service Enterprise Group and Exelon, December 12, 2005.

- Rebuttal Testimony on behalf of Public Service Electric and Gas Company and Exelon Corporation, before the Board of Public Utilities of New Jersey in BPU Docket No. EM05020106 and OAL Docket No. PUC-1874-05, responding to intervenor concerns about the competitive effects of the proposed merger of Public Service Enterprise Group and Exelon, December 5, 2005.
- Affidavit on behalf of Electric Energy, Inc., before the Federal Energy Regulatory Commission in Docket No. ER05-1482-000, applying the Commission’s pivotal supplier and wholesale market share screens to the Electric Energy, Inc. control area, November 3, 2005.
- Direct Testimony on behalf of Southern Company Services, Inc., before the Federal Energy Regulatory Commission in Docket No. EL04-124, providing various delivered price test analyses to support Southern Companies’ request for continuing market-based rate authority, September 20, 2005.
- Surrebuttal Testimony on behalf of the Ameren Companies, before the Illinois Commerce Commission in Docket No. 05-0160 *et al.*, responding to intervenor concerns about the underlying maturity and competitiveness of the wholesale electricity markets in which Illinois BGS auction participants can procure the wholesale supplies needed to support their auction bids, August 29, 2005.
- Additional Testimony on behalf of Public Service Electric and Gas Company, before the State of New Jersey Board of Public Utilities in BPU Docket No. EM05020106 and OAL Docket No. PUC-1874-05, that addresses the effect of the proposed merger of PSEG and Exelon on competition in the New Jersey Basic Generation Service Auction and that applies FERC’s market power screen measures to the post-merger firm, August 15, 2005.
- Rebuttal Testimony on behalf of the Ameren Companies, before the Illinois Commerce Commission in Docket No. 05-0160 *et al.*, responding to intervenor arguments that there are likely to be competitive problems with Ameren's proposed competitive procurement of wholesale supplies used to provide “basic generation service,” July 13, 2005.
- Direct Testimony on behalf of PacifiCorp and PPM Energy, Inc., before the Federal Energy Regulatory Commission in Docket No. ER97-2801 *et al.*, providing a delivered price test and other evidence rebutting the Commission’s presumption that PacifiCorp and PPM possess market power over wholesale sales of electricity, July 8, 2005.
- Supplemental Affidavit on behalf of PacifiCorp and PPM Energy, Inc., before the Federal Energy Regulatory Commission in Docket No. ER97-2801 *et al.*, providing additional information and analyses concerning the application of the Commission’s pivotal supplier and wholesale market share screens to PacifiCorp and PPM, June 8, 2005.
- Affidavit on behalf of Astoria Energy, LLC, before the Federal Energy Regulatory Commission in Docket No. ER01-3103, applying the Commission’s pivotal supplier and wholesale market share screen to Astoria, May 23, 2005.
- Supplemental Testimony on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. ER97-4166-015 *et al.*, responding to issues raised by intervenors Calpine Corporation and Shell Trading Gas and Power Company concerning the “delivered price test” competitive analysis provided by Southern Company, May 16, 2005.



- Affidavit on behalf of Lake Road Generating Company, L.P., before the Federal Energy Regulatory Commission in Docket No. ER99-1714, applying the Commission's pivotal supplier and wholesale market share screens to Lake Road, May 13, 2005.
- Supplemental Testimony on behalf of Public Service Electric and Gas Company, before the State of New Jersey Board of Public Utilities in BPU Docket No. EM05020106 and OAL Docket No. PUC-1874-05, addressing revised market power mitigation proposal of merging parties PSEG and Exelon Corporation, May 12, 2005.
- Affidavit on behalf of Idaho Power Company, before the Federal Regulatory Commission in Docket No. ER97-1481-009, updating Idaho Power's market screen analysis to reflect the addition of its new Bennett Mountain generator, May 2, 2005.
- Affidavit on behalf of Southern Power Company, before the Federal Energy Regulatory Commission in Docket No. EC05-71-000, concerning competitive issues raised by Southern's proposed acquisition of the Oleander Power Project from Constellation Energy Group, April 20, 2005.
- Affidavit on behalf of UGI Development Company and UGI Energy Services, before the Federal Energy Regulatory Commission in Docket No. ER97-2817 *et al.*, applying the Commission's pivotal supplier and wholesale market share screens to UGI, April 12, 2005.
- Affidavit on behalf of La Paloma Generating Company, LLC, before the Federal Energy Regulatory Commission in Docket No. ER00-107, applying the Commission's pivotal supplier and wholesale market share screens to La Paloma and its affiliates, March 31, 2005.
- Supplemental Affidavit on behalf of the Detroit Edison Company and certain of its affiliates, before the Federal Energy Regulatory Commission in Docket No. ER93-324 *et al.*, providing additional information concerning the application of the Commission's new interim generation market power screens to Detroit Edison, March 21, 2005.
- Direct Testimony on behalf of Public Service Electric and Gas Company, before the State of New Jersey Board of Public Utilities, in BPU Docket No. EM05020106 and OAL Docket No. PUC-1874-05, assessing the competitive effects of the proposed merger of Public Service Enterprise Group Incorporated and Exelon Corporation, February 28, 2005.
- Direct Testimony on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. ER97-4166-015 *et al.*, providing a delivered price test and other evidence rebutting the Commission's presumption that Southern Company possesses market power over wholesale sales of electricity, February 15, 2005.
- Affidavit on behalf of PacifiCorp and PPM Energy, Inc., before the Federal Energy Regulatory Commission in Docket No. ER97-2801-005 *et al.*, applying the Commission's new pivotal supplier and wholesale market share screens to PacifiCorp and PPM, February 14, 2005.
- Affidavit on behalf of PSEG Lawrenceburg Energy Company LLC and PSEG Waterford Energy LLC, before the Federal Energy Regulatory Commission in Docket No. ER01-2460-002 *et al.*, applying the Commission's pivotal supplier and wholesale market share screens, February 7, 2005.

- Affidavit on behalf of the First Energy Operating Companies *et al.*, before the Federal Energy Regulatory Commission in Docket No. ER01-1403 *et al.*, applying the Commission's pivotal supplier and wholesale market share screens, February 7, 2005.
- Supplemental Affidavit on behalf of Idaho Power Company, before the Federal Regulatory Commission in Docket No. ER97-1481-003, responding to issues raised in a Commission Staff letter relating to Idaho Power's application of the Commission's pivotal supplier and wholesale market share screens, January 19, 2005.
- Affidavit on behalf of various affiliates of Ameren Corporation, before the Federal Energy Regulatory Commission in Docket No. ER-01-294-002 *et al.*, applying the Commission's new pivotal supplier and wholesale market share screens to Ameren's affiliates, December 27, 2004.
- Affidavit on behalf of Detroit Edison and various of its affiliates, before the Federal Energy Regulatory Commission in Docket No. ER02-963-002 *et al.*, applying the Commission's new pivotal supplier and wholesale market share screens to Detroit Edison Company and its affiliates, December 23, 2004.
- Affidavit on behalf of various affiliates of Black Hills Corporation, before the Federal Energy Regulatory Commission in Docket No. ER-00-1952-000 *et al.*, applying the Commission's new pivotal supplier and wholesale market share screens to Black Hills' affiliates, December 23, 2004.
- Affidavit on behalf of Minnesota Power Company, before the Federal Energy Regulatory Commission in Docket No. ER01-2636-001, applying the Commission's new pivotal supplier and wholesale market share screens to Minnesota Power and its affiliates, November 9, 2004.
- Affidavit on behalf of Oasis Power Partners, LLC, before the Federal Energy Regulatory Commission in Docket No. ER05-41-000, applying the Commission's new screens for market-based rate authority to enXco, the owner of OASIS, October 12, 2004.
- Affidavit on behalf of Idaho Power Company, before the Federal Energy Regulatory Commission in Docket No. ER97-1481-003, applying the Commission's new pivotal supplier and wholesale market share screens to Idaho Power Company, September 27, 2004.
- Affidavit on behalf of Alliant Energy Corporate Services, Inc., before the Federal Energy Regulatory Commission in Docket No. ER99-230-002, applying the Commission's new pivotal supplier and wholesale market share screens to Alliant Energy, August 20, 2004.
- Affidavit on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. ER96-2495-018 *et al.*, concerning the application of the Commission's new screens for determining the appropriateness of market-based rate authority to Southern Company, August 9, 2004.
- Affidavit on behalf of Fulton Cogeneration Associates, L.P. and Rensselaer Plant Holdco, L.L.C., before the Federal Energy Regulatory Commission in Docket No. ER04-1044-000, ER04-1045-000 and ER04-1046-000, applying FERC's new screens for determining the appropriateness of market-based rate authority, July 28, 2004.
- Rebuttal Testimony on behalf of Ameren Corporation, before the Illinois Commerce Commission in Docket No. 04-0294, concerning issues raised by Ameren's acquisition of Illinois Power Company, July 23, 2004.

- Direct Testimony on behalf of Ameren Energy Marketing Company and Central Illinois Public Service Company d/b/a AmerenCIPS, before the Federal Energy Regulatory Commission in Docket No. ER04-1001, concerning competitive issues raised by the two year extension of a power supply agreement between AEM and AmerenCIPS, July 9, 2004.
- Affidavit on behalf of Constellation Generation Group, before the New York State Public Service Commission in Case No. 04-E-0630, concerning competitive issues raised by Constellation's proposed acquisition of an interest in the Flat Rock Wind Project currently in development, May 27, 2004.
- Additional Affidavit on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. PL02-8-000 *et al.*, addressing the new market power screens and mitigation rules contained in the Commission's April 14, 2004 Order on Rehearing (107 FERC ¶ 61,018), May 14, 2004.
- Affidavit on behalf of Interstate Power and Light Company, before the Federal Energy Regulatory Commission in Docket No. EC04-61-000, concerning competitive issues raised by IPL's acquisition of an additional interest in the George Neal Generating Station Unit 4, April 26, 2004.
- Direct Testimony on behalf of Ameren Corporation and Dynegy, Inc., before the Federal Energy Regulatory Commission in Docket No. EC04-81-000, concerning competitive issues raised by Ameren's proposed acquisition of Illinois Power Company, March 25, 2004.
- Affidavit on behalf of Constellation Energy Group and Rochester Gas and Electric Corporation, before the Federal Energy Regulatory Commission in Docket No. EC04-79-000, concerning competitive issues raised by Constellation's proposed acquisition of the R.E. Ginna Nuclear Generating Station from Rochester Gas and Electric Corporation, March 23, 2004.
- Affidavit on behalf of Constellation Energy Group and Rochester Gas and Electric Corporation, before the New York State Public Service Commission in Case No. 03-E-1231, concerning competitive issues raised by Constellation's proposed acquisition of the R.E. Ginna Nuclear Generating Station from Rochester Gas and Electric, February 2, 2004.
- Rebuttal Testimony on behalf of Southern Power Company, before the Federal Energy Regulatory Commission in Docket No. ER03-713-000 *et al.*, responding to claims of intervenor witnesses that Southern Power Company's long-term power sales to its Georgia Power Company and Savannah Electric and Power Company affiliates, among other things, represent "affiliate abuse," embody cross-subsidization, are a result of improper advantages and otherwise adversely affect wholesale competition, and rejecting intervenor's proposed recommendations as anti-competitive, designed to reward inefficient competitors and likely to increase customers' costs, January 31, 2004.
- Second Affidavit on behalf of Ameren Energy, Inc. and other affiliates of Ameren Corporation, before the Federal Energy Regulatory Commission in Docket No. ER01-294 *et al.*, responding to intervenor arguments concerning the manner in which the Commission's SMA test should be applied to Ameren, January 15, 2004.
- Affidavit on behalf of various affiliates of Southern Company, before the Federal Energy Regulatory Commission in Docket No. PL02-8-000 *et al.*, addressing alternatives to the SMA and proposed market power mitigation as contained in the Commission's Staff Paper, January 6, 2004.

- Affidavit on behalf of Public Utility Subsidiaries of FirstEnergy Corp., before the Federal Energy Regulatory Commission in Docket No. ER-04-363, concerning the appropriateness of market based rate authority for the Public Utility Subsidiaries of FirstEnergy Corp., December 31, 2003.
- Affidavit on behalf of Ameren Energy, Inc. and other affiliates of Ameren Corporation, before the Federal Energy Regulatory Commission in Docket No. ER00-2687 *et al.*, concerning the appropriateness of market based rate authority for affiliates of Ameren Corporation, December 10, 2003.
- Affidavit on behalf of Idaho Power Company, before the Federal Energy Regulatory Commission in Docket No. ER97-1481-003, applying the Commission's SMA test to Idaho Power Company and its affiliates, October 9, 2003.
- Rebuttal Testimony on behalf of Ameren Energy Generating Company and Union Electric Company d/b/a AmerenUE, before the Federal Regulatory Commission in Docket No. EC03-53-000, rebutting intervenor claims that AmerenUE's purchase of generating units from its AEGC affiliate would create competitive concerns, October 6, 2003.
- Direct Testimony on behalf of Southern Power Company, before the Federal Energy Regulatory Commission in Docket No. ER03-713-000 *et al.*, concerning competitive issues raised by long-term power sales agreements between Southern Power and its Georgia Power Company and Savannah Electric and Power Company affiliates, September 22, 2003.
- Third Affidavit on behalf of Alliant Energy Services, Inc., before the Federal Energy Regulatory Commission in Docket Nos. ER99-230-002 and ER03-762-000, applying the Commission's SMA test to various control area markets, August 15, 2003.
- Affidavit on behalf of The Connecticut Light and Power Company (CL&P), before the Federal Energy Regulatory Commission in Docket Nos. EL03-123-000 and EL03-134-000, concerning incentive and public interest considerations associated with NRG Energy's attempt to discontinue standard offer service to CL&P, July 18, 2003.
- Direct Testimony on behalf of Ameren Energy Generating Company and Union Electric Company d/b/a AmerenUE, before the Federal Energy Regulatory Commission in Docket No. EC03-53-000, concerning competitive issues raised by AEGC's proposed sale of two affiliated merchant generating stations to AmerenUE, June 10, 2003.
- Affidavit on behalf of DTE East China, LLC, before the Federal Energy Regulatory Commission in Docket No. ER03-931-000, concerning the appropriateness of market based rate authority for DTE East China, an affiliate of Detroit Edison Company, June 5, 2003.
- Testimony on behalf of Detroit Edison Company, before the Michigan Public Service Commission in Case No. U-13797, addressing market power issues raised by restructuring legislation in Michigan, May 29, 2003.
- Testimony on behalf of the PJM Transmission Owners, before the Federal Energy Regulatory Commission in Docket No. ER03-738-000, concerning the appropriate equity return and depreciation lives for new transmission assets constructed by transmission owners pursuant to a regional transmission expansion plan, April 11, 2003.

- Affidavit on behalf of Baltimore Gas & Electric and various of its affiliates, before the Federal Energy Regulatory Commission in Dockets No. ER99-2948-002 *et al.*, concerning application of the Commission’s SMA test to those entities, March 28, 2003.
- Affidavit on behalf of Ameren Energy Generating Company and Union Electric Company d/b/a AmerenUE, before the Federal Energy Regulatory Commission in Docket No. EC03-53-000, concerning competitive issues raised by the proposed transfer of certain generating facilities from Ameren Energy Generating Company to AmerenUE, March 13, 2003.
- Rebuttal Testimony on behalf of Public Service Electric and Gas Company, before the Federal Energy Regulatory Commission in Docket No. EL02-23-000 (Phase II), concerning financial responsibility for redispatch costs and market power issues associated with certain transmission agreements between Public Service Electric and Gas Company and Consolidated Edison Company, February 20, 2003.
- Testimony on behalf of FirstEnergy Corp and its operating company affiliates The Cleveland Electric Illuminating Company, The Toledo Edison Company, and Ohio Edison Company, before the Public Utilities Commission of Ohio in Case No. 02-1944-EL-CSS, concerning the terms and conditions under which the operating companies should purchase the accounts receivables of competitive retail electric service providers, February 19, 2003.
- Affidavit on behalf of Detroit Edison and various of its affiliates, before the Federal Energy Regulatory Commission in Docket No. ER97-324-004 *et al.*, applying the Commission’s SMA test to those entities, January 31, 2003.
- Rebuttal testimony on behalf of certain “Classic” PJM Transmission Owners, before the Federal Energy Regulatory Commission in Docket No. EL-02-111-000, concerning the appropriateness of “seams” charges for transmission service between the MISO and PJM regions, December 10, 2002.
- Affidavit on behalf of various affiliates of Black Hills Corporation, before the Federal Energy Regulatory Commission in Docket No. ER00-3109 *et al.*, concerning application of the Commission’s SMA test to those affiliates, November 25, 2002.
- Direct testimony on behalf of certain “Classic” PJM Transmission Owners, before the Federal Energy Regulatory Commission in Docket No. EL-02-111-000, concerning the appropriateness of “seams” charges for transmission service between the MISO and PJM regions, November 14, 2002.
- Affidavit on behalf of Southern Company Services, Inc., before the Federal Energy Regulatory Commission in Docket No. PL02-8, Conference on Supply Margin Assessment, assessing the Commission’s proposed SMA market screen and accompanying market power mitigation measures, October 22, 2002.
- Second affidavit on behalf of Garnet Energy LLC, before the Federal Energy Regulatory Commission in Docket No. ER02-1190-000, responding to intervenor claims about the proper method for applying the Commission’s application for market pricing authority, August 2002.
- Direct Testimony on behalf of Ameren Services Company, before the Federal Energy Regulatory Commission in Docket No. EC02-96-000, concerning competitive issues raised by Ameren’s proposed acquisition of Central Illinois Lighting Company, July 19, 2002.

- Affidavit on behalf of Garnet Energy LLC, before the Federal Energy Regulatory Commission in Docket No. ER02-1119-000, concerning the application of the Commission's SMA test to Garnet, an affiliate of Idaho Power Company, July 11, 2002.
- Testimony on behalf of Public Service Electric and Gas Company, before the Federal Energy Regulatory Commission in Docket No. EL-02-23-000, concerning vertical market power issues associated with certain transmission agreements between Public Service Electric and Gas Company and Consolidated Edison Company, July 1, 2002.
- Affidavit on behalf of applicants Wisvest Corporation, Wisvest-Connecticut, LLC and PSEG Fossil LLC, before the Federal Energy Regulatory Commission in Docket Nos. EC02-87-002, ER02-2204-000 and ER99-967-002, concerning competitive issues presented by PSEG Fossil's proposed acquisition of Wisvest-Connecticut, June 28, 2002.
- Direct testimony on behalf of Ameren Corporation, before the Illinois Commerce Commission in Docket No. 02-0428, concerning competitive issues raised by Ameren's proposed acquisition of Central Illinois Lighting Company, June 19, 2002.
- Rebuttal testimony on behalf of PSEG Power in New York Public Service Commission Case No. 02-M-0132, responding to intervenor concerns about alleged horizontal and vertical market power problems arising from PSEG's construction of the Cross Hudson Project, May 2002.
- Affidavit on behalf of Southern Company Services, Inc., before the Federal Energy Regulatory Commission in Docket No. ER96-780-005, describing appropriate procedures for triennial market pricing update and addressing whether Southern Company Services, Inc. has market power in wholesale electricity markets, April 30, 2002.
- Direct testimony on behalf of PSEG Power, before New York Public Service Commission in Case No. 02-M-0132, concerning market power implications of the application of PSEG Power to construct an approximately eight mile radial connection between Bergen Generating Station in New Jersey and Consolidated Edison Company's West 49<sup>th</sup> Street Substation in New York City, April 26, 2002.
- Expert report on behalf of Virginia Electric and Power Company in Virginia Electric and Power Company v. International Paper Company, Civil Action No. 2:01cv703, United States District Court, Eastern District of Virginia, Norfolk Division, concerning damages issues associated with terminated NUG contract, March 21, 2002.
- Affidavit on behalf of Crete Energy Venture, LLC, before the Federal Energy Regulatory Commission in Docket No. ER02-963, concerning application of the Commission's SMA test to a joint venture of Entergy and DTE, February 4, 2002.
- Second Affidavit on behalf of Alliant Energy Service, Inc., before the Federal Energy Regulatory Commission in Docket No. ER99-230-002, concerning appropriate computational procedures and data sources for applying the Commission's SMA test, January 24, 2002.
- Affidavit on behalf of Rainy River Energy Corporation-Taconite Harbor, before the Federal Energy Regulatory Commission in Docket No. ER02-124-000, applying the Supply Margin Assessment test to Minnesota Power and its affiliates, January 7, 2002.

- Affidavit on behalf of Alliant Energy Services, Inc., before the Federal Energy Regulatory Commission in Docket No. ER99-230-002, applying the Supply Margin Assessment test to Alliant Energy Corporation to determine whether mitigation is required for affiliates of Alliant with market pricing authority under the procedures recently promulgated by the Commission, December 18, 2001.
- Affidavit on behalf of Southern Company Services, Inc., before the Federal Energy Regulatory Commission in Docket Nos. ER96-2495-015, ER97-4143-003, ER97-1238-010, ER98-2075-009, ER 98-542-005 and ER91-569-009, addressing the economic underpinnings of the Commission's SMA test, including its usefulness as a market power screening device, as well as the appropriateness of the mitigation measures that the Commission has ordered, December 14, 2001.
- Affidavit on behalf of Rainy River Energy Corporation – Wisconsin, before the Public Service Commission of Wisconsin in Docket No. 05-CE-128, providing a market power screen analysis to support Rainy River's application to the Wisconsin Public Service Commission to construct, own and operate the Superior project, December 3, 2001.
- Affidavit on behalf of Attala Energy Company, LLC, before the Federal Energy Regulatory Commission in Docket No. ER02-40-000, providing a Supply Margin Assessment, consistent with proposed FERC rules, for its generation, November 5, 2001.
- Prepared Rebuttal Testimony on behalf of Appalachian Power Company d/b/a American Electric Power, before the State Corporation Commission of Virginia in SCC Case No. PUE010011, concerning AEP's corporate separation plan, October 5, 2001.
- Affidavit on behalf of Southern Company Services, Inc., before the Federal Energy Regulatory Commission in Docket No. RM01-8-000, concerning potential competitive harms that could result if commercially sensitive transaction data are made available to the public, October 5, 2001.
- Affidavit on behalf of PSEG Lawrenceburg, before the Federal Energy Regulatory Commission in Docket No. ER01-01-2460, concerning market power issues associated with construction of new generation facilities, June 27, 2001.
- Affidavit on behalf of PSEG Waterford Energy Company, before the Federal Energy Regulatory Commission in Docket No. ER-01-2482, concerning market power issues associated with construction of new generation facilities, June 27, 2001.
- Prepared Rebuttal Testimony on behalf of Applicants FirstEnergy and Jersey Central Power & Light, before the New Jersey Board of Public Utilities in BPU Docket No. EM00110870 and OAL Docket No. PUCOT01585-01N, responding to allegations about defects in the competitive analysis of the proposed FirstEnergy-GPU merger, April 23, 2001.
- Affidavit on behalf of Nine Mile Point Nuclear Station, LLC, before the Federal Energy Regulatory Commission in Docket No. ER01-1654-000, concerning market based pricing by Nine Mile Point Nuclear Station, LLC, March 30, 2001.

- Affidavit on behalf of Niagara Mohawk Power Corporation, New York State Electric & Gas Corporation, Rochester Gas and Electric Corporation, Central Hudson Gas & Electric Corporation and Nine Mile Point Nuclear Station, LLC, before the Federal Energy Regulatory Commission in Docket No. EC01-75-000, concerning competitive issues raised by the proposed acquisition of the Nine Mile Point 1 nuclear unit and a portion of Nine Mile Point 2 nuclear unit by an affiliate of Constellation Energy Group, February 28, 2001.
- Affidavit on behalf of Constellation Energy Group *et al.*, before the Federal Energy Regulatory Commission in Docket Nos. EC01-50-000 and ER01-824-000, concerning market based pricing by affiliates of Constellation Energy Group, December 28, 2000.
- Prepared Direct Testimony on behalf of FirstEnergy and GPU, Inc., before the Federal Energy Regulatory Commission in Docket No. EC01-22-000, concerning competitive issues raised by the proposed merger of FirstEnergy and GPU, November 9, 2000.
- Prepared Direct Testimony on behalf of FirstEnergy and GPU, Inc., before the Pennsylvania Public Utility Commission in Application Docket No. A-110300F0095 *et al.*, concerning competitive issues raised by the proposed merger of FirstEnergy and GPU, November 9, 2000.
- Prepared Direct Testimony on behalf of FirstEnergy and GPU, Inc., before the Board of Public Utilities of the State of New Jersey in Docket No. EM00110870, concerning competitive issues raised by the proposed merger of FirstEnergy and GPU, November 9, 2000.
- Deposition in the matter of Illinois Power Company and Illinova Corporation v. Wegman Electric Company *et al.*, No. 98-L-280, Circuit Court of the third Circuit of Illinois, Madison County, concerning damages from having electric generating stations out of service, October 17, 2000.
- Affidavit and Declaration on behalf of Alabama Power Company, before the Environmental Protection Agency in FOIA RIN 003111-99, concerning appropriateness of protecting certain competitively valuable documents from public release, October 13, 2000.
- Affidavit on behalf of Northeast Utilities Service Company and Select Energy, Inc., before the Federal Energy Regulatory Commission in Docket No. EL00-102-000, concerning the cost of providing ICAP to New England capacity market, September 25, 2000.
- Affidavit on behalf of Ameren Energy, Inc., before the Federal Energy Regulatory Commission in Docket Nos. ER97-3664 and ER00-2687-000, concerning market based pricing of wholesale electricity by Ameren, September 22, 2000.
- Affidavit on behalf of Alabama Power Company, before the Federal Communications Commission in P.A. No. 00-003, concerning appropriateness of protecting certain competitively sensitive information from public release, September 6, 2000.
- Affidavit on behalf of Gulf Power Company, before the Federal Communications Commission in P.A. No. 00-004, concerning appropriateness of protecting certain competitively sensitive information from public release, September 6, 2000.
- Affidavit on behalf of Southern Company and Southern Energy, Inc., before the Federal Energy Regulatory Commission in Docket No. EC00-121-000, concerning whether the proposed spin-off of Southern Energy, Inc. would create competitive concerns, August 15, 2000.



- Affidavit on behalf of Northeast Utilities Service Company, before the Federal Energy Regulatory Commission in Docket Nos. EL00-62-001 and ER00-2052-002, concerning proposed termination of ICAP market and proposed mitigation of ICAP prices, May 30, 2000.
- Prepared Rebuttal Testimony on behalf of Detroit Edison Company, before the Michigan Public Service Commission in Case No. U-12134, concerning the design of a code of conduct for implementing retail customer choice, March 21, 2000.
- Affidavit on behalf of Split Rock Energy LLC, before the Federal Energy Regulatory Commission in Docket No. ER00-1857-000, concerning Split Rock LLC's application for market based pricing authority, March 10, 2000.
- Affidavit on behalf of Baltimore Gas and Electric Company, Calvert Cliffs, Inc., Constellation Enterprises, Inc. and Constellation Generation, Inc., before the Federal Energy Regulatory Commission in Docket No. EC00-57-000 and on behalf of Baltimore Gas and Electric Company, Calvert Cliffs, Inc., Constellation Generation, Inc., and Constellation Power Source, Inc., before the Federal Energy Regulatory Commission in Docket No. ER00-1598-000, concerning the application of Calvert Cliffs, Inc. and Constellation Generation, Inc. for market based pricing authority, February 11, 2000.
- Deposition in the matter of Cleveland Thermal Energy Company v. Cleveland Electric Illuminating Company, Case No. 1: 97 CV 3023, United States District Court, Northern District of Ohio, Eastern Division, concerning competitive issues and damages, October 15, December 7 and December 8, 1999.
- Supplemental Expert Report on behalf of Cleveland Electric Illuminating Company in Cleveland Thermal Energy Corp. v. Cleveland Electric Illuminating Company, Case No. 1: 97 CV 3023, United States District Court, Northern District of Ohio, Eastern Division, concerning damages issues, December 1, 1999.
- Expert Report on Behalf of Cleveland Electric Illuminating Company in Cleveland Thermal Energy Corp. v. Cleveland Electric Illuminating Company, Case No. 1: 97 CV 3023, United States District Court Northern District of Ohio, Eastern Division, concerning allegations that a clause giving Cleveland Electric Illuminating Company the right to purchase electricity at avoided costs from a cogeneration plant that Cleveland Thermal Energy Corp. would have constructed was anticompetitive and an unreasonable restraint of trade, and computing damages, September 27, 1999.
- Deposition in the matter of Florida Municipal Power Agency v. Florida Power & Light Company, Case No. 92-35-CIV-ORL22C, United States District Court, Middle District of Florida, Orlando Division, concerning damages and market issues, August 31, 1999.
- Expert Report on Behalf of Florida Power & Light Company in Florida Municipal Agency v. Florida Power & Light Company in Case No. 92-35-CIV-ORL22C, United States District Court, Middle District of Florida, Orlando Division, concerning damages and market issues, August 26, 1999.
- Affidavit on behalf of AmerGen Energy Company, before the Federal Energy Regulatory Commission in Docket Nos. EC99-104-000 and ER99-754-001, concerning AmerGen's proposed acquisition of the Clinton nuclear unit, August 1999.

- Affidavit on behalf of AmerGen Energy Company, before the Federal Energy Regulatory Commission in Docket Nos. EC99-98-000 and ER99-754-002, concerning AmerGen's proposed acquisition of the Nine Mile Point 1 nuclear unit and a portion of the Nine Mile Point 2 nuclear unit, July 1999.
- Affidavit on behalf of Minnesota Power, Inc., before the Federal Energy Regulatory Commission in Docket No. ER99-3586-000, concerning Minnesota Power's application for market based pricing authority, July 1999.
- Deposition in the matter of Allegheny Energy, Inc. v. DQE, Inc., Civ. A. No. 98-16396 (RJC), United States District Court, Western District of Pennsylvania, concerning issues relating to the value of plaintiff's generating assets, June 11, 1999.
- Affidavit on behalf of Public Service Electric and Gas Company (PSEG), before the Federal Energy Regulatory Commission in Docket No. EC99-79-000 *et al.*, concerning PSEG's request to transfer its generating assets to an affiliate, June 4, 1999.
- Expert Report on behalf of Allegheny Energy in Allegheny Energy, Inc. v. DQE, Inc. Civ. A. No. 98-16396 (RJC), United States District Court, Western District of Pennsylvania, concerning issues relating to the value of plaintiff's generating assets, May 17, 1999.
- Affidavit on behalf of Baltimore Gas & Electric (BG&E) Company, before the Federal Energy Regulatory Commission in Docket No. ER99-2948-000, concerning BG&E's application for market based pricing authority, May 13, 1999.
- Affidavit on behalf of Florida Power & Light in Florida Municipal Power Agency v. Florida Power & Light Co., Case No. 92-35-CIV-ORL-22, concerning legitimacy of Florida Power & Light's conduct, March 22, 1999.
- Affidavit on behalf of PECO Energy, before the Federal Energy Regulatory Commission in Docket No ER99-1872-000, concerning PECO's application of market based pricing authority, February 1999.
- Affidavit on behalf of Northeast Utilities, before the Federal Energy Regulatory Commission in Docket No. ER 99-1829-000, concerning Northeast Utilities application for market based pricing authority, February 1999.
- Affidavit on behalf of AmerGen Energy Company, LLC (AmerGen), before the Federal Energy Regulatory Commission in Docket Nos. EC99-11-000, EL99-13-000 and ER99-754-000, concerning (i) AmerGen's acquisition of Three Mile Island No. 1 from GPU, Inc. and (ii) AmerGen's application for market based pricing authority, November 1998.
- Affidavit on behalf of Constellation Energy Source, Inc. (CES), before the Federal Energy Regulatory Commission in Docket No. ER99-198-000, concerning CES's application for market based pricing authority, October 14, 1998.
- Affidavit on behalf of Select Energy, Inc. (Select), before the Federal Energy Regulatory Commission in Docket No. ER99-14-000, concerning Select's application for market based pricing authority, October 1, 1998.

- Rebuttal Testimony on Retail Market Power Issues on behalf of Mississippi Power Company, before the Mississippi Public Service Commission in Docket No. 96-UA-389, concerning whether Mississippi Power Company will be able to exercise market power in deregulated retail markets in Mississippi, September 11, 1998.
- Prepared Testimony and Report on Retail Market Power Issues on behalf of Mississippi Power Company, before the Mississippi Public Service Commission in Docket No. 96-UA-389, concerning whether Mississippi Power Company will be able to exercise market power in deregulated retail markets in Mississippi, August 7, 1998.
- Affidavit on behalf of Southern California Edison Company, before the Federal Energy Regulatory Commission, concerning market power issues associated with the supply of ancillary services to the California ISO, July 13, 1998.
- Prepared Rebuttal Testimony on behalf of Public Service Electric & Gas Company, with Paul Joskow, before the State of New Jersey Board of Public Utilities in Docket Nos. EX94120585Y, E097070457, E097070460, E097070463 and E097070466, responding to market power issues raised by intervenor witnesses, including in particular the role of transmission constraints in market power analyses, appropriate mitigation measures for “load pocket” situations, proper standards for granting market based pricing authority, the role of transitional mechanisms in mitigating market power concerns and the use and role of market simulations in addressing market power topics, April 13, 1998.
- Prepared Rebuttal Testimony on behalf of Atlantic City Electric Company, with Paul Joskow, before the State of New Jersey Board of Public Utilities in Docket Nos. EX94120585Y, E097070457, E094770460, E09707463 and E097070466, responding to market power issues raised by intervenor witnesses, including, in particular, the role of transmission constraints in market power analyses, appropriate mitigation measures for “load pocket” situations, proper standards for granting market based pricing authority and the use and role of market simulations in addressing market power topics, April 13, 1998.
- Prepared Additional Supplemental Direct Testimony on behalf of Ohio Edison and Centerior Energy, before the Federal Energy Regulatory Commission in Docket No. EC97-5-000, concerning the competitive analyses associated with Ohio Edison’s merger with Centerior Energy, August 8, 1997.
- Prepared Testimony on behalf of Public Service Electric and Gas Company on Market Power Issues, with Paul Joskow, before State of New Jersey Board of Public Utilities, concerning market power issues associated with PSEG’s proposal to implement retail customer choice in its competitive filings in New Jersey, July 30, 1997.
- Affidavit on behalf of Union Electric Development Corporation, before the Federal Energy Regulatory Commission in Docket No. ER97-3663-000, concerning Union Electric Development Corporation’s request for the right to make wholesale bulk power sales at market-determined prices, July 8, 1997.
- Affidavit on behalf of Union Electric Company, before the Federal Energy Regulatory Commission in Docket No. ER97-3664-000, concerning Union Electric’s request for the right to make wholesale bulk power sales at market-determined prices, July 8, 1997.

- Rebuttal Testimony on Reopening on behalf of Union Electric Company and Central Illinois Public Service Company, before the Illinois Commerce Commission in Docket No. 95-0551, addressing competitive issues raised by witnesses for intervenors and the staff of the ICC in response to previous testimony, May 23, 1997.
- Rebuttal Testimony on behalf of Wisconsin Power and Light Company, Interstate Power Company and IES Industries, Inc., before the Public Service Commission of Wisconsin in Docket No. 6680-UM-100, responding to concerns raised by intervenors regarding competitive issues associated with the proposed merger of the three companies, May 20, 1997.
- Direct Testimony on Reopening on behalf of Union Electric Company and Central Illinois Public Service Company, before the Illinois Commerce Commission in Docket No. 95-0551, responding to ICC's request that applicants apply the screening analysis contained in Appendix A of the Federal Energy Regulatory Commission's Order 592 to the effects of the proposed merger on existing and future Illinois retail markets, April 14, 1997.
- Prepared Rebuttal Testimony on behalf of IES Utilities, Inc., Interstate Power Company, Wisconsin Power & Light Company, South Beloit Water, Gas & Electric Company, Heartland Energy Services and Industrial Energy Applications, Inc., before the Federal Energy Regulatory Commission in Docket No. EC96-13-000, responding to issues raised by intervenors concerning the proposed merger and the application of the screening analysis contained in Appendix A of FERC's Order 592, April 14, 1997.
- Affidavit on behalf of Constellation Power Source, Inc., before the Federal Energy Regulatory Commission in Docket No. ER97-2261-000, concerning Constellation's request for the right to make wholesale bulk power sales at market-determined prices, March 25, 1997.
- Prepared Supplemental Direct Testimony on behalf of Ohio Edison Company, Pennsylvania Power Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company, before the Federal Energy Regulatory Commission in Docket No. EC97-5-000, concerning the application of the screening analysis contained in Appendix A of FERC's Order 592 to the applicants' proposed merger, March 20, 1997.
- Prepared Additional Direct Testimony on behalf of IES Utilities, Inc., Interstate Power Company, Wisconsin Power & Light Company, South Beloit Water, Gas & Electric Company, Heartland Energy Services and Industrial Energy Applications, Inc., before the Federal Energy Regulatory Commission in Docket No. EC96-13-000, concerning the application of the screening analysis contained in Appendix A of FERC's Order 592 to the applicants' proposed merger, February 27, 1997.
- Prepared Rebuttal Testimony on behalf of Union Electric Company and Central Illinois Public Service Company, before the Federal Energy Regulatory Commission in Docket No. EC96-7-000 *et al.*, addressing competitive issues related to the proposed merger of Union Electric Company and Central Illinois Public Service Company, January 13, 1997.
- Affidavit on behalf of Union Electric Company and Central Illinois Public Service Company, before the Federal Energy Regulatory Commission in Docket No. EC96-7-000 *et al.*, concerning the effect of the FERC's Policy Statement on mergers (Order No. 592) on the proposed merger of Union Electric Company and Central Illinois Public Service Company, January 13, 1997.

- Prepared Supplemental Direct Testimony on behalf of Union Electric Company and Central Illinois Public Service Company, before the Federal Energy Regulatory Commission in Docket No. EC96-7-000 *et al.*, concerning the effects of transmission constraints on the potential to exercise market power as a result of the proposed merger of Union Electric and Central Illinois Public Service Company, November 15, 1996.
- Direct Testimony on behalf of Ohio Edison Company and Centerior, before the Federal Energy Regulatory Commission in Docket No. EC97-5-000, concerning the effect of the proposed merger of Ohio Edison and Centerior on market power and competition, November 8, 1996.
- Prepared Direct Testimony on behalf of Union Electric Company, before the Missouri Public Service Commission in Case No. EM-96-149, concerning the effects on various market power concerns of the proposed merger between Union Electric Company and Central Illinois Public Service Company, November 1, 1996.
- Testimony on behalf of Virginia Electric and Power Company in the matter of Gordonsville Energy, L.P. v. Virginia Electric and Power Company, before the Circuit Court of the City of Richmond, Case No. LA-2266-4, concerning damages suffered by VEPCO as a result of a NUG outage, and the appropriateness of a liquidated damages provision in the contract between VEPCO and the NUG, October 23, 1996.
- Prepared Direct Testimony on behalf of Southern Company Services, Inc., before the Federal Energy Regulatory Commission in Docket No. ER96-780-000, concerning whether constraints on the Florida/Southern interface give Southern the ability to exercise market power, September 23, 1996.
- Deposition in the matter of Gordonsville Energy, L.P. v. Virginia Electric and Power Company, before the Circuit Court of the City of Richmond, Case No. LA-2266-4, concerning damages suffered by VEPCO as a result of a NUG outage, September 17, 1996.
- Prepared Rebuttal Testimony on behalf of Public Service Company of New Mexico, before the Federal Energy Regulatory Commission in Docket No. ER95-1800-000 *et al.*, addressing market power issues raised by intervenors in response to previous testimony, August 30, 1996.
- Prepared Testimony on behalf of Public Service Company of New Mexico, before the Federal Energy Regulatory Commission in Docket No. ER96-1551-000, concerning whether PNM possesses market power in transmission-constrained areas, July 10, 1996.
- Affidavit on behalf of Central Louisiana Electric Company, before the Federal Energy Regulatory Commission in Docket No. ER96-2677-000, concerning CLECO's request for the right to make wholesale bulk power sales at market-determined prices, July 9, 1996.
- Supplemental Direct Testimony on behalf of IES Utilities, Inc., Interstate Power Company, Wisconsin Power & Light Company, South Beloit Water, Gas & Electric Company, Heartland Energy Services and Industrial Energy Applications, Inc., before the Federal Energy Regulatory Commission in Docket No. EC96-13-000, examining the effects of the proposed formation of a regional Independent System Operator on the analyses and conclusions contained in previous testimony in support of the companies' proposed merger, June 5, 1996.

- Prepared Testimony on behalf of Minnesota Power & Light Company, before the Federal Energy Regulatory Commission in Docket No. EC95-16-000, concerning Minnesota Power & Light's request for the right to make wholesale bulk power sales at market-determined prices, May 16, 1996.
- Prepared Rebuttal Testimony on behalf of IES Industries, Inc., Interstate Power Company and WPL Holdings, Inc., before the Iowa Utilities Board in Docket No. SPU-96-6, addressing market power and competition issues raised by intervenors in response to previous merger testimony, April 22, 1996.
- Prepared Direct Testimony on behalf of IES Utilities, Inc., Interstate Power Company, Wisconsin Power & Light Company, South Beloit Water, Gas & Electric Company, Heartland Energy Services and Industrial Energy Applications, Inc., before the Federal Energy Regulatory Commission in Docket No. EC96-13-000, concerning the effects of their proposed merger on market power and competition, February 29, 1996.
- Deposition in the matter of Westmoreland-LG&E Partners v. Virginia Electric and Power Company, Case No. LX-2859-1, concerning interpretation of capacity payment provisions in power purchase agreement under which Westmoreland-LG&E sells output of non-utility generator to VEPCO, February 23, 1996 and October 9, 1998.
- Prepared Testimony on behalf of Union Electric Company and Central Illinois Public Service Company, before the Federal Energy Regulatory Commission in Docket Nos. EC96-7-000 and ER96-679-000, concerning the effects of their proposed merger on market power and competition, December 22, 1995.
- Prepared Testimony on behalf of Northeast Utilities, before the Federal Energy Regulatory Commission in Docket No. ER95-1686-000, concerning FERC's generation dominance standard in support of Northeast Utilities' request for market-based pricing authority, November 13, 1995.
- Sur-reply affidavit on behalf of Rochester Gas & Electric, before the U.S. District Court, Western District of New York, in Kamine/Besicorp Allegheny L.P. v. Rochester Gas & Electric Corporation, Case No. 95-CIV-6045L, in response to motion by Kamine/Besicorp Allegheny L.P. for a preliminary injunction, July 10, 1995.
- Prepared Supplemental Rebuttal Testimony on Transmission NOPR Issues on behalf of Florida Power & Light Company, before the Federal Energy Regulatory Commission in Docket No. ER93-465-000 *et al.*, addressing transmission NOPR issues raised by FERC Staff and Intervenors, May 19, 1995.
- Prepared Direct Testimony on Transmission NOPR Issues on behalf of Florida Power & Light, before the Federal Energy Regulatory Commission in Docket No. ER93-465-000 *et al.*, concerning the effects of FERC's recent Notice of Proposed Rulemaking on issues in FPL's ongoing case, April 25, 1995.
- Affidavit on behalf of Rochester Gas & Electric, before the U.S. District Court, Western District of New York, in Kamine/Besicorp Allegheny L.P. v. Rochester Gas & Electric Corporation, Case No. 95-CIV-6045L, in support of its opposition to a request by Kamine/Besicorp Allegheny L.P. for a temporary restraining order, March 9, 1995.

- Testimony on behalf of Virginia Power, before the Circuit Court of the City of Richmond in Case No. LW-730-4, *Doswell Limited Partnership v. Virginia Electric Power Company*, concerning the level of fixed gas transportation costs associated with the proxy unit which forms the basis for VEPCO's payments to Doswell, March 2, 1995.
- Prepared Rebuttal Testimony on behalf of American Electric Power Service Corporation, before the Federal Energy Regulatory Commission in Docket No. ER93-540-001, addressing issues concerning FERC's new comparability standard and its implications for AEP's transmission service offerings, January 17, 1995.
- Deposition on behalf of El Paso Electric Company and Central and South West Services, Inc., before the Federal Energy Regulatory Commission in Docket Nos. EC94-7-000 and ER94-898-000, concerning comparability and other transmission issues, December 22, 1994.
- Prepared Rebuttal Testimony on behalf of Florida Power & Light Company, before the Federal Energy Regulatory Commission in Docket No. ER93-465-000 *et al.*, concerning market power and competitive issues, comparability and other transmission issues, wholesale electric service tariff revisions, and issues concerning interchange contract revisions, December 16, 1994.
- Prepared Rebuttal Testimony on behalf of El Paso Electric Company and Central and South West Services, Inc., before the Federal Energy Regulatory Commission in Docket Nos. EC94-7-000 and ER94-898-000, concerning network transmission service and point-to-point transmission service, December 12, 1994.
- Prepared Direct Testimony on behalf of Midwest Power Systems, Inc. and Iowa-Illinois Gas and Electric Company, before the Federal Energy Regulatory Commission in Docket No. EC95-4-000, concerning competitive issues raised by their proposed merger to form MidAmerican Energy Company, November 10, 1994.
- Deposition on behalf of Florida Power Corporation in *Orlando Cogen, Inc. et al., v. Florida Power Corporation*, Case No. 94-303-CIV-ORL-18, US District Court in and for the Middle District of Florida, Orlando Division, involving a contract dispute between FPC and one of its NUG suppliers, August 30, 1994.
- Prepared Direct Testimony on Comparability Issues on behalf of Florida Power & Light Company in *Florida Power & Light Company*, before the Federal Energy Regulatory Commission in Docket Nos. ER93-465-000 and ER93-922-000, concerning a discussion of the differences between types of transmission services, usage of transmission systems by their owners, transmission services that FPL provides, and how those services compare and contrast with FPL's own uses of the transmission system, August 5, 1994.
- Prepared Answering Testimony on behalf of Florida Power & Light Company, before the Federal Energy Regulatory Commission in Docket Nos. ER93-465-000 and ER93-922-000, concerning (i) whether municipal systems should receive billing credits for certain transmission facilities which they own which were argued to be part of an "integrated" transmission grid, and (ii) FPL's obligation to sell wholesale power under its Nuclear Regulatory Commission antitrust license conditions, July 7, 1994.
- Deposition on behalf of Virginia Electric & Power Co. in re: *Doswell Limited Partnership v. Virginia Electric & Power Co.*, Case No. LW-730-4, Circuit Court for the City of Richmond, involving an alleged fraud and breach of contract relating to payments by VEPCO to one of its NUG suppliers, April 5, 1994.

- Prepared Final Rebuttal Testimony on behalf of Central Louisiana Electric Company, before the Federal Energy Regulatory Commission in Docket No. ER93-498-000, examining an allegation of predatory pricing, March 16, 1994.
- Prepared Rebuttal Testimony on behalf of Central Louisiana Electric Company, before the Federal Energy Regulatory Commission in Docket No. ER93-498-000, examining an allegation of a municipal joint action agency that Central Louisiana's contract to provide bulk power service to a new municipal system customer constituted predatory pricing, December 23, 1993.
- "Comments on the Commerce Commission's Draft Determination Concerning Trans Power's Proposal to Recover Fixed/Sunk Transmission Costs," testimony on competitive issues prepared at the request of The Electricity Industry Committee, New Zealand, November 30, 1993.
- Prepared Direct Testimony on behalf of Florida Power & Light Company, before the Federal Energy Regulatory Commission in Docket Nos. ER93-465-000 and ER93-922-000, concerning competitive implications of wholesale tariff revisions, interchange contract revisions and a proposed "open access" transmission tariff, November 26, 1993.
- Deposition on Behalf of Florida Power & Light in Florida Municipal Power Agency v. Florida Power & Light Co., Case No. 92-35-CIV-ORL-22, concerning damage related issues, July 21 and 22, 1993.
- Affidavit on behalf of Florida Power & Light in Florida Municipal Power Agency v. Florida Power & Light Co., Case No. 92-35-CIV-ORL-22, concerning damage related issues, July 14, 1993.
- Prepared Direct Testimony on behalf of the Detroit Edison Company In the Matter of the Application of the Association of Businesses Advocating Tariff Equity for Approval of an experimental retail wheeling tariff for Consumers Power Company, Case No. U-10143, and In the Matter on the Commission's own motion, to consider approval of an experimental retail wheeling tariff for The Detroit Edison Company, Case No. U-10176, before the Michigan Public Service Commission, March 1, 1993.
- Deposition on behalf of Florida Power & Light in Florida Municipal Power Agency vs. Florida Power & Light Company, Case No. 92-35-CIV-ORL-22, concerning relevant markets, market power and competitive issues, February 25, 1993.
- Deposition in Tucson Electric Power Company v. SCE Corporation *et al.*, Superior Court of the State California, Case No. 628170, June 19, 1992.
- Affidavit on behalf of Iowa Power Inc. and Iowa Public Service Company, before the Federal Energy Regulatory Commission, concerning the competitive effects of a merger of the two companies, 1991.
- Testimony on behalf of Defendants Union Electric and Missouri Utilities, in City of Malden, Missouri v. Union Electric Company and Missouri Utilities Company, U.S. District Court, Eastern District of Missouri, Southeastern Division, Civil Action No. 83-2533-C, 1988.
- Testimony on behalf of Defendant Union Electric, in City of Kirkwood, Missouri v. Union Electric Company, U.S. District Court, Eastern District of Missouri, Civil Action No. 86-1787-C-6 (deposition testimony), 1987.



- Testimony on behalf of Defendant Union Electric Company, in *Citizens Electric Corporation v. Union Electric Company*, U.S. District Court, Eastern District of Missouri, Eastern Division, Civil Action No. 83-2756C(c), 1986.
- Testimony on behalf of Advo-System, Inc., before the Postal Rate Commission, Docket No. R84-1, concerning rates for third class mail, 1984.
- Testimony on behalf of D/FW Signal, Inc., before the Federal Communications Commission, Docket No. CC83-945, concerning cellular telephone service in Dallas-Fort Worth, 1983.
- Testimony on behalf of the Department of Defense, before the Montana Public Service Commission, Docket No. 82.2.8, concerning telephone service rate structure, 1982.
- Testimony on behalf of Multnomah County, before the Public Utility Commissioner of Oregon, Docket UF 3565, concerning telephone service rate structure, 1980.
- Testimony on behalf of the Louisiana Consumer League, before the Louisiana Public Service Commission, Docket No. U-14078, concerning marginal cost pricing for Louisiana Power and Light Company, 1979.
- Testimony on behalf of the State of Oregon, City of Portland, and County of Multnomah, before the Public Utility Commissioner of Oregon, Dockets UF3342 and UF3343, concerning rates for Centrex and ESSX telephone service, 1978.

## **SELECTED REPORTS AND PAPERS**

- “Comments” in Federal Energy Regulatory Commission Docket No. RM04-7-000, concerning rules governing short-term transactions between generation-owning regulated electric utilities and their marketing affiliates, June 30, 2004.
- “Large RTOs and Traditional Transmission Pricing Don’t Mix,” with Michael Quinn, prepared for *The Electricity Journal*, January/February 2002.
- “Potential Adverse Consequences of Poor Transmission Pricing,” prepared for Southern Company Services, Inc., October 23, 2001.
- “An Economic Assessment of the Benefits of Repealing PUHCA,” with John Landon, Ajay Gupta and Virginia Perry-Failor, prepared for Mid-American Energy Holdings, April 2000.
- Updated Market Power Analysis for Detroit Edison Company, concerning Detroit Edison Company’s market based pricing authority, submitted to the Federal Energy Regulatory Commission, December 17, 1999.
- Report of Ameren to the Public Service Commission of Missouri on Market Power Issues, concerning whether Ameren, created by the merger of Union Electric Company and Central Illinois Public Service Company, is likely to have market power if deregulation and retail competition are introduced in Missouri, February 27, 1998.

- “Supporting Companies’ Report on Horizontal Market Power Analysis,” with Paul Joskow, concerning analysis of market power issues in connection with a proposed reorganization of the PJM Pool, July 14, 1997.
- “International Electricity Sector Investment by US Electric Utilities,” with Graham Hadley, Paul Hennemeyer and Barbara MacMullen, prepared for The Kansai Electric Power Company, Inc., March 5, 1997.
- “Report on Horizontal Market Power Issues,” with Paul Joskow, prepared for Southern California Edison Company in FERC Docket No. ER96-1663-000, May 29, 1996.
- “Recent Developments in North American Electric Generation Capacity Procurement Systems,” with Mahim Chellappa, prepared for Electricite de France (EDF), Paris, France, August 1994.
- “Comments on Transmission Reform Proposals,” report prepared for the Edison Electric Institute, October 1993.
- “Sunk Transmission Cost Recovery Issues,” report prepared for The Electricity Industry Committee, New Zealand, September 1, 1993.
- “Opportunity Cost Pricing for Electric Transmission: An Economic Assessment,” report prepared for Edison Electric Institute, June 1992.
- “Transmission Access and Pricing: What Does A Good ‘Open Access’ System Look Like,” NERA Working Paper #14, January 1992.
- “Evaluation of Qualifying Facility Proposals,” prepared for Florida Power Corporation, March 1991.
- “Design of Capacity Procurement Systems,” prepared for Electricite de France, January 1991.
- “Issues in the Design of Generating Capacity Procurement Systems,” prepared for TransAlta Utilities, January 1991.
- “Government Regulators and Market Power Issues,” prepared for Edison Electric Institute, January 1991.
- “A Critique and Evaluation of the Large Public Power Council’s Transmission Access and Pricing Proposal,” prepared for Edison Electric Institute, December 1990.
- “The Effects of a Premature Shutdown of the Trojan Nuclear Power Plant,” prepared for Portland General Electric Company, October 1990.
- “An Examination of the Proper Role for Utilities in Promoting Conservation Expenditures,” prepared for Public Service Electric and Gas Company with T. Scott Newlon, 1990.
- “Issues Concerning Selection Criteria Development for Capacity RFPs,” prepared for the Bonneville Power Administration, February 15, 1990.
- “Nonutility Generators and Bonneville Power Administration Resource Acquisition Policy,” prepared for the Bonneville Power Administration, with David L. Weitzel, January 31, 1990.

- “An Evaluation of Resource Solicitation Alternatives,” prepared for the Bonneville Power Administration, January 31, 1990.
- “Approaching the Transmission Access Debate Rationally,” Transmission Research Group Working Paper Number 1, with Joe D. Pace, November 1987.
- “The Essential Facilities Doctrine,” NERA, June 1985.
- “The Nuclear Regulatory Commission’s Antitrust Review Process: An Analysis of the Impacts,” Transcomm, Inc., prepared for the U.S. Department of Energy, 1981.
- “Competitive Aspects of Utility Involvement in Cogeneration and Solar Programs,” Transcomm, Inc., prepared for the U.S. Department of Energy, June 1981.
- “An Appraisal of Antitrust Review Extension in the Context of Small Utility Fuel Use Act Compliance,” Transcomm, Inc., prepared for the U.S. Department of Energy, July 28, 1980.
- “Analysis of Proposed License Conditions with Respect to Antitrust Deficiencies,” Transcomm, Inc., prepared for the U.S. Nuclear Regulatory Commission, 1978.
- “Analysis of NRC Staff’s Proposed License Conditions for Midland Units,” Transcomm, Inc., prepared for the U.S. Nuclear Regulatory Commission, August 7, 1978.

## **SELECTED SPEECHES**

- “Coping With Uncertainty in Power Supply Planning,” presented to the National Rural Utilities Cooperative Finance Corporation’s Independent Borrowers Executive Summit, San Diego CA, with John Landon, November 17, 2010.
- “Key Issues that Keep IOU Executives Awake at Night,” presented to the National Rural Utilities Cooperative Finance Corporation’s Independent Borrowers Executive Summit, San Diego CA, with John Landon, November 16, 2010.
- Panelist at Edison Electric Institute’s Supply Policy Task Force conference discussing various topics associated with proposed revisions to FERC’s procedures for determining when market-based as opposed to cost-based pricing is appropriate, Washington, DC, July 18, 2006.
- “Resource Acquisition and Market Power Topics: Overview of FERC’s Current and Evolving Practices,” presented to Edison Electric Institute Workshop on Market Power Policies and Current Practices at the NARUC’s Summer Committee Meetings, Salt Lake City, Utah, July 10, 2004.
- “Examining the Commission’s Recent Treatment of Market Power and Competitive Issues,” speech presented to the Edison Electric Institute Spring Legal Conference, Scottsdale, Arizona, March 29, 2004.
- Presentation on Transmission Pricing Issues to the EEI Winter Chief Executive Conference and Board of Directors Meeting, Scottsdale, AZ, January 10, 2002.
- Presentation to the Board of Directors of the Salt River Project on Code of Conduct Issues Associated with Industry Restructuring, November 9, 1998.

- “FERC’s Approach To Addressing Horizontal Market Power in Electric Mergers,” speech presented to Infocast Conference on Utility Mergers & Acquisitions, Washington, D.C., July 17, 1998.
- “Problems in Applying the Appendix A Analytical Screen,” speech presented to the Edison Electric Institute Workshop on Practical Applications of the FERC Merger Policy Guidelines, Arlington, Virginia, April 1, 1997.
- “Evolving Market Power Issues in the Context of Electric Restructuring,” speech presented to Eastern Mineral Law Foundation Forum on Natural Resources and Energy Law, Sanibel Island, Florida, February 13, 1997.
- “An Overview of Antitrust in the Electric Industry,” speech presented to Antitrust Law & Economics for the Electric Industry, sponsored by Energy Business, Inc., Washington, D.C., February 22, 1996.
- “Moving From Here to There: Some Implications for Electric Transmission,” speech presented to the Infocast Power Industry Forum, Palm Springs, California, February 17, 1995.
- “What Does ‘Comparability’ Really Mean?,” speech presented to The Federal Energy Bar Association, Washington, D.C., November 17, 1994.
- “Current Transmission Topics” and “Trans Alta’s Unbundled Rate Proposal,” presented to the Canadian Electrical Association, Montreal, PQ, Canada, May 9, 1994.
- “Retail Wheeling Issues,” speech presented to the Edison Electric Institute National Accounts Workshop, Atlanta, Georgia, February 7, 1994.
- “Retail Wheeling: Doing It the Right Way,” speech presented to the Retail Wheeling Conference, Denver, Colorado, November 8, 1993.
- “Retail Wheeling,” speech presented to the Missouri Valley Electric Association Division Conference, Kansas City, Missouri, October 22, 1993.
- “An Economic Perspective on Current Transmission Pricing Issues,” speech presented to the Edison Electric Institute 1993 Fall Legal Committee Meeting, Minneapolis, Minnesota, October 7, 1993.
- “Characteristics of a ‘Good’ Retail Wheeling System,” speech presented to the Second Annual Electricity Conference sponsored by Executive Enterprises, Inc., Washington, D.C., April 21-22, 1993.
- “Characteristics of a ‘Good’ Retail Wheeling System,” speech presented to the Electric Utility Business Environment Conference sponsored by Electric Utility Consultants, Inc., Denver, Colorado, March 16-17, 1993.
- “Change in the Industry,” seminar presentation on privatization and service unbundling presented to Ontario Hydro management and special strategy task force, Ontario, Canada, February 3, 1993.

- “The U.S. Experience and What Is To Come,” speech presented to NERA Seminar on Competition in the Regulated Industries (Electric/Telecommunications), Rye Town Hilton, Rye Town, New York, October 30, 1992.
- “Emerging Transmission Pricing Issues,” speech presented to Electric Utility Consultants, Inc.’s 3rd Annual Transmission & Wheeling Conference, Chicago, Illinois, September 22-23, 1992.
- “Emerging Transmission Pricing Issues,” speech presented to Executive Enterprises, Inc., 1992 Electricity Conference: Restructuring the Electricity Industry, Washington, D.C., September 15-16, 1992.
- “A Pragmatic Look at Open Access,” presented to DOE/NARUC Workshop on Electricity Transmission, Stockbridge, Massachusetts, June 2, 1992.
- “Some Thoughts About Open Access,” presented to EMA’s Issues and Outlook Forum, Atlanta, Georgia, May 5, 1992.
- “Transmission Access: How Should We Proceed?” speech presented to the Second Annual Transmission and Wheeling Conference, Denver, Colorado, November 21, 1991.
- “Can We Implement Reasonable Transmission Pricing and Access Procedures?” presented to the Edison Electric Institute System Planning Committee, Dallas, Texas, October 24, 1990.
- “Issues in the Design of Competitive Bidding Systems,” presented at the Pennsylvania Electric Association System Planning Meeting,” 1990.
- “Should We Use Opportunity Cost Pricing for Transmission?” presented to the Edison Electric Institute Interconnection Arrangements Committee, 1990.
- “Recent Changes in the Electric Power Industry and Pressures on the Transmission System,” presented at seminar “Competitive Electricity: Why the Debate?” Sponsored by the Electricity Consumers Resource Council, 1988.
- “Some Thoughts on New Transmission Access and Pricing Proposals,” presented at “Transmission Pricing and Access: Reinventing the Wheel” conference, sponsored by Cogeneration and Independent Power Coalition of America and American Cogeneration Association, 1988.

Market-Based Rate Authority and FERC Jurisdictional Generating Assets

MidAmerican Parties and Its Energy Affiliates	Docket # Where MBR Granted	Generation Name	Owned By	Controlled By	Date Control Transferred	Location		In-Service Date [1]	Nameplate or Seasonal Rating [2,3]
						Balancing Authority Area	Geographic Region		
Bishop Hill Energy II LLC	ER12-162	Wind	Bishop Hill Energy II LLC	Bishop Hill Energy II LLC	2012	MISO	Central	2012	81.0
CalEnergy, LLC	ER13-1266	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]	[n/a]
CE Leathers Company	ER13-1267	Leathers Geothermal	CE Leathers LP	SCE	1990	IID	Southwest	1989	42.8
CE Turbo LLC	[n/a]	CE Turbo Geothermal	CE Turbo LLC	Arizona Public Service Company	2006	IID	Southwest	2000	11.2
Cordova Energy Co. LLC	ER99-2156	Cordova Energy Center Gas	Cordova Energy Co. LLC	Exelon Generation Company, LLC	[n/a]	PJM	Northeast	2001	521.2
Del Ranch Company	ER13-1268	Del Ranch Geothermal	Del Ranch LP	Southern California Edison ("SCE")	1989	IID	Southwest	1988	42.8
Elmore Company	ER13-1269	Elmore Geothermal	Elmore LP	SCE	1989	IID	Southwest	1988	42.8
Fish Lake Power LLC	ER13-1270	Salton Sea IV Geothermal [10]	Salton Sea 4 Fish Lake Power Gen	SCE	1986	IID	Southwest	1996	42.8
Pinyon Pines Wind I, LLC	ER12-1521	Pinyon Pines Wind I	Pinyon Pines Wind I, LLC	SCE	2012	CAISO	Southwest	2012	168.0
Pinyon Pines Wind II, LLC	ER12-1522	Pinyon Pines Wind II	Pinyon Pines Wind II, LLC	SCE	2012	CAISO	Southwest	2012	132.0
Power Resources Ltd.	ER09-762	Power Resources Gas	Power Resources, Ltd.	EDF Trading North America, LLC	2009	ERCOT	Southwest	1987	227.0
Saranac Power Partners, L.P.	ER09-768	Saranac Gas	Saranac Power Partners, L.P.	Saranac Power Partners, L.P.	1994	NYISO	Northeast	1994	251.4
Salton Sea Power Generation Co.	ER13-1271	Salton Sea I Geothermal	Salton Sea Power Generation	SCE	1987	IID	Southwest	1982	10.2
Salton Sea Power Generation Co.	ER13-1271	Salton Sea II Geothermal	Salton Sea Power Generation	SCE	1990	IID	Southwest	1990	17.3
Salton Sea Power Generation Co.	ER13-1271	Salton Sea III Geothermal	Salton Sea Power Generation	SCE	1989	IID	Southwest	1989	51.0
Salton Sea Power L.L.C.	ER13-1272	Salton Sea V Geothermal	Salton Sea Power LLC	Riverside	2003	IID	Southwest	2000	46.9
Solar Star California XIX, LLC	ER13-1441	Solar Star 1	Solar Star California XIX, LLC	SCE	2014	CAISO	Southwest	2014	310.0
Solar Star California XX, LLC	ER13-1442	Solar Star 2	Solar Star California XX, LLC	SCE	2014	CAISO	Southwest	2014	276.0
Topaz Solar Farms LLC	ER12-1626	Topaz	Topaz Solar Farms LLC	Pacific Gas & Electric Company	2012	CAISO	Southwest	2013	550.0
Vulcan/BN Geothermal Power Co.	ER13-1273	Vulcan Geothermal	Vulcan/BN Geothermal Power Co.	SCE	1986	IID	Southwest	1985	38.8
Yuma Cogeneration Assoc.	ER07-1236	Yuma Gas	Yuma Cogeneration Assoc.	San Diego Gas & Electric Company	1994	APS	Southwest	1994	52.3
MidAmerican Energy Co. ("MEC")	ER96-719	Adair Wind	MEC	MEC	[n/a]	MISO	Central	2008	174.8
MEC	ER96-719	Buena Vista Wind	Mission Iowa Wind	MEC	1999	MISO	Central	1999	112.5
MEC	ER96-719	Carroll Wind	MEC	MEC	[n/a]	MISO	Central	2008	150.0
MEC	ER96-719	Century Expansion Wind	MEC	MEC	[n/a]	MISO	Central	2007	15.0
MEC	ER96-719	Century Wind	MEC	MEC	[n/a]	MISO	Central	2005	185.0
MEC	ER96-719	Charles City Wind	MEC	MEC	[n/a]	MISO	Central	2008	75.0
MEC	ER96-719	Coralville CT Gas	MEC	MEC	[n/a]	MISO	Central	1970	66.8
MEC	ER96-719	Eclipse Wind	MEC	MEC	[n/a]	MISO	Central	2012	200.1

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MEC	ER96-719	Electrifarm CT 1 Gas	MEC	MEC	[n/a]	MISO	Central	1975	55.6
MEC	ER96-719	Electrifarm CT 2 Gas	MEC	MEC	[n/a]	MISO	Central	1978	63.1
MEC	ER96-719	Electrifarm CT 3 Gas	MEC	MEC	[n/a]	MISO	Central	1978	63.8
MEC	ER96-719	Greater Des Moines Energy Center Gas	MEC	MEC	[n/a]	MISO	Central	2004	484.4
MEC	ER96-719	Intrepid Wind	MEC	MEC	[n/a]	MISO	Central	2004	175.5
MEC	ER96-719	Laurel Wind	MEC	MEC	[n/a]	MISO	Central	2011	119.6
MEC	ER96-719	Louisa Coal	MEC	MEC	[n/a]	MISO	Central	1983	656.9
MEC	ER96-719	Merle Parr CT Gas	MEC	MEC	[n/a]	MISO	Central	1969	16.7
MEC	ER96-719	Miscellaneous Diesel Oil	MEC	MEC	[n/a]	MISO	Central	2000	54.0
MEC	ER96-719	Moline CT Gas	MEC	MEC	[n/a]	MISO	Central	1970	64.0
MEC	ER96-719	Moline Hydro	MEC	MEC	[n/a]	MISO	Central	1942	3.2
MEC	ER96-719	Morninglight Wind	MEC	MEC	[n/a]	MISO	Central	2012	101.2
MEC	ER96-719	Neal 1 Coal	MEC	MEC	[n/a]	MISO	Central	1964	137.7
MEC	ER96-719	Neal 2 Coal	MEC	MEC	[n/a]	MISO	Central	1972	263.1
MEC	ER96-719	Neal 3 Coal	MEC	MEC	[n/a]	MISO	Central	1975	373.6
MEC	ER96-719	Neal 4 Coal	MEC	MEC	[n/a]	MISO	Central	1979	261.7
MEC	ER96-719	Ottumwa Coal	MEC	MEC	[n/a]	MISO	Central	1981	365.9
MEC	ER96-719	Pleasant Hill CT 1-2 Gas	MEC	MEC	[n/a]	MISO	Central	1990	76.3
MEC	ER96-719	Pleasant Hill CT 3 Gas	MEC	MEC	[n/a]	MISO	Central	1994	84.3
MEC	ER96-719	Pomeroy 1 Wind	MEC	MEC	[n/a]	MISO	Central	2007	123.0
MEC	ER96-719	Pomeroy II Wind	MEC	MEC	[n/a]	MISO	Central	2007	75.0
MEC	ER96-719	Pomeroy III Wind	MEC	MEC	[n/a]	MISO	Central	2008	58.5
MEC	ER96-719	Pomeroy IV Wind	MEC	MEC	[n/a]	MISO	Central	2011	29.9
MEC	ER96-719	Quad Cities 1-2 Nuclear	MEC	MEC	[n/a]	PJM	Northeast	1972	453.9
MEC	ER96-719	River Hills CT 1-4 Gas	MEC	MEC	[n/a]	MISO	Central	1966	58.9
MEC	ER96-719	River Hills CT 5-6 Gas	MEC	MEC	[n/a]	MISO	Central	1967	29.3
MEC	ER96-719	River Hills CT 7-8 Gas	MEC	MEC	[n/a]	MISO	Central	1968	29.2
MEC	ER96-719	Riverside 3 HS Coal	MEC	MEC	[n/a]	MISO	Central	1949	3.5
MEC	ER96-719	Riverside 5 Coal	MEC	MEC	[n/a]	MISO	Central	1961	130.3
MEC	ER96-719	Rolling Hills Wind	MEC	MEC	[n/a]	MISO	Central	2011	443.9
MEC	ER96-719	Sycamore CT 1 Gas	MEC	MEC	[n/a]	MISO	Central	1974	74.9
MEC	ER96-719	Sycamore CT 2 Gas	MEC	MEC	[n/a]	MISO	Central	1974	73.0
MEC	ER96-719	Victory Wind	MEC	MEC	[n/a]	MISO	Central	2006	99.0
MEC	ER96-719	Vienna Wind	MEC	MEC	[n/a]	MISO	Central	2012	105.6
MEC	ER96-719	Walnut Wind	MEC	MEC	[n/a]	MISO	Central	2008	153.0
MEC	ER96-719	Walter Scott 1 Coal	MEC	MEC	[n/a]	MISO	Central	1954	38.6
MEC	ER96-719	Walter Scott 2 Coal	MEC	MEC	[n/a]	MISO	Central	1958	80.7
MEC	ER96-719	Walter Scott 3 Coal	MEC	MEC	[n/a]	MISO	Central	1978	564.2
MEC	ER96-719	Walter Scott 4 Coal	MEC	MEC	[n/a]	MISO	Central	2007	480.4
Nevada Power Company ("NPC")	ER01-1529	Chuck Lenzie 1	NPC	NPC	[n/a]	NEVP	Northwest	2005	733
NPC	ER01-1529	Chuck Lenzie 2	NPC	NPC	[n/a]	NEVP	Northwest	2005	733
NPC	ER01-1529	Silverhawk 1	NPC/SNWA	NPC	[n/a]	NEVP	Northwest	2004	499
NPC	ER01-1529	Clark GT4	NPC	NPC	[n/a]	NEVP	Northwest	1973	66
NPC	ER01-1529	Clark GT5	NPC	NPC	[n/a]	NEVP	Northwest	1979	85
NPC	ER01-1529	Clark GT6	NPC	NPC	[n/a]	NEVP	Northwest	1979	85
NPC	ER01-1529	Clark GT7	NPC	NPC	[n/a]	NEVP	Northwest	1980	85

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NPC	ER01-1529	Clark GT8	NPC	NPC	[n/a]	NEVP	Northwest	1982	85
NPC	ER01-1529	Clark 9	NPC	NPC	[n/a]	NEVP	Northwest	1993	104
NPC	ER01-1529	Clark 10	NPC	NPC	[n/a]	NEVP	Northwest	1994	104
NPC	ER01-1529	Clark GT 11-14	NPC	NPC	[n/a]	NEVP	Northwest	2008	242
NPC	ER01-1529	Clark GT 15-18	NPC	NPC	[n/a]	NEVP	Northwest	2008	242
NPC	ER01-1529	Clark GT 19-22	NPC	NPC	[n/a]	NEVP	Northwest	2008	240
NPC	ER01-1529	Harry Allen GT3	NPC	NPC	[n/a]	NEVP	Northwest	1995	102
NPC	ER01-1529	Harry Allen GT4	NPC	NPC	[n/a]	NEVP	Northwest	2006	85
NPC	ER01-1529	Harry Allen CC	NPC	NPC	[n/a]	NEVP	Northwest	2011	558
NPC	ER01-1529	Reid Gardner 1	NPC	NPC	[n/a]	NEVP	Northwest	1965	114
NPC	ER01-1529	Reid Gardner 2	NPC	NPC	[n/a]	NEVP	Northwest	1968	114
NPC	ER01-1529	Reid Gardner 3	NPC	NPC	[n/a]	NEVP	Northwest	1976	114
NPC	ER01-1529	Reid Gardner 4	NPC	NPC	[n/a]	NEVP	Northwest	1983	257
NPC	ER01-1529	Navajo 1	NPC/Others	NPC/Others	[n/a]	NEVP	Northwest	1974	91
NPC	ER01-1529	Navajo 2	NPC/Others	NPC/Others	[n/a]	NEVP	Northwest	1975	91
NPC	ER01-1529	Navajo 3	NPC/Others	NPC/Others	[n/a]	NEVP	Northwest	1976	91
NPC	ER01-1529	Higgins, Walter M. III	NPC	NPC	[n/a]	NEVP	Northwest	2008	688
NPC	ER01-1529	Goodsprings	NPC	NPC	[n/a]	NEVP	Northwest	2010	8
NPC	ER01-1529	Hoover	Boulder Canyon Project	NPC/Others	[n/a]	WALC	Northwest	1987	235
NPC	ER01-1529	Griffith	Griffith Energy, LLC	NPC	[n/a]	Griffith	Northwest	2009	570
NPC	ER01-1529	Las Vegas Cogen I	Las Vegas Cogeneration I, LLC	NPC	[n/a]	NEVP	Northwest	2008	50
NPC	ER01-1529	Las Vegas Cogen II	Las Vegas Cogeneration II, LLC	NPC	[n/a]	NEVP	Northwest	2004	224
NPC	ER01-1529	SunPeak GT3-GT5	Nevada Sun-Peak Ltd.Partnership	NPC	[n/a]	NEVP	Northwest	1991	222
NPC	ER01-1529	Nevada Solar One	Acciona	NPC	[n/a]	NEVP	Northwest	2002	46.9
NPC	ER01-1529	NCA #1	Nevada Cogeneration 1	NPC	[n/a]	NEVP	Northwest	1992	85
NPC	ER01-1529	NCA #2	Nevada Cogeneration 2	NPC	[n/a]	NEVP	Northwest	1993	85
NPC	ER01-1529	Silverhawk - SNWA	NPC / SNWA	NPC	[n/a]	NEVP	Northwest	2005	166
NPC	ER01-1529	Saguaro	Saguaro Power Company	NPC	[n/a]	NEVP	Northwest	1989	90
NPC	ER01-1529	Silver State North	Silver State LLC	NPC	[n/a]	NEVP	Northwest	2012	52
NPC	ER01-1529	Apex Landfill	CC Landfill LLC	NPC	[n/a]	NEVP	Northwest	2012	12
NPC	ER01-1529	RV Apex Nevada Solar, LLC	Southern Company	NPC	[n/a]	NEVP	Northwest	2012	20
NPC	ER01-1529	FRV Spectrum Solar	Southern Company	NPC	[n/a]	NEVP	Northwest	2013	25
NPC	ER01-1529	Mountain View Solar	NextEra Energy Resources	NPC	[n/a]	NEVP	Northwest	2014	20
PacifiCorp	ER97-2801	Ashton Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1917	7.2
PacifiCorp	ER97-2801	Big Fork Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1910	4.6
PacifiCorp	ER97-2801	Blundell Geothermal	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1984	31.7
PacifiCorp	ER97-2801	Carbon Coal	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1954	172.0
PacifiCorp	ER97-2801	Cholla Coal Unit 4	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1981	395.0
PacifiCorp	ER97-2801	Currant Creek Gas	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	2005	524.2
PacifiCorp	ER97-2801	Cutler Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1927	29.0
PacifiCorp	ER97-2801	Dave Johnston Coal	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1959	760.0
PacifiCorp	ER97-2801	Dunlap Ranch Wind	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	2010	111.0
PacifiCorp	ER97-2801	Foote Creek Wind	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1998	32.1



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PacifiCorp	ER97-2801	Fountain Green Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1922	0.2
PacifiCorp	ER97-2801	Gadsby Gas	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1951	349.2
PacifiCorp	ER97-2801	Glenrock Wind	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	2008	138.0
PacifiCorp	ER97-2801	Goshen Wind	Wolverine Creek Energy, LLC	PacifiCorp	2005	PACE	Northwest	2005	64.5
PacifiCorp	ER97-2801	Grace Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1908	33.0
PacifiCorp	ER97-2801	Granite Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1896	1.2
PacifiCorp	ER97-2801	Gunlock Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1917	0.8
PacifiCorp	ER97-2801	High Plains Wind	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	2009	99.0
PacifiCorp	ER97-2801	Hunter Coal	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1978	1,147.1
PacifiCorp	ER97-2801	Huntington Coal	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1974	909.0
PacifiCorp	ER97-2801	Lake Side Gas	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	2007	558.3
PacifiCorp	ER97-2801	Lake Side 2 Gas	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	2014	645.0
PacifiCorp	ER97-2801	Last Chance Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1983	1.4
PacifiCorp	ER97-2801	McFadden Ridge Wind	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	2009	28.5
PacifiCorp	ER97-2801	Naughton Coal	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1963	687.0
PacifiCorp	ER97-2801	Olmstead Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1904	10.0
PacifiCorp	ER97-2801	Oneida Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1915	27.9
PacifiCorp	ER97-2801	Paris Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1910	0.7
PacifiCorp	ER97-2801	Pioneer Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1897	4.0
PacifiCorp	ER97-2801	Rolling Hills Wind	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	2009	99.0
PacifiCorp	ER97-2801	Sand Cove Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1926	0.4
PacifiCorp	ER97-2801	Seven Mile Hill Wind	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	2008	118.5
PacifiCorp	ER97-2801	Soda Springs Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1924	15.3
PacifiCorp	ER97-2801	Stairs Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1895	1.2
PacifiCorp	ER97-2801	Veyo Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1920	0.5
PacifiCorp	ER97-2801	Viva Naughton Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1986	0.7
PacifiCorp	ER97-2801	Weber Hydro	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1911	2.0
PacifiCorp	ER97-2801	West Valley	CER Generation II, LLC	PacifiCorp	2011	PACE	Northwest	2002	198.2
PacifiCorp	ER97-2801	Wyodak Coal	PacifiCorp	PacifiCorp	[n/a]	PACE	Northwest	1978	265.6
PacifiCorp	ER97-2801	Bend Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1913	1.0
PacifiCorp	ER97-2801	Black Cap Solar	Black Cap Solar, LLC	PacifiCorp	2012	PACW	Northwest	2012	2.0
PacifiCorp	ER97-2801	Camas Cogen Black Liquor	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1996	10.0
PacifiCorp	ER97-2801	Clearwater Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1953	48.9
PacifiCorp	ER97-2801	Colstrip Coal	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1984	148.0
PacifiCorp	ER97-2801	Copco Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1918	62.0
PacifiCorp	ER97-2801	Eagle Point Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1957	2.8
PacifiCorp	ER97-2801	East Side Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1924	3.0
PacifiCorp	ER97-2801	Fall Creek Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1903	2.0
PacifiCorp	ER97-2801	Fish Creek Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1952	10.4
PacifiCorp	ER97-2801	Goodnoe Hills Wind	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	2008	94.0
PacifiCorp	ER97-2801	Hermiston Gas	PacifiCorp	PacifiCorp	1996	PACW	Northwest	1996	461.0
PacifiCorp	ER97-2801	Iron Gate Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1962	18.8
PacifiCorp	ER97-2801	Jim Bridger Coal	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1974	1,407.0
PacifiCorp	ER97-2801	John C Boyle Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1958	98.0
PacifiCorp	ER97-2801	Leaning Juniper Wind	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	2006	100.5
PacifiCorp	ER97-2801	Lemolo Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1955	70.5
PacifiCorp	ER97-2801	Marengo Wind	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	2007	210.6

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PacifiCorp	ER97-2801	Merwin Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1931	151.0
PacifiCorp	ER97-2801	Prospect Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1912	49.2
PacifiCorp	ER97-2801	Slide Creek Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1951	18.0
PacifiCorp	ER97-2801	Soda Springs Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1952	11.6
PacifiCorp	ER97-2801	Swift 1 Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1958	263.6
PacifiCorp	ER97-2801	Toketee Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1949	45.0
PacifiCorp	ER97-2801	Wallowa Falls Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1921	1.0
PacifiCorp	ER97-2801	West Side Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1908	0.6
PacifiCorp	ER97-2801	Yale Hydro	PacifiCorp	PacifiCorp	[n/a]	PACW	Northwest	1953	163.6
PacifiCorp	ER97-2801	Chehalis Gas	PacifiCorp	PacifiCorp	[n/a]	BPA	Northwest	2003	477.1
PacifiCorp	ER97-2801	Hayden Coal	PacifiCorp	PacifiCorp	[n/a]	PSCO	Northwest	1965	78.1
PacifiCorp	ER97-2801	Craig Coal	PacifiCorp	PacifiCorp	[n/a]	WACM	Northwest	1979	166.4
Sierra Pacific Power Company ("SPPC")	ER01-1527	Brunswick 1	SPPC	SPPC	[n/a]	NEVP	Northwest	1960	2
SPPC	ER01-1527	Brunswick 2	SPPC	SPPC	[n/a]	NEVP	Northwest	1960	2
SPPC	ER01-1527	Brunswick 3	SPPC	SPPC	[n/a]	NEVP	Northwest	1960	2
SPPC	ER01-1527	Fort Churchill 1	SPPC	SPPC	[n/a]	NEVP	Northwest	1968	115
SPPC	ER01-1527	Fort Churchill 2	SPPC	SPPC	[n/a]	NEVP	Northwest	1971	115
SPPC	ER01-1527	Tracy ST1	SPPC	SPPC	[n/a]	NEVP	Northwest	1963	50
SPPC	ER01-1527	Tracy ST2	SPPC	SPPC	[n/a]	NEVP	Northwest	1965	75
SPPC	ER01-1527	Tracy 3	SPPC	SPPC	[n/a]	NEVP	Northwest	1974	120
SPPC	ER01-1527	Tracy 4&5	SPPC	SPPC	[n/a]	NEVP	Northwest	1996	120
SPPC	ER01-1527	Tracy CC	SPPC	SPPC	[n/a]	NEVP	Northwest	2008	623
SPPC	ER01-1527	Tracy GT3	SPPC	SPPC	[n/a]	NEVP	Northwest	1994	85
SPPC	ER01-1527	Tracy GT4	SPPC	SPPC	[n/a]	NEVP	Northwest	1994	85
SPPC	ER01-1527	Valmy 1	SPPC/IPC	SPPC/IPC	[n/a]	NEVP	Northwest	1981	139
SPPC	ER01-1527	Valmy 2	SPPC/IPC	SPPC/IPC	[n/a]	NEVP	Northwest	1985	145
SPPC	ER01-1527	Salt Wells	Enel Salt Wells	SPPC	[n/a]	NEVP	Northwest	2009	24
SPPC	ER01-1527	Stillwater	Enel Stillwater	SPPC	[n/a]	NEVP	Northwest	2009	69
SPPC	ER01-1527	Desert Peak 2	Ormat Nevada-ORNI 3, LLC	SPPC	[n/a]	NEVP	Northwest	2007	25
SPPC	ER01-1527	Galena 2	Ormat Nevada-ORNI 9, LLC	SPPC	[n/a]	NEVP	Northwest	2007	13
SPPC	ER01-1527	Newmont Coal Facility	Newmont Nevada Energy Investment, LLC	SPPC	[n/a]	NEVP	Northwest	2008	203
SPPC	ER01-1527	Beowawe Power	Beowawe Power, LLC	SPPC	[n/a]	NEVP	Northwest	2006	18
SPPC	ER01-1527	Brady Geothermal Project	Ormat Nevada	SPPC	[n/a]	NEVP	Northwest	1992	24
SPPC	ER01-1527	San Emidio	US Geothermal	SPPC	[n/a]	NEVP	Northwest	2012	12
SPPC	ER01-1527	Homestretch Combined	Homestretch Geothermal, LLC	SPPC	[n/a]	NEVP	Northwest	1987	6
SPPC	ER01-1527	Frank Hooper	Hooper Hydro	SPPC	[n/a]	NEVP	Northwest	1986	1
SPPC	ER01-1527	Richard Burdette	Ormat Nevada-ORNI 7, LLC	SPPC	[n/a]	NEVP	Northwest	2006	26
SPPC	ER01-1527	Galena 3	Ormat Nevada-ORNI 14, LLC	SPPC	[n/a]	NEVP	Northwest	2008	27
SPPC	ER01-1527	Sierra Pacific Industries	Sierra Pacific Industries	SPPC	[n/a]	NEVP	Northwest	1989	10
SPPC	ER01-1527	Amor IX - Soda Lake I and II	Magma Energy Corp.	SPPC	[n/a]	NEVP	Northwest	1987	23
SPPC	ER01-1527	Steamboat Hills	Ormat Nevada	SPPC	[n/a]	NEVP	Northwest	1988	15

Market-Based Rate Authority and FERC Jurisdictional Generating Assets

MidAmerican Parties and Its Energy Affiliates	Docket # Where MBR Granted	Generation Name	Owned By	Controlled By	Date Control Transferred	Location		In-Service Date [1]	Nameplate or Seasonal Rating [2,3]
						Balancing Authority Area	Geographic Region		
SPPC	ER01-1527	Steamboat IA	Steamboat Geothermal, LLC	SPPC	[n/a]	NEVP	Northwest	1988	2
SPPC	ER01-1527	Steamboat II	Steamboat Development Corp.	SPPC	[n/a]	NEVP	Northwest	1992	13
SPPC	ER01-1527	Steamboat III	Steamboat Development Corp.	SPPC	[n/a]	NEVP	Northwest	1992	13
SPPC	ER01-1527	New Lahontan	Truckee Carson Irrigation District	SPPC	[n/a]	NEVP	Northwest	1989	5
SPPC	ER01-1527	Fleish	Truckee Meadows Water Authority	SPPC	[n/a]	NEVP	Northwest	2008	2
SPPC	ER01-1527	Verdi	Truckee Meadows Water Authority	SPPC	[n/a]	NEVP	Northwest	2009	2
SPPC	ER01-1527	Washoe	Truckee Meadows Water Authority	SPPC	[n/a]	NEVP	Northwest	2009	2
SPPC	ER01-1527	Faulkner I Blue Mountain	Nevada Geothermal Power	SPPC	[n/a]	NEVP	Northwest	2009	50
SPPC	ER01-1527	Jersey Valley Geothermal	ORNI 15, LLC	SPPC	[n/a]	NEVP	Northwest	2011	22
SPPC	ER01-1527	Tuscarora	ORNI 42, LLC	SPPC	[n/a]	NEVP	Northwest	2012	32
SPPC	ER01-1527	McGinness Hills	ORNI 39, LLC	SPPC	[n/a]	NEVP	Northwest	2012	48
SPPC	ER01-1527	Lockwood	WM Nevada Renewable Energy, LLC	SPPC	[n/a]	NEVP	Northwest	2012	3
SPPC	ER01-1527	Spring Valley	Spring Valley Wind LLC	SPPC	[n/a]	NEVP	Northwest	2012	152
SPPC	ER01-1527	RO Ranch	RO Hydro	SPPC	[n/a]	NEVP	Northwest	2011	0.23
SPPC	ER01-1527	Kingston Hydro	Young Brothers	SPPC	[n/a]	NEVP	Northwest	2012	0.2
SPPC	ER01-1527	Mill Creek Hydro	Van Norman Ranches, LLC	SPPC	[n/a]	NEVP	Northwest	2012	0.037
SPPC	ER01-1527	Nevada Solar One	Acciona	SPPC	[n/a]	NEVP	Northwest	2002	22.1

Notes:

1. Where the facility was placed in service in different years, the In-Service date indicates the first year of service.
2. For the NPC and SPPC units the capacity figures are nameplate or power purchase agreement capacity unless otherwise noted. For all other units, the capacity ratings are summer seasonal ratings, except for wind and solar facilities, which use the nameplate ratings.
3. Some of the facilities identified are only partially owned by the BHE MBR Sellers or their affiliates, or provide the BHE MBR Sellers or their affiliates rights to only a portion of the total output of the facility. In such instances the ratings shown reflect the share attributable to the BHE MBR sellers or their affiliates.



Electric Transmission Assets and/or Natural Gas Intrastate Pipelines and/or Gas Storage Facilities

MidAmerican Energy Company and its Energy Affiliates	Asset Name and Use	Owned By	Controlled By	Date Control Transferred	Location		Size
					Balancing Authority Area	Geographic Region	
Bishop Hill Interconnection LLC	138 Kilovolt Transmission Line	Bishop Hill Interconnection LLC	Bishop Hill Interconnection LLC	[n/a]	MISO	Central	28 pole miles
MEC	345 Kilovolt Transmission Lines	MEC (in whole or in part)	MISO	2009	MISO	Central	992 pole miles
MEC	161 Kilovolt Transmission Lines	MEC (in whole or in part)	MISO	2009	MISO	Central	1,361 pole miles
MEC	69 Kilovolt Transmission Lines	MEC (in whole or in part)	MEC	[n/a]	MISO	Central	1,395 pole miles
NPC	Transmission Lines from 69 kV to 500 kV	NPC	NPC	[n/a]	NEVP	Northwest	1,716 line miles
NPC/SPPC	500 kV One Nevada Transmission Line	NPC/SPPC and Great Basin Transmission, LLC	NPC	2014	NEVP	Northwest	235 line miles
PacifiCorp	500 Kilovolt Transmission Lines	PacifiCorp (in whole or in part)	PacifiCorp	[n/a]	PACE, PACW	Northwest	1,211 pole miles
PacifiCorp	345 Kilovolt Transmission Lines	PacifiCorp (in whole or in part)	PacifiCorp	[n/a]	PACE, PACW	Northwest	2,128 pole miles
PacifiCorp	230 Kilovolt Transmission Lines	PacifiCorp (in whole or in part)	PacifiCorp	[n/a]	PACE, PACW	Northwest	3,342 pole miles
PacifiCorp	161 Kilovolt Transmission Lines	PacifiCorp (in whole or in part)	PacifiCorp	[n/a]	PACE, PACW	Northwest	345 pole miles
PacifiCorp	138 Kilovolt Transmission Lines	PacifiCorp (in whole or in part)	PacifiCorp	[n/a]	PACE, PACW	Northwest	2,165 pole miles
SPPC	Transmission Lines from 60kV to 345 kV	SPPC	SPPC	[n/a]	NEVP	Northwest	2,145 line miles
Saranac Power Partners, LP.	Intrastate Pipeline	North Country Gas Pipeline Corporation	North Country Gas Pipeline Corporation	[n/a]	NYISO	Northeast	22 miles