FILE

43

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to § 4928.143, Ohio Rev. Code, in the Form of an Electric Security Plan.	: Case Nos.	11-346-EL-SSO 11-348-EL-SSO
In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Approval of Certain Accounting Authority.	: Case Nos.	11-349-EL-AAM 11-350-EL-AAM

PREFILED TESTIMONY
OF
DANIEL R. JOHNSON

ON BEHALF OF THE STAFF OF
THE PUBLIC UTILITIES COMMISSION OF OHIO
ENERGY & ENVIRONMENT DEPARTMENT
MARKET ANALYSIS & PLANNING DIVISION

STAFF EX. ___

August 4, 2011

TABLE OF CONTENTS

Page

1. Q. Please state your name and business address.

A. My name is Daniel R. Johnson. I am employed by the Public Utilities Commission of Ohio as a Public Utilities Administrator III, Chief of the Policy and Market Analysis Division. My responsibilities include directing the division staff in monitoring and assessing markets in transition to or from competition.

2. Q. What are your qualifications for this position?

A. I hold an MBA from the University of Pittsburgh, and a Master of Energy Resources from the University of Pittsburgh. Prior to joining the Staff of the Commission I was employed by Battelle, Pacific Northwest Laboratory, as a Research Scientist.

I joined the Staff of the Commission in October of 1986. During my tenure with the Commission I have monitored the development of wholesale and retail electricity markets, and I have led staff teams in the development of rules implementing Senate Bill 3 and Senate Bill 221.

3. Q. What is the purpose of your testimony?

A. The purposes of my testimony are to describe how I tested the validity of the Companies' Market Rate Option (MRO) retail pricing construct, and to

document my independent estimate of the MRO price for the periods comprising the term of the ESP and for Staff's recommended term extension.

Testing the Companies' MRO Retail Pricing Construct

4. Q. Can you please describe AEP's MRO retail pricing construct?

A. Yes. AEP witness Laura Thomas offered a MRO retail pricing construct that valued and summed 10 price components to arrive at a MRO price. The ten components contained in her retail pricing construct are explained below.

Simple Swap

The Simple Swap is a hedging contract mechanism by which a buyer and a seller can lock in a price for future delivery of electric energy. Although the buyer can demand physical delivery of the electric energy, they rarely do so. The contracts are used primarily as financial hedges to achieve future price certainty.

The contract is for a standardized amount of electric energy (50 MW) for each on peak hour in a future month, and separately, for each off-peak hour in a future month. Thus, a party must purchase two monthly contracts for a particular month, one for the on peak hours and another for the off peak hours. By combining all the monthly prices in a future delivery period,

such as the two delivery periods identified by Ms. Thomas in her exhibit LJT-1, which comprise the proposed ESP period, we can project future electric energy prices.

Such contracts are traded every day on the InterContinental Exchange (ICE) electronic trading platform. Parties establish a membership on ICE by posting credit and by agreeing to the terms and conditions of the standardized contract. ICE, in turn, clears transactions by member parties. Trading members see bid and asked prices in real time, which are cleared by ICE when contracts are executed. ICE also daily publishes the prices at which contracts have been cleared that day. The Commission Staff receives a daily email from ICE that contains those cleared prices. These emails are the source of pricing data I used to value the Simple Swap.

Ms. Thomas used prices that are published by Platt's, an industry standard publisher of electricity market information. It is my understanding that the differences between Platt's published prices and ICE published prices are minimal if any. Having subscribed to Platt's Energy Daily in the past, it is my understanding and belief that the values published by the two different sources are essentially identical.

Basis Adjustment

Each Simple Swap contract is specific to a location. In the case of my and Ms. Thomas' values for the Simple Swap, the location is the AD Hub, which is a short name for the AEP – Dayton Hub. This is a collection of delivery points in Ohio, which are tightly bunched geographically, and within or proximate to the AEP Ohio companies.

However, the final prices for actual deliveries of electric energy would be settled by PJM[1] at a different location from the AD Hub. PJM settles the price for actual deliveries to the AEP companies at the AEP Zone. Thus the prices AEP would actually pay to procure electric energy would be the prices at the AEP Zone, which are different from the prices at the AD Hub. Ms. Thomas therefore had to account for the price differences between those two locations to determine the full price of delivered electric energy.

---

[1] PJM Interconnection, LLC (PJM) operates markets for the physical delivery of power at all points on the interstate transmission system within its footprint. PJM dispatches power plants and measures the actual production and consumption of electric energy at all the pricing points in its footprint, which includes the price points comprising the AD Hub and the AEP Zone. Thus, PJM settles the prices of actual deliveries, which differ from location to location and from hour to hour, as opposed to the financial hedge contracts that are traded on, and cleared by ICE.

Ms. Thomas used historical differences in locational marginal prices[2] (LMPs) between the two price points to calculate the Basis Adjustment.

Load Following / Shaping Adjustment

Simple Swap contracts are for 50 MW blocks of power delivered each hour in the contract term. Actual demand for electric energy does not manifest in 50 MW blocks, it manifests in smaller increments and decrements each minute of an hour. In other words, demand rises and falls continuously, not in increments of 50 MW.

In order to supply the actual demand, a buyer must purchase extra electric energy in real time when actual demand exceeds the total number of 50 MW blocks purchased using the Simple Swap hedged contract. Likewise a buyer must sell off excess electric energy when actual demand is less than the number of 50 MW blocks purchased using the Simple Swap hedged contract. This buying and selling deficit and excess energy is necessary for supply and demand to be in balance at each moment.

---

[2] Locational marginal prices refer to the prices to deliver the next incremental, or marginal megawatt at a given pricing point on the PJM system. LMPs represent how wholesale electric energy is priced. Buyers pay the LMP for each megawatt consumed at a delivery point each hour. Thus, the difference between a historical series of LMPs at one price point and a historical set of LMPs at another price point are assumed to be indicative of future price differentials between those price points. Because Simple Swap contracts are location specific hedged prices, the differentials are assumed to apply to the difference between the Simple Swap price at one point and the actual LMP paid at another point, e.g., the AD Hub and the AEP Zone.

Generally speaking the hourly prices that will be applied to delivered energy will vary from the hedged Simple Swap prices. Higher prices occur at times when demand is heavy, and so higher prices are transacted for more volumes than lower prices when demand is relatively lighter. Thus, higher prices are weighted more heavily than lower prices. The Load Following / Shaping Adjustment component accounts for the difference between load-weighted hourly prices for delivered energy and Simple Swap hedge prices.

Capacity

Capacity represents the fixed cost of generating facilities that are needed to produce electric energy. The market price of capacity is set by means of capacity auctions that are administered by PJM. The auction sets prices that vary annually, and the auction prices are set three years in advance of the year the price is actually in effect.

The PJM capacity auction prices are generally accepted as transparent, readily discoverable by any buyer on the PJM website, and are known three years in advance. Thus, the market prices of capacity are known today for the proposed ESP period.

Ancillary Services

Ancillary services are separately priced transmission services that are needed to perfect the delivery of electric energy. They include 1) scheduling, system control and dispatch; 2) reactive supply and voltage control from generation service; 3) regulation and frequency response service; 4) energy imbalance service; 5) operating reserve – synchronized reserve service; and 6) operating reserve – supplemental reserve service.[3,4]

Alternative Energy Requirement

Section 4928.64 requires that electric distribution utilities supply a certain percentage of electric energy that is generated using advanced or renewable resources.

ARR Revenues

ARR stands for Auction Revenue Rights. Auction Revenue Rights are entitlements allocated annually to Firm Transmission Service Customers

[3] 1 75 FERC ¶ 61,080 (1996).

[4] For a discussion of ancillary services see 2011 Quarterly State of the Market Report for PJM: January through March, Section 6, Ancillary Services. http://www.pjm.com/~/media/documents/reports/state-of-market/2011/2011q1-som-pjm-sec6.ashx

that entitle the holder to receive an allocation of the revenues (or charges) from the Annual FTR Auction.[5]

Losses

The losses component refers to physical losses of energy in the distribution system.

Risk Adjustment

The Risk Adjustment component is a premium that accounts for the value of various types of risks incurred by the companies, including risks that unhedged prices will increase beyond expectations, risk that added costs will be incurred because quantities of electricity demanded will be different than expected, risk that regulators will disallow costs or delay cost recovery without compensation for the delay, the risk that the companies will be required to share the costs of default by PJM market participants, and others. This is a subjective value.

---

[5] FTRs, or Financial Transmission Rights are financial instruments awarded to bidders in the FTR Auctions that entitle the holder to a stream of revenues (or charges) based on the hourly Day Ahead congestion price differences across a specific transmission path. For a primer on ARRs and FTRs, see "PJM ARR and FTR Markets" at http://pjm.com/Scarch%20Results.aspx?q=ARR.

Retail Administration

The Companies characterize this price component as the costs to administer and manage activities needed to participate in an auction and fulfill the contractual obligations in the event the supplier was successful in the auction.[6]

5. Q. Do you agree that each of the price components is legitimate?

A. I agree that each component represents a legitimate category of costs that would be incurred in the market to procure power and energy for Standard Service Offer (SSO) customer load.

6. Q. Will you please describe how you tested the validity of the AEP retail pricing construct?

A. Yes. In order to ascertain the validity of that retail pricing construct I devised a test. My test was to see how well AEP's retail pricing construct would predict the results of the three January 25, 2011 FirstEnergy auctions for procuring Standard Service Offer load (FirstEnergy SSO Auctions). I substituted market data that was available to the bidders in the FirstEnergy SSO Auctions for market data used by Ms. Thomas, and using those sub-

[6] *In re Columbus Southern Power and Ohio Power Company*, Case Nos. 11-346-EL-SSO, *et al.* (*2011 ESP Cases*) (Initial Testimony of Laura J. Thomas at 8, lines 11-15) (January 27, 2011).

stituted data, I calculated predictions (or "backcasts") of the FirstEnergy SSO Auctions based upon AEP's retail pricing construct.

I then compared my predictions to the actual results of the three First-Energy SSO Auctions. I hypothesized that if my predicted results closely reflected the actual results, I could conclude the retail pricing construct was valid. If my predicted results differed significantly and/or systematically (i.e., all the predictions were greater than the actual auction results, or all the predictions were lower than the actual auction results) from the actual FirstEnergy SSO Auction results, I would conclude the retail pricing construct was not valid. My testimony in this section recounts how I conducted this test, and the results of the test.

7. Q. What principles guided you in conducting your test?

A. A guiding principle was to make sure I was comparing apples to apples when I compared my predicted results with the actual results. That meant that I had to value each of the ten pricing components in such a way that maintained the same product definitions for AEP's retail pricing construct and for the FirstEnergy auctions.

8. Q. How did you maintain comparability between AEP's MRO estimates and your estimation of FirstEnergy's SSO auction prices?

A. I used the exact same set of ten price components as Ms. Thomas used. Two price components needed some adjustment in order to maintain comparability between a market price applicable to AEP and a market price applicable to FirstEnergy. Those price components were the Basis Adjustment and the Alternative Energy Requirement components.

Basis Adjustment

Ms. Thomas used a Simple Swap forward contract priced at the AD Hub to value the Simple Swap. I also used a Simple Swap forward contract priced at the AD Hub to value the Simple Swap.

Transactions with winning bidders in the FirstEnergy SSO Auctions, however, would be settled by PJM not at the AEP Zone, but rather at the FE Zone. Using historical LMP data from Ventyx' Energy Velocity Suite,[7] I calculated the historical difference in LMPs between the AD Hub and the FE Zone where the transactions would settle. I used the hourly LMPs from January 25, 2009 through January 23, 2011 to calculate the basis adjustment. LMPs at the FE Zone were $2.19 less than corresponding prices at the AD Hub. I reflected that differential by assigning a Basis Adjustment value of negative $2.19.

[7] Energy Velocity Suite is a commercial data base of energy operational and market data, which includes data from many publicly available sources, including LMP pricing data from PJM.

9. Q. Are there any issues with valuing the Basis Adjustment?

A. Yes, there are issues. The first issue is that the statistical analysis of correlation between historical time series price differentials between two price points such as the AD Hub and the AEP Zone shows a standard deviation that is more than twice the value of the difference. In plain language, that large a standard deviation means the calculated difference between the price points is statistically insignificant. It means that in any given hour Basis Adjustment may be completely different from that which is predicted by the historical relationship.

10. Q. Are there any other issues?

A. Yes. Even if there were a significant historical differential between prices at the AD Hub and prices at the AEP Zone, it does not necessarily mean the conditions that caused that differential will persist in the future. As constraints on the transmission system are overcome by upgrades, the root causes of the price differentials may go away. In other words, it is a moving target.

11. Q. Are there any other issues?

A. Yes. The period of historical data I used to calculate the Basis Differential between the AD Hub and the FE Zone was a period when FirstEnergy was

a member of the Midwest ISO. The FirstEnergy SSO auctions were conducted for a future period when FirstEnergy would be a member of PJM. There could be a difference in the differential between these pricing points in the FirstEnergy SSO Auctions periods, than had been the case when FirstEnergy was in the Midwest ISO, due to the fact that FirstEnergy generation and likely the winning bidders in the FirstEnergy SSO Auctions would be dispatched and priced by PJM, not the Midwest ISO.

12. Q. Did these issues cause you to adjust your calculation of the Basis Differential using historical LMPs in your test of the retail pricing construct?

A. No. Even though my calculated Basis Adjustment is statistically insignificant, there is a mean differential that has a numerical value. It appears to me that the industry standard practice is to account for this differential when calculating market offers they may make. I therefore believe it should be recognized with a value, and the mean differential over the hours of the last two years is the best estimate available.

And, recall that I was conducting a validity test of the MRO retail pricing construct. I decided for purposes of the validity test to include the calculated Basis Adjustment in order to see how the predicted results would compare with the actual FirstEnergy SSO auction results with the basis differential left as calculated.

Alternative Energy Requirement

13. Q. How did you treat the Alternative Energy Requirement price component in your test?

A. Ms. Thomas recognized the Alternative Energy Requirement as a legitimate price component because it is a legal requirement applicable to SSO supply. When predicting the results of the FirstEnergy SSO Auctions I included the Alternative Energy Requirement price component.

However, the product definition for the FirstEnergy SSO Auctions did not include any requirement for energy from alternative or renewable generating resources. I presumed the FirstEnergy companies planned to procure alternative energy to comply with 4928.64 separately from the SSO auctions. I therefore valued the Alternative Energy Requirement component in my projection of the FirstEnergy SSO auction results at zero.

Holding the value of the Alternative Energy Requirement as zero maintains the legitimacy of the validity test. If I was trying to predict the full price of supplying FirstEnergy SSO load, I would have left the value of the Alternative Energy Requirement at the value specified by Ms. Thomas. However, I was attempting to compare apples to apples and test the validity of the pricing construct. Because the FirstEnergy SSO auctions did not include any requirement for suppliers to provide alternative energy, that is,

because FirstEnergy would procure the alternative energy separately from its auctions, I valued it at zero (as if it were not in AEP's MRO price, just as it was not in the FirstEnergy SSO auctions). By doing so, I was able to maintain an apples-to-apples comparison in the context of the test.

Load Following / Shaping Adjustment, Losses, and Transaction Risk Adder

14. Q. Were the above adjustments the only ones you made for the purpose of maintaining comparability?

A. No. I maintained a relationship between each of three price components and the Simple Swap as a way to maintain comparability using a simplified approach.

Ms. Thomas identified three components that varied with the value of the Simple Swap. Those components are; 1) Load Following / Shaping Adjustment, 2) Losses, and 3) Transaction Risk Adder.[8] It is intuitive and logical that these components would rise and fall with the value of the Simple Swap. Insofar as the Load Following / Shaping Adjustment is concerned, as the Simple Swap increases, it is likely that LMPs will also be

[8] *2011 ESP Cases* (Initial Testimony of Laura J. Thomas at 9, line 6) (January 27, 2011): "Only the SS, load following/shaping adjustment, losses, and the transaction risk adder will change based on the selection criteria [for the Simple Swap forward price quote dates]. The remaining components are independent and are not affected by the SS price selection criteria."

higher. Transactions for energy to keep supply and demand in balance will therefore be done at those higher LMPs. Insofar as the Losses component is concerned, the higher the price of energy, as valued by the Simple Swap, the higher the value of the losses of that energy would be. As for the Risk Adjustment, the higher the price of power, the greater the value of risks associated with price and quantity of supply would be.

The real question was the relationships of each of these three components to the value of the Simple Swap that were used by Ms. Thomas to value each of the components. Ms. Thomas revealed in discovery[9] that she used a relatively more complex modeled relationship than I used.

15. Q. So, how did you define the relationship for purposes of the validity test, and would that relationship be adequate to properly value these components?

A. For the three components that varied with the Simple Swap I developed averaged scalars based on the percentage of Ms. Thomas' values of the three components and the value of the Simple Swap. First, I took a percentage the Simple Swap represented by each of the three component values for both delivery periods defined by Ms. Thomas. These are shown in Attachment DRJ-1 as "SS Scalars" In the right hand column of the boxes

9 *See 2011 ESP Cases* (OCC Interrogatory 061).

showing Ms. Thomas' MRO valuation. Each scalar is simply the component value as a percentage of the value of the Simple Swap.

I then averaged the scalars as they differed from one delivery period to the other. I used the Averaged SS Scalars, which are shown in the lower left hand corner of the box showing Ms. Thomas' MRO valuation in Attachment DRJ-1. I used the Averaged Scalars when predicting the results of the FirstEnergy SSO Auctions.

16. Q. Did using the scalars based on percentages of the Simple Swap exactly maintain the relationship to the Simple Swap represented by Ms. Thomas?

A. No, the use of the Averaged Scalars is a simplification of the actual relationship between the three price components and the Simple Swap. The percentage approach is virtually linear for the Losses component, but the precise relationships between the Load Following / Shaping adjustment and the Simple Swap, and between the Risk Adder and the Simple Swap are based upon more complex modeling that defines the relationships.

17. Q. Did your simplified method cause significant inaccuracy in your prediction of FirstEnergy SSO auction results?

A. No. I tested the sensitivity of the simplified averaged percentage methodology by calculating the impact of the variation of the scalars from the average of the scalars on the overall MRO Price.

18. Q. How did you do that? How much did they differ? Is the difference significant?

A. I first calculated the differences between the averaged SS Scalars and the SS Scalars in each delivery period. The delivery period specific scalars differed from the averaged scalars by plus or minus 2.5% over all three price components. The total of the three price components averaged for the two delivery periods was 12% of Ms. Thomas' total MRO price. The product of the 2.5% variation and the 12% of total MRO price represented by the price components to which the averaged SS Scalars were applied quantified a measure of the impact of the variation on the total MRO price. The variation of those three components by 2.5% from their average would cause a variation in total MRO price of plus or minus 0.3%. This analysis is shown on Attachment DRJ-1 under the heading, "Scalar Sensitivity Analysis."

Other variables, such as the Capacity price component (as valued by Ms. Thomas vs. as valued by me and by Staff witness Choueiki), and the values selected by Ms. Thomas vs. the values I selected (or others that might have

been selected) for the Simple Swap, would cause the total MRO price to swing by much greater magnitudes. This gave me confidence that any deviation from Ms. Thomas' more complex modeling approach was *de minimus*. Therefore, using the averaged scalars would yield an acceptable outcome.

Other Components

19. Q. How did you maintain comparability of other components?

A. Ms. Thomas indicated that three components – Ancillary Services, ARR Credit, and Retail Administration - were independent of the Simple Swap. I described their nature above, and characterized from whence they are derived in my description of each price component at the outset of my testimony. I simply carried those values over to my own projection of the FirstEnergy SSO auction results.

20. Q. Why was it appropriate to carry those values over to your projection of the FirstEnergy SSO auction results?

A. I assumed that FirstEnergy, as a member of PJM, would be similarly situated to AEP. Thus, it was reasonable to assume that the values of these price components would be similar for both AEP and FirstEnergy suppliers. FirstEnergy's requirements for Ancillary Services would be similar to AEP's requirement for them. In the case of the ARR credit, I assumed that FirstEnergy would receive similar values for their assigned auction revenue rights as AEP. In the case of Retail Administration, I simply maintained the value assigned by Ms. Thomas in order to maintain a parallel and comparable valuation regardless of whether the value was appropriate or not.

In addition, these components combined represented only about 5% of Ms. Thomas' MRO price projections. I therefore further assumed that any difference in values between FirstEnergy and AEP would be far lower than the impact of other price components such as the Simple Swap and the Capacity components.

Simple Swap and Capacity

21. Q. In your test of AEP's retail pricing construct did you accept Ms. Thomas' values for the Simple Swap and the Capacity price components?

A. No. I believe that those components were inappropriately valued by Ms. Thomas, so I based my own valuation on transparent market price data that better reflected current market conditions because it was more recent than the data used by Ms. Thomas. I describe below how I valued the Simple Swap and the Capacity components.

22. Q. Are these two price components, the Simple Swap and the Capacity Components, more important than others?

A. Yes. The two key components are the Simple Swap and the Capacity components. The value of the Simple Swap is a large part of the total MRO price. Its importance is heightened by the fact that the values of three other components, the Load Shaping / Following Adjustment component, the

Losses component, and the Risk Premium component all rise as the Simple Swap value rises and likewise fall as the Simple Swap value falls. I described above how this relationship is both intuitive and logical. All told the Simple Swap and the three components that vary with it account for approximately 85% of the MRO prices I calculated.

The Capacity component can also be a large component. Ms. Thomas valued the Capacity component much higher than I did. In Ms. Thomas' MRO valuations the Capacity component accounts for more than 25% of the total price.

In my test of the validity of the AEP retail pricing construct I substituted values for the Simple Swap and for Capacity, which were appropriate and available at the time of the auction to bidders in that auction. I provide detail below regarding the sources and appropriateness of those values.

23. Q. How did you value the Simple Swap for purposes of the test?

A. I used the most forward price quotes that would have been available to bidders in the FirstEnergy SSO Auctions to calculate a Simple Swap price for the delivery periods of each of the three auctions conducted to procure FirstEnergy SSO supply. The Simple Swap price quotes I used were pub-

lished by the InterContinental Exchange (ICE) on January 24, 2011. The FirstEnergy SSO Auctions were conducted on January 25, 2011.

I used cleared settlement prices published by ICE for their product ID number 2160 for AD Hub day ahead on peak monthly strips, and for their product ID number 2162 for AD Hub off peak monthly strips to make the calculations. I used the strips for the months that comprised each of the three auctions for each respective auction.

I weighted each monthly on peak price by the number of hours in which that price would be in effect. I did the same for each monthly off peak price. Weighting the off peak prices and the on peak prices by the number of off- and on-peak hours gives a proper valuation of the Simple Swap for all hours in each delivery period. This is sometimes called the "Around the Clock Price," which to my knowledge is standard industry practice.

I derived the Around the Clock price from cleared prices provided by ICE on January 24, 2011, the day before the FirstEnergy SSO auctions took place. I used that single date because it was the most recent data that would surely have been available to bidders in the auctions, and would have been most reflective of the Simple Swap price data they would have used for

bidding purposes. As such, the single quote on January 24 is the most indicative of prices bidders could actually hedge when they were bidding.

24. Q. What capacity values did you use?

A. Pursuant to FERC Order FirstEnergy's subsidiary American Transmission System, Incorporated (ATSI) load zone[10] would be integrated into the PJM Balancing Authority effective as of June 1, 2011. In preparation for this transfer, special Fixed Resource Requirement (FRR) Integration Auctions for PJM delivery years 2011-2012 and 2012-2013 were held by PJM for capacity required by PJM.

I used the FRR Integration Auction values published on PJM's website[11] to value capacity for the appropriate SSO auction delivery periods, and I used PJM's RPM Base Residual Auction prices for capacity to value capacity for the appropriate SSO auction delivery period subsequent to the delivery period of the FRR Integration auctions. These values represent transparent, market based prices for capacity.

[10] The ATSI load zone represents the FirstEnergy companies' service territories. Capacity prices for the ATSI load zone would be the relevant market capacity prices, which would be considered by bidders in the FirstEnergy SSO Auctions.

[11] http://www.pjm.com/~/media/markets-ops/rpm/rpm-auction-info/atsi-frr-integration-auction-results.ashx

I used the same methodology used by Staff witness Choueiki to assign the correct value to each FirstEnergy SSO auction delivery period. Those calculations are presented in Attachment DRJ-2.

25. Q. How did you then project the results of the FirstEnergy auctions using AEP's MRO price construct?

A. By way of summary I filled in the values of each of the ten components as follows.

1. As explained above, I used the forward price quotes from ICE to calculate the Simple Swap values for each of the three FirstEnergy auction delivery periods.

2. I calculated in the basis adjustments using the historical LMP differentials between AD Hub and FE Zone.

3. I multiplied the Averaged SS Scalar for the load following / shaping adjustment and the Simple Swap value to calculate the value of the load following / shaping adjustment component.

4. I used the FRR Integration auction results and the PJM RPM Base Residual Auction results, properly prorated for SSO auction delivery periods, to fill in the capacity values.

5. I used the same value for ancillary services as was used by Ms. Thomas.

6. I zeroed out the Alternative Energy Requirement value because it was not a part of the product definition for the FirstEnergy auctions.

7. I used the same value for the ARR Credit as was used by Ms. Thomas.

8. I calculated the losses by applying the Averaged Losses SS Scalar to the Simple Swap value.

9. I calculated the Transaction Risk Adder by applying the Transaction Risk Adder Averaged Scalar to the Simple Swap value.

10. I used the same value for Retail Administration as was used by Ms. Thomas.

I then summed the ten components to arrive at a predicted, or "backcasted," auction result, which was based upon the AEP MRO retail pricing construct. Finally, I compared the predicted auction results with the actual results.

26. Q. How did the projected results compare with the actual results?

A. Predicted results are presented in Attachment DRJ-1. The predicted results are given below.

2011 – 2012 PJM delivery period	105% of actual
2011 – 2013 PJM delivery period	104% of actual
2011 – 2014 PJM delivery period	98% of actual
Average of three auctions	102% of actual

27. Q. What did you conclude?

A. I concluded that there was no systemic bias in the test because two predictions were higher than the actual and one prediction was lower than the actual. I further concluded that the MRO retail pricing construct offered by AEP witness Thomas reasonably predicted, or "backcasted," the actual results of the FirstEnergy SSO auctions, and is therefore valid for forecasting the values of future procurements, so long as the appropriate transparent

market values are used for the Simple Swap and for the Capacity components.

Independently Projecting the MRO Price

28. Q. How did you project your independent estimates of MRO prices?

A. Given the validity of the AEP MRO retail pricing construct, which I demonstrated above, I used that construct to project future MRO prices in the same way I used the construct to predict the FirstEnergy SSO auction results.

29. Q. Did you simply repeat AEP's calculations?

A. No. I substituted more appropriate values for the Capacity and for the Simple Swap components. I more fully discuss those values below.

I used the Averaged SS Scalars to calculate the Load Following / Shaping Adjustment, Losses, and Transaction Risk Adder price components, by multiplying the Simple Swap by those scalars. I used Ms. Thomas' values for Ancillary Services, ARR Credit, and Retail Administration – price components that are independent of the Simple Swap. I also used Ms. Thomas' value for the Basis Adjustment after independently verifying the historical difference in LMPs between the AD Hub and the AEP Zone. Finally, I used Ms. Thomas' value for the Alternative Energy Requirement.

30. Q. What capacity values did you use?

A. I used the capacity values provided to me by Staff witness Choueiki, which are based upon the PJM RPM Base Residual Auctions for the appropriate PJM delivery periods. Those values are given in Dr. Choueiki's Direct Testimony as Attachment HMC-1.

31. Q. What values did you use for the Simple Swap?

A. I used the average of the five most recent daily quotes for on peak and off peak products for the pertinent delivery periods, which were available from ICE at the time I prepared Attachment DRJ-4. The five days were July 7, 8, 11, 12, and 13, 2011. I weighted the on peak and off peak strips by the number of on peak and off peak hours, just as I did in the validity test described above. The values are given in Attachment DRJ-4.

32. Q. You used the average of five days? I thought you said above that you used a single day quote to predict the results of the FirstEnergy SSO auctions. Can you explain?

A. Yes. When I predicted the results of the FirstEnergy auctions, the most up to date information that would have been available to the bidders in those auctions was actually available to me, as it was published just before those auctions were held. Any auction that may be held for the AEP MRO is still relatively far into the future. I used the average of the five days to indicate

current market conditions, and to avoid any possibility that an outlier value for a single day would skew the results from a reflection of current market conditions.

33. Q. Is that the way Ms. Thomas chose values for the Simple Swap?

A. No, it is not. Ms. Thomas used the average of quotes from the first five days of each of the 4 quarters of 2010. She did so in order to mitigate any timing bias associated with choosing a single date or a single set of consecutive dates.

34. Q. Do you agree with that approach?

A. No. Respondents to a request for proposals would use the most recent quotes available because the most recent quotes would be the best estimates of the prices they could hedge. That is why I used the most recent price quotes available within practical limits.

Neither Ms. Thomas nor I have likely picked the values that will be available just prior to an auction being conducted because we are predicting the MRO prices so far in advance of the time when an auction would be conducted. Despite that I believe it is more appropriate for the Commission to know the most up-to-date information. I therefore chose the most recent dates available at the time of preparation.

35. Q. Is this a significant issue?

A. Yes, it is. For example, in Case No. 08-920-EL-SSO, *et al.*, AEP's last ESP filing, AEP filed its MRO estimate using June pricing data. By the time the hearing commenced Simple Swap prices had fallen nearly 25%.

The Simple Swap and the three price components that vary with the Simple Swap value, account for approximately 85% of the MRO prices as I calculated them. Thus it is by far the largest determinant of the MRO price.

And, the Simple Swap exhibits significant volatility. Attachment DRJ-3 shows the trend over the last 17 months of the on and off peak weighted average price for each of the two proposed ESP delivery periods. The Simple Swap value for 2012 varied between a low of $36 and a high of $44, an upward swing from low to high of more than 20%. The Simple Swap value for 2013 through 2014 delivery period varied between a low of $40 and a high of $50, an upward swing of 25%.

Both trend lines exhibit three downward trends and three upward trends, one of each following the other. With the potential exception of Capacity values these price swings dwarf any uncertainty associated with the values of pricing components that are independent of the Simple Swap. If one counts the impact of both the Simple Swap and the pricing components that

vary with the Simple Swap, MRO price estimations would have swung up and down by $10 or more six times in the last 17 months.

36. Q. How do you view the approach taken by Ms. Thomas to choosing the forward quote dates?

A. Given the volatility of forward prices and the lead time of making an ESP filing relative to a SSO auction or procurement, estimating the Simple Swap as it might actually influence an MRO is problematic no matter what. I have marked on Attachment DRJ-4 Ms. Thomas' estimates with horizontal lines to show how the daily price has varied from her estimate. There is no way to avoid that uncertainty.

37. Q. Did you estimate MRO prices for each of the two delivery periods for which Ms. Thomas estimated them?

A. Yes. I also calculated an MRO price for the PJM delivery year 2014 – 2015. Staff witness Fortney has recommended that AEP extend its proposed ESP period to include that additional year. I therefore concluded it would be useful for the Commission to understand how prices may be expected to behave during the additional year recommended by Mr. Fortney.

38. Q. What were the MRO prices you predicted?

A. The prices I predicted are given in Attachment DRJ-4. They are as follows;

Calendar year 2012	$58.85
January 2013 through May 2014	$61.38
June 2014 through May 2015	$73.59

39. Q. Does this conclude your testimony?

A. Yes, it does.

MRO PRICING CONSTRUCT VALIDITY TEST

Calculation of System Component Values
Calculation of Simple Swap Scalars

AEP LIT - 1

2012
$/MWh

		Residential	Commercial	Industrial	All	SS Scalars
1	Simple Swap	$40.59	$40.59	$40.59	$40.59	$40.59
2	Basis Adjustment	$0.58	$0.58	$0.58	$0.58	$0.00
3	Load Following/Shaping Adjustment	$6.94	$3.17	$2.77	$4.15	0.102281
4	Capacity	$28.99	$23.03	$16.28	$22.07	$0.00
5	Ancillary Services	$0.60	$0.60	$0.60	$0.60	$0.00
6	Alternative Energy Requirement	$0.54	$0.54	$0.54	$0.54	$0.00
7	ARR Credit	$1.40	$1.06	$0.88	-$1.12	$0.00
8	Losses	$3.04	$1.76	$0.79	$1.80	0.0442328
9	Transaction Risk Adder	$4.20	$3.73	$3.31	$3.71	0.0913949
10	Retail Administration	$5.00	$5.00	$5.00	$5.00	$0.00
	Class Total	$98.18	$77.94	$69.55	$77.91	
	% Allocation Factor	0.34	0.24	0.42		
	Weighted Total	$77.91				

AEP LIT - 1

Jan 2013 - May 2014
$/MWh

		Residential	Commercial	Industrial	All	SS Scalars
1	Simple Swap	$45.06	$45.06	$45.06	$45.06	$45.06
2	Basis Adjustment	$0.58	$0.58	$0.58	$0.58	$0.00
3	Load Following/Shaping Adjustment	$6.90	$3.09	$2.85	$4.20	0.0932768
4	Capacity	$28.71	$22.40	$16.40	$21.87	$0.00
5	Ancillary Services	$0.60	$0.60	$0.60	$0.60	$0.00
6	Alternative Energy Requirement	$0.79	$0.79	$0.79	$0.79	$0.00
7	ARR Credit	$1.40	$1.06	$0.88	-$1.11	$0.00
8	Losses	$3.42	$1.96	$0.83	$1.96	0.0435057
9	Transaction Risk Adder	$4.44	$3.90	$3.57	$3.95	0.0876499
10	Retail Administration	$5.00	$5.00	$5.00	$5.00	$0.00
	Class Total	$99.30	$84.34	$74.90	$82.90	$0.00
	% Allocation Factor	0.34	0.23	0.43		
	Weighted Total	$82.90				

Averaged SS Scalars

3	Load Following/Shaping Adjustment		0.0977789
8	Losses		0.0438693
9	Transaction Risk Adder		0.0895224

SS Scalar Sensitivity Analysis

		2012	2013 - 2014		Average
3	Load Following/Shaping Adjustment	1.0460439	0.9539561		0.0977789
8	Losses	1.00828707	0.99171293		0.0438693
9	Transaction Risk Adder	1.02091636	0.97908364		0.0895224
	Averages	1.02508244	0.97491756		
	Overall Variation from Average	0.0250824	-0.0250824	2.5%	

AVG of 3 components / total price using AEP MRO Estimation	12%	Impact on AEP MRO Prices (plus or minus)	0.31%

Simple Swap Based Upon ICE Quotes on Jan 18, 19, 20, 21, 24, 2011
Capacity Based upon ATSI Integration Auctions, and PJM

Staff Prediction of FirstEnergy SSO Auction January 2011
Delivery Period June 1, 2011 to May 31, 2012
$/MWh

		Residential	Commercial	Industrial	All	
1	Simple Swap				$	37.55
2	Basis Adjustment				$	(2.19)
3	Load Following/Shaping Adjustment				$	3.67
4	Capacity				$	8.08
5	Ancillary Services				$	0.60
6	Alternative Energy Requirement				$	0.54
7	ARR Credit				$	(1.12)
8	Losses				$	1.65
9	Transaction Risk Adder				$	3.36
10	Retail Administration				$	5.00
	Total				$	57.14
	FE Auction Results				$	54.55
	Ratio of Predicted to Actual			105%		

Staff Prediction of FirstEnergy SSO Auction January 2011
Delivery Period June 1, 2011 to May 31, 2014
$/MWh

		Residential	Commercial	Industrial	All	
1	Simple Swap				$	38.31
2	Basis Adjustment				$	(2.19)
3	Load Following/Shaping Adjustment				$	3.75
4	Capacity				$	5.94
5	Ancillary Services				$	0.60
6	Alternative Energy Requirement				$	0.79
7	ARR Credit				$	(1.11)
8	Losses				$	1.68
9	Transaction Risk Adder				$	3.43
10	Retail Administration				$	5.00
	Total				$	56.20
	FE Auction Result				$	54.10
	Ratio of Predicted to Actual			104%		

Staff Prediction of FirstEnergy SSO Auction January 2011
Delivery Period June 1, 2011 to May 31, 2013
$/MWh

		Residential	Commercial	Industrial	All	
1	Simple Swap				$	39.38
2	Basis Adjustment				$	(2.19)
3	Load Following/Shaping Adjustment				$	3.85
4	Capacity				$	3.88
5	Ancillary Services				$	0.60
6	Alternative Energy Requirement				$	0.79
7	ARR Credit				$	(1.11)
8	Losses				$	1.73
9	Transaction Risk Adder				$	3.53
10	Retail Administration				$	5.00
	Total				$	55.45
	FE Auction Result				$	56.58
	Ratio of Predicted to Actual			98%		

Ratio of Predicted to Actual Average of All 3 Auctions	102%

Attachment DRJ-2

Capacity Component Valuation for FirstEnergy SSO Auctions

Capacity Auction		
Planning Period	Auction Clearing Price ($/MW-day)	Load Factor
ATSI Integration Auctions		0.5616
June 2011 - May 2012*	$108.89	
June 2012 - May 2013*	$20.46	
PJM RPM Base Residual Auction		
June 2013 - May 2014	$27.73	

Auction Period (PJM delivery year)	Value ($/MWh)
June 2011 - May 2012	**$8.08**
Jun 2012 - May 2013	**$4.80**
Jun 2011 - May 2014	**$3.88**

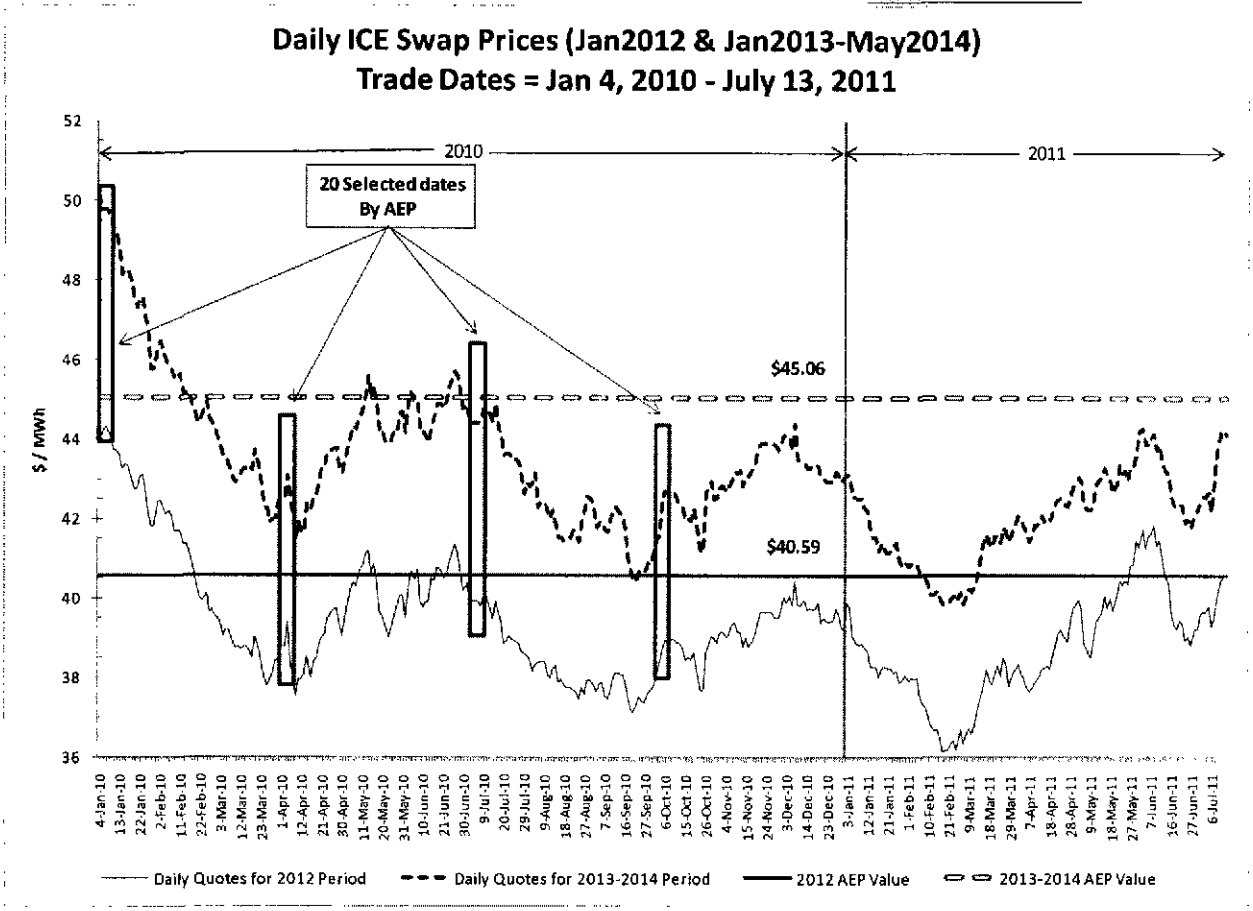
*http://www.pjm.com/~/media/markets-ops/rpm/rpm-auction-info/atsi-frr-integration-auction-results.ashx

Load Factor Calculation

Source: 2010 CEI/OEC/TEC Long Term Forecast Report

		Form D1	Form D3	
Year	**Territory**	**Net Energy for Load***	**Sum Internal Peak**	**Load Factor**
2012	Total Ohio	56,698,000	11,606	55.62%
2013	Total Ohio	57,494,000	11659	56.29%
2014	Total Ohio	58,420,000	11788	56.57%
		* (includes Losses)		56.16%

Attachment DRJ - 3



Staff Independent MRO Estimates

Based upon AEP LJT - 1

Jan 2012 thru Dec 2012
$/MWh

		Residential	Commercial	Industrial	All	SS Scalars
1	Simple Swap	$40.59	$40.59	$40.59	$40.59	$40.59
2	Basis Adjustment	$0.58	$0.58	$0.58	$0.58	$0.00
3	Load Following/Shaping Adjustme	$6.54	$3.17	$2.77	$4.15	0.10228101
4	Capacity	$28.49	$23.03	$18.29	$22.07	$0.00
5	Ancillary Services	$0.60	$0.60	$0.60	$0.60	$0.00
6	Alternative Energy Requirement	$0.54	$0.54	$0.54	$0.54	$0.00
7	ARR Credit	$1.40	$1.06	$0.93	-$1.12	$0.00
8	Losses	$3.04	$1.78	$0.76	$1.80	0.04423281
9	Transaction Risk Adder	$4.20	$3.71	$3.33	$3.71	0.09139487
10	Retail Administration	$5.00	$5.00	$5.00	$5.00	$0.00
	Class Total	$88.10	$77.94	$69.63	$77.91	
	% Allocation Factor	0.34	0.24	0.42		
	Weighted Total	$77.91				

SS Based upon Average of ICE Quotes for AD Hub July 7, 8, 11, 12, and 13, 2011
Capacity Values Based upon PJM RPM Base Residual Auction Results from HMC - 1

Jan 2012 thru Dec 2012
$/MWh

		Residential	Commercial	Industrial	All
1	Simple Swap				$ 40.20
2	Basis Adjustment				$ 0.58
3	Load Following/Shaping Adjustment				$ 3.93
4	Capacity				$ 3.75
5	Ancillary Services				$ 0.60
6	Alternative Energy Requirement				$ 0.54
7	ARR Credit				$ (1.12)
8	Losses				$ 1.76
9	Transaction Risk Adder				$ 3.60
10	Retail Administration				$ 5.00
	Total				$58.85

AEP LJT - 1

Jan 2013 - May 2014
$/MWh

		Residential	Commercial	Industrial	All	SS Scalars
1	Simple Swap	$45.06	$45.06	$45.06	$45.06	$45.06
2	Basis Adjustment	$0.58	$0.58	$0.58	$0.58	$0.00
3	Load Following/Shaping Adjustme	$6.50	$3.08	$2.65	$4.20	0.09327677
4	Capacity	$28.31	$22.40	$18.40	$21.87	$0.00
5	Ancillary Services	$0.60	$0.60	$0.60	$0.60	$0.00
6	Alternative Energy Requirement	$0.79	$0.79	$0.79	$0.79	$0.00
7	ARR Credit	$1.40	$1.06	$0.92	-$1.11	$0.00
8	Losses	$3.32	$1.95	$0.87	$1.96	0.04350572
9	Transaction Risk Adder	$4.44	$3.82	$3.57	$3.95	0.0876499
10	Retail Administration	$5.00	$5.00	$5.00	$5.00	$0.00
	Class Total	$95.29	$82.34	$74.50	$82.80	$0.00
	% Allocation Factor	0.34	0.23	0.43		
	Weighted Total	$82.90				

Jan 2013 - May 2014
$/MWh

		Residential	Commercial	Industrial	All
1	Simple Swap				$ 43.81
2	Basis Adjustment				$ 0.58
3	Load Following/Shaping Adjustment				$ 4.28
4	Capacity				$ 1.58
5	Ancillary Services				$ 0.60
6	Alternative Energy Requirement				$ 0.79
7	ARR Credit				$ (1.11)
8	Losses				$ 1.92
9	Transaction Risk Adder				$ 3.92
10	Retail Administration				$ 5.00
	Total				$61.38

Averaged SS Scalars

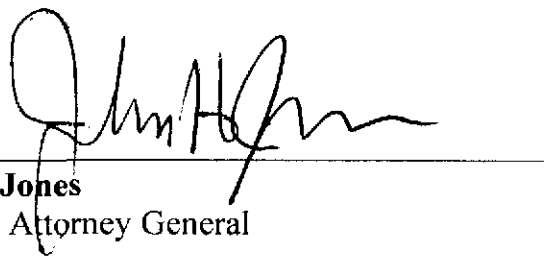
3	Load Following/Shaping Adjustment	0.097778889
8	Losses	0.043869265
9	Transaction Risk Adder	0.089622384

Jun 2014 - May 2015
$/MWh

		Residential	Commercial	Industrial	All
1	Simple Swap				$ 48.41
2	Basis Adjustment				$ 0.58
3	Load Following/Shaping Adjustment				$ 4.73
4	Capacity				$ 8.14
5	Ancillary Services				$ 0.60
6	Alternative Energy Requirement				$ 0.79
7	ARR Credit				$ (1.11)
8	Losses				$ 2.12
9	Transaction Risk Adder				$ 4.33
10	Retail Administration				$ 5.00
	Total				$73.59

PROOF OF SERVICE

I hereby certify that a true copy of the foregoing **Prefiled Testimony of Daniel R. Johnson,** submitted on behalf of the Staff of the Public Utilities Commission of Ohio, was served by regular U.S. mail, postage prepaid, or hand-delivered, upon the following Parties of Record, this 4th day of August, 2011.



John H. Jones
Assistant Attorney General

Parties of Record:

Matthew J. Satterwhite
Steven T. Nourse
American Electric Power
1 Riverside Plaza
Columbus, OH 43215
mjsatterwhite@aep.com
stnourse@aep.com

Daniel Conway
Porter, Wright, Morris & Arthur
41 South High Street
Columbus, OH 4321
dconway@porterwright.com

ON BEHALF OF COLUMBUS SOUTHERN POWER COMPANY AND OHIO POWER COMPANY

Colleen L. Mooney
Ohio Partners for Affordable Energy
231 West Lima Street
Findlay, OH 45840
cmooney2@columbus.rr.com

ON BEHALF OF OHIO PARTNERS FOR AFFORDABLE ENERGY

Dorothy Corbett
Duke Energy Ohio
139 East Fourth Street
Suite 1303
P.O. Box 960
Cincinnati, OH 45201
dorothy.corbett@duke-energy.com

Philip P. Sineneng
Thompson Hine
41 South High Street, Suite 1700
Columbus, OH 43215
Phillip.sineneng@thompsonhine.com

ON BEHALF OF DUKE ENERGY RETAIL SALES

Michael Smalz
Joseph Maskovyak
Ohio Poverty Law Center
555 Buttles Avenue
Columbus, OH 43215-1137
msmalz@ohiopovertlaw.org
jmaskovyak@ohiopovertylaw.org

ON BEHALF OF THE APPALACHIAN PEACE AND JUSTICE NETWORK

David Boehm
Michael L. Kurtz
Boehm Kurtz &Lowry
36 East Seventh Street
Suite 1510
Cincinnati, OH 45202
dboehm@bkllawfirm.com
mkurtz@bkllawfirm.com

ON BEHALF OF THE OHIO ENERGY GROUP

John Bentine
Mark Yurick
Chester Willcox & Saxbe
65 East State Street
Suite 100
Columbus, OH 43215
jbentine@cwslaw.com
myurick@cwslaw.com

ON BEHALF OF THE KROGER CO.

Lisa G. McAlister
Matthew W. Warnock
Bricker & Eckler
100 South Third Street
Columbus, OH 43215-4291
lmcalister@bricker.com
mwarnock@bricker.com

ON BEHALF OF OMA ENERGY GROUP

Jay E. Jadwin
American Electric Power Service Corp.
1 Riverside Plaza, 29th Floor
Columbus, OH 43215
jedjadwin@aep.com

ON BEHALF OF AEP RETAIL ENERGY PARTNERS

Terry Etter
Maureen R. Grady
Assistant Consumers' Counsel
Office of the Ohio Consumers' Counsel
10 West Broad Street, Suite 1800
Columbus, OH 43215
etter@occ.state.oh.us
grady@occ.state.oh.us

ON BEHALF OF THE OFFICE OF THE OHIO CONSUMERS' COUNSEL

Richard L. Sites
Ohio Hospital Association
155 East Broad Street, 15th Floor
Columbus, OH 43215
ricks@ohanet.com

Thomas J. O'Brien
Bricker & Eckler
100 South Third Street
Columbus, OH 43215-4291
tobrien@bricker.com

ON BEHALF OF OHIO HOSPITAL ASSOCIATION

Terrence O'Donnell
Christopher Montgomery
Bricker & Eckler
100 South Third Street
Columbus, OH 43215
todonnell@bricker.com
cmontgomery@bricker.com

ON BEHALF OF PAULDING WIND FARM II AND THE DISTRIBUTED WIND ENERGY ASSOCIATION

Gregory Poulos
EnerNOC, Inc.
101 Federal Street
Suite 1100
Boston, MA 02110
gpoulos@enernoc.com

ON BEHALF OF ENERNOC, INC.

Tara Santarelli
Environmental Law & Policy Center
1207 Grandview Avenue
Suite 201
Columbus, OH 43212
tsantarelli@elpc.org

ON BEHALF OF THE ENVIRONMENTAL LAW & POLICY CENTER

Glen Thomas
1060 First Avenue
Suite 400
King of Prussia, PA 19406
gthomas@gtpowergroup.com

Laura Chappelle
4218 Jacob Meadows
Okemos MI 48864
laurac@chappellconsulting.net

ON BEHALF OF PJM POWER PROVIDERS GROUP

William L. Massey
Covington & Burling
1201 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
wmassey@cov.com

Joel Malina
Compete Coalition
1317 F Street, N.W.
Washington, D.C. 2004
malina@wexlerwalker.com

ON BEHALF OF THE COMPETE COALITION

Mark A. Hayden
FirstEnergy Corp.
76 South Main Street
Akron, OH 44308
haydenm@firstenergycorp.com

James F. Lang
Laura McBride
N. Trevor Alexander
Calfee Halter & Griswold
800 Superior Avenue
Cleveland, OH 44114
jlang@calfee.com
lmcbride@calfee.com
talexander@calfee.com

David Kutik
Jones Day
North Point
901 Lakeside Avenue
Cleveland, OH 44114
dakutik@jonesday.com

Allison E. Haedt
Jones Day
P.O. Box 165017
Columbus, OH 43216-5017
aehaedt@jonesday.com

ON BEHALF OF FIRSTENERGY SOLUTIONS CORP.

M. Howard Petricoff
Stephen M. Howard
Vorys, Sater, Seymour and Pease
52 East Gay Street
P.O. Box 1008
Columbus, OH 43215-1008
mhpetricoff@vorys.com
smhoward@vorys.com

ON BEHALF OF PJM POWER PROVIDERS GROUP AND THE RETAIL ENERGY SUPPLY ASSOCIATION

Douglas G. Bonner
Emma F. Hand
Keith C. Nusbaum
Sonnenschein Nath & Rosenthal
1301 K Street, N.W.
Suite 600 East Tower
Washington, D.C. 20005
doug.bonner@snrdenton.com
emma.hand@snrdenton.com
keith.nusbaum@snrdenton.com

ON BEHALF OF ORMET PRIMARY ALUMINUM CORPORATION

M. Howard Petricoff
Michael J. Settineri
Vorys, Sater, Seymour and Pease
52 East Gay Street
P.O. Box 1008
Columbus, OH 43215-1008
mhpetricoff@vorys.com
mjsettineri@vorys.com

ON BEHALF OF CONSTELLATION NEWENERGY, INC., CONSTELLATION ENERGY COMMODITIES GROUP, INC., AND THE COMPETE COALITION

Samuel C. Randazzo
Frank P. Darr
Joseph E. Oliker
McNees Wallace & Nurick
21 East State Street, 17th Floor
Columbus, OH 43215
sam@mcwncmh.com
fdarr@mwncmh.com
joliker@mwncmh.com

ON BEHALF OF INDUSTRIAL ENERGY USERS-OHIO

Henry W. Eckhart
1200 Chambers Road
Suite 106
Columbus, OH 43212
henryeckhart@aol.com

Shannon Fisk
Natural Resources Defense Council
2 North Riverside Plaza, Suite 2250
Chicago, IL 60606
sfisk@nrdc.org

ON BEHALF OF THE NATURAL RESOURCES DEFENSE COUNCIL AND THE SIERRA CLUB

David Fein
Cynthia Fonner Brady
Constellation Energy Resources
550 West Washington Boulevard
Suite 300
Chicago, IL 60661
david.fein@constellation.com
cynthia.brady@constellation.com

ON BEHALF OF CONSTELLATION NEWENERGY, INC. AND CONSTELLATION ENERGY COMMODITIES GROUP, INC.

Barth Royer
Bell & Royer
33 South Grant Avenue
Columbus, OH 43215-3927
barthroyer@aol.com

Gary A. Jeffries
Dominion Resources Services, Inc.
501 Martindale Street, Suite 400
Pittsburgh, PA 15212-5817
gary.a.jeffries@aol.com

ON BEHALF OF DOMINION RETAIL

Pamela A. Fox/C. Todd Jones
Steven J. Smith/Christopher Miller
Gregory Dunn/Asim Haque
Schottenstein Zox and Dunn
250 West Street, Suite 500
Columbus, OH 43215
pfox@szd.com
cmiller@szd.com
gdunn@szd.com
ahaque@szd.com

ON BEHALF OF THE CITY OF HILLIARD, OHIO, THE CITY OF GROVE CITY, OHIO, AND THE ASSOCIATION OF INDEPENDENT COLLEGES AND UNIVERSITIES OF OHIO

Kenneth P. Kreider
Keating Muething & Klekamp
One East Fourth Street
Suite 1400
Cincinnati, OH 45202
gkreider@kmklaw.com

Holly Rachel Smith
Hitt Business Center
3803 Rectortown Road
Marshall, VA 20115-3338
holly@raysmithlaw.com

Steve W. Chriss
Wal-Mart Stores, Inc.
Bentonville, AR 72716-0550
stephen.chriss@wal-mart.com

ON BEHALF OF WAL-MART STORES EAST AND SAM'S EAST

Sandy Grace
Exelon Business Services Company
101 Constitution Avenue, N.W.
Suite 400 East
Washington, D.C. 20001
sandy.grace@exeloncorp.com

Jesse A. Rodriguez
Exelon Generation Company
300 Exelon Way
Kennett Square, PA 19348
jesse.rodriguez@exeloncorp.com

M. Howard Petricoff
Vorys, Sater, Seymour and Pease
52 East Gay Street
P.O. Box 1008
Columbus, OH 43215-1008
mhpetricoff@vorys.com

David M. Stahl
Arin C. Aragona
Scott C. Solberg
Elmer Stahl Klevorn & Solberg
224 South Michigan Avenue
Suite 1100
Chicago, IL 60604

Anastasia Polek-O'Brien
Exelon Generation Company
10 South Dearborn Street, 49th Floor
Chicago, IL 60603

ON BEHALF OF EXELON GENERATION COMPANY

Nolan Moser
Trent A. Dougherty
Ohio Environmental Council
1207 Grandview Avenue
Suite 201
Columbus, OH 43212-3449
nolan@theoec.org
trent@theoec.org

ON BEHALF OF THE OHIO ENVIRONMENTAL COUNCIL