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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 Section 4928.143, Ohio Revised 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
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PUBLIC UTILITIES COMMISSION OF OHIO

STAFF EX. ____

May 9, 2012

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Background

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 are the purposes 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.

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 three delivery periods identified by Ms. Thomas in her exhibit

LJT-2, 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, which are 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.

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[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, rather 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.

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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 ORC 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

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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]

ARRs are specific and narrowly defined hedges against the price impacts of congestion (the price impacts of transmission constraints on LMPs) on the transmission system. Because the western portion of the PJM system where the AEP companies are located is relatively free of congestion, revenues from the purchase, sale and execution of these rights results in net revenue to the AEP companies.

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

[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/Search%20Results.aspx?q=ARR.

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.

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.

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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).

Testing the Companies' MRO Retail Pricing Construct

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 December 15, 2011 Duke Energy Ohio auctions for procuring Standard Service Offer load (Duke SSO Auctions). I substituted market data that was available to the bidders in the Duke SSO Auctions for market data used by Ms. Thomas, and using those substituted data, I calculated predictions (or "backcasts") of the Duke SSO Auctions based upon AEP's retail pricing construct.

I then compared my backcasts to the actual results of the three Duke 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.

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

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 Duke Energy Ohio auctions.

8. Q. How did you maintain comparability between AEP's MRO estimates and your estimation of Duke'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 Duke. 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 Duke SSO Auctions, however, would be settled by PJM not at the AD Hub, but rather at the DEOK Zone.

Using historical LMP data from Ventyx' Energy Velocity Suite,[7] I calculated the historical difference in LMPs between the AD Hub and the DEOK Zone where the transactions would settle. I used the hourly LMPs from January 1, 2012 through May 3, 2012 to calculate the basis adjustment. LMPs at the DEOK Zone were $0.68 less than corresponding prices at the AD Hub. I reflected that differential by assigning a Basis Adjustment value of negative $0.68. A summary of the analysis is given below.

SAS Analysis using REAL-TIME LMP FROM 01JAN2012 TO 3MAY2012
Source: Velocity Suite
The Means Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum
DEOAD	2975	0.6796	1.55	-23.48	14.35

Note: DEOADBASIS = ∑(ADHub RT LMP - DEOKZone RT LMP)

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 the historical time series price differentials between the AD Hub and the DEOK 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

[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.

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 DEOK 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 DEOK Zone was a period subsequent to the actual auctions – the first five months of 2012. That information would not have been available to bidders in the Duke SSO auctions because ICE only started to publish the DEOK prices in 2012. For purposes of the test, using more recent data is acceptable because it is a proxy, and the calculation is straightforward. Using historical data from an appropriate period would have entailed more complex methodology. Bidders, for example, may have used FTR valuations between relevant pricing points to arrive at an approximation of the basis differential. Replicating such an approach would have added little or nothing to the validity of the test.

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 Duke 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 Duke SSO Auctions I included the Alternative Energy Requirement price component.

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

Holding the value of the Alternative Energy Requirement as zero maintains the legitimacy of the validity test. If I were trying to predict the full price of supplying Duke 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 Duke SSO auctions did not include any requirement for suppliers to provide alternative energy, that is, because Duke would procure the alternative energy or RECs 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 Duke 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 calculated a numerical relationship between each of three price components and the Simple Swap as a way to maintain comparability using a simplified approach.

Ms. Thomas in her January 27, 2011 testimony identified three components that vary 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, so would the absolute value of the discounts and premiums associated with the sales and purchases of power in real time required to conform the 50 MW blocks

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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."

of power hedged with the Simple Swap with the actual demand at each moment. And, more of those sales and purchases would be made when prices were higher than the Simple Swap price, which is an averaged price that includes both on peak hours and off peak hours. 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? Would that relationship be adequate to properly value these components?

A. I developed scaling factors based on the percentage of Ms. Thomas' values of the three components relative to the value of the Simple Swap all as shown in LJT - 2. I then averaged those scaling factors as they differed

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

over the three delivery periods. I used the averages as my SS scaling factors, which are shown below.

SS Scaling Factors	
Load Following/Shaping Adjustment	0.098829104
Losses	0.043948649
Transaction Risk Adder	0.096869227

Thus, one can see that Load Following / Shaping is nearly ten percent of the Simple Swap, Losses is about 4.4 percent, and the Transaction Risk Adder approaches ten percent of the Simple Swap.

I used the SS scaling factors to calculate the values of 1) Load Following / Shaping Adjustment, 2) Losses, and 3) Transaction Risk Adder in my backcast of the Duke SSO auctions. I did so by multiplying each respective scaling factor by the value of the Simple Swap.

16. Q. Did using the scaling factors 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 scaling factors is a simplification of the actual relationship between the three price components and the Simple Swap. The precise relationships are based upon more complex modeling. This can be seen by comparing the values of the SS Scaling factors for various delivery periods and for various capacity values.

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 percentage methodology by calculating the impact of the variation of the scaling factors from the highest values and the lowest values specific to any of the three delivery periods.

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

A. I first calculated the differences between the highest single scaling factor for any given delivery period in LJT – 2, and the averaged scaling factor over all three delivery periods. Then I calculated the lowest single scaling factor for any given delivery period in LJT – 2, and the averaged scaling factor over all three delivery periods. I then calculated the value of the highest individual scaling factors for each cost component by multiplying them by the simple swaps in that corresponding delivery period. I did the same for the lowest individual scaling factors. The total delta on the high side for all three scaling factors combined (that is, totaled for all three components), expressed in dollars, was $0.28. The total delta on the low side for all three scaling factors combined, expressed in dollars, was $0.24. Losses contributed about a penny both on the high and low sides, and the other two factors contributed roughly equally on both the high and the low sides. Calculated as a percentage of Ms. Thomas' overall MRO prices, the impact of the variance was plus or minus between 0.3% and 0.4%.

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 scaling factors 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 used Ms. Thomas' values in my own projection of the Duke SSO auction results.

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

A. I assumed that Duke, as a member of PJM and located in close proximity to the AD Hub, 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 Duke SSO suppliers. Duke's requirements for Ancillary Services would be similar to AEP's requirement for them. In the case of the ARR credit, I assumed that Duke would manage auction revenue rights in a similar manner, or as well as AEP has done. 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.

<u>Simple Swap and Capacity</u>

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 the both components were valued by Ms. Thomas for estimating AEP's MRO prices, and therefore not applicable to backcasting Duke SSO auctions. I based my own valuation on transparent market price data.

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

A. I used the most recent forward price quotes, which would have been available to bidders in the Duke SSO Auctions to calculate a Simple Swap price for the delivery periods of each of the three auctions conducted to procure Duke SSO supply. The Simple Swap price quotes I used were published by the InterContinental Exchange (ICE) on December 14, 2011. The Duke SSO Auctions were conducted on that December 15, 2011.

I used cleared settlement prices published by ICE, product ID number 2160 for AD Hub day ahead on peak monthly strips, and 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 used quotes from the single date December 14, 2011, 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 quotes from that day are the most indicative of prices bidders could actually hedge when they were bidding.

24. Q. What capacity values did you use?

A. I used the same methodology used by Staff witness Choueiki to assign the correct value to each Duke SSO auction delivery period. Those calculations are presented in Attachment DRJ-1.

25. Q. How did you then project the results of the Duke 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 Duke SSO auction delivery periods.

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

3. I multiplied the Simple Swap value by the SS scaling factor for the load following / shaping component to calculate the value of the load following / shaping component.

4. I used 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 Duke auctions.

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

8. I calculated the Losses component by multiplying the Simple Swap value by the SS Scaling factor for Losses.

9. I calculated the value of the Transaction Risk Adder by multiplying the Simple Swap value by the SS scaling factor for Transaction Risk Adder.

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-2. The predicted and actual results are summarized below.

Staff Retail Pricing Construct Test			
Duke Energy Ohio December 2011 SSO Auction			
Delivery Period	Actual	Backcast	Backcast / Actual
201201 - 201305	$ 49.72	$ 51.47	103.5%
201201 - 201405	$ 51.10	$ 52.43	102.6%
201201 - 201505	$ 57.08	$ 55.83	97.8%
Average			101.3%

27. Q. And, you performed the same test in your August 4, 2011 pre-filed testimony, did you not? What were the results of your first test of the AEP Retail Pricing Construct when you applied the test methodology to the January, 2011 FirstEnergy SSO auctions in your August 4, 2011 testimony?

A. I did perform the same test by backcasting a different auction from the one I backcasted herein.[10] Those results are summarized below for reference, and to illustrate that the test approach and methodology produce consistent results, which are reasonably close to the actual results.

[10] See Prefiled Testimony of Daniel R. Johnson, Case No. 11-346-EL-SSO, August 4, 2011.

Staff Retail Pricing Construct Test #1			
FirstEnergy January 2011 SSO Auction			
Delivery Period	Actual	Backcast	Backcast / Actual
201106 - 201205	$ 54.55	$ 57.14	105%
201106 - 201305	$ 54.10	$ 56.20	104%
201206 - 201405	$ 56.58	$ 55.45	98%
Average			102%

28. Q. What did you conclude?

A. I concluded that the results of the test were reasonably close to the actual auction results, and there was no systemic bias in either test because two predictions in each test were higher than the actual and one prediction was lower than the actual. I 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 the Duke Energy Ohio 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

29. 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 backcast the FirstEnergy SSO auction results and the Duke Energy Ohio SSO auction results.

30. 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 used each set of capacity values provided by Staff witness Choueiki to build different MRO values. I more fully discuss those values below.

I used the SS scaling factors to calculate the Load Following / Shaping Adjustment, Losses, and Transaction Risk Adder price components, by multiplying the Simple Swap by those scaling factors. 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.

31. Q. What capacity values did you use?

A. I projected three MRO values using different capacity prices for each. I used the capacity values provided to me by Staff witness Choueiki. The first set of capacity values 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. The second set of values is based upon the recommendation of Staff witness Emily Medine in Case No. 10-2929-EL-UNC. That value is $146.41 per MW-Day.

Finally, I estimated an MRO value using a capacity value of $255 per MW-day. In its March 7, 2012 Order in Case No. 10-2929-EL-UNC, the Commission set an interim two-tier rate[11] for capacity in the AEP-Ohio service area as follows: The 2011/2012 RPM clearing price of $116.15/MW-day for tier-one customers and $255/MW-day for tier-two customers. The estimation of an MRO price based upon $255/MW-day provides the Commission with a benchmark using a current capacity rate should such a rate continue.

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

A. I used the 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 prices were quoted on April 25, 2012. I

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[11] For the details, please see the March 7, 2012 PUCO Order in Case No. 10-2929-EL-UNC.

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.

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

A. In essence, yes. Ms. Thomas averaged the SS prices for the ten trading days between February 20 and March 2, 2012 in order to value the SS component of the Competitive Benchmark. Those were the ten most recent days reasonably available to Ms. Thomas to use in her estimation of an MRO price.

34. Q. Can you comment on that approach?

A. It is reasonable. Respondents to a request for proposals or bidders in an auction 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 single day 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 far in advance of the time when an auction would be conducted. Despite that, I believe it is 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 the selection of quote dates a significant issue for calculating the value of the Simple Swap?

A. Yes, it is. For example, in Case No. 08-920-EL-SSO, *et al.*, AEP's prior ESP filing, AEP filed its MRO estimate using a sampling of pricing data over the recent year, ending in June, 2008. By the time the hearing commenced Simple Swap prices had fallen nearly 25% from the June, 2008 levels.

The Simple Swap exhibits significant volatility. Attachment DRJ-3 shows the trend over the last 29 months of the around the clock forward price for one year, two years, and three years forward. The Simple Swap quotes from 2010 through August of 2011 for a year forward varied from low to high of more than 33%. The Simple Swap quotes from the same period for two and three years forward varied between a low of $40 and a high of $50, an upward swing of 25%.

Most striking is the downward trend from September, 2011 through the present. Forward prices for each of the three forward years have fallen significantly and precipitously by a greater percentage than the previous swings.

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

A. It is as good as it gets. 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. There is no way to avoid that uncertainty.

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

A. Yes. I divided the 2014 – 2015 PJM planning year into two periods to correspond with, and support Staff witness Fortney's analysis. Staff witness Fortney has recognized that AEP proposes to auction its load beginning on 1/1/2015. I therefore concluded it would be useful for the Commission to understand how prices may be expected to behave during the two separate periods of the last PJM delivery year as analyzed by Mr. Fortney.

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

A. The three sets of prices I predicted, based upon different assumptions regarding the price of capacity, are given in Attachments DRJ-4, 5 and 6. They are as follows;

Capacity Price set at RPM auction prices

PJM planning year 2012 - 2013	$45.99
PJM planning year 2013 – 2014	$51.35
June 1, 2014 through December 31, 2015	$59.35
January 1, 2015 through May 31, 2015	$61.98

Capacity Price set at $146.41 (staff witness Medine in 10-2929-EL-UNC)

PJM planning year 2012 - 2013	$54.35
PJM planning year 2013 – 2014	$59.00
June 1, 2014 through December 31, 2015	$60.67
January 1, 2015 through May 31, 2015	$63.30

Capacity Price set at $255

PJM planning year 2012 - 2013	$61.37
PJM planning year 2013 – 2014	$66.01
June 1, 2014 through December 31, 2015	$67.68
January 1, 2015 through May 31, 2015	$70.31

39. Q. Does this conclude your testimony?

A. Yes, it does.

Attachment DRJ-1

Capacity Component Valuation for Duke Energy Ohio SSO Auctions

Capacity Auction		
Planning Period	Auction Clearing Price (*$/MW-day*)	Load Factor
PJM RPM Base Residual Auction		0.5718
Jan 2012 - May 2012	$116.00	
June 2012 - May 2013	$16.73	
June 2013 - May 2014	$27.86	
June 2014 - May 2015	$125.99	

Auction Period (PJM delivery year)	Value ($/MWh)
Jan 2012 - May 2013	**$3.35**
Jan 2012 - May 2014	**$2.80**
Jan 2012 - May 2015	**$4.67**

Load Factor Calculation

Source: 2011 Duke Energy Ohio's Long Term Forecast Report

		Form D1	Form D3	
Year	**Territory**	**Net Energy for Load***	**Sum Internal Peak**	**Load Factor**
2012	Total Ohio	21,995,439	4,379	57.18%
2013	*Total Ohio*	22,316,589	4,419	57.65%
2014	Total Ohio	22,647,997	4,506	57.38%
2015	Total Ohio	22,579,261	4,560	56.53%
		* (includes Losses)		**57.18%**

Attachment DRJ-2

Copy of LJT - 2

Full Cost Capacity
Planning Year 2012/2013
$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	32.68	32.68	32.68	32.68
2	Basis Adjustment	0.49	0.49	0.49	0.49
3	Load Following/Shaping Adjustment	6.12	2.54	1.91	3.36
4	Capacity	30.01	23.01	17.29	22.82
5	Ancillary Services	0.85	0.85	0.85	0.85
6	Alternative Energy Requirement	0.55	0.54	0.54	0.54
7	ARR Credit	(1.54)	(1.11)	(0.97)	(1.18)
8	Losses	2.52	1.44	0.64	1.45
9	*Transaction Risk Adder*	3.83	3.27	2.92	3.30
10	Retail Administration	5.00	5.00	5.00	5.00
	Class Total	80.53	68.73	61.36	Check
	Weighted Total		69.36		69.32

Full Cost Capacity
Planning Year 2013/2014
$/MWh

		Residential	*Commercial*	*Industrial*	*System*
1	Simple Swap	35.34	35.34	35.34	35.34
2	Basis Adjustment	0.49	0.49	0.49	0.49
3	Load Following/Shaping Adjustment	6.35	2.68	1.90	3.47
4	Capacity	28.64	21.90	15.57	21.39
5	Ancillary Services	0.85	0.85	0.85	0.85
6	Alternative Energy Requirement	0.71	0.71	0.71	0.71
7	ARR Credit	(1.44)	(1.04)	(0.89)	(1.10)
8	Losses	2.71	1.55	0.69	1.55
9	Transaction Risk Adder	3.93	3.37	2.98	3.39
10	Retail Administration	5.00	5.00	5.00	5.00
	Class Total	82.59	70.86	62.64	Check
	Weighted Total		71.09		71.09

Full Cost Capacity
Planning Year 2014/2015
$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	37.75	37.75	37.75	37.75
2	Basis Adjustment	0.49	0.49	0.49	0.49
3	Load Following/Shaping Adjustment	6.57	2.79	1.99	3.60
4	Capacity	28.83	22.45	15.82	21.71
5	Ancillary Services	0.85	0.85	0.85	0.85
6	Alternative Energy Requirement	0.92	0.91	0.92	0.91
7	ARR Credit	(1.46)	(1.08)	(0.92)	(1.13)
8	Losses	2.87	1.65	0.73	1.65
9	Transaction Risk Adder	4.09	3.54	3.13	3.54
10	Retail Administration	5.00	5.00	5.00	5.00
	Class Total	85.90	74.35	65.75	Check
	Weighted Total		74.34		74.37

SS Scalars	
Load Following/Shaping Adjustment	0.0988291
Losses	0.04394865
Transaction Risk Adder	0.09686923

MRO Pricing Construct Test - Duke SSO Auctions

(Capacity Cost @ RPM)

January 1, 2012 through May 31, 2013

$ / MWh

		Residential	Commercial	Industrial	System	
1	Simple Swap				$	35.60
2	Basis Adjustment				$	(0.68)
3	Load Following/Shaping Adjustment				$	3.52
4	Capacity				$	3.35
5	Ancillary Services				$	0.85
6	Alternative Energy Requirement				$	-
7	ARR Credit				$	(1.18)
8	Losses				$	1.56
9	*Transaction Risk Adder*				$	3.45
10	Retail Administration				$	5.00
	Class Total					
	Class Weighting Factors	30%	30%	40%		
	Actual Auction Results		$49.72			
	Backcast Results				$	51.47

January 1, 2012 through May 31, 2014

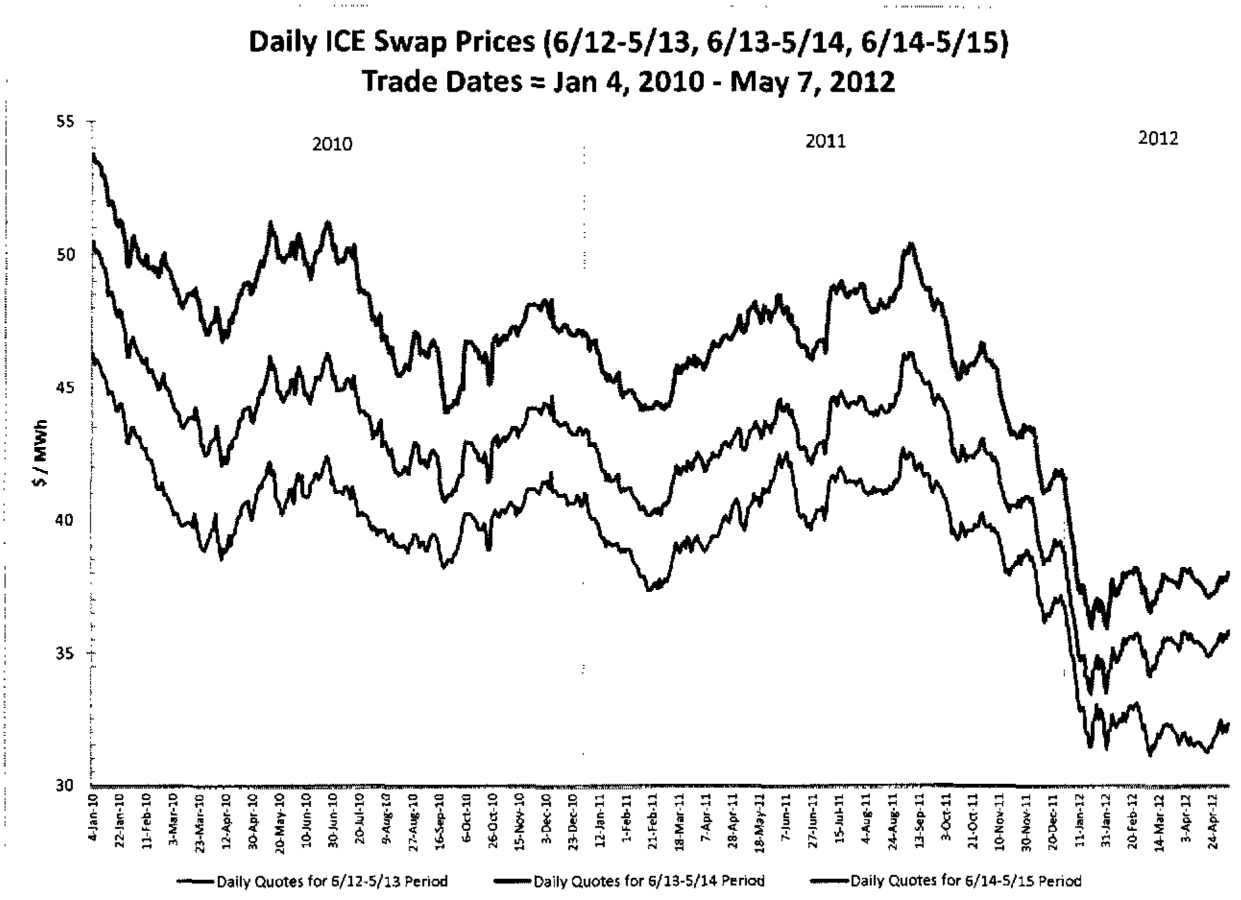
$ / MWh

		Residential	Commercial	Industrial	System	
1	Simple Swap				$	36.75
2	Basis Adjustment				$	(0.68)
3	Load Following/Shaping Adjustment				$	3.63
4	Capacity				$	2.80
5	Ancillary Services				$	0.85
6	Alternative Energy Requirement				$	-
7	ARR Credit				$	(1.10)
8	Losses				$	1.62
9	Transaction Risk Adder				$	3.56
10	Retail Administration				$	5.00
	Class Total					
	Class Weighting Factors	30%	30%	40%		
	Actual Auction Results		$51.10			
	Backcast Results				$	52.43

January 1, 2012 through May 31, 2015

$ / MWh

		Residential	Commercial	Industrial	System	
1	Simple Swap				$	38.01
2	Basis Adjustment				$	(0.68)
3	Load Following/Shaping Adjustment				$	3.76
4	Capacity				$	4.67
5	Ancillary Services				$	0.85
6	Alternative Energy Requirement				$	-
7	ARR Credit				$	(1.13)
8	Losses				$	1.67
9	Transaction Risk Adder				$	3.68
10	Retail Administration				$	5.00
	Class Total					
	Class Weighting Factors	30%	30%	40%		
	Actual Auction Results		$57.08			
	Backcast Results				$	55.83


Daily ICE Swap Prices (6/12-5/13, 6/13-5/14, 6/14-5/15)
Trade Dates = Jan 4, 2010 - May 7, 2012
2010
2011
2012
$ / MWh
55
50
45
40
35
30
Daily Quotes for 6/12-5/13 Period
Daily Quotes for 6/13-5/14 Period
Daily Quotes for 6/14-5/15 Period

Attachment DRJ – 4

LJT - 2 "Full Cost Capacity"

Staff Additions to Original Sheet in Yellow Highlight

Planning Year 2012/2013

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	32.68	32.68	32.68	$ 32.68
2	Basis Adjustment	0.49	0.49	0.49	$ 0.49
3	Load Following/Shaping Adjustme	6.12	2.54	1.91	$ 3.36
4	Capacity	30.01	23.01	17.29	$ 22.82
5	Ancillary Services	0.85	0.85	0.85	$ 0.85
6	*Alternative Energy Requirement*	*0.55*	*0.54*	*0.54*	*$ 0.54*
7	ARR Credit	(1.54)	(1.11)	(0.97)	$ (1.18)
8	Losses	2.52	1.44	0.64	$ 1.45
9	Transaction Risk Adder	3.83	3.27	2.92	$ 3.30
10	Retail Administration	5.00	5.00	5.00	$ 5.00
	Class Total	80.53	68.73	61.36	
	Class Weighting Factors	30%	30%	40%	Check
	Weighted Total		69.36		$ 69.32

Planning Year 2013/2014

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	35.34	35.34	35.34	$ 35.34
2	Basis Adjustment	0.49	0.49	0.49	$ 0.49
3	Load Following/Shaping Adjustme	6.35	2.68	1.90	$ 3.47
4	Capacity	28.64	21.90	15.57	$ 21.39
5	Ancillary Services	0.85	0.85	0.85	$ 0.85
6	Alternative Energy Requirement	0.71	0.71	0.71	$ 0.71
7	*ARR Credit*	*(1.44)*	*(1.04)*	*(0.89)*	*$ (1.10)*
8	Losses	2.71	1.55	0.69	$ 1.55
9	Transaction Risk Adder	3.93	3.37	2.98	$ 3.39
10	Retail Administration	5.00	5.00	5.00	$ 5.00
	Class Total	82.59	70.86	62.64	
	Class Weighting Factors	30%	30%	40%	Check
	Weighted Total		71.09		$ 71.09

Planning Year 2014/2015

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	37.75	37.75	37.75	$ 37.75
2	Basis Adjustment	0.49	0.49	0.49	$ 0.49
3	Load Following/Shaping Adjustme	6.57	2.79	1.99	$ 3.60
4	Capacity	28.83	22.45	15.82	$ 21.71
5	Ancillary Services	0.85	0.85	0.85	$ 0.85
6	Alternative Energy Requirement	0.92	0.91	0.92	$ 0.91
7	ARR Credit	(1.46)	(1.08)	(0.92)	$ (1.13)
8	*Losses*	*2.87*	1.65	0.73	$ 1.65
9	Transaction Risk Adder	4.09	3.54	3.13	$ 3.54
10	Retail Administration	5.00	5.00	5.00	$ 5.00
	Class Total	85.90	74.35	65.75	
	Class Weighting Factors	30%	30%	40%	Check
	Weighted Total		74.34		$ 74.37

SS Scaling Factors	
Load Following/Shaping Adjustm	0.0988291
Losses	0.0439486
Transaction Risk Adder	0.0968692

Based on April 25, 2012 DA ICE Data

HUB	Period	SS
AD	201206 - 201305	$31.63
AD	201306 - 201405	$35.17
AD	201406 - 201412	$36.38
AD	201501 - 201505	$38.50

Staff MRO - Capacity @ RPM

Planning Year 2012/2013

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 31.63
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.13
4	Capacity				$ 1.08
5	Ancillary Services				$ 0.85
6	*Alternative Energy Requirement*				*$ 0.54*
7	ARR Credit				$ (1.18)
8	Losses				$ 1.39
9	Transaction Risk Adder				$ 3.06
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		45.99		

Planning Year 2013/2014

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 35.17
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.48
4	Capacity				$ 1.80
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.71
7	*ARR Credit*				*$ (1.10)*
8	Losses				$ 1.55
9	Transaction Risk Adder				$ 3.41
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		51.35		

June 1, 2014 through December 31, 2014

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 36.38
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.60
4	Capacity				$ 8.13
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.91
7	ARR Credit				$ (1.13)
8	*Losses*				$ 1.60
9	Transaction Risk Adder				$ 3.52
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		59.35		

January 1, 2015 through May 31, 2015

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 38.50
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.80
4	Capacity				$ 8.13
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.91
7	ARR Credit				$ (1.13)
8	Losses				$ 1.69
9	Transaction Risk Adder				$ 3.73
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		61.98		

Attachment DRJ – 5

LJT - 2 "Full Cost Capacity"

Staff Additions to Original Sheet in Yellow Highlight

Planning Year 2012/2013

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	32.68	32.68	32.68	$ 32.68
2	Basis Adjustment	0.49	0.49	0.49	$ 0.49
3	Load Following/Shaping Adjustme	6.12	2.54	1.91	$ 3.36
4	Capacity	30.01	23.01	17.29	$ 22.82
5	Ancillary Services	0.85	0.85	0.85	$ 0.85
6	Alternative Energy Requirement	0.55	0.54	0.54	$ 0.54
7	ARR Credit	(1.54)	(1.11)	(0.97)	$ (1.18)
8	Losses	2.52	1.44	0.64	$ 1.45
9	Transaction Risk Adder	3.83	3.27	2.92	$ 3.30
10	Retail Administration	5.00	5.00	5.00	$ 5.00
	Class Total	80.53	68.73	61.36	
	Class Weighting Factors	30%	30%	40%	Check
	Weighted Total		*69.36*		*$ 69.32*

Planning Year 2013/2014

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	35.34	35.34	35.34	$ 35.34
2	Basis Adjustment	0.49	0.49	0.49	$ 0.49
3	Load Following/Shaping Adjustme	6.35	2.68	1.90	$ 3.47
4	Capacity	28.64	21.90	15.57	$ 21.39
5	Ancillary Services	0.85	0.85	0.85	$ 0.85
6	Alternative Energy Requirement	0.71	0.71	0.71	$ 0.71
7	ARR Credit	(1.44)	(1.04)	(0.89)	$ (1.10)
8	Losses	2.71	1.55	0.69	$ 1.55
9	Transaction Risk Adder	3.93	3.37	2.98	$ 3.39
10	Retail Administration	5.00	5.00	5.00	$ 5.00
	Class Total	82.59	70.86	62.64	
	Class Weighting Factors	30%	30%	40%	Check
	Weighted Total		71.09		$ 71.09

Planning Year 2014/2015

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	37.75	37.75	37.75	$ 37.75
2	Basis Adjustment	0.49	0.49	0.49	$ 0.49
3	Load Following/Shaping Adjustme	6.57	2.79	1.99	$ 3.60
4	Capacity	28.83	22.45	15.82	$ 21.71
5	Ancillary Services	0.85	0.85	0.85	$ 0.85
6	Alternative Energy Requirement	0.92	0.91	0.92	$ 0.91
7	ARR Credit	(1.46)	(1.08)	(0.92)	$ (1.13)
8	Losses	2.87	1.65	0.73	$ 1.65
9	Transaction Risk Adder	4.09	3.54	3.13	$ 3.54
10	Retail Administration	5.00	5.00	5.00	$ 5.00
	Class Total	85.90	74.35	65.75	
	Class Weighting Factors	30%	30%	40%	Check
	Weighted Total		74.34		$ 74.37

SS Scaling Factors	
Load Following/Shaping Adjustm	0.0988291
Losses	0.0439486
Transaction Risk Adder	0.0968692

Based on April 25, 2012 DA ICE Data

HUB	Period	SS
AD	201206 - 201305	$31.63
AD	201306 - 201405	$35.17
AD	201406 - 201412	$36.38
AD	201501 - 201505	$38.50

Staff MRO - Capacity @ $146.41

Planning Year 2012/2013

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 31.63
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.13
4	Capacity				$ 9.45
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.54
7	ARR Credit				$ (1.18)
8	Losses				$ 1.39
9	Transaction Risk Adder				$ 3.06
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		*54.36*		

Planning Year 2013/2014

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 35.17
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.48
4	Capacity				$ 9.45
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.71
7	ARR Credit				$ (1.10)
8	Losses				$ 1.55
9	Transaction Risk Adder				$ 3.41
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		59.00		

June 1, 2014 through December 31, 2014

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 36.38
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.60
4	Capacity				$ 9.45
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.91
7	ARR Credit				$ (1.13)
8	Losses				$ 1.60
9	Transaction Risk Adder				$ 3.52
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		60.67		

January 1, 2015 through May 31, 2015

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 38.50
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.80
4	Capacity				$ 9.45
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.91
7	ARR Credit				$ (1.13)
8	Losses				$ 1.69
9	Transaction Risk Adder				$ 3.73
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		63.30		

LJT - 2 "Full Cost Capacity"

Staff Additions to Original Sheet in Yellow Highlight

Planning Year 2012/2013

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	32.68	32.68	32.68	$ 32.68
2	Basis Adjustment	0.49	0.49	0.49	$ 0.49
3	Load Following/Shaping Adjustme	6.12	2.54	1.91	$ 3.36
4	Capacity	30.01	23.01	17.29	$ 22.82
5	Ancillary Services	0.85	0.85	0.85	$ 0.85
6	Alternative Energy Requirement	0.55	0.54	0.54	$ 0.54
7	ARR Credit	(1.54)	(1.11)	(0.97)	$ (1.18)
8	Losses	2.52	1.44	0.64	$ 1.45
9	Transaction Risk Adder	3.83	3.27	2.92	$ 3.30
10	Retail Administration	5.00	5.00	5.00	$ 5.00
	Class Total	80.53	68.73	61.36	
	Class Weighting Factors	30%	30%	40%	Check
	Weighted Total		69.36		$ 69.32

Planning Year 2013/2014

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	35.34	35.34	35.34	$ 35.34
2	Basis Adjustment	0.49	0.49	0.49	$ 0.49
3	Load Following/Shaping Adjustme	6.35	2.68	1.90	$ 3.47
4	Capacity	28.64	21.90	15.57	$ 21.39
5	Ancillary Services	0.85	0.85	0.85	$ 0.85
6	Alternative Energy Requirement	0.71	0.71	0.71	$ 0.71
7	ARR Credit	(1.44)	(1.04)	(0.89)	$ (1.10)
8	Losses	2.71	1.55	0.69	$ 1.55
9	Transaction Risk Adder	3.93	3.37	2.98	$ 3.39
10	Retail Administration	5.00	5.00	5.00	$ 5.00
	Class Total	82.59	70.86	62.64	
	Class Weighting Factors	30%	30%	40%	Check
	Weighted Total		71.09		$ 71.09

Planning Year 2014/2015

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap	37.75	37.75	37.75	$ 37.75
2	Basis Adjustment	0.49	0.49	0.49	$ 0.49
3	Load Following/Shaping Adjustme	6.57	2.79	1.99	$ 3.60
4	Capacity	28.83	22.45	15.82	$ 21.71
5	Ancillary Services	0.85	0.85	0.85	$ 0.85
6	Alternative Energy Requirement	0.92	0.91	0.92	$ 0.91
7	ARR Credit	(1.46)	(1.08)	(0.92)	$ (1.13)
8	Losses	2.87	1.65	0.73	$ 1.65
9	Transaction Risk Adder	4.09	3.54	3.13	$ 3.54
10	Retail Administration	5.00	5.00	5.00	$ 5.00
	Class Total	85.90	74.35	65.75	
	Class Weighting Factors	30%	30%	40%	Check
	Weighted Total		74.34		$ 74.37

SS Scaling Factors	
Load Following/Shaping Adjustm	0.0988291
Losses	0.0439486
Transaction Risk Adder	0.0968692

Based on April 25, 2012 DA ICE Data

HUB	Period	SS
AD	201206 - 201305	$31.63
AD	201306 - 201405	$35.17
AD	201406 - 201412	$36.38
AD	201501 - 201505	$38.50

Staff MRO - Capacity @ $255

Planning Year 2012/2013

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 31.63
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.13
4	Capacity				$ 16.46
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.54
7	ARR Credit				$ (1.18)
8	Losses				$ 1.39
9	Transaction Risk Adder				$ 3.06
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		61.37		

Planning Year 2013/2014

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 35.17
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.48
4	Capacity				$ 16.46
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.71
7	ARR Credit				$ (1.10)
8	Losses				$ 1.55
9	Transaction Risk Adder				$ 3.41
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		66.01		

June 1, 2014 through December 31, 2014

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 36.38
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.60
4	Capacity				$ 16.46
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.91
7	ARR Credit				$ (1.13)
8	Losses				$ 1.60
9	Transaction Risk Adder				$ 3.52
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		67.68		

January 1, 2015 through May 31, 2015

$/MWh

		Residential	Commercial	Industrial	System
1	Simple Swap				$ 38.50
2	Basis Adjustment				$ 0.49
3	Load Following/Shaping Adjustment				$ 3.80
4	Capacity				$ 16.46
5	Ancillary Services				$ 0.85
6	Alternative Energy Requirement				$ 0.91
7	ARR Credit				$ (1.13)
8	Losses				$ 1.69
9	Transaction Risk Adder				$ 3.73
10	Retail Administration				$ 5.00
	Class Total				
	Class Weighting Factors	30%	30%	40%	
	Staff MRO Price		70.31		

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 via electronic mail, upon the following parties of record, this 9th day of May, 2012.

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Assistant Attorney General

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