

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

The People of the State of Illinois,)	
By Illinois Attorney General)	
Lisa Madigan,)	
)	
Complainant,)	Docket No. EL15-
)	
v.)	
)	
Midcontinent Independent System Operator, Inc.,)	
)	
Respondent.)	

COMPLAINT OF THE PEOPLE OF THE STATE OF ILLINOIS, by ILLINOIS ATTORNEY GENERAL LISA MADIGAN, CHALLENGING THE MISO 2015-16 PLANNING RESOURCE AUCTION RATE FOR ZONE 4 AS UNJUST AND UNREASONABLE, REQUESTING REFUNDS, AND REQUESTING CHANGES TO THE MISO PLANNING RESOURCE AUCTION SO THAT IT DOES NOT PRODUCE UNJUST AND UNREASONABLE RATES

COMPLAINT REQUESTING FAST TRACK PROCESSING

Pursuant to Sections 205, 206, and 222 of the Federal Power Act (“FPA” or the “Act”), 16 U.S.C. §§ 824d, 824e, and 824v, and Rule 206 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (“FERC” or “Commission”), 18 C.F.R. § 385.206, the People of the State of Illinois (“AG” or “the People”), by Lisa Madigan, Illinois Attorney General, hereby file this complaint against the Midcontinent Independent System Operator, Inc., (“MISO”) on the grounds that the results of the MISO 2015-16 Planning Resource Auction (“PRA”) have resulted in unjust and unreasonable prices for MISO PRA Zone 4, the portion of the State of Illinois that is served by MISO.

INTRODUCTION

1. The results of the MISO 2015-16 PRA for Zone 4 (Illinois) increased the price per megawatt-day for capacity from \$16.75 to \$150.00, an increase of close to 900% from the 2014-

15 auction result.¹ The \$150.00 price is more than 40 times the highest price (\$3.48 per MW-day) in the other eight MISO zones.²

2. In Illinois, consumers in the MISO area who purchase electricity supply through Ameren Illinois Company (“Ameren”), their local delivery service provider, will pay \$112.98 million in capacity charges in the coming year due to the high capacity charges resulting from the 2015-2016 PRA.³ This is \$102.1 million more than was paid in the last capacity year.⁴ The 2015-2016 capacity charges will result in a 1.33 cent-per-kWh charge for retail customers during the four-month summer period beginning June 1, 2015, representing 26.5% of the total supply charge for residential customers, and an even higher 1.60 cent-per-kWh charge during the eight non-summer months ending May 31, 2016, equaling 30.4% of the total supply charge for residential customers.⁵ An average⁶ residential customer of Ameren will pay an additional \$131 due to the increase in MISO’s capacity charge during the twelve-month period beginning June 1, 2015.

3. Illinois businesses, electric cooperatives, and other institutions and agencies will also pay millions of dollars more for capacity than they anticipated as a result of the 2015-2016 PRA for Zone 4. For example, one Illinois business is facing \$1.25 million in additional electricity costs as a result of the 2015/2016 PRA, increasing its electricity costs by more than

¹ Affidavit of Robert McCullough, para 6, attached as Exhibit 1 (“Affidavit of Robert McCullough”).

² *Id.* at para. 5 and Att. C.

³ See April 22, 2015 Ameren Illinois Retail Purchased Electricity Charge Information Filing, Electric Service Schedule III.C.C. No. 1 and supporting workpapers.

⁴ See May 5, 2014 Ameren Illinois Retail Purchased Electricity Charge Information Filing, Electric Service Schedule III.C.C. No. 1 and supporting workpapers.

⁵ April 22, 2015 Ameren Illinois Retail Purchased Electricity Charge Information Filing, Electric Service Schedule III.C.C. No. 1 and supporting workpapers at 2-6.

⁶ The hypothetical average Ameren customer has a usage profile based on 10,000 kilowatt-hours of annual usage.

20%.⁷ These consumers have a right to rely on MISO's representations that the PRA is a competitive market process free from market power or manipulation that will produce least cost, just and reasonable prices for Illinois electricity consumers. The PRA has not delivered on its promise that it would "establish competitive capacity prices."⁸

CORRESPONDENCE AND COMMUNICATION

4. The names and contact information of the People's designated recipients for service are as follows:

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The contact information of MISO's designated recipient for service is as follows:

Midcontinent Independent System Operator, Inc.

⁷ See, Exhibit 2, Affidavit of Michael J. Bauer.

⁸ *Midwest Indep. Transmission Sys. Operator, Inc.*, Docket No. ER11-4081-000, MISO Letter Filing to Enhance RAR By Incorporating Locational Capacity Market Mechanisms (July 20, 2011) (the "PRA Petition"), at 8, 12.

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5. MISO possesses the identities of the generators and other parties who have participated in this auction. MISO maintains participants' identities as confidential.

THE PARTIES

6. The Office of the Illinois Attorney General represents the People of the State of Illinois on public utility issues in proceedings before state and federal regulatory agencies and in state and federal courts. The Illinois Attorney General is directed by statute "to protect the rights and interests of the public in the provision of all elements of electric . . . service both during and after the transition to a competitive market, and . . . to ensure that the benefits of competition in the provision of electric . . . services to all consumers are attained."⁹ Further, the Illinois Attorney General is vested "with responsibility to initiate, enforce and defend all legal proceedings on matters relating to the provision, marketing, and sale of electric... service whenever the Attorney General determines that such action is necessary to promote or protect the rights and interests of all Illinois citizens, classes of customers, and users of electric ... services."¹⁰

7. The Midcontinent Independent System Operator (MISO) is the independent body responsible for providing open access transmission service, administering wholesale electricity markets, and monitoring of high voltage transmission systems throughout the middle United States covering 15 states and one Canadian province.

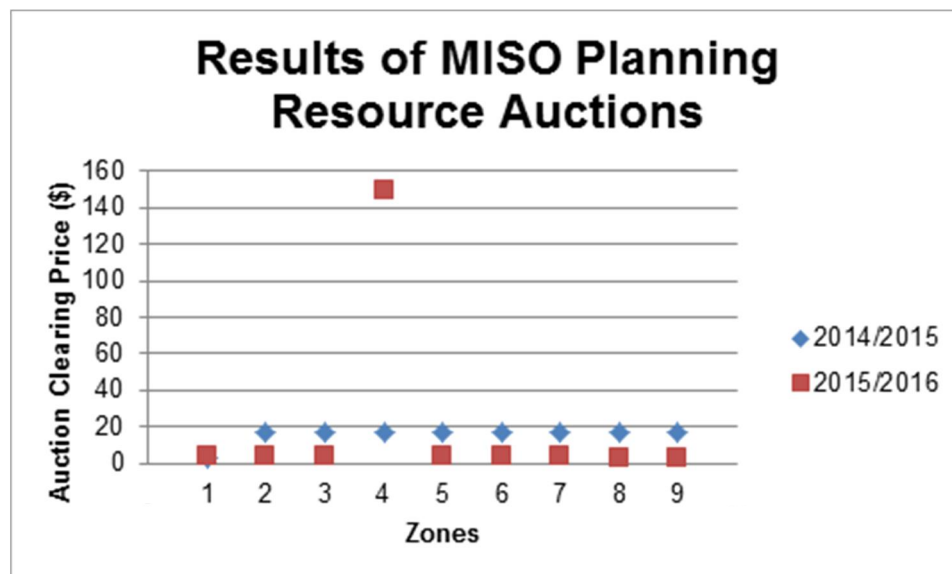
⁹ 15 ILCS 205/6.5(a).

¹⁰ *Id.* at 205/6.5(c).

FACTUAL BACKGROUND

8. Since 2013, each year MISO designs and runs several zonal Planning Resource Auctions or PRAs, which set capacity charges to be paid by load-serving entities (“LSEs”) during the annual planning year beginning on June 1st. In designing the PRA structure, MISO decides, among other things, how to divide its overall North American footprint into regional Zones based on transmission constraints and other factors; it sets capacity import limits and capacity export limits for each Zone’s PRA; it determines the total amount of capacity in each Zone required to meet forecasted load; and it determines an amount of that capacity that must come from generation sources physically located within that Zone.

9. On April 14, 2015, MISO announced the results of the 2015-2016 PRA, representing the charges for capacity for nine MISO Zones to take effect on June 1, 2015. The auction resulted in new capacity charges for customers in Zone 4, the MISO region of Illinois, increasing rates from \$16.75 per MW-day to \$150 per MW-day. As shown by the following table, no other MISO region cleared at a rate higher than \$3.48.¹¹



¹¹ Affidavit of Robert McCullough, para. 6.

10. The Zone 4 PRA result for 2015-16 does not represent the rate that would be produced in a fully competitive market that lacked a pivotal supplier. It is not just and reasonable to burden the residents and businesses of central and southern Illinois with rates that are close to nine times larger than the rate for the same capacity purchased in 2014-2015 and more than 40 times larger than the capacity rates in the neighboring MISO Zones.

11. In contrast to the 2015-2016 PRA for Zone 4, in the 2013-14 Auction, Zone 4 cleared at a price of \$1.05, and in the 2014-15 Auction, Zone 4 cleared at \$16.75. In both of those prior PRAs, the Zone 4 results were consistent with the results in the other MISO Zones.¹²

12. The People respectfully request that the Commission suspend the capacity charges being charged by MISO to load-serving entities in Zone 4 for the 2015-16 planning year and open a proceeding to determine whether those rates are just and reasonable, as required by Sections 205 and 206 of the Act, 16 U.S.C. §§ 824d and 824e. The People also request that the Commission order refunds¹³ of any amounts not suspended and collected from consumers and not found to be just and reasonable pursuant to Section 206 of the Act, 16 U.S.C. § 824e. If necessary, the People request that the Commission assign the issues to a settlement judge for a settlement process with a deadline for resolution of 60 days, and if settlement is not successful, set the matter for discovery and evidentiary hearing. In addition, by separate letter and request, the People request that the Commission investigate evidence of market manipulation in the Zone 4 2015-2016 PRA, pursuant to Section 222 of the Act, 16 U.S.C. § 824v.¹⁴

¹² Affidavit of Robert McCullough, para. 4-5 and Att. B and C.

¹³ The Commission has a “general policy of granting full refunds.” *Towns of Concord, Norwood, and Wellesley, Mass. v. FERC*, 955 F.2d 67, 76 (D.C. Cir. 1992) (citing *Illinois Power Co.*, 52 FERC ¶ 61,162 at 61,625 (1991)).

¹⁴ A true and correct copy of the People’s letter to the Office of Enforcement is attached as Exhibit 3.

A. MISO Planning Resource Auction

13. Beginning in 2013, MISO moved from a voluntary, monthly auction process for allocating capacity to an annual location-specific auction process that requires LSEs to acquire capacity through the PRA or else show other arrangements for securing capacity. In its petition seeking FERC approval for its proposed Planning Resource Auction, MISO described the auction as “a vibrant and competitive market mechanism” and “a market mechanism that will create a liquid and robust auction process for determining the locational price of capacity.”¹⁵

The Commission conditionally accepted in part and rejected in part MISO’s filing in an order dated June 11, 2012¹⁶ and has approved additional changes to the PRA in subsequent orders.¹⁷

14. The Planning Resource Auction is defined by Module E-1 of the MISO tariff.¹⁸ Among other changes, Module E-1 created several Local Resource Zones (“LRZs” or “Zones”), each with a separate annual PRA¹⁹ to set capacity charges for the coming year. MISO established nine zones pursuant to Section 68A.3 of the tariff.²⁰ While state boundaries and

¹⁵ PRA Petition at 8, 12.

¹⁶ *Midwest Indep. Transmission Sys. Operator, Inc.*, Docket No. ER11-4081-000, Order on Resource Adequacy Proposal, 139 FERC ¶ 61,199 (June 11, 2012) (the “PRA Order”).

¹⁷ *See, e.g., Midcontinent Independent System Operator, Inc.*, Docket No. ER14-2113-000, Order Accepting Tariff Revisions, 148 FERC ¶ 61,091 (Aug. 1, 2014) (approving revision of the MISO tariff to allow market participants to move capacity between Zones during a Planning Year to accommodate replacement of resources that retire, suspend, or are no longer able to meet their performance requirements); *Midcontinent Independent System Operator, Inc.*, Docket No. ER15-918-000, Order Accepting Tariff Revisions, 150 FERC ¶ 61,222 (Mar. 24, 2015) (approving revision of the MISO tariff to allow market participants to withhold offers from the annual PRA without being deemed to have engaged in physical withholding if they first submit a notice of retirement or suspension of a resource).

¹⁸ PRA Order. at ¶ 18. Module E-2 addresses the obligations of a New LSE (load serving entity) and the Transmission Provider’s role during the transitional period before the new LSE is incorporated into the PRA. MISO FERC Electric Tariff, Module E-2, Section 69A.11.1.

¹⁹ MISO FERC Electric Tariff, Module E-1, Section 69A.7, available at https://www.misoenergy.org/_layouts/MISO/ECM/Download.aspx?ID=152746.

²⁰ MISO FERC Electric Tariff, Module E-1, Section 68A.3 (“The geographic boundaries of each of the LRZs will be based upon analysis that considers: (1) the electrical boundaries of Local Balancing Authorities; (2) state boundaries; (3) the relative strength of transmission interconnections between Local Balancing Authorities; (4) the results of LOLE studies; (5) the relative size of LRZs; and (6) natural geographic boundaries such as lakes and rivers. The Transmission Provider may re-evaluate the boundaries of LRZs if there are significant changes in the

geographic borders like rivers and lakes are considered, the tariff authorizes MISO to re-evaluate the borders if there are changes in circumstances, such as changes in resources.²¹

15. The tariff authorizes MISO to set capacity export limits and capacity import limits for each Zone.²² It also sets Local Clearing Requirements, defined as the minimum amount of capacity physically located within the Zone required to meet a given reliability standard,²³ assuming capacity imports were utilized up to the defined limit.²⁴

16. The tariff also provides that LSEs within each Zone may demonstrate that they have arranged sufficient capacity, or zonal Planning Resources, to meet their Planning Reserve Margin Requirement (“PRMR”) through acquisition of Zonal Resource Credits (“ZRC”) by: (1) participating in the annual auction; (2) self-supplying Planning Resources to the Planning Resource Auction; and/or (3) submitting a Fixed Resource Adequacy Plan (“FRAP”).²⁵

17. Module E-1 of MISO’s tariff provides that MISO shall conduct a Planning Resource Auction in each Zone in April of each year for the upcoming Planning Year beginning on June 1st.²⁶ Market Participants may submit their offers in price/quantity pairs of up to five segments that together create an upward-sloping supply curve.²⁷

18. In the Planning Resource Auction, after all bids have been accepted, the Auction Clearing Price is the price associated with the incremental capacity that achieves the PRMR for a

Transmission Provider Region based upon the preceding factors, including but not limited to, significant changes in membership, the Transmission System, and/or Resources.”).

²¹ *Id.*

²² PRA Petition at 8.

²³ The standard is a “Loss of Load Expectation” of 0.1 day per year. PRA Petition at 8.

²⁴ PRA Petition at 8.

²⁵ MISO FERC Electric Tariff, Module E-1, Section 69A.9.

²⁶ *Id.* at Section 69A.7.

²⁷ *Id.* at Section 69A.7.1(a).

given Zone.^{28,29} All cleared offers in the Auction will be settled (paid) at the same Auction Clearing Price.³⁰ Load Serving Entities within the Zone will be required to pay the Auction Clearing Price for capacity within the zone up to the PRMR, to the extent that the PRMR is not met through the LSE's FRAP.³¹

19. In 2015, FERC accepted MISO's proposed revisions to its tariff that, *inter alia*, provide that all zero-price offers in the PRA will clear the auction.³² Bids at \$0 are typically made by LSEs that are self-scheduling capacity pursuant to Section 69.A.7.8 of the tariff.

20. In the spring of 2014, MISO considered combining Zones 4 and 5 (Missouri) for PRA purposes. In a May 20, 2014 report, the MISO Loss of Load Expectation ("LOLE") Working Group concluded that there is "no significant congestion" of transmission between Zones 4 and 5,³³ and a joint meeting of the MISO LOLE Working Group and the Supply Adequacy Working Group found evidence supporting a combination of the two zones (significant amount of ownership change or retirement during past two years; resolves data transparency and confidentiality issues; follow tariff criteria; no significant real time transmission congestion; no material change to MISO planning reserve margin; each zone has sufficient local reserves; two zones are electrically well connected).³⁴ MISO stated its intention

²⁸ *Id.* at Section 69A.7.1(c)(v).

²⁹ "When more than one resource is marginal and offered at the [Auction Clearing Price], then all resources offered at the [Auction Clearing Price] are cleared *pro rata* up to the amount required to meet the reliability requirement." *Id.* at Section 69A.7.1(c)(vii).

³⁰ *Id.* at Section 69A.7.6(a).

³¹ *Id.* at Sections 69.A.7.6(c), 69.A.9(b), (c).

³² *Midcontinent Independent System Operator, Inc.*, Docket No. 15-0747, 150 FERC ¶ 61,144 (Feb. 27, 2015), at 3.

³³ MISO, *LRZ 4 & 5 Combination Study Update* presented to MISO Loss of Load Expectation Working Group, May 7, 2014, at 4, available at <https://www.misoenergy.org/layouts/MISO/ECM/Redirect.aspx?ID=175169>.

³⁴ MISO, *LRZ 4 & 5 Combination Study Update* presented to LOLEWG/SAWG Joint Meeting, June 12, 2014, available at <https://www.misoenergy.org/Library/Repository/Meeting%20Material/Stakeholder/LOLEWG/2014/20140612%20L>.

to move forward by June 30, 2014 with a FERC tariff filing regarding such combination of Zones to gain approval for the 2015-16 PRA.³⁵ However, Dynege objected to the proposal³⁶ and no change was ultimately proposed.

B. Dynege Acquisition of Ameren Illinois Generating Units

21. On April 16, 2013, Ameren Energy Generating Company and several generation affiliates (the “Ameren Generators”), plus their affiliate Ameren Energy Marketing Company, along with Dynege, Inc. (“Dynege”), filed an application³⁷ under Sections 203(a)(1) and 203(a)(2) of the Act requesting authorization for a transaction in which a subsidiary of Dynege (Illinois Power Holdings, LLC or “Illinois Power Holdings”) would acquire Ameren Corporation’s indirect equity interest in certain Ameren Generators and Ameren Energy Marketing Company.³⁸ The Ameren Generators collectively directly or indirectly owned four power plants representing 3,152 megawatts of capacity within MISO’s Zone 4 in Illinois.³⁹ Prior to the proposed transaction, Dynege controlled 2,980 megawatts of capacity in the MISO Zone 4 region of Illinois through its subsidiary, Dynege Midwest Generation, LLC.⁴⁰

[OLEWG-SAWG/20140612%20OLEWG-SAWG%20Item%2005%20LRZ%204%20and%205%20Combination%20Update.pdf](https://www.misoenergy.org/_layouts/MISO/ECM/Redirect.aspx?ID=177769).

³⁵ *Id.* at 6.

³⁶ Dynege, Inc., *Dynege Concerns on Combining Zones 4 and 5*, presented to MISO Loss of Load Expectation Working Group and Supply Adequacy Working Group, June 12, 2014, available at https://www.misoenergy.org/_layouts/MISO/ECM/Redirect.aspx?ID=177769.

³⁷ Joint Application for Authorization under Section 203 of the Federal Power Act and Request for Expedited Consideration, Docket No. EC13-93-000.

³⁸ *Ameren Energy Generating Company*, Docket No. EC13-93-000, Order Authorizing Disposition of Jurisdictional Facilities and Acquisition of Securities at 1, 145 FERC ¶ 61,034 (Oct. 11, 2013) (the “Dynege Order”).

³⁹ Dynege Order at ¶ 27.

⁴⁰ Dynege Order at ¶ 18.

22. In the October 11, 2013 Dynegey Order, the Commission allowed Dynegey, Inc. to acquire a total of approximately 4,393 MW of additional capacity in Illinois, including 3,152 in MISO's Zone 4.⁴¹

23. In the proceeding to review the proposed transaction between Dynegey and Ameren, the Commission relied on arguments made by Dynegey and Ameren to decline consideration of the purchase's impact on competition within Zone 4. In particular, the Commission reviewed the competitive analyses submitted by the applicants that addressed the effects of the transaction on horizontal competition in the MISO footprint as a whole, rather than on the regional Zones that MISO uses for its annual capacity auctions or PRAs.⁴² Despite the zonal structure with local clearing requirements and zonal import and export limits for annual capacity auctions in MISO,⁴³ the Commission accepted Dynegey and Ameren's position to only consider a competitive analysis of the MISO area as a whole, rather than consider the effect of the transaction on any submarkets or PRA Zones. The Commission concluded:

We find that for energy and capacity products, the appropriate geographic market to analyze is the MISO balancing authority area. Applicants appropriately presented data that shows no additional submarkets need to be considered, and intervenors have not provided evidence to show that there are binding transmission constraints during historical peaks and other competitively significant times that would prevent competing supply from customers within the proposed alternative geographic market of southern or central Illinois. [footnote omitted] While Sierra Club notes the existence of flowgates that have experienced historical congestion, there is no mention of the direction of the congestion that would indicate limits of available supply in southern or central Illinois.⁴⁴

⁴¹ Dynegey Order at 3-5.

⁴² Dynegey Order at ¶¶ 37-46 (e.g. "Applicants state that, in the MISO long-term, forward capacity market, based on the results of the auction for the June 2013 to the May 2014 planning year, the Proposed Transaction will result in Dynegey's share of the capacity market rising from approximately one percent to slightly less than four percent," ¶ 45).

⁴³ MISO FERC Electric Tariff, Module E-1, Sections 68A.7, 68A.6, and 68A.4.

⁴⁴ Dynegey Order at ¶ 55.

The Commission also concluded that the proposed transaction would not have an adverse effect on rates.⁴⁵ The Commission ultimately authorized the proposed transaction.⁴⁶ However, the Commission stated that it retained authority under Sections 203(b) and 309 of the Act “to issue supplemental orders as appropriate.”⁴⁷

ARGUMENT: MISO’S TARIFF DID NOT PRODUCE JUST AND REASONABLE CAPACITY RATES IN ZONE 4 FOR THE 2015-2016 PLANNING YEAR.

A. The 2015-2016 PRA Produced An Unjust and Unreasonable Rate In Zone 4, Which Is Highly Concentrated Because The Dynegy Acquisition of Illinois Power Holdings In December, 2013 Created A Pivotal Supplier.

24. “Market-based rate regulation presumes – appropriately – that a functioning marketplace will drive prices toward marginal cost, and therefore toward . . . [a] ‘zone of reasonableness.’”⁴⁸ The rate set as a result of the 2015-2016 PRA in MISO’s Zone 4 does not fall within this “zone of reasonableness.”

25. The bidding data released by MISO on May 14, 2015 shows that while the supply serving Zone 4 is more than sufficient, the ownership of supply in Zone 4 is highly concentrated. The bid data shows a Hefindahl-Hirschman Index (HHI) of 2,562,⁴⁹ calculated using the standard formula on bid data, by market participant, and combining two Dynegy

⁴⁵ Dynegy Order at ¶ 81.

⁴⁶ Dynegy Order at 35.

⁴⁷ Dynegy Order at 36.

⁴⁸ *Pub. Utility Dist. No. 1 of Snohomish County Washington v. Fed. Energy Reg. Comm’n*, 471 F.3d 1053, 1089 (9th Cir. 2006), citing *Interstate Natural Gas Ass’n of America v. Fed. Energy Reg. Comm’n*, 285 F.3d 18, 31-32 (D.C. Cir. 2002).

⁴⁹ Affidavit of Robert McCullough at para. 16.

subsidiaries that are reported separately in the bid data.⁵⁰ HHI indices over 1800 are presumed to be concentrated.⁵¹

26. As a result of the acquisition of the Ameren Generators by Dynegy's subsidiary Illinois Power Holdings, Dynegy has 6,400 MWs of unforced capacity in Zone 4.⁵²

27. Dynegy publicly reported the total number of MWs it cleared in the 2015-2016 auction at \$150.00 per MW as follows, by each subsidiary: "Dynegy's IPH [Illinois Power Holdings] segment cleared 1,864 megawatts (MW) at that price [of \$150], including 1,709 MW that are estimated to cover retail load obligations. Dynegy's coal generation segment cleared 398 MW in the auction, also at that price."⁵³

28. The bidding data that MISO released on May 14, 2015 shows all bidding volumes and cleared volumes. Illinois Power Holdings' (IPH) volumes match masked market participant ID 2132 and Dynegy's coal segment matches ID 2424.⁵⁴

29. Illinois Power Holdings is the Dynegy entity that owns five power plants purchased from Ameren on December 2, 2013.

30. Of the 11,156 MW of bids received in the 2015-2016 PRA in Zone 4, Dynegy directly or indirectly owns 5,404.5 MWs.⁵⁵

31. Dynegy's acquisition of the Ameren generating plants in December, 2013 gave Dynegy roughly half of the capacity of Zone 4. This is material to the PRA because Zone 4 is a

⁵⁰ *Id.*

⁵¹ *Id.*, citing FERC Docket No. RM11-14-000, *Analysis of Horizontal Market Power under the Federal Power Act*, Order Reaffirming Commission Policy and Terminating Proceeding at 5 (Feb. 16, 2012), 138 FERC ¶ 61,109, available at: <http://www.ferc.gov/whats-new/comm-meet/2012/021612/E-2.pdf>.

⁵² Affidavit of Robert McCullough, para. 23.

⁵³ Dynegy, Inc., *Dynegy Reports MISO Capacity Auction Results*, April 14, 2015, available at <http://www.dynegy.com/investor-relations>. See also Affidavit of Robert McCullough at para. 17.

⁵⁴ *Id.* at para. 18. See also MISO, 2015-2016 PRA Detailed Report, available at <https://www.misoenergy.org/Library/Pages/ManagedFileSet.aspx?SetId=2054>.

⁵⁵ *Id.*; Affidavit of Robert McCullough at para. 19.

distinct submarket with transmission limited to 3,130 MWs of imported capacity and an additional requirement that 8,852 MWs be procured from resources within Zone 4.⁵⁶

32. The total unforced capacity in Zone 4 is 13,481.8. Dynegy has approximately 6,400 MWs. Without Dynegy capacity, there are only approximately 7,100 MWs to meet the 8,852 MW requirement.⁵⁷

33. Dynegy is the pivotal supplier for Zone 4 because its participation in the PRA is required to meet the reliability standard set by MISO. If Dynegy-controlled generation capacity physically located within Zone 4 is not bid, there would be insufficient capacity in Zone 4 to clear its Local Clearing Requirement.⁵⁸ Thus, Dynegy is able to set the price for the marginal clearing capacity, regardless of its internal cost of providing that capacity.

34. If there were no pivotal supplier, one would have expected the Zone 4 price to match the result in Zones 1 through 7.⁵⁹

35. The MISO Market Monitor has recognized that an “indicator of potential market power is whether a supplier is pivotal, which occurs when its resources are necessary to satisfy load or to manage a constraint.”⁶⁰

B. A Uniform-Price Auction Structure Augments Market Power

36. MISO’s PRA uses a uniform-price auction structure; that is, all cleared bids receive the price associated with the highest or marginal bid that cleared the auction, even when the cleared bids are at prices well below the auction-clearing bid.⁶¹

⁵⁶ Affidavit of Robert McCullough, para. 20.

⁵⁷ *Id.* at para. 23 .

⁵⁸ Affidavit of Robert McCullough at paras. 22, 24.

⁵⁹ *Id.* at 33.

⁶⁰ Potomac Economics, Independent Market Monitor for MISO, 2013 State of the Market Report for the MISO Electricity Markets (June 2014), at 65, available at <https://www.misoenergy.org/Library/Repository/Report/IMM/2013%20State%20of%20the%20Market%20Report.pdf>.

37. Economic research shows that compared to a structure awarding each bidder the price it bid, the uniform-price structure of MISO's Planning Resource Auction creates additional incentive and ability for a holder of market power to raise its revenues by increasing its bid to the extent possible given the lack of competitive alternatives.⁶²

C. The Unjust and Unreasonable Result of the 2015-2016 PRA For Zone 4 Cannot Be Explained by a Change In Supply and Demand.

38. The \$150/megawatt-day rate is not just and reasonable because it does not reflect the true state of the market for capacity in Zone 4 and the MISO region.

39. MISO recently announced: "The MISO region has adequate resources to meet its Planning Reserve Margin Requirements for the 2015-2016 planning year."⁶³ Specifically, in regard to Zone 4, MISO stated that "the Zone 4 price" does not suggest a capacity shortage.

⁶¹ PRA Petition at 12; MISO FERC Electric Tariff, Module E-1, at Section 69.A.7.6(a).

⁶² See Catherine Wolfram, *Strategic bidding in a multiunit auction: an empirical analysis of bids to supply electricity in England and Wales*, 29 RAND J. ECON. 703 (1998), available at <http://www.jstor.org/stable/2556090> (finding that in a uniform-price multiunit electricity procurement auction, larger suppliers have incentive to strategically increase bids for plants similar to those owned by smaller suppliers); Frank A. Wolak and Robert H. Patrick, *The Impact of Market Rules and Market Structure on the Price Determination Process in the England and Wales Electricity Market*, NATIONAL BUREAU OF ECONOMIC RESEARCH WORKING PAPER NO. 8248 (2001), available at <http://www.nber.org/papers/w8248> (studying the restructured electricity market in England and Wales and concluding that when demand is known in advance, large generators in a uniform-price auction structure are able to receive a price above marginal cost; "frequently the largest generator knows that a significant portion of its capacity will be called upon, regardless of the price it bids," page 50); Randy Hudson, *Reforming Bulk Power Auctions: Why Not Pay According to Bid?*, FORTNIGHTLY MAGAZINE (2000), available at <http://www.fortnightly.com/fortnightly/2000/10/reforming-bulk-power-auctions-why-not-pay-according-bid> (using a computer simulation of a multi-generator transmission area to find that uniform-price auction rules "allow market power in the form of limited competitive bids to influence the entire market," page 4); see also Tim Mount, *Market Power and Price Volatility in Restructured Markets for Electricity*, PROCEEDINGS OF THE HAWAII INTERNATIONAL CONFERENCE ON SYSTEM SCIENCES (1999), available at http://www.pserc.wisc.edu/documents/publications/papers/1998_general_publications/Volatility.pdf (finding theoretically that a uniform-price auction in electricity markets is likely to lead to greater price volatility than is a pay-as-bid auction).

In Illinois, after price increases of up to 100% resulted from a declining clock auction for electric supply in 2006, the General Assembly created the Illinois Power Agency, which designs procurement for Illinois default customers based on a "pay-as-bid" model. 220 ILCS 5/16-111.5(e)(4) ("The procurement administrator shall design and issue a request for proposals to supply electricity in accordance with each utility's procurement plan, as approved by the Commission. The request for proposals shall set forth a procedure for sealed, binding commitment bidding with pay-as-bid settlement, and provision for selection of bids on the basis of price.").

⁶³ Affidavit of Robert McCullough at para. 7 and Attachment D.

Beyond what was needed to satisfy capacity requirements, MISO stated that: “Over 3,000 MW of additional capacity was available, but at \$150/MW-day price or higher.”⁶⁴

40. MISO represented that Zone 4 cleared at a higher price in the 2015-2016 PRA because: “electricity providers in Zone 4 (largely Illinois) procured more capacity through the auction (45% of capacity to meet requirements this year compared to 35% last year) instead of using their own resources or contracts. This resulted in more price-sensitive offers, reflecting the economics of the resources within Zone 4 being submitted.”⁶⁵

41. The Local Clearing Requirement for Zone 4 was fewer megawatts in 2015-2016 than it was in 2014-2015 (compare 8,852 MW to 8,879 MW).⁶⁶ Further, in 2015-2016 in Zone 4, the Local Clearing Requirement total offers submitted equaled 11,156 MW, which is 2,306 MW or more than 25% more than required. In the 2014-2015 PRA, the Zone 4 Local Clearing Requirement was exceeded by 28%. The few changes that occurred in Zone 4 between 2014-2015 and 2015-2016 would have decreased the auction clearing price, not increased it.⁶⁷

42. The lack of material change in supply and demand and the greatly increased clearing price in Zone 4 demonstrate that the PRA tariff did not reflect the true cost and availability of capacity in Zone 4 and did not produce a just and reasonable price for Zone 4.

D. Public Reference Levels Did Not Drive Prices To Marginal Cost

43. All actions of Market Participants (as defined in MISO’s tariff) in the PRA are subject to the provisions of Module D of the tariff, which defines MISO’s Independent Market

⁶⁴ MISO, IL Zone 4 2015-2016 Planning Resource Auction, Frequently Asked Questions, para. 3, available at https://www.misoenergy.org/Library/Repository/Report/Resource%20Adequacy/FAQ_ILZone4_PRA2015-16_FINAL.pdf (accessed May 26, 2015).

⁶⁵ *Id.*

⁶⁶ Affidavit of Robert McCullough at para. 10.

⁶⁷ *Id.*

Monitor and Mitigation Measures that MISO may take against conduct that distorts competitive outcomes.⁶⁸ For the 2015-2016 PRA, MISO announced⁶⁹ a “Reference Level,” above which PRA bids would cause the MISO independent market monitor to investigate or take “Mitigation Measures” against a generator’s conduct pursuant to the MISO tariff.⁷⁰

44. MISO’s tariff provides that “[m]arket power Mitigation Measures are intended to provide the means for [MISO] to mitigate the market effects of any conduct that would substantially distort competitive outcomes.”⁷¹

45. The Initial Reference Level was set at \$155.79 in each zone and was based on the PJM⁷² weighted average resource clearing price,⁷³ as specified in MISO’s tariff.⁷⁴

46. The PJM weighted average resource clearing price for 2015-2016 was based on a price determined in its 2012 capacity auction, three years previous to the 2015-2016 PRA.⁷⁵

⁶⁸ MISO FERC Electric Tariff, Module D, Section I, available at <https://www.misoenergy.org/layouts/MISO/ECM/Download.aspx?ID=19174>; Module E-1, Section 69A.7.5.

⁶⁹ Michael Chiasson, Potomac Economics, Initial Reference Level for Zonal Reserve Offers: 2015-2016 Planning Year, presented to the MISO Supply Adequacy Working Group, available at: <https://www.misoenergy.org/Library/Repository/Meeting%20Material/Stakeholder/SAWG/2015/20150205/20150205%20SAWG%20Item%2004%20IMM%20PRA%20Reference%20Levels.pdf>; *Initial Reference Level for Zonal Reserve Offers: 2015/2016 Delivery Year*, available at <https://www.misoenergy.org/Library/Repository/Report/IMM/2015-2016%20Initial%20Reference%20Level%20for%20Zonal%20Resources.pdf>.

⁷⁰ MISO FERC Electric Tariff, Module D, Sections 63.3(a)(ii), 64.1.2(c), (f). To use the precise terms from MISO’s tariff, the offer that would trigger Mitigation Measures by the Independent Market Monitor is the Reference Level plus 10% of the Cost of New Entry. *Id.* The Cost Of New Entry is determined annually by MISO pursuant to Section 69.A.8(b) of Module E-1 of the tariff.

⁷¹ MISO FERC Electric Tariff, Module D, Section 62(a). Mitigation Measures available to MISO are specified in Section 65 *et seq.* of the Tariff.

⁷² PJM Interconnection LLC (“PJM”) is the regional transmission organization serving all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia.

⁷³ Affidavit of Robert McCullough at para. 27.

⁷⁴ MISO FERC Electric Tariff, Module D, Sections 64.1.2(f), 64.1.4(e).

⁷⁵ PJM, 2015/2016 RPM Base Residual Auction Results, May 18, 2012, available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/20120518-2015-16-base-residual-auction-report.ashx>.

47. Because the PJM capacity auction for PJM's 2015-2016 planning year is conducted three years⁷⁶ before the MISO PRA for the same 2015-2016 planning year, generators that did not clear the PJM auction for 2015-2016 are limited to offering replacement capacity for generators who cannot fulfill their obligations in 2015-2016.⁷⁷ Average MW-weighted cost to purchase replacement capacity across all PJM incremental auctions conducted to-date has been just above 20% of the PJM base-residual-auction price.⁷⁸

48. The cost of capacity in the PJM area is based on the resources and demand located in that area, and not on the resources and demand in the MISO area or specifically in Zone 4.

49. The Commission's Electricity Quarterly Reports (EQRs) reveal capacity located in the MISO footprint was sold into PJM at substantially less than the reference price of \$155.79.⁷⁹ This indicates that the reference level is not an accurate measure of opportunity cost.⁸⁰

50. The reference price for the MISO PRA is not based on marginal cost or actual costs to provide capacity in MISO PRA zones.

51. Publicly announcing the reference price, as specified in MISO's tariff,⁸¹ creates an upper limit for bids at which they will not receive additional scrutiny by the Independent

⁷⁶ PJM, Reliability Pricing Model Fact Sheet, May 27, 2014, available at <http://www.pjm.com/~media/about-pjm/newsroom/fact-sheets/rpm-fact-sheet.ashx>.

⁷⁷ See Michael Chiasson, Potomac Economics, Initial Reference level for Zonal Reserve Offers: 2015-2016 Planning Year at 5, presented to the MISO Supply Adequacy Working Group, available at <https://www.misoenergy.org/Library/Repository/Meeting%20Material/Stakeholder/SAWG/2015/20150205/20150205%20SAWG%20Item%2004%20IMM%20PRA%20Reference%20Levels.pdf>.

⁷⁸ PJM Replacement Capacity in the Incremental Auctions at 11 (Aug 26, 2013), available at: <http://www.pjm.com/~media/committees-groups/task-forces/cstf/20130826-rpm/20130826-item-02-cstf-replacement-capacity-in-the-incremental-auctions-education.ashx>.

⁷⁹ Affidavit of Robert McCullough at para. 31.

⁸⁰ *Id.*

⁸¹ MISO FERC Electric Tariff, Module D, Section 64.1.4(g); *see also* footnote 71 above.

Market Monitor for MISO and enables generators to base their bids on PJM prices without regard to the generators' actual costs, resulting in rates that are not based on cost and are not just and reasonable.

SUMMARY AND REQUEST FOR RELIEF

52. The 2015-2016 MISO PRA for Zone 4 violates Sections 205, 206 and 222 of the Act, 16 U.S.C. §§ 824d, 824e, and 824v, by failing to address the market power of the pivotal supplier in the PRA in Zone 4 and by adopting conditions that enabled the pivotal supplier to exercise anti-competitive market power and drive the capacity price in Zone 4 to a level that is not just and reasonable and above that supplier's internal cost.

53. As required by Rule 206(b)(4) of the Commission's Rules of Practice and Procedure,⁸² the People estimate that the financial impact and burden created for the People of the State of Illinois by the actions and inactions described above equal no less than \$100 million for electricity customers who purchase electricity supply through Ameren Illinois Company, the local electric delivery company in MISO Zone 4, for the period June 1, 2015 to May 31, 2016. In addition, on information and belief, Illinois commercial and industrial electricity consumers may see their electricity costs increase by 20% over last year due to the increased capacity charges than they paid last year.⁸³ Illinois electricity consumers who buy electricity under bilateral contracts or pursuant to a FRAP may incur additional costs if the results of the PRA are incorporated into current or future bilateral contracts.

⁸² 18 C.F.R. § 385.206(b)(4).

⁸³ See Affidavit of Michael J. Bauer, Exhibit 2.

54. Pursuant to Rule 206(b)(5),⁸⁴ the People do not identify any practical, operational, or other nonfinancial impact resulting from the uncompetitive, unjust and unreasonable result of the 2015-2016 PRA for Zone 4.

55. Pursuant to Rule 206(b)(6),⁸⁵ the People represent that the issues presented in this complaint are not pending in an existing Commission proceeding or in a proceeding in any other forum in which the People are a party, except that the People have requested the Commission's Office of Enforcement to investigate the matters described herein, in a letter dated as of today and attached as Exhibit 3 to this Complaint.

56. Pursuant to Rule 206(b)(7),⁸⁶ the People request that:

- A. The Commission conclude that the rate resulting from the 2015-2016 MISO PRA for Zone 4, effective June 1, 2015 is not just and reasonable pursuant to Sections 205 and 206 of the Act, 16 U.S.C. §§ 824d, 824e.
- B. The Commission suspend the rate resulting from the 2015-2016 MISO PRA for Zone 4, effective June 1, 2015, because the rates resulting from the PRA in Zone 4 are not just and reasonable pursuant to Sections 205 and 206 of the Act, 16 U.S.C. §§ 824d, 824e.
- C. The Commission institute a proceeding to investigate the allegations in this Complaint and, if it does not suspend the rates as requested above, establish a refund date pursuant to Section 206(b) of the Act, 16 U.S.C. § 824e(b), of June 1, 2015, which is after the date that this Complaint was filed.
- D. The Commission set new rates for the 2015-2016 MISO PRA for Zone 4, pursuant to Section 206(a) of the Act, 16 U.S.C. § 824e(a).
- E. If the Commission declines to find the rates resulting from the 2015-2016 PRA for Zone 4 to be unjust and unreasonable, the Commission assign the issues to a settlement judge for a settlement process with a deadline for resolution of 60 days, and if settlement is not successful, set the matter for discovery and evidentiary hearing.

⁸⁴ *Id.* at § 385.206(b)(5).

⁸⁵ *Id.* at § 385.206(b)(6).

⁸⁶ *Id.* at § 385.206(b)(7).

- F. The Commission direct MISO to amend its tariff governing the PRA to protect consumers from the exercise of market power by pivotal suppliers, pursuant to Section 205 and 206 of the Act, 16 U.S.C. § 824d and 824e.
- G. The Commission assess civil penalties pursuant to Section 222 of the Act, 16 U.S.C. § 824v, and Section 316A of the Act, 16 U.S.C. § 825o-1, if it concludes in this proceeding or any other proceeding or investigation that market manipulation by any party led to the unjust and unreasonable rates resulting from the 2015-2016 PRA for Zone 4.
- H. The Commission enter a supplemental order in Docket No. EC13-93-000, pursuant to its stated retention of authority on page 36 of its October 11, 2013 Dynegy Order in that proceeding, imposing appropriate conditions on Dynegy with regard to bidding behavior by the Ameren Generators (now controlled by Dynegy) in the annual MISO Zone 4 Planning Resource Auctions.

57. Pursuant to Rule 206(b)(8),⁸⁷ the People represent that all documents that support the facts in the complaint in their possession or that are otherwise attainable are included in this filing as attachments to the Complaint or are identified by URL or Internet location.

58. Pursuant to Rule 206(b)(9),⁸⁸ the People state that they directed questions about the PRA to MISO and engaged in correspondence and discussions with MISO, but did not engage in a tariff-based dispute resolution mechanism or other information dispute resolution procedure. Further, the People did not use the Enforcement Hotline or Dispute Resolution Service because while the People are ready and willing to engage in settlement discussions, the People consider it unlikely that alternative dispute resolution procedures would be successful in the absence of a complaint itemizing the People's concerns. No process has been agreed on for resolving the Complaint. At the time that this Complaint is filed, the People are also filing a letter with the Commission's Office of Enforcement requesting an investigation into their allegation of market manipulation by a pivotal supplier, attached as Exhibit 3.

⁸⁷ *Id.* at § 385.206(b)(8).

⁸⁸ *Id.* at § 385.206(b)(9).

59. Pursuant to Rule 206(b)(9),⁸⁹ the People are willing to pursue alternative dispute resolution under the Commission's supervision to resolve this Complaint.⁹⁰

60. Pursuant to Rule 206(b)(10),⁹¹ a form of notice suitable for publication in the Federal Register in accordance with the specifications in § 385.203(d) of the Commission's Rules is attached as Exhibit 4.

61. Pursuant to Rule 206(c),⁹² the People served a copy of the complaint on respondent MISO and on interested party Dynegy, Inc., which the People expect to be affected by this complaint. The People also served a copy of the complaint on the Illinois Commerce Commission and the Illinois Power Agency, which the People expect will be interested in the issues raised by this complaint.

62. Pursuant to Rules 206(b)(11) and 206(h),⁹³ the People request expedited or "Fast Track" resolution of this Complaint. The unjust and unreasonable capacity charges in Zone 4 are scheduled to go into effect on June 1, 2015. Adding around \$11 on average to monthly residential bills and tens of thousands of dollars to industrial consumers' monthly bills will constitute a significant financial burden for many low-income electric ratepayers in central and southern Illinois. Additionally, the increased costs to many commercial and industrial electricity users, equaling millions of dollars, will constitute an unreasonable burden on the businesses and their employees located in the state of Illinois. Thus, the People request that the Commission act on this Complaint as quickly as possible.

⁸⁹ *Id.* at § 385.206(b)(9).

⁹⁰ *Id.* at § 385.206(g)(3).

⁹¹ *Id.* at § 385.206(b)(10).

⁹² *Id.* at § 385.206(c).

⁹³ *Id.* at §§ 385.206(b)(11), 385.206(h).

CONCLUSION

63. The People request that the Commission establish a time for interested parties to respond to this Complaint and grant the relief requested herein.

Respectfully submitted,

THE PEOPLE OF THE STATE OF ILLINOIS

LISA MADIGAN,

Attorney General of the State of Illinois

By: _____

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CERTIFICATE OF SERVICE

The undersigned certifies that she has filed with FERC on its electronic filing system the attached Complaint and Attachments on May 28, 2015 and that she served the same upon the following by electronic mail on May 28, 2015:

Midcontinent Independent System Operator, Inc.
Registered agent: Stephen G. Kozey
720 City Center Drive
Carmel, IN 46032
steve.kozey@misoenergy.org

Dynegy Midwest Generation, LLC
Illinois Power Holdings, LLC
Agent name: Capitol Corporate Services Inc.
1315 W. Lawrence Ave.
Springfield, IL 62704
c/o
Dynegy, Inc.
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Exhibit 1 to the
Complaint of the
People of the State
of Illinois v. MISO

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

The People of the State of Illinois,)	
By Illinois Attorney General)	
Lisa Madigan,)	
Complainant,)	Docket No. EL15-
)	
v.)	
)	
Midcontinent Independent System Operator, Inc.,)	
Respondent.)	

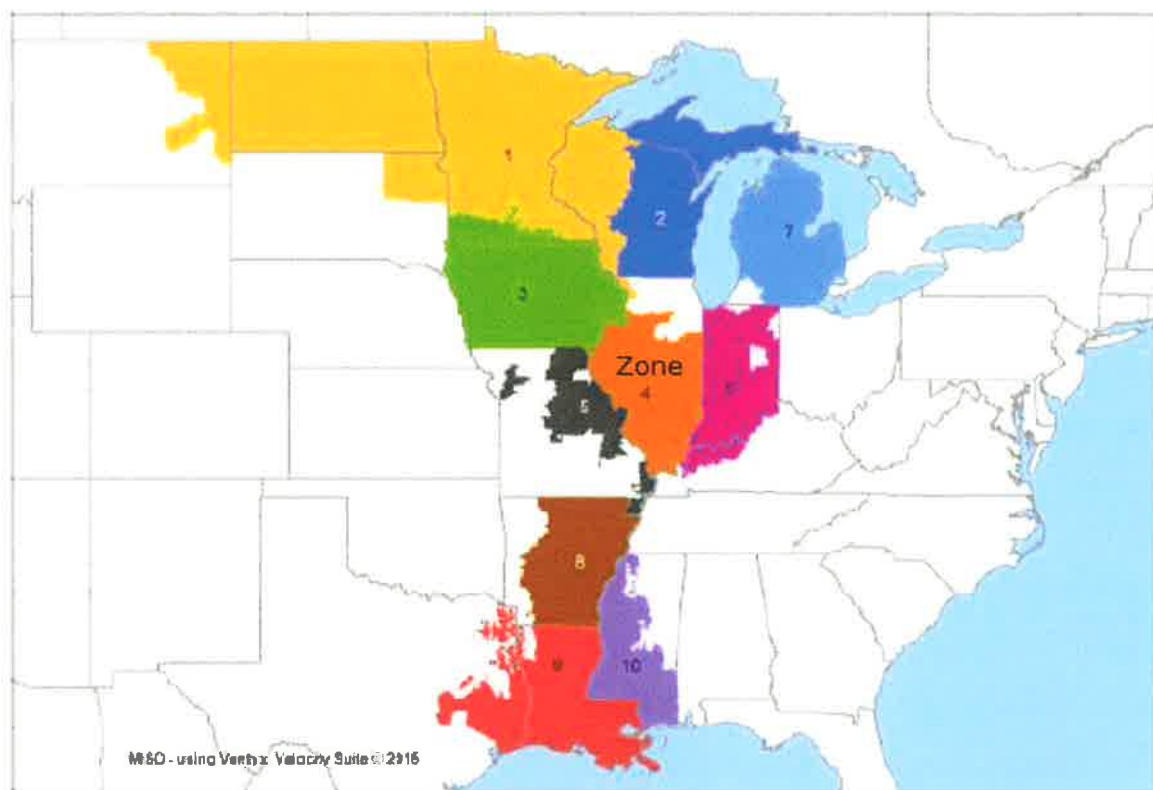
Affidavit of Robert McCullough

I, Robert McCullough, under oath, depose and state as follows:

1. My name is Robert McCullough. My address is 6123 S.E. Reed College Place, Portland, Oregon 97202. I am the principal of McCullough Research. I have worked on market power and manipulation issues in numerous cases including those in Alberta, British Columbia, Washington, Oregon, Nevada, Arizona, New Mexico, Illinois, Texas, and Louisiana. I have testified extensively on energy issues across the U.S. and Canada for the past thirty-five years. My curriculum vita is Attachment A to this affidavit. The statements and information in this affidavit are based on personal knowledge, my analysis of information obtained regarding the MISO Auction, and my years of experience.
2. On an annual basis, Midcontinent Independent System Operator (MISO) conducts an auction entitled the Planning Resource Auction (PRA) to find the price in dollars per

megawatt-day (\$/MW-Day) for electricity capacity. MISO conducts an auction for each of nine subregions in the MISO area.

3. MISO Zone 4 is limited to portions of central and southern Illinois that are within the MISO area, as shown below:



4. The first PRA was for the period June 1, 2013 to May 31, 2014 (the “2013/2014 year”) for seven zones in the MISO area. That auction produced a consistent capacity charge of \$1.05 for each of the zones.¹
5. The second PRA was for the period June 1, 2014 to May 31, 2015 (the “2014/2015 year”). The PRA included two additional zones (Arkansas and Louisiana, Mississippi

¹ Attachment B: 2013/2014 MISO Planning Resource Auction Results, available at: <https://www.misoenergy.org/Library/Repository/Report/Resource%20Adequacy/AuctionResults/2013-2014%20MISO%20Planning%20Resource%20Auction%20Results.pdf>.

and Texas), raising the number of zones to nine. That auction resulted in a price of \$16.75 for six of the nine zones, including Illinois.²

6. On April 14, 2015, MISO released its 2015/2016 Planning Resource Auction Results for the period June 1, 2015 through May 31, 2016. While the price in eight of the nine regions dropped to less than \$3.50/MW-day, the price per MW-day for Zone 4 increased to \$150/MW-day. MISO released the 2015/2016 Planning Resource Auction Results in the following table:³

Local Resource Zone	Z1 (MN, ND, Western WI)	Z2 (Eastern WI, Upper MI)	Z3 (IA)	Z4 (IL)	Z5 (MO)	Z6 (IN, KY)	Z7 (MI)	Z8 (AR)	Z9 (LA, MS, TX)	SYSTEM
CPDF (Coincident Peak Demand Forecast)	16,525	12,429	8,876	9,518	8,176	17,592	20,522	7,424	23,035	124,097
PRMR (Planning Reserve Margin Requirement)	18,321	13,566	9,768	10,420	8,910	19,409	22,678	8,118	25,170	136,359
LCR (Local Clearing Requirement)	15,982	12,332	8,695	8,852	6,527	14,677	21,442	7,850	23,609	N/A
Total Offer Submitted	4,867	3,071	5,922	11,156	7,926	14,832	14,103	9,562	26,193	97,632
Total FRAP (Fixed Resource Adequacy Plan)	14,494	11,817	4,113	838	0	4,853	9,456	397	2,261	48,229
Offer Cleared + FRAP	18,495	14,497	9,813	8,852	7,885	19,015	23,515	8,526	25,762	136,359
Import / (Export)	(175)	(931)	(45)	1,568	1,026	394	(837)	(408)	(592)	2,988
CIL (Capacity Import Limit)	3,735	2,903	1,972	3,130	3,899	5,649	3,813	2,074	3,320	N/A
CEL (Capacity Export Limit)	604	1,516	1,477	4,125	0	2,930	4,804	3,022	3,239	N/A
ACP (Auction Clearing Price) \$/MW-Day	\$3.48	\$3.48	\$3.48	\$150.00	\$3.48	\$3.48	\$3.48	\$3.29	\$3.29	N/A

7. MISO's Executive Summary of the Auction Results reported:

² Attachment C: 2014/2015 Planning Resource Auction (PRA), available at: <https://www.misoenergy.org/Library/Repository/Report/Resource%20Adequacy/AuctionResults/2014-2015%20PRA%20Summary.pdf>.

³ Attachment D: 2015/2016 Planning Resource Auction Results, April 14, 2015, available at: <https://www.misoenergy.org/Library/Repository/Report/Resource%20Adequacy/AuctionResults/2015-2016%20PRA%20Results.pdf>.

- a. The MISO region has adequate resources to meet its Planning Reserve Margin Requirements for the 2015/2016 planning year;
 - b. Zones 1-3 and 5-7 cleared at \$3.48/MW-day;
 - c. Zone 4 (much of Illinois), cleared at \$150.00/MW-day; and
 - d. Zones 8-9 (MISO South), cleared at \$3.29/MW-day.⁴
8. The dramatic price increase in Zone 4, central and southern Illinois, was not due to reliability concerns. In fact, the MISO Planning Resource Auction Results announcement makes it clear that the increase in Zone 4 was due to the bidding behavior within Zone 4:

Key Auction Takeaways

- Price differentials between 2014-15 and 2015-16 results were mainly driven by changes in market participant offers.
 - The 2015 price in Zone 4 was also impacted due to the binding of the zonal capacity requirement to procure a certain amount of capacity with the zone (LCR)
 - This requirement for Zone 4 was substantially the same as in the 2014/2015 Auction.⁵
9. The availability of sufficient capacity to meet MISO requirements was addressed in the North American Electric Reliability Corporation (“NERC”) 2015 Summer Reliability Assessment:

MISO does not foresee significant impacts to reliability during the 2015 summer season due to environmental or regulatory restrictions. MISO does anticipate that developing EPA regulations will impact MISO in the future, but the main impacts are anticipated beyond the 2015 summer season.⁶

⁴ *Id.* at page 2.

⁵ *Id.* at page 8.

⁶ 2015 Summer Reliability Assessment, North American Reliability Corporation, May 2015, page 23, available at: http://www.nerc.com/pa/rapa/ra/reliability%20assessments%20dl/2015_summer_reliability_assessment.pdf.

10. The following table shows the Zone 4 changes between the 2015/2016 auction and the 2014/2015 auction:

	2015/2016	2014/2015
Local Resource Zone	Z4 (IL)	Z4 (IL)
CPDF (Coincident Peak Demand Forecast)	9,518	9,680
PRMR (Planning Reserve Margin Requirement)	10,420	10,616
LCR (Local Clearing Requirement)	8,852	8,879
Total Offer Submitted	11,156	11,370
Total FRAP (Fixed Resource Adequacy Plan)	838	874
Offer Cleared + FRAP	8,852	9,316
CIL (Capacity Import Limit)	3,130	3,025
CEL (Capacity Export Limit)	4,125	1,961
ACP (Auction Clearing Price) \$/MW-Day	\$150.00	\$16.75

It should be noted that no major changes occurred between this auction and the previous auction. In fact, the few changes that did occur would have decreased the auction clearing price, not increased it.

11. The structure of the MISO capacity auction is established in its tariffs, approved by the Commission. Modules D and E-1 describe the auction process as including the following: MISO studies determine: (1) how much capacity the system needs to supply local needs, or the “Planning Reserve Margin Requirement;” (2) the capacity that is available, or the “unforced capacity” of MISO resources in each zone; (3) the local clearing requirement, meaning the amount of capacity that must be obtained from generators within the zone; (4) import and export limits, or the amount of capacity that can be imported and exported from the zone; and (5) the availability of transmission within and between zones. These determinations are made in advance of the auction and

are freely available to all participants. The following table⁷ shows these values for all nine MISO subregions:

Local Resource Zone (LRZ)	Z1 (MN, ND, Western WI)	Z2 (Eastern WI, Upper MI)	Z3 (IA)	Z5 (MO)	Z7 (MI)	Z4 (IL)	Z6 (IN, KY)	Z8 (AR)	Z9 (LA, MS, TX)	SYSTEM
Coincident Peak Forecast (CPF)*	18,525.1	12,371.6		37,574.4		9,518.1	17,592.3	30,458.9		124,040.4
Transmission Loss MW (TL) for CPF*	581.4	236.3		1,039.1		210.7	529.9	622.4		3,219.8
Planning Reserve Margin Requirements (PRMR)*	18,320.9	13,503.0		41,356.0		10,419.5	19,409.0	33,287.8		136,296.2
Installed Capacity (ICAP)*	23,957.8	16,843.7		50,375.3		15,559.9	22,947.9	46,184.0		175,868.6
Unforced Capacity (UCAP)*	19,896.5	15,415.9		41,984.3		13,481.8	21,433.7	43,037.5		155,249.6
Zonal Coincident Peak Forecast (ZCPF)*	17,145.5	12,936.3		39,025.2		9,658.2	17,811.0	31,389.2		127,963.4
Transmission Loss MW (TL) for ZCPF*	601.6	299.9		1,080.3		213.5	534.1	641.6		3,371.0
Local Resource Requirement (LRR)*	19,717.0	15,234.8		46,347.6		11,981.8	20,326.4	36,852.9		150,460.5
Capacity Import Limit (CIL)	3,735.0	2,903.0	1,972.0	3,899.0	3,813.0	3,130.0	5,649.0	2,074.0	3,320.0	N/A
Capacity Export Limit (CEL)	604.0	1,516.0	1,477.0	0.0	4,804.0	4,125.0	2,930.0	3,022.0	3,239.0	N/A
Local Clearing Requirement (LCR)*	15,982.0	12,331.8		36,663.6		8,851.8	14,677.4	31,458.9		N/A

12. As shown in the table in paragraph 6 above, the 2015/2016 PRA was based on and incorporated these data, values, and requirements.⁸
13. The auction data supports the statements of MISO and NERC that no shortage is present in central and southern Illinois (Zone 4).
14. As shown in the table in paragraph 6 above, for the 2015/2016 PRA, MISO required that 10,420 MW of capacity be available in Zone 4 to meet the Planning Reserve Margin Requirement for Zone 4.
15. As demonstrated in the table in paragraph 11 above, in Zone 4, available supply or “unforced capacity” of 13,481.8 MW is available to meet the 2015/2016 PRA Zone 4 Planning Reserve Margin Requirement of 10,420 MW.
16. While the “unforced capacity” or available supply in Zone 4 is more than sufficient to meet the Planning Reserve Margin Requirement for the zone, the ownership of supply in Zone 4 is highly concentrated. I calculated the Herfindahl-Hirschman Index of the Zone

⁷ 2015-2016 Preliminary Resource Adequacy Data, MISO, March 3, 2015, available at <https://www.misoenergy.org/Library/Repository/Report/Resource%20Adequacy/AuctionResults/2015-16%20Preliminary%20Planning%20Resource%20Auction%20Data.pdf>.

⁸ Attachment D, 2015/2016 Planning Resource Auction Results, MISO, April 14, 2015, page 6.

4 market using the 2015/2016 PRA bid data made available by MISO. The bid data made available by MISO shows a Herfindahl-Hirschman Index (HHI) of 2,562.⁹ Any score over 1,800 is considered “highly concentrated” by the Commission.¹⁰ I calculated the HHI using the standard formula on bid data, by market participant, using bids received in MISO Zone 4. The only adjustment I made to the bid data was to combine two Dynegy subsidiaries that are reported separately in the bid data.

17. It is MISO practice to assign masked bidder identification numbers to bids. Dynegy publicly released the total number of MWs it cleared in the auction by each subsidiary:

Dynegy Reports MISO Capacity Auction Results

Dynegy Inc. (NYSE:DYN) today reported its results from the MISO capacity auction for planning year 2015/16.

Zone 4 cleared the 2015/2016 MISO capacity auction at \$150 per megawatt-day. Dynegy's IPH segment cleared 1,864 megawatts (MW) at that price, including 1,709 MW that are estimated to cover retail load obligations. Dynegy's coal segment cleared 398 MW in the auction, also at that price.¹¹

18. Since the offer data identifies the amount of each bid that is awarded in the auction, the masked bidder IDs shown in the MISO spreadsheet can be matched with the Dynegy announcement. In this case, Illinois Power Holdings (IPH) matches masked market participant ID 2132 and Dynegy's coal segment matches ID 2424.

⁹ 2015-2016 PRA Detailed Report, available at: <https://www.misoenergy.org/Library/Pages/ManagedFileSet.aspx?SetId=2054>.

¹⁰ FERC Docket No. RM11-14-000, *Analysis of Horizontal Market Power under the Federal Power Act*, Order Reaffirming Commission Policy and Terminating Proceeding at 55 (Feb. 16, 2012), 138 FERC ¶61,109, available at: <http://www.ferc.gov/whats-new/comm-meet/2012/021612/E-2.pdf>.

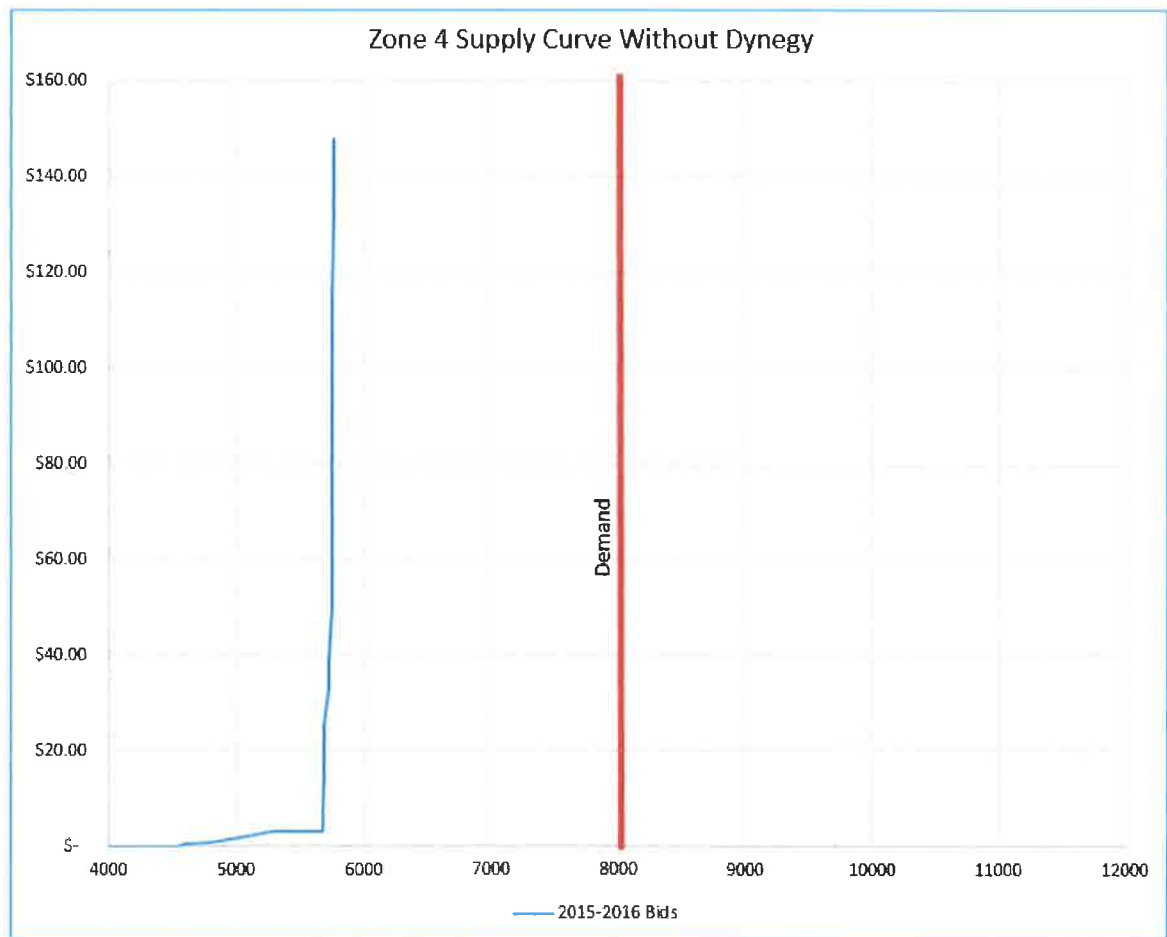
¹¹ Dynegy Reports MISO Capacity Auction Results, Dynegy, April 14, 2015, available at: http://phx.corporate-ir.net/phoenix.zhtml?c=147906&p=irol-newsArticle_Print&ID=2035099.

19. Illinois Power Holdings is the Dynegy entity that owns five power plants purchased from Ameren on December 2, 2013. The acquisition gave Dynegy roughly half of the capacity of Zone 4. Of the 11,156 MW of bids received in Zone 4, 5,404.5 MWs are owned by Dynegy.
20. Ownership of roughly half of the capacity in a specific zone is not material to MISO as a whole unless that zone is a distinct submarket. Zone 4 is a distinct submarket because Zone 4 is treated as a separate zone for capacity supply in the PRA design. In addition, there is limited transmission into Zone 4 – limited to 3,130 MWs of imported capacity – and MISO set a requirement that 8,852 MWs be procured from resources located within Zone 4.
21. It is often difficult to see the impact of overlapping constraints – breakfast when the wallet holds only \$10 and the waistline limits the choice to 500 calories. In this case, the interaction of three constraints – load requirements, import capacity, and required local generation – can be confusing.
22. The simplest way to understand this market is that regardless of other constraints, the local participants in Zone 4 must provide 8,852 MWs of local generation. Since Dynegy owns half the local generation, this requirement cannot be met without its participation. Dynegy is the pivotal supplier for Zone 4 – its participation in the market is required to meet the reliability standards set by MISO.
23. MISO has identified 13,481.8 MW of total unforced capacity in Zone 4. Dynegy has 6,400 MWs.¹² Without Dynegy’s capacity, there are only 7,081 MWs available to meet an 8,852 MW requirement. If all non-Dynegy unforced capacity was offered, a capacity

¹² Attachment E: Electricity Market Overview Competitive States, Dynegy, undated, page 2.

gap of $(8,852 \text{ MW} - 7,081 \text{ MW})$ 1,771 MW would remain. Not all unforced capacity was offered in the auction. Dynegy only offered 5,404.5 MW. Other suppliers also did not offer their full unforced capacity. Total offers for bidders not including Dynegy comprised 5,751.9 MW which left a gap of $(8,014 \text{ MW} - 5,751.9 \text{ MW}) = 2,262.1 \text{ MW}$.

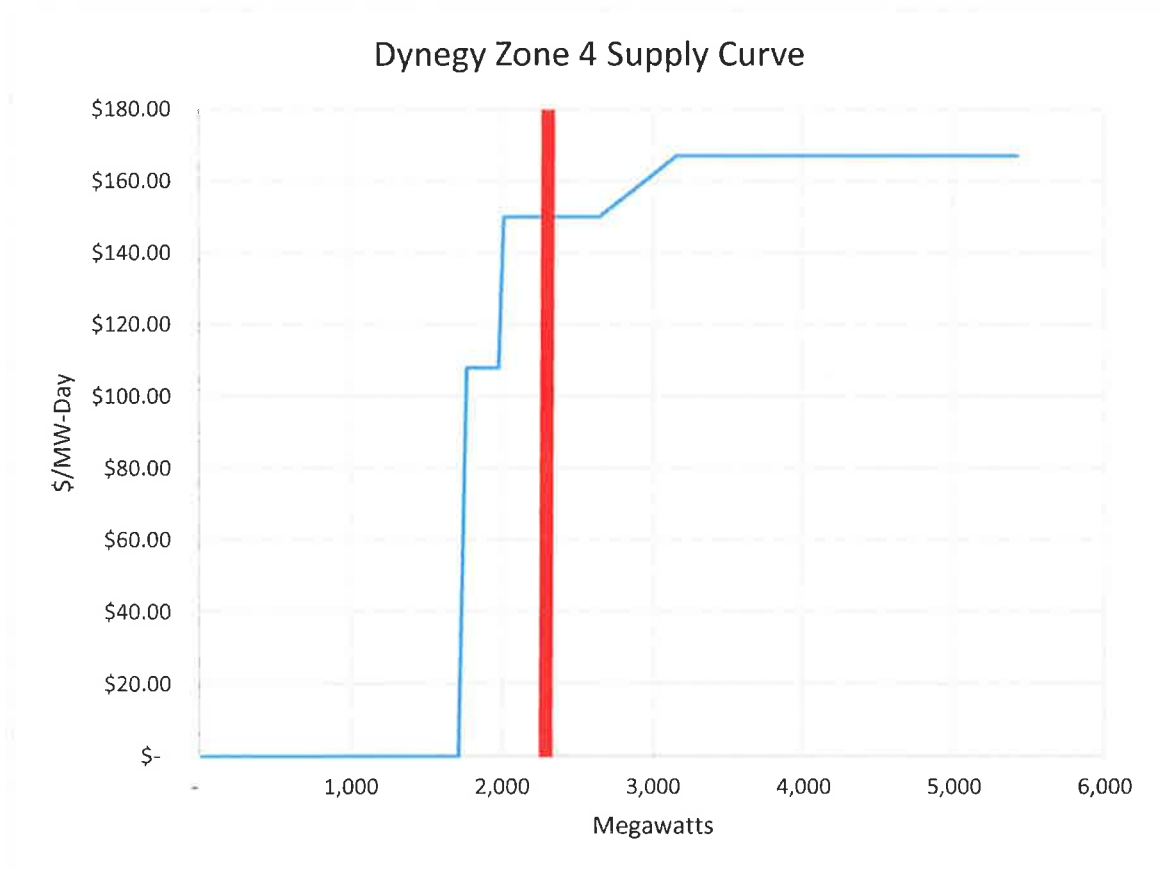
24. A pivotal supplier is effectively equivalent to a monopolist. Since the market cannot clear without its participation, it can set whatever price it chooses. The following chart shows the supply curve for bidders other than Dynegy in Zone 4 based on the bidding data MISO released on May 14, 2015:



Regardless of the price offered, the non-Dynegy bidders in Zone 4 cannot meet the local capacity requirement. No bids with prices over \$4.00/MW-Day represent more than 37.5

megawatts, so a rational pivotal supplier would set the price as high as possible for the megawatts required to fill the gap.

25. In this case Dynegy bid a price of \$150/MW-Day in Zone 4. Its supply curve effectively sets the clearing price at this level since it is where the 2,262.1 MW gap shown above crosses its offer:



26. Once the offers of the other Zone 4 bidders had been accepted, the only remaining supplier was Dynegy. The remaining demand of 2,262.1 MW crosses the Dynegy offer curve at \$150/MW-Day.
27. A critical question is why Dynegy chose to set the price at \$150/MW-Day instead of some other price. The choice of the price reflected a maximum threshold determined by MISO's Independent Market Monitor above which bids would be mitigated, or settled in the auction at a new price assigned by MISO as set out in Module D of MISO's FERC

Electric Tariff. Each year the market monitor sets a reference level based on the assumed opportunity cost of export to PJM.¹³ This year the reference level was \$155.79/MW-Day.

28. The optimal strategy for Dynegy, therefore, is to recognize the gap quantity after all other resources have been bid and develop a bidding strategy that will bid to fill the gap so that the price is close to, but not over, the market monitor's Reference Level threshold, which was set to reflect the estimate opportunity cost of exporting capacity to a neighboring region.
29. The reference level value has many doubtful features, not least of which is that it is supposedly based on a MISO generator's opportunity cost. The MISO Independent Market Monitor's study states:

The potential opportunity cost for MISO capacity suppliers to sell capacity to PJM participants as replacement capacity is based on the penalty a participant would pay if it is short of its required resources.¹⁴

30. The study also notes that actual bilateral data is not available. PJM, conversely, states that:

average MW-weighted cost to purchase replacement capacity across all IAs conducted to-date has been just above 20% of the BRA price.¹⁵

31. Dynegy's filings in the FERC EQR database indicate that its revenues from PJM are very significantly lower, casting doubt on the premise that the reference level represents a Zone 4 generator's actual opportunity cost. For the previous nine months, Dynegy's

¹³ Attachment F, *Initial Reference Level For Zonal Reserve Offers: 2015/2016 Delivery Year*, Potomac Economics, September 11, 2014, available at: <https://www.misoenergy.org/Library/Repository/Report/IMM/2015-2016%20Initial%20Reference%20Level%20for%20Zonal%20Resources.pdf>

¹⁴ *Id.*, page 2.

¹⁵ PJM, *Procurement of Replacement Capacity via Incremental Auctions*, August 26, 2013, page 11, available at: <http://www.pjm.com/~media/committees-groups/task-forces/cstf/20130826-rpm/20130826-item-02-cstf-replacement-capacity-in-the-incremental-auctions-education.ashx>.

subsidiary, Illinois Power Holdings, through its marketing arm Illinois Power Marketing Company d/b/a Homefield Energy, has offered capacity to PJM for \$25.51 and \$5.54 per MW-day.¹⁶

seller_company_name	customer_company_name	product_name	tr_begin_date	transaction_quantity	Price
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	3/1/2015	93	\$ 25.51
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	3/1/2015	2290.9	\$ 5.54
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	2/1/2015	2069.2	\$ 5.54
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	2/1/2015	84	\$ 25.51
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	1/1/2015	2290.9	\$ 5.54
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	1/1/2015	93	\$ 25.51
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	12/1/2014	93	\$ 25.51
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	12/1/2014	2290.9	\$ 5.54
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	11/1/2014	2217	\$ 5.54
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	11/1/2014	90	\$ 25.51
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	10/1/2014	2290.9	\$ 5.54
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	10/1/2014	93	\$ 25.51
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	9/1/2014	2217	\$ 5.54
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	9/1/2014	90	\$ 25.51
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	8/1/2014	93	\$ 25.51
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	8/1/2014	2290.9	\$ 5.54
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	7/1/2014	93	\$ 25.51
ILLINOIS POWER MARKETING COMPANY	PJM INTERCONNECTION, L.L.C.	CAPACITY	7/1/2014	2290.9	\$ 5.54

Second, the very significant debates in the course of Commission Docket EL14-503 indicate that the recently imposed restrictions on the export of capacity from MISO to PJM have had a very significant impact on the market:

The new rules, which FERC approved in April, created five export zones with a combined limit of 6,499 MW for the 2014 BRA. Cleared generation imports dropped to 4,526 MW in 2014, a reduction of almost 40% from 2013.¹⁷

32. The filings in EL14-503 included a debate between the market monitor of MISO and that of PJM. The MISO Independent Market Monitor (“MISO IMM”) filed comments saying:

While it may be true that allowing surplus external capacity resources to sell into the PJM capacity market will reduce capacity prices in PJM, this is efficient and is the virtue of competitive, seamless RTO markets. This is

¹⁶ Available at: <http://www.ferc.gov/docs-filing/eqr/data.asp>.

¹⁷ FERC Rejects Challenge on PJM Capacity Import Limit, RTO Insider, January 26, 2015, available at: <http://www.rtoinsider.com/ferc-pjm-import-limits-12722>.

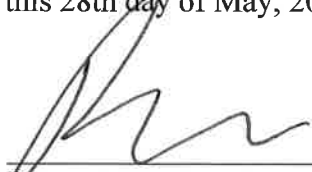
a benefit to which PJM’s consumers are entitled, consistent with the stated goal of PJM to provide “reliable service at the lowest cost”.¹⁸

33. In the 2015/2016 PRA for Zone 4, Dynegy was allowed to set the price without being subject to mitigation because the Reference Level was based on an assumption of unconstrained access to the PJM market. This was despite the MISO IMM’s objection to PJM rules that limit MISO generators’ access to the PJM markets. Given the constraints on selling capacity into PJM identified by the MISO IMM, it is not surprising that Dynegy (Illinois Power Holdings) reported actual revenues available from sales to PJM markets as significantly less than the opportunity cost assumption upon which the MISO IMM based the reference price.

34. Dynegy’s additional revenues from the exercise in market power are equal to $(\$150.00/\text{MWh-Day} - \$3.48/\text{MWh-Day}) \times 2,258.9 \text{ MWs} \times 365$ or \$120,805,520.22. If the effect of the pivotal supplier in Zone 4 had been addressed, I expect that the Zone 4 capacity price from the 2015/2016 PRA would have been the same as in Zones 1-7.

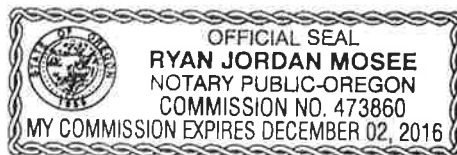
35. This completes my affidavit.

Signed and sworn under penalties of perjury this 28th day of May, 2015.


Robert McCullough

Signed and sworn before me
this 28 day of May, 2015.


Notary Public



¹⁸ FERC Docket No. EL14-503, Comments Of The Midcontinent ISO’s Independent Market Monitor, March 11, 2014, page 7.

Robert McCullough – Curriculum Vitae*Principal**McCullough Research, 3816 S.E. Woodstock Place, Portland, OR 97202 USA***Professional Experience**

- 1985-present Principal, McCullough Research: provide strategic planning assistance, litigation support, and planning for a variety of customers in energy, regulation, and primary metals
- 1996-present Adjunct Professor, Economics, Portland State University
- 1990-1991 Director of Special Projects and Assistant to the Chairman of the Board, Portland General Corporation: conducted special assignments for the Chairman in the areas of power supply, regulation, and strategic planning
- 1988-1990 Vice President in Portland General Corporation's bulk power marketing utility subsidiary, Portland General Exchange: primary negotiator on the purchase of 550 MW transmission and capacity package from Bonneville Power Administration; primary negotiator of PGX/M, PGC's joint venture to establish a bulk power marketing entity in the Midwest; negotiated power contracts for both supply and sales; coordinated research function
- 1987-1988 Manager of Financial Analysis, Portland General Corporation: responsible for M&A analysis, restructuring planning, and research support for the financial function; reported directly to the CEO on the establishment of Portland General Exchange; team member of PGC's acquisitions task force; coordinated PGC's strategic planning process; transferred to the officer's merit program as a critical corporate manager
- 1981-1987 Manager of Regulatory Finance, Portland General Electric: responsible for a broad range of regulatory and planning areas, including preparation and presentation of PGE's financial testimony in rate cases in 1980, 1981, 1982, 1983, 1985, and 1987 before the Oregon Public Utilities Commission; responsible for preparation and presentation of PGE's wholesale rate case with Bonneville Power Administration in 1980, 1981, 1982, 1983, 1985, and 1987; coordinated activities at BPA and FERC on wholesale matters for the InterCompany Pool (the association of investor-owned utilities in the Pacific Northwest) since 1983;

ROBERT McCULLOUGH
Principal

McCullough Research
 Page 1 of 20

created BPA's innovative aluminum tariffs (adopted by BPA in 1986); led PGC activities, reporting directly to the CEO and CFO on a number of special activities, including litigation and negotiations concerning WPPSS, the Northwest Regional Planning Council, various electoral initiatives, and the development of specific tariffs for major industrial customers; member of the Washington Governor's Task Force on the Vancouver Smelter (1987) and the Washington Governor's Task Force on WPPSS Refinancing (1985); member of the Oregon Governor's Work Group On Extra-Regional Sales (1983); member of the Advisory Committee to the Northwest Regional Planning Council (1981)

1979-1980

Economist, Rates and Revenues Department, Portland General Electric: responsible for financial and economic testimony in the 1980 general case; coordinated testimony in support of the creation of the DRPA (Domestic and Rural Power Authority) and was a witness in opposition to the creation of the Columbia Public Utility District in state court; member of the Scientific and Advisory Committee to the Northwest Regional Power Planning Council

Economic Consulting

2014-2015

Market analysis of the NYISO for the New York State Assembly

2014

Advisor to the Grand Council of the Cree on uranium mining in Quebec

2014

Support for the investigation of Barclays Bank

2013

Advisor to Environmental Defense Fund on gasoline and oil issues in California

2013

Advisor to Energy Foundation on Ohio competitive issues

2013

Export market review in the Maritime Link proceeding

2013

Retained to do a business case analysis of the Columbia Generating Station by the Physicians for Social Responsibility

2011

Consultant to Citizens Action Coalition of Indiana on Indiana Gasification LLC project

2010-present

Analysis and expert witness testimony for Block Island Intervenors concerning Deepwater offshore wind project

ROBERT McCULLOUGH
Principal

McCullough Research
Page 2 of 20

2010	Analysis for Eastern Environmental Law Center of 25 closed cycle plants in New York State
2010	Advisor on BPA transmission line right of way issues
2009-2010	Advisor to Gamesa USA on a marketing plan to promote a wind farm in the Pacific Northwest
2009-2010	Expert witness in City of Alexandria vs. Cleco
2009-present	Expert witness in City of Beaumont v. Entergy
2008-2009	Consultant to AARP Connecticut and Texas chapters on the need for a state power authority (Connecticut) and balancing energy services (Texas)
2008-present	Advisor to the American Public Power Association on administered markets
2008	Expert witness on trading and derivative issues in Barrick Gold litigation
2008-present	Advisor to Jackson family in Pelton/Round Butte dispute
2006-present	Advisor to the Illinois Attorney General on electric restructuring issues
2006-present	Expert witness for Lloyd's of London in SECLP insurance litigation
2006-2007	Advisor to the City of Portland in the investigation of Portland General Electric
2005-2006	Expert witness for Antara Resources in Enron litigation
2005-2006	Advisor to Utility Choice Electric
2005-2007	Expert witness for Federated Rural Electric Insurance Company and TIG Insurance in Cowlitz insurance litigation
2005-2007	Advisor to Gray's Harbor PUD on market manipulation
2005-2007	Advisor to the Montana Attorney General on market manipulation
2004-2005	Expert witness for Factory Mutual in Northwest Aluminum litigation

2004	Advisor to the Oregon Department of Justice on market manipulation
2003-2006	Expert witness for Texas Commercial Energy
2003-2004	Advisor to The Energy Authority
2002-2005	Advisor to the U.S. Department of Justice on market manipulation issues
2002-2004	Expert witness for Alcan in Powerex arbitration
2002-2003	Expert witness for Overton Power in IdaCorp Energy litigation
2002-2003	Expert witness for Stanislaus Food Products
2002	Advisor to VHA Pennsylvania on power purchasing
2002	Expert witness for Sierra Pacific in Enron litigation
2002-2004	Advisor to U.S. Department of Justice
2002-2007	Expert witness for Snohomish PUD in Enron litigation
2002-1010	Expert witness for Snohomish in Morgan Stanley investigation
2001-2005	Advisor to Nordstrom
2001-2005	Advisor to Steelscape Steel on power issues in Washington and California
2001-2008	Advisor to VHA Southwest on power purchasing
2001-present	Expert witness for City of Seattle, Seattle City Light and City of Tacoma in FERC's EL01-10 refund proceeding
2001	Advisor to California Steel on power purchasing
2001	Advisor to the California Attorney General on market manipulations in the Western Systems Coordinating Council power markets
2000-present	Expert witness for Wah Chang in PacifiCorp litigation

2000-2001	Expert witness for Southern California Edison in Bonneville Power Administration litigation
2000-2001	Advisor to Blue Heron Paper on West Coast price spikes
2000	Expert witness for Georgia Pacific and Bellingham Cold Storage in the Washington Utilities and Transportation Commission's proceeding on power costs
1999	Expert report for the Center Helios on Freedom of Information in Québec
1999-2002	Advisor to Bayou Steel on alternative energy resources
1999-2000	Expert witness for the Large Customer Group in PacifiCorp's general rate case
1999-2000	Expert witness for Tacoma Utilities in WAPA litigation
1999-2000	Advisor for Nucor Steel and Geneva Steel on PacifiCorp's power costs
1999-2000	Advisor to Abitibi-Consolidated on energy supply issues
1999	Advisor to GTE regarding Internet access in competitive telecommunication markets
1999	Advisor to Logansport Municipal Utilities
1998-2001	Advisor to Edmonton Power on utility plant divestiture in Alberta
1998-2001	Energy advisor for Boise Cascade
1998-2000	Advisor to California Steel on power purchasing
1998-2000	Advisor to Nucor Steel on power purchasing and transmission negotiations
1998-2000	Advisor to Cominco Metals on the sale of hydroelectric dams in British Columbia
1998-2000	Advisor to the Betsiamites on the purchase of hydroelectric dams in Québec
1998-1999	Advisor to the Illinois Chamber of Commerce concerning the affiliate electric and gas program

1998	Intervention in Québec's first regulatory proceeding on behalf of the Grand Council of the Cree
1998	Market forecasts for Montana Power's restructuring proceeding
1997-1999	Advisor to the Columbia River Intertribal Fish Commission on Columbia fish and wildlife issues
1997-1998	Advisor to Port of Morrow regarding power marketing with respect to existing gas turbine plant
1997-1998	Expert witness for Tenaska in BPA litigation
1997	Advisor to Kansai Electric on restructuring in the electric power industry (with emphasis on the California markets)
1997-2004	Expert witness for Alcan in BC Hydro litigation
1996-1997	Bulk power purchasing for the Association of Bay Area Cities
1996-1997	Advisor to Texas Utilities on industrial issues
1996-1997	Expert witness for March Point Cogeneration in Puget Sound Power and Light litigation
1996	Advisor to Longview Fibre on contract issues
1995-present	Bulk power supplier for several Pacific Northwest industrials
1995-1997	Advisor to Tacoma Utilities on contract issues
1995-1999	Advisor to Seattle City Light on industrial contract issues
1995-1996	Expert witness for Tacoma Utilities in WAPA litigation
1994-1995	Advisor to Idaho Power on Southwest Intertie Project marketing
1993-2001	Northwest representative for Edmonton Power
1993-1997	Expert witness for MagCorp in PacifiCorp litigation
1992-1995	Advisor to Citizens Energy Corporation
1992-1994	Negotiator on proposed Bonneville Power Administration aluminum contracts

1992	Bulk power marketing advisor to Public Service of Indiana
1997-2003	Advisor to the Manitoba Cree on energy issues in Manitoba, Minnesota and Québec; Advisor to the Grand Council of the Cree on hydroelectric development
1991-2000	Strategic advisor to the Chairman of the Board, Portland General Corporation
1991-1993	Chairman of the Investor Owned Utilities' (ICP) committee on BPA financial reform
1991-1992	Financial advisor on the Trojan owners' negotiation team
1991	Advisor to Shasta Dam PUD on the California Oregon Transmission Project and related issues
1990-1991	Advised the Chairman of the Illinois Commerce Commission on issues pertaining to the 1990 General Commonwealth Rate Proceeding; prepared an extensive analysis of the bulk power marketing prospects for Commonwealth in ECAR and MAIN
1988	Facilitated the settlement of Commonwealth Edison's 1987 general rate case and restructuring proposal for the Illinois Commerce Commission; reported directly to the Executive Director of the Commission; responsibilities included financial advice to the Commission and negotiations with Commonwealth and interveners
1987-1988	Created the variable aluminum tariff for Big Rivers Electric Corporation: responsibilities included testimony before the Kentucky Public Service Commission and negotiations with BREC's customers (the innovative variable tariff was adopted by the Commission in August 1987); supported negotiations with the REA in support of BREC's bailout debt restructuring
1981-1989	Consulting projects including: financial advice for the Oregon AFL-CIO; statistical analysis of equal opportunity for Oregon Bank; cost of capital for the James River dioxin review; and economic analysis of qualifying facilities for Washington Hydro Associates
1980-1986	Taught classes in senior and graduate forecasting, micro-economics, and energy at Portland State University

ROBERT McCULLOUGH
Principal

McCullough Research
Page 7 of 20

Education

Unfinished Ph.D.	Economics, Cornell University; Teaching Assistant in micro- and macro-economics
M.A.	Economics, Portland State University, 1975; Research Assistant
B.A.	Economics, Reed College, 1972; undergraduate thesis, "Eurodollar Credit Creation"

Areas of specialization include micro-economics, statistics, and finance

Papers and Publications

December 2014	"Nuclear Winter", <i>Electricity Policy</i>
July 2013	"Mid-Columbia Spot Markets and the Renewable Portfolio Standard", <i>Public Utilities Fortnightly</i>
April 14, 2013	"Selling Low and Buying High", <i>The Oregonian</i>
December 2012	"Are Electric Vehicles Actually Cost-Effective?", <i>Electricity Policy</i>
November 30, 2012	"Portland's Energy Credits: The trouble with buying 'green'", <i>The Oregonian</i>
July 2009	"Fingerprinting the Invisible Hand", <i>Public Utilities Fortnightly</i>
February 2008	Co-author, "The High Cost of Restructuring", <i>Public Utilities Fortnightly</i>
March 27, 2006	Co-author, "A Decisive Time for LNG", <i>The Daily Astorian</i>
February 9, 2006	"Opening the Books", <i>The Oregonian</i>
August 2005	"Squeezing Scarcity from Abundance", <i>Public Utilities Fortnightly</i>
April 1, 2002	"The California Crisis: One Year Later", <i>Public Utilities Fortnightly</i>
March 13, 2002	"A Sudden Squall", <i>The Seattle Times</i>
March 1, 2002	"What the ISO Data Says About the Energy Crisis", <i>Energy User News</i>

ROBERT McCULLOUGH
Principal

McCullough Research
Page 8 of 20

February 1, 2001	“What Oregon Should Know About the ISO”, <i>Public Utilities Fortnightly</i>
January 1, 2001	“Price Spike Tsunami: How Market Power Soaked California”, <i>Public Utilities Fortnightly</i>
March 1999	“Winners & Losers in California”, <i>Public Utilities Fortnightly</i>
July 15, 1998	“Are Customers Necessary?”, <i>Public Utilities Fortnightly</i>
March 15, 1998	“Can Electricity Markets Work Without Capacity Prices?”, <i>Public Utilities Fortnightly</i>
February 1998	“Coping With Interruptibility”, <i>Energy Buyer</i>
January 1998	“Pondering the Power Exchange”, <i>Energy Buyer</i>
December 1997	“Getting There Is Half the Cost: How Much Is Transmission Service?”, <i>Energy Buyer</i>
November 1997	“Is Capacity Dead?”, <i>Energy Buyer</i>
October 1997	“Pacific Northwest: An Overview”, <i>Energy Buyer</i>
August 1997	“A Primer on Price Volatility”, <i>Energy Buyer</i>
June 1997	“A Revisionist’s History of the Future”, <i>Energy Buyer</i>
Winter 1996	“What Are We Waiting for?” <i>Megawatt Markets</i>
October 21, 1996	“Trading on the Index: Spot Markets and Price Spreads in the Western Interconnection”, <i>Public Utilities Fortnightly</i>

McCullough Research Reports

January 2, 2015	“Data and Methodological Errors in the Portland Commercial Street Fee”
December 15, 2014	Report to the Bureau d’audiences publiques sur l’environnement (BAPE), “Uranium Mining in Quebec: Four Conclusions”
December 11, 2013	“Economic Analysis of the Columbia Generating Station”
February 21, 2013	“McCullough Research Rebuttal to Western States Petroleum Association”

ROBERT McCULLOUGH
Principal

McCullough Research
Page 9 of 20

November 15, 2012	“May and October 2012 Gasoline Price Spikes on the West Coast”
June 5, 2012	“Analysis of West Coast Gasoline Prices”
October 3, 2011	“Lowering Florida’s Electricity Prices”
July 14, 2011	“2011 ERCOT Blackouts and Emergencies”
March 1, 2010	“Translation” of the September 29, 2008 NY Risk Consultant’s Hydraulics Report to Manitoba Hydro CEO Bob Brennan
December 2, 2009	“Review of the ICF Report on Manitoba Hydro Export Sales”
June 5, 2009	“New York State Electricity Plants’ Profitability Results”
May 5, 2009	“Transparency in ERCOT: A No-cost Strategy to Reduce Electricity Prices in Texas”
April 7, 2009	“A Forensic Analysis of Pickens’ Peak: Speculation, Fundamentals or Market Structure”
March 30, 2009	“New Yorkers Lost \$2.2 Billion Because of NYISO Practices”
March 3, 2009	“The New York Independent System Operator’s Market-Clearing Price Auction is Too Expensive for New York”
February 24, 2009	“The Need for a Connecticut Power Authority”
January 7, 2009	“Review of the ERCOT December 18, 2008 Nodal Cost Benefit Study”
August 6, 2008	“Seeking the Causes of the July 3rd Spike in World Oil Prices” (updated September 16, 2008)
April 7, 2008	“Kaye Scholer’s Redacted ‘Analysis of Possible Complaints Relating to Maryland’s SOS Auctions’”
February 1, 2008	“Some Observations on Societe Generale’s Risk Controls”
June 26, 2007	“Looking for the ‘Voom’: A Rebuttal to Dr. Hogan’s ‘Acting in Time: Regulating Wholesale Electricity Markets’”

September 26, 2006	“Did Amaranth Advisors, LLC Attempt to Corner the March 2007 NYMEX at Henry Hub?”
May 18, 2006	“Developing a Power Purchase/Fuel Supply Portfolio: Energy Strategies for Cities and Other Public Agencies”
April 12, 2005	“When Oil Prices Rise, Using More Ethanol Helps Save Money at the Gas Pump”
April 12, 2005	“When Farmers Outperform Sheiks: Why Adding Ethanol to the U.S. Fuel Mix Makes Sense in a \$50-Plus/Barrel Oil Market”
April 12, 2005	“Enron’s Per Se Anti-Trust Activities in New York”
February 15, 2005	“Employment Impacts of Shifting BPA to Market Pricing”
June 28, 2004	“Reading Enron’s Scheme Accounting Materials”
June 5, 2004	“ERCOT BES Event”
August 14, 2003	“Fat Boy Report”
May 16, 2003	“CERA Decision Brief”
January 16, 2003	“California Electricity Price Spikes”
November 29, 2002	“C66 and Artificial Congestion Transmission in January 2001”
August 17, 2002	“Three Days of Crisis at the California ISO”
July 9, 2002	“Market Efficiencies”
June 26, 2002	“Senate Fact Sheet”
June 5, 2002	“Congestion Manipulation”
May 5, 2002	“Enron’s Workout Plan”
March 31, 2002	“A History of LJM2”
February 2, 2002	“Understanding LJM”
January 22, 2002	“Understanding Whitewing”

Testimony and Comment

December 15, 2014	Testimony before the Bureau d'audiences publiques sur l'environnement (BAPE) in Quebec, "Uranium Mining in Quebec: Four Conclusions"
November 15, 2012	Testimony before the California State Senate Select Committee on Bay Area Transportation on West Coast gasoline price spikes in 2012
July 20, 2010	Testimony before the Rhode Island Public Utility Commission on the Deepwater offshore wind project
April 7, 2009	Testimony before the U.S. Senate Committee on Energy and Natural Resources on "Pickens' Peak"
March 5, 2009	Testimony before the New York Assembly Committee on Corporations, Authorities and Commissions, and the Assembly Committee on Energy, "New York Independent System Operators Market Clearing Price Auction is Too Expensive for New York"
February 24, 2009	Testimony before the Energy and Technology Committee, Connecticut General Assembly, "An Act Establishing a Public Power Authority" on behalf of AARP
September 16, 2008	Testimony before the U.S. Senate Committee on Energy and Natural Resources, "Depending On 19th Century Regulatory Institutions to Handle 21st Century Markets"
January 7, 2008	Supplemental Comment ("The Missing Benchmark in Electricity Deregulation") before the Federal Energy Regulatory Commission on behalf of American Public Power Association, Docket Nos. RM07-19-000 and AD07-7-000
August 7-8, 2007	Testimony before the Oregon Public Utility Commission on behalf of Wah Chang, Salem, Oregon, Docket No. UM 1002
February 23 and 26, 2007	Testimony before the Federal Energy Regulatory Commission on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No. EL03-180
October 2, 2006	Direct Testimony before the Régie de l'énergie, Gouvernement du Québec on behalf of the Grand Council of the Cree

August 22, 2006	Rebuttal Expert Report on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No. H-01-3624
June 1, 2006	Expert Report on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No. H-01-3624
May 8, 2006	Testimony before the U.S. Senate Democratic Policy Committee, "Regulation and Forward Markets: Lessons from Enron and the Western Market Crisis of 2000-2001"
December 15, 2005	Direct Testimony before the Public Utility Commission of the State of Oregon on behalf of Wah Chang, Wah Chang v. PacifiCorp in Docket UM 1002
December 14, 2005	Deposition before the United States District Court Western District of Washington at Tacoma on behalf of Federated Rural Electric Insurance Exchange and TIG Insurance Company, Federated Rural Electric Insurance Exchange and TIG Insurance Company v. Public Utility District No. 1 of Cowlitz County, No. 04-5052RBL
December 4, 2005	Expert Report on behalf of Utility Choice Electric in Civil Action No. 4:05-CV-00573
July 27, 2005	Expert Report before the United States District Court Western District of Washington at Tacoma on behalf of Federated Rural Electric Insurance Exchange and TIG Insurance Company, Federated Rural Electric Insurance Exchange and TIG Insurance Company v. Public Utility District No. 1 of Cowlitz County, Docket No. CV04-5052RBL
May 6, 2005	Rebuttal Testimony before the Federal Energy Regulatory Commission on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No.EL03-180, et al.
May 1, 2005	Rebuttal Expert Report on behalf of Factory Mutual, Factory Mutual v. Northwest Aluminum
March 24-25, 2005	Deposition by Enron Power Marketing, Inc. before the Federal Energy Regulatory Commission on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No.EL03-180, et al.
February 14, 2005	Expert Report on behalf of Factory Mutual, Factory Mutual v. Northwest Aluminum

ROBERT McCULLOUGH
Principal

McCullough Research
Page 13 of 20

January 27, 2005	Supplemental Testimony before the Federal Energy Regulatory Commission on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No. EL03-180, et al.
April 14, 2004	Deposition by Enron Power Marketing, Inc. and Enron Energy Services before the Federal Energy Regulatory Commission on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No.EL03-180, et al.
April 10, 2004	Rebuttal Testimony on behalf of the Office of City and County Attorneys, San Francisco, California, City and County Attorneys, San Francisco, California v. Turlock Irrigation District, Non-Binding Arbitration
February 24, 2004	Direct Testimony before the Federal Energy Regulatory Commission on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No.EL03-180, et al.
March 20, 2003	Rebuttal Testimony before the Federal Energy Regulatory Commission on behalf of the City of Seattle, Washington, Docket No. EL01-10, et al.
March 11-13, 2003	Deposition by IdaCorp Energy L.P. before the District Court of the Fourth Judicial District of the State of Idaho on behalf of Overton Power District No. 5, State of Nevada, IdaCorp Energy L.P. v. Overton Power District No. 5, Case No. OC 0107870D
March 3, 2003	Expert Report before the District Court of the Fourth Judicial District of the State of Idaho on behalf of Overton Power District No. 5, State of Nevada, IdaCorp Energy L.P. v. Overton Power District No. 5, Case No. OC 0107870D
February 27, 2003	Direct Testimony before the Federal Energy Regulatory Commission on behalf of the City of Tacoma, Washington and the Port of Seattle, Washington, Docket No. EL01-10-005
October 7, 2002	Rebuttal Testimony before the Federal Energy Regulatory Commission on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No. EL02-26, et al.
October 2002	Expert Report before the Circuit Court of the State of Oregon for the County of Multnomah on behalf of Alcan, Inc., Alcan, Inc. v. Powerex Corp., Case No. 50 198 T161 02

September 27, 2002	Deposition by Morgan Stanley Capital Group, Inc. before the Federal Energy Regulatory Commission on behalf of Nevada Power Company and Sierra Pacific Power Company, Docket No. EL02-26, et al.
August 8-9, 2002	Deposition by Morgan Stanley Capital Group, Inc. before the Federal Energy Regulatory Commission on behalf of Nevada Power Company and Sierra Pacific Power Company, Docket No. EL02-26, et al.
August 8, 2002	Deposition by Morgan Stanley Capital Group, Inc. before the Federal Energy Regulatory Commission on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No. EL02-26, et al.
June 28, 2002	Direct Testimony before the Federal Energy Regulatory Commission on behalf of the City of Tacoma, Washington, Docket No. EL02-26, et al.
June 25, 2002	Direct Testimony before the Federal Energy Regulatory Commission on behalf of Public Utility District No. 1 of Snohomish County, Washington, Docket No. EL02-26, et al.
June 25, 2002	Direct Testimony before the Federal Energy Regulatory Commission on behalf of Nevada Power Company and Sierra Pacific Power Company, Docket No. EL02-26, et al.
May 6, 2002	Rebuttal Testimony before the Public Service Commission of Utah on behalf of Magnesium Corporation of America in the Matter of the Petition of Magnesium Corporation of America to Require PacifiCorp to Purchase Power from MagCorp and to Establish Avoided Cost Rates, Docket No. 02-035-02
April 11, 2002	Testimony before the U.S. Senate Committee on Commerce, Science and Transportation, Washington DC
February 13, 2002	Testimony before the U.S. House of Representatives Subcommittee on Energy and Air Quality, Washington DC
January 29, 2002	Testimony before the U.S. Senate Committee on Energy and Natural Resources, Washington DC
August 30, 2001	Rebuttal Testimony before the Federal Energy Regulatory Commission on behalf of Seattle City Light, Docket No. EL01-10

August 16, 2001	Direct Testimony before the Federal Energy Regulatory Commission on behalf of Seattle City Light, Docket No. EL01-10
June 12, 2001	Rebuttal Testimony before the Public Utility Commission of the State of Oregon on behalf of Wah Chang, Wah Chang v. PacifiCorp in Docket UM 1002
April 17, 2001	Before the Public Utility Commission of the State of Oregon, Direct Testimony on behalf of Wah Chang, Wah Chang v. PacifiCorp in Docket UM 1002
March 17, 2000	Rebuttal Testimony before the Public Service Commission of Utah on behalf of the Large Customer Group in the Matter of the Application of PacifiCorp for Approval of Its Proposed Electric Rate Schedules and Electric Service Regulations, Docket No. 99-035-10
February 1, 2000	Direct Testimony before the Public Service Commission of Utah on behalf of the Large Customer Group in the Matter of the Application of PacifiCorp for Approval of Its Proposed Electric Rate Schedules and Electric Service Regulations, Docket No. 99-035-10

Presentations

May 6, 2014	“Economic Analysis of the Columbia Generating Station”, Energy Northwest, Boise, Idaho
April 30, 2014	“Economic Analysis of the Columbia Generating Station”, Portland State University, Portland, Oregon
April 22, 2014	“Economic Analysis of the Columbia Generating Station”, Clark County, Vancouver, Washington
January 9, 2014	“Economic Analysis of the Columbia Generating Station”, Northwest Power & Conservation Council, Portland, Oregon
January 1, 2014	“Economic Analysis of the Columbia Generating Station”, Bonneville Power Administration, Portland, Oregon
December 2, 2013	“Economic Analysis of the Columbia Generating Station”, Skamania, Carson, Washington

December 1, 2013	“Peak Peddling: Has Portland Bicycling Reached the Top of the Logistic Curve?” Oregon Transportation Research and Education Consortium, Portland, Oregon
July 12, 2013	“Economic Analysis of the Columbia Generating Station”, Tacoma, Washington
June 21, 2013	“Economic Analysis of the Columbia Generating Station”, Seattle City Light, Seattle, Washington
January 29, 2013	“J.D. Ross (Who)”, Portland Rotary Club, Portland, Oregon.
January 13, 2011	“Estimating the Consumer’s Burden from Administered Markets”, American Public Power Association conference, Washington, DC
October 15, 2009	“The Mysterious New York Market”, EPIS, Tucson, Arizona
October 14, 2009	“Do ISO Bidding Processes Result in Just and Reasonable Rates?”, legal seminar, American Public Power Association, Savannah, Georgia
June 22, 2009	“Pickens’ Peak Redux: Fundamentals, Speculation, or Market Structure”, International Association for Energy Economics
June 5, 2009	“Transparency in ERCOT: A No-cost Strategy to Reduce Electricity Prices in Texas”, Presentation at Texas Legislature
May 8, 2009	“Pickens’ Peak”, Economics Department, Portland State University
April 7, 2009	“Pickens’ Peak: Speculators, Fundamentals, or Market Structure”, 2009 EIA energy conference, Washington, DC
February 4, 2009	“Why We Need a Connecticut Power Authority”, presentation to the Energy and Technology Committee, Connecticut General Assembly
October 28, 2008	“The Impact of a Volatile Economy on Energy Markets”, NAESCO annual meeting, Santa Monica, California
April 1, 2008	“Connecticut Energy Policy: Critical Times...Critical Decisions”, House Energy and Technology Committee, the Connecticut General Assembly
May 23, 2007	“Past Efforts and Future Prospects for Electricity Industry Restructuring: Why Is Competition So Expensive?”, Portland State University

ROBERT McCULLOUGH
Principal

McCullough Research
Page 17 of 20

February 26, 2007	“Trust, But Verify”, Take Back the Power Conference, National Press Club, Washington, DC
May 18, 2006	“Developing a Power Purchase/Fuel Supply Portfolio”
February 12, 2005	“Northwest Job Impacts of BPA Market Rates”
January 5, 2005	“Why Has the Enron Crisis Taken So Long To Solve?”, Public Power Council, Portland, Oregon
September 20, 2004	“Project Stanley and the Texas Market”, Gulf Coast Energy Association, Austin, Texas
September 9, 2004	“Back to the New Market Basics”, EPIS, White Salmon, Washington
June 8, 2004	“Caveat Emptor”, ELCON West Coast Meeting, Oakland, California
June 9, 2004	“Enron Discovery in EL03-137/180”
March 31, 2004	“Governance and Performance”, Public Power Council, Portland, Oregon
January 23, 2004	“Resource Choice”, Law Seminars International, Seattle, Washington
January 17, 2003	“California Energy Price Spikes: The Factual Evidence”, Law Seminars International Seattle, Washington
January 16, 2003	“The Purloined Agenda: Pursuing Competition in an Era of Secrecy, Guile, and Incompetence”
September 17, 2002	“Three Crisis Days”, California Senate Select Committee, Sacramento, California
June 10, 2002	“Enron Schemes”, California Senate Select Committee Sacramento, California
May 2, 2002	“One Hundred Years of Solitude”
March 21, 2002	“Enron’s International Ventures”, Oregon Bar International Law Committee, Portland, Oregon
March 19, 2002	“Coordinating West Coast Power Markets”, GasMart, Reno, Nevada

March 19, 2002	“Sauron’s Ring”, GasMart, Reno, Nevada
January 25, 2002	“Deconstructing Enron’s Collapse: Buying and Selling Electricity on The West Coast”, Seattle, Washington
January 18, 2002	“Deconstructing Enron’s Collapse”, Economics Seminar, Portland State University
November 12, 2001	“Artifice or Reality”, EPIS Energy Forecast Symposium, Skamania, Washington
October 24, 2001	“The Case of the Missing Crisis” Kennewick Rotary Club, Kennewick, Washington
August 18, 2001	“Preparing for the Next Decade”
June 26, 2001	“Examining the Outlook on Deregulation”
June 25, 2001	Presentation, Energy Purchasing Institute for International Research (IIR), Dallas, Texas
June 6, 2001	“New Horizons: Solutions for the 21st Century”, Federal Energy Management-U.S. Department of Energy, Kansas City, Kansas
May 24, 2001	“Five Years”
May 10, 2001	“A Year in Purgatory”, Utah Industrial Customers Symposium-Utah Association of Energy Users, Salt Lake City, Utah
May 1, 2001	“What to Expect in the Western Power Markets this Summer”, Western Power Market Seminar, Denver, Colorado
April 23, 2001	“Emerging Markets for Natural Gas”, West Coast Gas Conference, Portland, Oregon
April 18, 2001	“Demystifying the Influence of Regulatory Mandates on the Energy Economy” Marcus Evans Seminar, Denver, Colorado
April 4, 2001	“Perfect Storm”, Regulatory Accounting Conference, Las Vegas, Nevada
March 21, 2001	“After the Storm 2001”, Public Utility Seminar, Reno, Nevada

February 21, 2001	“Future Imperfect”, Pacific Northwest Steel Association, Portland, Oregon
February 12, 2001	“Power Prices in 2000 through 2005”, Northwest Agricultural Chillers, Bellingham, Washington
February 6, 2001	Presentation, Boise Cascade Management, Boise, Idaho
January 19, 2001	“Wholesale Pricing and Location of New Generation Buying and Selling Power in the Pacific Northwest”, Seattle, Washington
October 26, 2000	“Tsunami: Market Prices since May 22nd”, International Association of Refrigerated Warehouses, Los Vegas, California
October 11, 2000	“Tsunami: Market Prices since May 22nd”, Price Spikes Symposium, Portland, Oregon
August 14, 2000	“Anatomy of a Corrupted Market”, Oregon Public Utility Commission and Oregon State Energy Office, Salem, Oregon
June 30, 2000	“Northwest Market Power”, Governor Locke of Washington, Seattle, Washington
June 10, 2000	“Northwest Market Power”, Oregon Public Utility Commission and Oregon State Energy Office, Salem, Oregon
June 5, 2000	“Northwest Market Power”, Georgia Pacific Management
May 10, 2000	“Magnesium Corporation Developments”, Utah Public Utilities Commission
May 5, 2000	“Northwest Power Developments”, Georgia Pacific Management
January 12, 2000	“Northwest Reliability Issues”, Oregon Public Utility Commission

Volunteer Positions

2013-Present	Eastmoreland Neighborhood Association, President
2013-Present	Southeast Uplift, Chair

2013/2014 MISO Planning Resource Auction Results:

Local Resource Zone (LRZ)	Z1 (MN, ND, Western WI)	Z2 (Eastern WI, Upper MI)	Z3 (IA)	Z4 (IL)	Z5 (MO)	Z6 (IN, KY)	Z7 (MI)	System
Planning Reserve Margin Requirements (PRMR)	17,693.4	13,362.9	9,343.1	10,733.9	9,000.2	19,320.3	22,702.3	102,156.1
Netted DR/EER*	1197.1	728.7	528.8	112.3	0	1191.7	781.6	4,540.2
Adjusted PRMR	16,387.3	12,573.2	8,767.6	10,612.1	9,000.2	18,023.3	21,850.3	97,214.0
Offer								70,412.1
FRAP ¹								34,959.3
Offer + FRAP ¹								105,371.4
Offer Cleared + FRAP ¹								97,214.0
Local Clearing Requirement (LCR)	15,707.7	10,326.2	6,796.4	5,231.9	5,490.7	14,283.5	21,055.0	N/A
Capacity Import Limit (CIL)	4,085.0	4,144.0	3,717.0	6,614.0	5,035.0	6,838.0	4,576.0	N/A
Capacity Export Limit (CEL)	1,416.0	1,766.0	1,612.0	2,230.0	1,616.0	3,432.0	4,306.0	N/A
Auction Clearing Price (\$/MW-Day)	1.05	1.05	1.05	1.05	1.05	1.05	1.05	

* Planning Reserve Margin and Transmission losses are not applied to Netted Demand Response (DR) and Energy Efficiency Resources (EERs) in the PRMR calculation.

¹ FRAP = Fixed Resource Adequacy Plan

2014/2015 Planning Resource Auction (PRA)

MISO completed its Annual Planning Resource Auction for Planning Year 2014-2015 based on Market Participant Offers submitted between March 27 and 31, and posted final results on April 14, 2014

- This was the second full-year PRA under the Module E-1 Tariff. MISO completed a partial year, Transitional PRA prior to MISO South entities integrating in December 2013.
- The Auction produced three clearing prices:
 1. Local Resource Zone (LRZ) 1 cleared at \$3.29 per MW-Day as its Zonal Capacity Export Limit bound
 2. LRZs 2-7 cleared at \$16.75 per MW-Day
 3. LRZs 8-9 cleared at \$16.44 per MW-Day as constraints related to intra-RTO dispatch ranges bound between the MISO South and the MISO Central/North Regions
- A total of 136,912 MW of Planning Resources were cleared to meet the MISO's resource adequacy requirements. This includes 124,556 MW of Generation Resources, 3,743 MW of Behind-the-Meter Generation (BTMG), 5,457 MW of Demand Response (DR), and 3,156 MW of External Resources (ER).
- The MISO Planning Reserve Margin Requirement (PRMR) increased by 2,475 MW to 136,912 MW from 2013-14 PRA due to; an increase in Coincident Peak Forecast, an increase in Planning Reserve Margin (PRM) from 6.2% to 7.3%, and, an increase in Zone 8's PRMR as the Zonal Local Clearing Requirement was greater than the Zonal PRMR.
- Excess Zonal Resource Credits of 12,201 MW remained after meeting the PRMR, up from 8,659 MW in 2013-14 PRA, but down slightly from the MISO South Transitional PRA, 12,615 MW.



2014/2015 MISO Planning Resource Auction Results

LRZ	Z1 (MN,ND, Western WI)	Z2 (Eastern WI, Upper MI)	Z3 (IA)	Z4 (IL)	Z5 (MO)	Z6 (IN, KY)	Z7 (MI)	Z8 (AR)	Z9 (LA, MS, TX)	System
Demand Forecast	16,540	12,347	8,757	9,680	8,106	17,629	20,791	7,363	22,999	124,212
PRMR (based on CPF)	18,236	13,504	9,628	10,616	8,884	19,404	22,998	8,043	25,224	136,537
LCR	15,070	11,739	8,971	8,879	5,002	15,457	21,293	8,417	24,080	N/A
Effective PRMR	18,236	13,504	9,628	10,616	8,884	19,404	22,998	8,417	25,224	136,912
Total Offer Submitted	7,045	2,879	9,520	11,370	387	17,985	15,190	9,406	25,966	99,747
Total FRAP applied	12,620	12,352	391	874	7,722	1,846	8,449	397	2,372	47,022
Offer Cleared + FRAP	18,522	14,358	9,787	9,316	8,109	19,551	22,627	8,582	26,059	136,912
Import Limit	4,347	3,083	1,591	3,025	5,273	4,834	3,884	1,602	3,585	N/A
Export Limit	286	1,924	1,875	1,961	1,350	2,246	4,517	3,080	3,616	N/A
ACP (\$/MW-Day)	3.29	16.75	16.75	16.75	16.75	16.75	16.75	16.44	16.44	N/A

Participation by Resource Type (System-wide)

Planning Resource Type	UCAP	Unconverted	Fixed Resource Plans	OFFER	Cleared	ZRC Balance
Generation	138,668	3,480	42,394	90,645	82,162	10,632
Behind the Meter Generation	4,071	59	2,141	1,693	1,602	270
Demand Response	5,750	3	1,449	4,298	4,008	290
External Resources	4,238	73	1,038	3,111	2,117	1,009
Energy Efficiency	0	0	0	0	0	0
Total	152,727	3,615	47,022	99,747	89,890	12,201
%UCAP	100%	2%	31%	65%	59%	8%

Appendix - Acronyms

ACP - Auction Clearing Price (\$/MW-Day)
CEL - Capacity Export Limit (MWs)
CIL - Capacity Import Limit (MWs)
CPF – Coincident Peak Forecast (MW)
FRAP - Fixed Resource Adequacy Plan (MWs)
LCR - Local Clearing Requirement (MWs)
LRZ - Local Resource Zone
MP - Market Participant
PRA - Planning Resource Auction
PRM - Planning Reserve Margin
PRMR - Planning Reserve Margin Requirement (MWs)
SFT – Simultaneous Feasibility Test
TPRA – Transitional Planning Resource Auction
UCAP - Unforced Capacity (MWs)
ZRC - Zonal Resource Credit (MWs)

A large, light gray, stylized sun graphic is positioned on the left side of the slide. It features a central circle with rays extending outwards, rendered in a semi-transparent, geometric style.

2015/2016 Planning Resource Auction Results

April 14, 2015

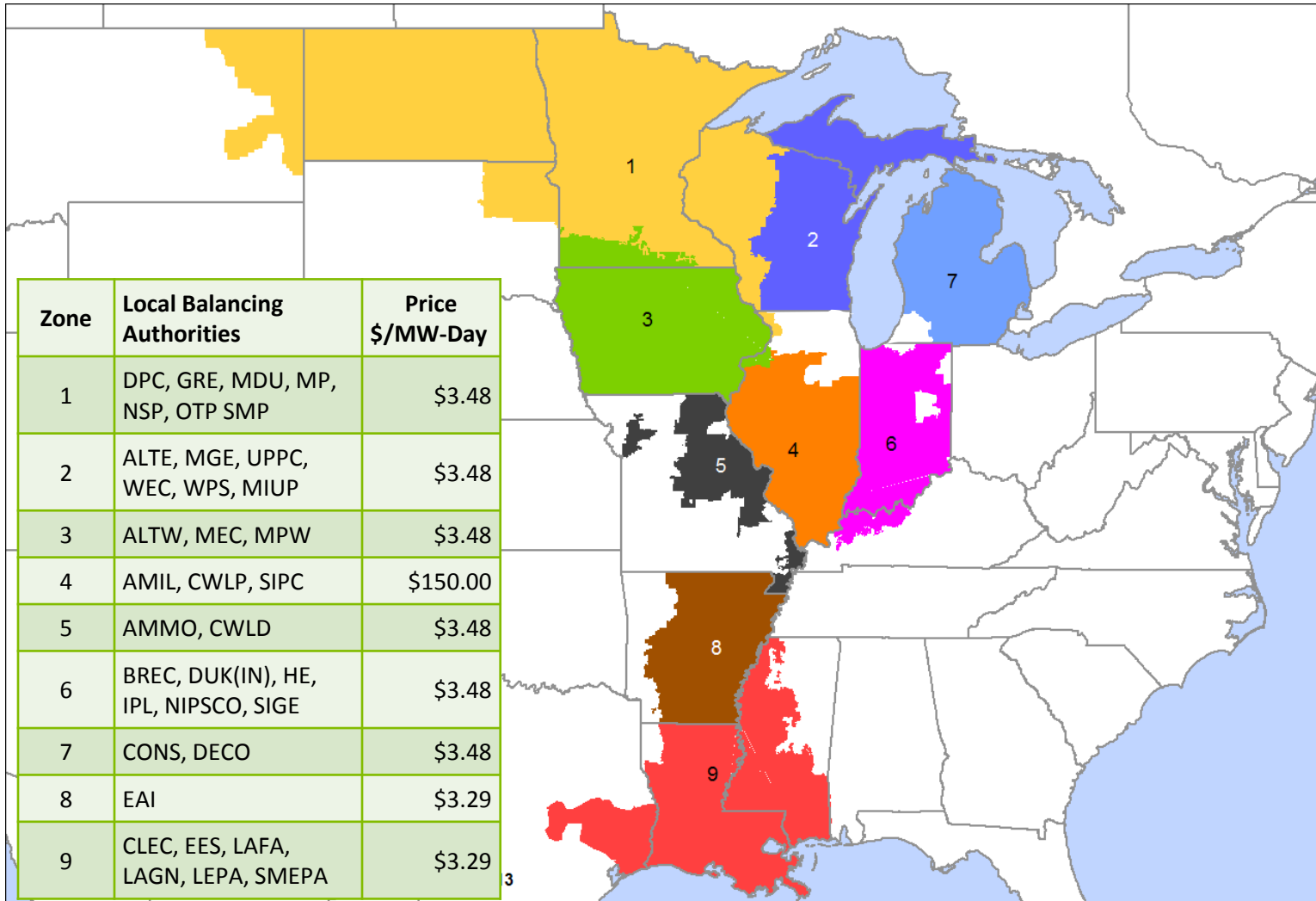
Executive Summary

- **MISO successfully completed its third annual Planning Resource Auction**
- **The MISO region has adequate resources to meet its Planning Reserve Margin Requirements for the 2015/2016 planning year.**
 - Zones 1-3 and 5-7 cleared at \$3.48/MW-day
 - Zone 4 (much of Illinois), cleared at \$150.00/MW-day
 - Zones 8-9 (MISO South), cleared at \$3.29/MW-day

Auction Inputs and Considerations

- MISO's Resource Adequacy construct combines regional and local criteria to achieve a least-cost solution for the region as a whole subject to the following:
 - MISO-wide reserve margin requirements
 - Zonal capacity requirements (Local Clearing Requirement)
 - Zonal transmission limitations (Capacity Import/Export Limits)
 - If applicable, Sub-Regional contractual limitations such as between MISO's South and Central/North Regions
- The zonal capacity requirement must be met with Resources located within the zone
- The MISO-wide reserve margin requirement is shared among the zones, and zones may import capacity to meet this requirement
- The Independent Market Monitor reviews the auction results for physical and economic withholding

2015/2016 Auction Clearing Price Overview



Next Steps: Auction Output and Settlements

- **Key outputs from the auction are:**
 - A commitment of capacity to the MISO region, including performance obligations and
 - The capacity price (Auction Clearing Price) for each zone
- **This price drives the settlements process**
 - Load pays the auction clearing price for the zone in which it is physically located
 - Cleared capacity is paid the auction clearing price for the zone where it is physically located
 - External resources are paid the price of the zone where their firm transmission service crosses into MISO
- **When price separation between zones occurs, a zone's use of resources located outside of its boundaries will result in MISO over collecting auction revenues**
 - This over-collection is allocated, per the MISO tariff, to the Load within the zone(s)

2015/2016 Planning Resource Auction Detailed Results

Local Resource Zone	Z1 (MN, ND, Western WI)	Z2 (Eastern WI, Upper MI)	Z3 (IA)	Z4 (IL)	Z5 (MO)	Z6 (IN, KY)	Z7 (MI)	Z8 (AR)	Z9 (LA, MS, TX)	SYSTEM
CPDF (Coincident Peak Demand Forecast)	16,525	12,429	8,876	9,518	8,176	17,592	20,522	7,424	23,035	124,097
PRMR (Planning Reserve Margin Requirement)	18,321	13,566	9,768	10,420	8,910	19,409	22,678	8,118	25,170	136,359
LCR (Local Clearing Requirement)	15,982	12,332	8,695	8,852	6,527	14,677	21,442	7,850	23,609	N/A
Total Offer Submitted	4,867	3,071	5,922	11,156	7,926	14,832	14,103	9,562	26,193	97,632
Total FRAP (Fixed Resource Adequacy Plan)	14,494	11,817	4,113	838	0	4,853	9,456	397	2,261	48,229
Offer Cleared + FRAP	18,495	14,497	9,813	8,852	7,885	19,015	23,515	8,526	25,762	136,359
Import / (Export)	(175)	(931)	(45)	1,568	1,026	394	(837)	(408)	(592)	2,988
CIL (Capacity Import Limit)	3,735	2,903	1,972	3,130	3,899	5,649	3,813	2,074	3,320	N/A
CEL (Capacity Export Limit)	604	1,516	1,477	4,125	0	2,930	4,804	3,022	3,239	N/A
ACP (Auction Clearing Price) \$/MW-Day	\$3.48	\$3.48	\$3.48	\$150.00	\$3.48	\$3.48	\$3.48	\$3.29	\$3.29	N/A

Key Auction Takeaways: Auction Clearing Prices relative to key thresholds

	Zone 1 (MN, ND, Western WI)	Zone 2 (Eastern WI, Upper MI)	Zone 3 (IA)	Zone 4 (IL)	Zone 5 (MO)	Zone 6 (IN, KY)	Zone 7 (MI)	Zone 8 (AR)	Zone 9 (LA, MS, TX)
2014-2015 Auction Clearing Price (ACP)	\$3.29	\$16.75	\$16.75	\$16.75	\$16.75	\$16.75	\$16.75	\$16.44	\$16.44
2015-2016 Auction Clearing Price (ACP)	\$3.48	\$3.48	\$3.48	\$150.00	\$3.48	\$3.48	\$3.48	\$3.29	\$3.29
2015-2016 Reference Level	\$155.79	\$155.79	\$155.79	\$155.79	\$155.79	\$155.79	\$155.79	\$155.79	\$155.79
2015-2016 Conduct Threshold	\$180.43	\$180.65	\$180.14	\$180.53	\$181.00	\$180.45	\$180.59	\$179.45	\$179.61
2015-2016 Cost of New Entry (CONE)	\$246.41	\$248.63	\$243.48	\$247.40	\$252.05	\$246.60	\$248.03	\$236.55	\$238.22

*All values in \$/MW-day

Key Auction Takeaways

- Price differentials between 2014-15 and 2015-16 results were mainly driven by changes in market participant offers.
- The 2015 price in Zone 4 was also impacted due to the binding of the zonal capacity requirement to procure a certain amount of capacity with the zone (LCR)
 - This requirement for Zone 4 was substantially the same as in the 2014/2015 Auction.
- Zones 8 and 9 cleared at a lower price than the other zones due to the south to north sub-regional power balance constraint binding at 1,000 MW.

Conclusions

- **MISO successfully completed its third annual Planning Resource Auction, demonstrating that the MISO region has adequate resources to meet capacity requirements for the 2015/2016 planning year.**
 - Zones 1-3 and 5-7 cleared at \$3.48/MW-day
 - Zone 4 (much of Illinois), cleared at \$150.00/MW-day
 - Zones 8-9 (MISO South), cleared at \$3.29/MW-day

Acronyms

- ACP - Auction Clearing Price (\$/MW-Day)
- BTMG – Behind The Meter Generator
- DR – Demand Resource
- CEL - Capacity Export Limit (MW)
- CIL - Capacity Import Limit (MW)
- CPDF – Coincident Peak Demand Forecast (MW)
- FRAP - Fixed Resource Adequacy Plan (MW)
- LCR - Local Clearing Requirement (MW)
- LOLE – Loss Of Load Expectation
- LRZ - Local Resource Zone
- PRA - Planning Resource Auction
- PRM - Planning Reserve Margin (%)
- PRMR - Planning Reserve Margin Requirement (MW)
- SFT – Simultaneous Feasibility Test
- SREC – Sub-Regional Export Constraint
- SRIC – Sub-Regional Import Constraint
- UCAP - Unforced Capacity (MW)
- ZDB – Zonal Deliverability Benefits
- ZRC - Zonal Resource Credit (MW)

Electricity Market Overview- Competitive States

- **Bill Breakdown:** Customer electric bills are broken down into the cost to generate electricity (supply), the cost to transmit and distribute electricity (delivery), and taxes and fees.
- **Competitive Markets:** In restructured, competitive states, generators compete against one another to sell electricity. This ensures the least expensive supply is chosen for consumers.
- **Generator Compensation:** Generators are compensated through a capacity market and an energy market.
 - **Capacity Market:** A properly designed capacity market (and capacity auction process) ensures adequate generating resources are available in the future to produce electricity to meet the expected peak customer demand. Generators that are selected and paid for capacity are obligated to produce electricity in the future when called upon. The capacity market is generally intended to compensate generators for their fixed costs, such as property taxes and salaries, along with a return on investment. Some ISOs procure capacity as far as three years in advance to ensure adequate supply, which may require new construction to meet the future demand. Retail customers in these markets have the benefit of being better able to plan for these upcoming, known, changes in capacity prices.
 - **Energy Market:** The energy market compensates generators when they are called on to produce electricity in the day-ahead and real-time markets. The energy markets generally cover a generator's variable costs of production, such as fuel and emissions.
- **Proper Balance:** In times of oversupply, prices decrease, encouraging less-efficient and uneconomic generators to mothball or retire.

The Mid-Continent Independent System Operator

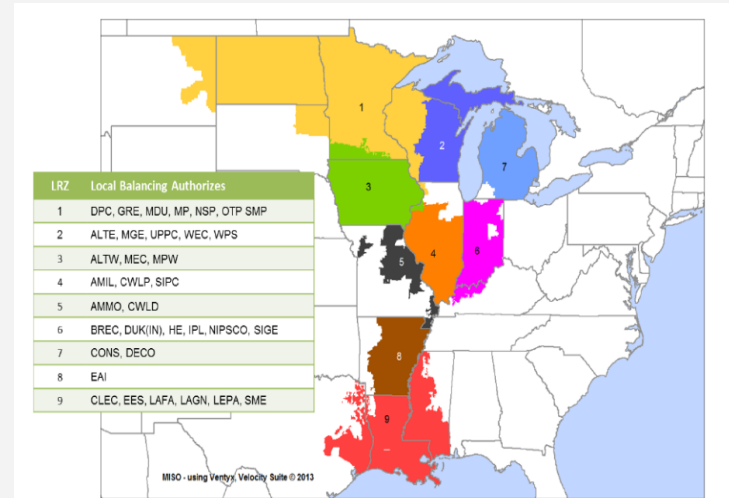


Figure 1.1-1: Local Resource Zones (LRZ)



MISO operates the electricity markets in 15 states. Of those 15 states, 14 are traditional, vertically integrated utilities. Only Illinois is competitive. (Michigan is about 10% customer choice, but on the generation (wholesale) side it is almost exclusively served by utilities).

ISOs divide their territory into “zones.” The purpose of the zones is to model transmission constraints, meet local reliability requirements, and respect state and regional differences (including the regulatory construct and costs of doing business). Fuel, labor and taxes are key inputs into a generator’s costs, and regional differences must be reflected in each of the zones. Also, due to the NERC 1-day-in-10 resource adequacy criteria, 75% of the resources in Zone 4 (Southern IL) must be physically located within the zone.

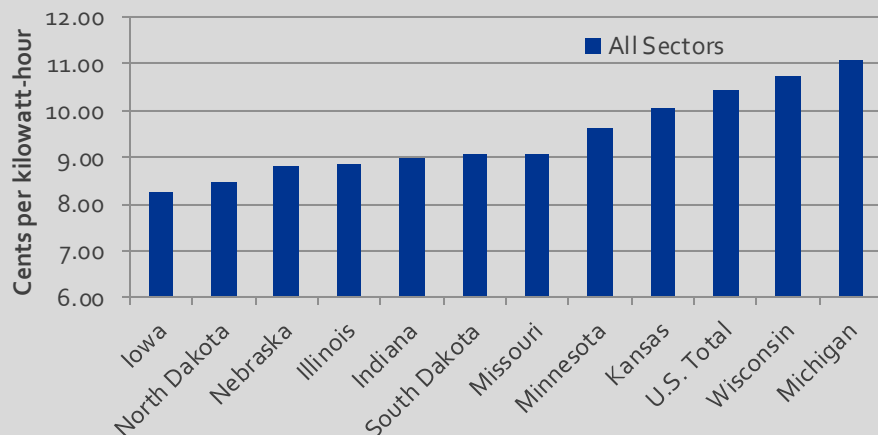
MISO is currently divided into 9 zones. Of the 9 zones, 8 represent the 14 traditionally regulated states. The remaining zone – Zone 4 – represents a competitive state, Illinois.

Electric Rates and Capacity Markets

Consumer Electric Rates

YTD December 2014

Source: US Energy Information Administration



Competition Lowers Costs: As shown above from public data compiled by the US Energy Information, Illinois has some of the lowest electric rates across MISO and the United States.

For example, Illinois' residential, commercial and industrial customers have a lower combined rate than Indiana — a traditionally regulated, vertically integrated state. Electric competition in Illinois has delivered lower electric rates even though the cost of doing business in Indiana is significantly lower for electric generators (Indiana has no similar air emissions regulation as the Illinois Multi-Pollutant Standard, and has more favorable property, sales and income tax structures.)

Competitive States Have More Transparent Pricing: In Illinois, the capacity prices are better known because of the competitive auction process. In Indiana and other traditionally-regulated states, the cost of capacity is embedded in customers' rates and largely unknown. Illinois actually has greater transparency because of this rate "unbundling," but it may lead people to conclude that Illinois has higher capacity rates due to competition when in fact you cannot easily determine the cost of capacity in the traditionally regulated states.

The MISO Capacity Auction

On April 14, 2015, MISO released the results of the annual capacity auction for the upcoming planning year, from 6/1/2015-5/31/2016. The auction results were as follows:

- Zones 1-3 and 5-7 in the MISO North and Central regions cleared at \$3.48 MW/day
- Zones 8-9 in MISO South cleared at \$3.29 MW/day
- Zone 4 (Southern Illinois) cleared at \$150 MW/day.

The primary reason the regulated-utility zones cleared significantly lower than Illinois is that the utilities in those states don't rely on the auction to satisfy their capacity revenue requirements. Rather, the utilities "self-supply" their capacity using their own generation and the cost of that generation is recovered from the utilities' customers in their regulated electric rates.

Comparable Capacity Results: In MISO Zone 4 (southern IL), the auction cleared higher this year, more in-line with generators' operating costs and consistent with the results of the PJM capacity auction for northern IL (ComEd). The PJM auction for northern IL for the same planning year cleared at \$136/MW-day (compared to \$150/MW-day for MISO and southern IL). This convergence shows that capacity is valued similarly across the state.

Lack of Transparency: The cost for the generation capacity in the regulated states may actually be higher than the rates produced by the latest MISO auction for southern Illinois; however, in regulated states the cost of generation capacity is embedded into customers overall rates which makes it hard to determine actual capacity costs.

Dynegy in MISO: Dynegy has a total of about 6,400 MW in the MISO portion of Illinois. A breakdown of Dynegy's offers and the results are shown below:

- Total of 6,400 MW of sellable capacity (UCAP) located in Southern IL
- Less 400 MW committed outside of MISO
- Less 2,350 MW that had been previously sold to Dynegy's retail, commercial, industrial, wholesale and bilateral customers
- 553 MW cleared the auction and was paid \$150/MW-day for a total of \$30M
- The balance, 3,100 MW, wasn't needed to satisfy the local clearing requirement; therefore, it didn't clear the auction and did not receive any revenue from the auction.

Therefore, Dynegy's 9 plants in southern Illinois received a total of \$30 million from the auction, well below what is required for the plants to achieve breakeven free cash flow including a reasonable return on the substantial investments made in these facilities.



**INITIAL REFERENCE LEVEL FOR ZONAL RESERVE OFFERS:
2015/2016 DELIVERY YEAR**

The Initial Reference Level for Zonal Reserve Offers is \$155.79 per MW-Day based on the estimated opportunity cost of exporting the capacity into PJM. The reference level requirement is established in Section 64.1.4 of the Tariff.

64.1.4 Reference Levels

- e. Initial Reference Levels for Zonal Reserve Offers will be based on the estimated opportunity cost of exporting capacity to a neighboring region.*
- i. The IMM shall estimate the Reference Level for Planning Resources based upon best available Capacity pricing data from neighboring regions, available bilateral Capacity contract information and the results of voluntary capacity auctions.*

We are not aware of suitable bilateral capacity contract information being available. However, we are open to suggestions from stakeholders on publicly available data. To date, we have received no valid suggested sources for such data.

Initial reference levels are intended to be based primarily on the opportunity cost of selling capacity in other markets. The most favorable such opportunity currently is to sell capacity to load-serving entities in PJM. However, *direct* participation in the primary PJM Reliability Pricing Model (“RPM”) auction may not be a valid basis for establishing opportunity costs because:

- The RPM auctions are concluded prior to the start of the MISO auctions; and
- Because there are significant barriers for MISO area generation to participate in the PJM RPM, including access to long-term firm transmission service into PJM.

PJM participants sometime purchase replacement capacity to avoid deficiency or penalty charges in the event that a resource already specified is unable to satisfy their Reliability Pricing Model (RPM) Resource Commitments. This could happen due to the following reasons:

1. unit cancellations and delays,
2. unit deratings and retirements, or
3. EFORd increases.

PJM participants can avoid the penalty charges by specifying sufficient replacement capacity, which they can do any time during the delivery year. Replacement capacity can be specified for durations shorter than one year. ATC may be available for MISO firm point-to-point to the PJM border. It costs \$66.45 per MW Month for Schedule 1 and \$165.54 per MW Month for Schedule 2. The other transmission cost schedules do not apply. PJM Network External Designated



Initial Reference Levels

transmission service can be used to bring power from the border and sink it into PJM. This service has no cost and ATC may be available for durations shorter than one year.

The potential opportunity cost for MISO capacity suppliers to sell capacity to PJM participants as replacement capacity is based on the penalty a participant would pay if it is short of its required resources. This penalty is the Daily Capacity Resource Deficiency Charge, which is equal to:

$$(\text{Daily Deficiency Rate}) * (\text{Daily RPM Commitment Shortage})$$

The Daily Deficiency Rate (\$/MW-day) is equal to the Party's Weighted Average Resource Clearing Price for such resource plus the higher of:

- 0.2 * Party's Weighted Average Resource Clearing Price for such resource; or
- \$20/MW-day

In the case where a Party's Weighted Average Resource Clearing Price for such resource is equal to \$0/MW-day, a PJM Weighted Average Resource Clearing Price in a Locational Delivery Area (LDA) will be used.

For the purposes of estimating opportunity cost, we use the PJM Weighted Average Resource Clearing Price in the unconstrained LDA since this is the only location that external resources would be qualified to serve.¹ The opportunity cost is determined by calculating the weighted average of resource clearing prices in the LDA across all RPM Auctions, weighted by the total cleared and make-whole MWs in the LDA.

For the 2015/2016 delivery year, the weighted average equals \$136.18 per MW-Day, so the Daily Deficiency Rate equals \$163.41 per MW-Day. We use the PJM average because it is not known what PJM participant and resource may be in shortage. The Daily Deficiency Rate represents the maximum that the PJM participant should be willing to pay a MISO supplier.

However, the opportunity cost to the MISO market participant must be adjusted downward by the \$231.98 per MW-Month delivery cost described above. Therefore, the Initial Reference Levels for Planning Reserve Offers for the 2015/2016 delivery year is \$155.79 per MW-Day.

¹ PJM Manual 18: 4.2.2

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

The People of the State of Illinois,)	
By Illinois Attorney General)	
Lisa Madigan,)	
Petitioner,)	Docket No. EL15-
)	
v.)	
)	
Midcontinent Independent System Operator, Inc.,)	

Affidavit of Michael J. Bauer

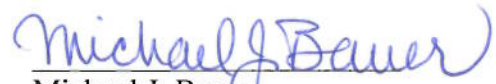
I, Michael J. Bauer, under oath, depose and state as follows:

1. My name is Michael J. Bauer. My business address is 111 W. Jackson Blvd. Suite 2400, Chicago, IL 60604.
2. I am Assistant General Counsel for ThyssenKrupp North America, Inc.
3. ThyssenKrupp North America, Inc. is the U.S. subsidiary of ThyssenKrupp AG, a German-based diversified industrial group with global operations concentrating in such areas materials markets, capital goods, automotive components and service businesses.
4. ThyssenKrupp North America has two operating companies in the state of Illinois within the MISO transmission area, ThyssenKrupp Crankshaft Co., LLC and ThyssenKrupp Presta Danville,LLC.
5. ThyssenKrupp Crankshaft Co., LLC, located at 1000 Lynch Road, Danville, IL 61834, manufactures crankshafts primarily for the automotive original equipment market and employs 561 people.
6. ThyssenKrupp Crankshaft Co., LLC’s average annual electrical costs total \$3.6 million. As a result of the recent MISO Planning Resource Auction, this company’s annual electrical costs are expected to increase by \$1,000,000.
7. ThyssenKrupp Presta Danville, LLC, located at 75 Walz Creek Drive, Danville, IL 61834, manufactures camshafts primarily for the automotive original equipment market and employs 429 people.

8. ThyssenKrupp Presta Danville, LLC's average annual electrical costs total \$2.1 million. As a result of the recent MISO Planning Resource Auction, this company's annual electrical costs are expected to increase by \$250,000.
9. As a result of the auction charge, both ThyssenKrupp Crankshaft Co., LLC and ThyssenKrupp Presta Danville, LLC will incur significant increases in their operating costs that cannot be offset by other costs savings, with the result that they will be less competitive in their respective markets. This, in turn, may lead to lost sales and workforce reductions.

This completes my Affidavit.

Date: May 28, 2015


Michael J. Bauer

Signed and sworn before me
this 28th day of May, 2015.



Notary Public





OFFICE OF THE ATTORNEY GENERAL
STATE OF ILLINOIS

Lisa Madigan
ATTORNEY GENERAL

May 28, 2015

VIA EMAIL AND FIRST CLASS MAIL

Larry R. Parkinson
Director, Office of Enforcement
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426
Email: larry.parkinson@ferc.gov

Re: Results of MISO's Third Annual Planning Resource Auction

Dear Director Parkinson:

On April 14, 2015, the Midcontinent Independent System Operator ("MISO") announced the results of its third annual Planning Resource Auction ("PRA"). Eight of the nine MISO zones cleared at below \$3.50 per megawatt-day ("MW-day"). Zone 4, however, cleared at \$150/MW-day. Zone 4 consists of the central and southern portions of Illinois. In previous auctions, Zone 4 cleared at \$16.75 and \$1.05 per MW-day for 2014/2015 and 2013/2014, respectively.

This year's auction resulted in capacity prices for central and southern Illinois that are 9 times greater than last year and more than 40 times greater than other MISO zones. These shockingly steeper prices will place a substantial burden on Illinois electricity consumers.

The Illinois Attorney General is directed by statute "to protect the rights and interests of the public in the provision of all elements of electric . . . service both during and after the transition to a competitive market, and . . . to ensure that the benefits of competition in the provision of electric . . . services to all consumers are attained." 15 ILCS 205/6.5(a).

On behalf of the Office of Illinois Attorney General Lisa Madigan, and pursuant to 18 C.F.R. §§ 1b.3 and 1b.8, I am writing to request that the Federal Energy Regulatory Commission ("FERC") Office of Enforcement investigate whether the extremely disparate result in this year's MISO PRA auction may be explained, in whole or in part, by any violation of law by any market participant.

Larry R. Parkinson
Director, Office of Enforcement
Federal Energy Regulatory Commission
May 28, 2015
Page 2

Additionally, please note that our office has filed a complaint with FERC alleging that the MISO auction failed to produce just and reasonable rates pursuant to the Federal Power Act. Attached to that complaint is the Affidavit of Robert McCullough, which we are also providing with this letter to you and the Office of Enforcement as background information on the circumstances and outcome of this year's auction.

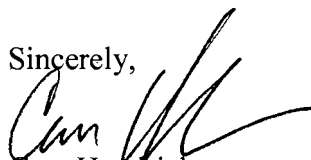
It may be of interest to FERC that our calculations show that one generating entity—Dynergy—has consolidated its control of approximately 54 percent of the available capacity in Zone 4. In December 2013, Dynergy took ownership of more than 3,000 MWs of generation from Ameren Energy Resources (“AER”), an acquisition that roughly doubled the size of Dynergy's generating capacity in Illinois. Dynergy also acquired AER's marketing and retail business, Homefield Energy, which serves approximately 500,000 customers and businesses in an area with approximately 1.2 million retail electricity customers.

In this year's auction, MISO reports that Zone 4 had fewer fixed-resource adequacy plans (“FRAPs”) and self-schedules than last year. Our understanding is that owners of generating capacity committed to a FRAP or to a bi-lateral contract bid that capacity into the auction at zero dollars. Fewer FRAPs and bi-lateral contracts, in the absence of an overall reduction in load, means fewer \$0 bids and a clearing point that occurs further up the price curve.

We request FERC's assistance to determine—among other issues it may pursue in its investigation—whether Dynergy or any other market participant was a pivotal market participant with the opportunity to exercise market power, whether Dynergy or any other market participant may have influenced the amount of FRAPs or bi-lateral contracts in an attempt to increase the volumes and clearing price for Zone 4 in this year's auction, and, if so, whether such conduct is permissible by law.

Thank you for your time and attention to this important issue.

Sincerely,



Cara Hendrickson
Chief, Public Interest Division
(312) 814-1134
chendrickson@atg.state.il.us

Attachment

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

The People of the State of Illinois,)	
By Illinois Attorney General)	
Lisa Madigan,)	
)	
Complainant,)	Docket No. EL15-
)	
v.)	
)	
Midcontinent Independent System Operator, Inc.,)	
)	
Respondent)	

NOTICE OF COMPLAINT
(May _____, 2015)

Take notice that on May 28, 2015, pursuant to sections 205 and 206 of the Federal Power Act (“FPA”), 16 U.S.C. §§ 824d and 824e, and Rule 206 of the Federal Energy Regulatory Commission’s (Commission) Rules of Practice and Procedure, 18 CFR § 385.206, the People of the State of Illinois, by Lisa Madigan, Attorney General of the State of Illinois (Complainant), filed a formal complaint against Midcontinent Independent System Operator, Inc., as agent and tariff administrator of the MISO Open-Access Transmission Tariff (Respondent), alleging that Respondent has levied capacity charges upon Complainant that are unjust and unreasonable under FPA Sections 205 and 206.

The Complainant certifies that a copy of the complaint has been served on the Respondent.

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission’s Rules of Practice and Procedure (18 CFR 385.211, 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. The Respondent’s answer and all interventions, or

protests must be filed on or before the comment date. The Respondent's answer, motions to intervene, and protests must be served on the Complainants.

The Commission encourages electronic submission of protests and interventions in lieu of paper using the "eFiling" link at <http://www.ferc.gov>. Persons unable to file electronically should submit an original and 5 copies of the protest or intervention to the Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426.

This filing is accessible on-line at <http://www.ferc.gov>, using the "eLibrary" link and is available for electronic review in the Commission's Public Reference Room in Washington, DC. There is an "eSubscription" link on the website that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: 5:00 pm Eastern Time on _____, 2015.

Kimberly D. Bose,
Secretary

Document Content(s)

OAG Complaint FINAL.PDF.....1-24

Exhibit 1, to Complaint People V MISO.PDF.....25-76

Exhibit 2 to Complaint MBauer Affidavit.PDF.....77-78

Exhibit 3, Letter to Enforcement Office.PDF.....79-80

Exhibit 4, Fed Reg notice.PDF.....81-82