Ohio | Public Utilities Commission

LARGE FILING SEPARATOR SHEET

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AEP River Operations

In past years' fuel audits through the 2013 review period, Larkin had reviewed the costs associated with the AEP-owned barge company called AEP River Transportation Division ("RTD") which is owned by Indiana and Michigan Power Company (IMPC), a subsidiary company of AEP. Pursuant to this review, Larkin had issued a series of data requests, which requested information related to such things as the costing procedures for OPCo's barge rates, the financial statements of the RTD, RTD's annual net investment base, etc. For the current audit review period, Larkin issued the same types of inquiries with data requests LA-2014-1-099 through LA-2014-1-122. However, the responses to LA-2014-1-100 through LA-2014-1-117 all referred to the response to LA-2014-1-099 which stated:

> *The transfer of AEP Ohio's generating assets to a new competitive affiliate, AEP Generation Resources (AEPGR), became effective on December 31, 2013. As a result, OPCo no longer received barging services from the River Transportation Division. AEPGR began receiving barging services under* [redacted] *on January 1, 2014.*

The Company provided copies of the competitive market based contracts in response to EVA-2014-1-04, which included four separate agreements between AEPGR and [redacted] for barge shipments to (1) Cardinal Unit 1, (2) Gavin, (3) Kammer, and (4) Muskingum River. EVA requested that AEPGR supplement its response to EVA-2014-1-004 by providing copies of Requests for Proposal ("RFPs"), memorandums or and/or management recommendations related to the barging contracts. In response, the Company referred to Confidential Attachment 5 which stated:

[redacted]

Based on the change in barging services pursuant to the corporate separation, Larkin inquired as to where the costs related to the barging services received by AEPGR for Ohio generating plants are reflected in (1) the FAC monthly workbooks for the period January through March 2014; (2) the APIR and FCR monthly workbooks for the period April through December 2014; and (3) the APIR and FCR monthly workbooks for the period January through May 2015. In its confidential response to LA-2014-3-007, as it relates to calendar year 2014, the Company stated:

[redacted]

As it relates to the period January through May 2015, the response to LA-2014-3-007 stated:

[redacted]

The Company also provided copies of the monthly invoice files for barging services received by AEPGR in each month of 2014, which consisted of a summary, the detail supporting the summary and a schedule that reconciles the amounts from the barge invoice detail to the general ledger and the income statement. The exhibit below summarizes the costs related to the barging services received by AEPGR during 2014.

Exhibit 6-70
River Operations, Summary of Costs Related to Barging Services Received by AEPGR in 2014

[redacted]

As shown in the table above, the total costs related to barging services received by AEPGR in 2014 totaled [redacted]. This amount includes the costs associated with coal shipments, the aggregate category (limestone, gypsum and FP cakes), demurrage and amounts associated with rebills.

Larkin requested that the Company provide copies of invoices related to demurrage charges for all river-supplied coal plants for the periods 2014 and January through May 2015. In response to LA-2014-1-118, AEPGR provided copies of the demurrage invoices for coal shipments that were

submitted to AEPGR in 2014. The exhibit below summarizes the 2014 demurrage charges which relate to coal and urea shipments delivered to the facilities listed in the table.

Exhibit 6-71
2014 Demurrage Charges

[redacted]

As noted in the table, for each facility listed, in certain months of 2014, the demurrage costs were substantially higher than in other months of the year (e.g., Gavin in May, June, September, and October).

For purposes of comparison, the following four exhibits reflect the demurrage charges that were incurred in each year 2012, 2013 and 2014 for the (1) Cardinal Plant Unit 1, (2) Gavin Plant, (3) Kammer Plant, and (4) Muskingum River.

Exhibit 6-72
Comparison of Cardinal Plant Unit 1 Demurrage Charges for the Period 2012-2014

[redacted]

As shown in the exhibit, during the three-year period 2012 through 2014, the demurrage charges incurred at Cardinal Unit 1 fluctuated from a low of [redacted] which then [redacted] to [redacted] in 2013, and then [redacted] to [redacted] in 2014. The demurrage charges incurred at Gavin for the period 2012 through 2014 are reflected in the exhibit below:

Exhibit 6-73
Comparison of Gavin Demurrage Charges for the Period 2012-2014

[redacted]

As shown in the exhibit, during the three-year period 2012 through 2014, the demurrage charges incurred at Gavin totaled [redacted] in 2012 then [redacted] to [redacted] in 2013. However, Gavin related demurrage charges [redacted] to [redacted] in 2014. The demurrage charges incurred at Kammer for the period 2012 through 2014 are reflected in the exhibit below:

Exhibit 6-74
Comparison of Kammer Demurrage Charges for the Period 2012-2014

[redacted]

As shown in the exhibit, during the three-year period 2012 through 2014, the demurrage charges incurred at Kammer totaled [redacted] in 2012 then [redacted] to [redacted] in 2013. However, Kammer related demurrage charges [redacted] to [redacted] in 2014. The demurrage charges incurred at Muskingum River for the period 2012 through 2014 are reflected in the exhibit below:

Exhibit 6-75
Comparison of Muskingum River Demurrage Charges for the Period 2012-2014

[redacted]

As shown in the exhibit, during the three-year period 2012 through 2014, the demurrage charges incurred at Muskingum River totaled [redacted] in 2012 then [redacted] to [redacted] in 2013. However, Muskingum River related demurrage charges [redacted] to [redacted] in 2014.

> Larkin requested that for each facility listed in the foregoing exhibits, the Company explain in detail the reasons for the high demurrage costs in certain months of 2014. In its response to LA-2014-6-001 the Company stated:*At times throughout the year, there were outages of the coal unloading equipment and/or times when the plant was unable to unload all of the barges in the harbor. During these times, barges remained at the plant in the harbor for longer than allowed contractually by barge agreements and demurrage costs were incurred. For the Cardinal plant, there are separate contracts for AEPGR and Buckeye Power and the costs for demurrage are allocated as such.*

In addition to that explanation, another reason for the high demurrage costs in 2014 appears to be the [redacted] the 2014 demurrage charges. Specifically, upon reviewing the 2012 and 2013 invoices that were issued by Indiana Michigan Power Company for AEP River Operations, such invoices reflected demurrage rates of [redacted] per day. However, upon reviewing the demurrage related invoices that AEPGR provided in LA-2014-1-118 that relate to 2014, Larkin noted that the rate charged was [redacted] per day, [redacted] that had been charged during the previous two years. This daily rate is specified in the four contractual agreements referenced above whereby each contract states the following with respect to

demurrage charges: [redacted]

7 AUDIT OF THE ALTERNATIVE ENERGY RIDER

Alternative Energy Portfolio Requirements

S.B. 221 included an Alternative Energy Portfolio Standard (O.R.C. 4928.64-65) which requires 25 percent of all kilowatt hours of electricity sold by electric distribution utilities and electric services companies to retail electric consumers to be obtained by "alternative energy sources" by 2025. Alternative energy sources are defined as "advanced energy resources" and "renewable energy resources" that satisfy the applicable placed in-service requirement. Alternative energy sources can also include new and existing customer-sited advanced and renewable energy resources that the customer commits to integrate into the utility's demand-response, energy efficiency, or peak demand reduction programs. Examples include a resource that has the effect of improving the relationship between real and reactive power; a resource that makes efficient use of waste heat; storage technology that allows customers to modify their demand or load and usage characteristics; and any advanced renewable energy resource that can be utilized effectively. The final rules implementing the Alternative Energy Portfolio Standard were issued December 10, 2009.

At least half of the alternative energy requirement must be satisfied from "renewable energy sources" which must include solar. The percentage required by year is provided on Exhibit 7-1. The other requirement is that at least 50 percent of the renewable energy must come from in-state facilities and the balance must come from facilities that can deliver into the state. Technologies that qualify under the renewable category include: solar, wind, hydroelectric, geothermal, waste derived fuel, biomass, biologically derive methane gas, wood waste, fuel cells, and storage facilities.

Exhibit 7-1
Renewable Energy Benchmark Requirements

Year	Renewable Energy	Minimum Solar
2009	0.25%	0.00%
2010	0.50%	0.01%
2011	1.00%	0.03%
2012	1.50%	0.06%
2013	2.00%	0.09%
2014	2.50%	0.12%
2015	3.50%	0.15%
2016	4.50%	0.18%
2017	5.50%	0.22%
2018	6.50%	0.26%
2019	7.50%	0.30%
2020	8.50%	0.34%
2021	9.50%	0.38%
2022	10.50%	0.42%
2023	11.50%	0.46%
2024	12.50%	0.50%

The remaining up to half of the alternative energy requirement can come from "advanced energy resources." Technologies which would qualify include: any method or device which would increase electricity output without an increase in carbon emissions; a distributed generation system consisting of customer cogeneration and thermal output; clean coal technology which limits emissions of carbon; advanced nuclear technology; fuel cells; and demand side management and energy efficiency improvements. Unlike the renewables, there are no interim requirements, simply a 25 percent requirement by 2025.

To ensure compliance with the alternative energy standards, utilities are required to file an annual report that documents how their compliance obligations are calculated and provides a listing of the REC certificate numbers that were surrendered as part of their compliance obligation. If the utility has failed to meet its requirements in any year and such under-compliance is deemed to have been avoidable, the utility will be assessed a monetary penalty referred to as the "alternative compliance payment ("ACP"). The non-solar ACP is initially set at $45 per MWh and is adjusted annually by the PUCO according to changes in the Consumer Price Index. The solar ACP was initially set at $450 per MWh. In 2012 and 2013, the solar ACP was set at $350 per MWh and then gets reduced by $50 every two years thereafter until it hits $50 per MWh in 2024. ACPs are deposited into the Ohio Advanced Energy Fund which provides funding for renewable and energy efficient projects within the state. ACPs are not recoverable through the FAC.

Utilities can obtain relief from certain requirements and avoid paying the ACP. A utility does not have to comply if it demonstrates that compliance with the portfolio standard is "reasonably expected" to increase generating costs by three percent or more. In addition, a utility can obtain relief through the force majeure provisions which state that the PUCO has the ability to waive compliance if the utility can sufficient renewable energy products were not available in the

market place. Periodically, there are efforts within the state legislature to modify overall requirements.

Senate Bill 310

In May 2014, the Ohio General Assembly passed 2014 Sub. S.B. No. 310 ("SB 310"), which became effective on September 12, 2014. Pursuant to SB 310's passage, several provisions of the Ohio Revised Code, including those referenced above, were amended. These amendments to the renewable energy and advanced energy requirements of S.B. 310 are summarized below.

- Freezes, for 2015 and 2016, the renewable and solar energy benchmarks (required of electric distribution utilities ("EDUs") and electric services companies ("ESCs") at the 2014 level required under prior law, and requires the benchmarks to resume beginning in 2017 starting at the 2015 levels of prior law.
- Eliminates the requirement that EDUs and ESCs provide, by 2025, up to 12.5% of the former 25% alternative energy requirement from advanced energy.
- Extends the benchmark period by which EDUs and ESCs must provide 12.5% of their electricity supply from renewable energy resources by two years to 2027.
- Eliminates the requirement that at least one-half of the renewable energy resources implemented to meet the benchmarks must be met through facilities located in Ohio and the remainder with resources deliverable into Ohio.
- Permits the renewable energy resources implemented to meet the benchmarks to be met either through facilities in Ohio or with resources shown to be deliverable into Ohio.
- Freezes the solar energy compliance payment at $300 for 2014, 2015, and 2016 and resumes, in 2017, the gradual reduction of the payment amounts to a minimum of $50 in 2026 and thereafter.
- Requires that recovery from customers of ongoing costs that are associated with EDUs' contracts to procure renewable energy resources, entered into before April 1, 2014, continue on a bypassable basis until the prudently incurred costs are fully recovered.
- States that renewable energy resources do not have to be converted to electricity in order to be eligible to receive renewable energy credits.
- Requires that rules of the Public Utilities Commission of Ohio ("PUCO") specify that for renewable energy credits, one megawatt hour of energy derived from biologically derived methane gas equals 3,412,142 British Thermal Units.
- Repeals the Alternative Energy Advisory Committee and its duty under prior law to study the alternative energy resources requirements and to submit a semiannual report to the PUCO.
- Permits EDUs and ESCs to use a baseline of the compliance-year's sales to measure compliance with the renewable energy benchmarks, rather than the most recent three-year average of sales.

- Requires EDUs and ESCs that switch back to the three-year baseline and to use that baseline for at least three consecutive years before again using the compliance year baseline.

The biggest impact may be on Ohio in-state solar REC's which have historically been the highest per unit cost component of the REC portfolio. The general consensus is that the differentials between in-state and out-of-state REC's will narrow. What is not clear is whether this is just a two-year freeze or a precursor for major changes going forward.

AEP Ohio Compliance

The Renewable Energy requirement is calculated by applying the renewable energy standard multiplied by a three-year average of retail sales sold under its standard service offer minus industrial consumer load under the economic growth rider. Exhibit 7-2 provides the baseline for retail sales and the REC requirements for solar and non-solar for 2014.

Exhibit 7-2
Baseline Requirements

[redacted]

To comply with this requirement, companies must surrender renewable energy credits (REC) from qualified resources (Note: 1 REC= 1 MWh) equal to the renewable obligation. Given RECs have a five-year lifetime following their acquisition, surplus unused credits can be carried over and consumed in a following year.

AEP Ohio complied with its renewable energy requirement primarily through three major long-term renewable power purchase agreements and supplemented with purchases of qualifying renewable energy credits, co-firing biomass at selected coal plants and Ohio's renewable energy technology program. A breakdown of the major REC providers used for compliance are provided in Exhibit 7-3.

Exhibit 7-3
REC Providers

[redacted]

As shown, the bulk of the non-solar requirement is met by the AEP [redacted] and AEP [redacted] projects. [redacted]

For the bulk of its Solar requirement, AEP Ohio used RECs [redacted].

Given the high capital costs for the wind and solar resources and the high biomass fuel costs, these resources are more expensive than AEPGR's conventional fossil fired power resources. For the first nine months of 2012, the high costs for the renewable power and credit purchases were recovered in the fuel adjustment clause. Beginning in October 2012, the renewable cost recovery has been divided between the fuel adjustment clause for the value of the provided energy and capacity for the 3 renewable projects under Power Purchase Agreements [redacted]) and the Alternative Energy Rider (AER) for the remaining above market value for the three contracts and for all the remaining REC credit purchases. The fuel adjustment clause expired in March 31, 2014 and the AER continues. AEP developed an allocation methodology to allow for recover of the REC values in the AER.

The FAC and APIR cost allocation methodology covering the period January through March and April through December 2014, respectively calculates the value of the energy and capacity provided. It assigns the value of the energy produced under the three agreements to be equal to the monthly average spot clearing price for nearest PJM pricing points multiplied by the power each produced during the month. This approach would very roughly approximate to what the company would have received if it sold the output on the open market.

The AEP capacity used for the wind projects in this calculation is based upon the capacity credit given by PJM. Given wind speeds needed to reach near 14m/s for a wind turbine to produce power at its nameplate capacity, their rated capacity is generally not available during system peak demand periods and PJM assigns only a fraction of wind project capacity towards the power pool reserve margin requirement. For [redacted], PJM gives a [redacted]

[redacted] capacity credit for the [redacted] under contract to OPCo. For the [redacted] project, PJM assigns an initial wind project default capacity credit of [redacted] percent of the project rated capacity [redacted] until sufficient data on its output during peak demand periods has been collected[42].

For the [redacted] project, PJM assigns no capacity credit since the project is not connected to the transmission grid. However, it is connected to the AEP distribution system and its power output reduces the system load required from the grid. Given the [redacted] project reduces the system peak demand, AEP currently assigns a [redacted] capacity credit to the facility in its capacity credit calculation. AEP's assigned 38 percent credit value is less than what many other US grid connected solar resources typically receive since they operate near their full rated capacity during the summer peak periods. EVA recommends that AEP use the same capacity credit methodology as PJM uses for its grid connected resources.

AEP's proposed methodology for calculating capacity value for the three renewable projects' capacity was to use the PJM capacity auction clearing price. Under this method, AEP applied the PJM auction value of $27.33/MW-day for the period January through May 2014 and then updated to the most recent capacity auction of $125.99/MW-day for June-December 2014. EVA believes using these values are too low. AEP as well as other PJM participants have argued that these numbers do not reflect capacity costs. In Case No. 10-2929-EL-UNC, the Commission established an AEPGR system capacity value of $188.88 MW-day in its July 2012 order which EVA recommends be used for these audit periods. The impact of the capacity value is less in 2014 than it was in the prior audit because the two capacity numbers are closer.

FINANCIAL AUDIT

Organization

The section of the report concerning the AER filings audit is organized into the following sections:

- Background
- Audit Period for Review of Renewables Cost and Rider AER
- Quarterly AER Filing – Fourth Quarter 2013
- Rider AER - First Quarter 2014
- Rider AER - Second Quarter 2014
- Rider AER – Third Quarter 2014
- Rider AER – Fourth Quarter 2014
- Rider AER – First Quarter 2015

[42] Given that [redacted] wind project receives only a [redacted] of nameplate capacity credit based upon its performance during region peak demand periods, a significant risk exists that [redacted] capacity credit may be reduced once sufficient performance data during system peaks is collected. This future adjustment could lower its future capacity system value and assign a greater cost to the AER.

- Rider AER – Second Quarter 2015
- Minimum Review Requirements
- REC Inventories
- REC Costs Included in Rider FAC
- Determination of REC Values
- [redacted] RECs
- [redacted] RECs
- [redacted] RECs
- Value for Non-Solar, Non-Ohio REC Inventory Before Rider AER Effective Date
- Fulfillment of Renewables Obligation
- Non-Solar REC Inventory and REC Consumption
- REC Accounting
- Biodiesel and Biomass Testing and Biodiesel RECs

Background

In its July 31, 2008 Application for an Electric Security Plan (and FAC), AEP Ohio requested full cost recovery of its renewable energy purchases and renewable energy credits ("RECs") with the caveat that the Companies proposed including all of its renewable energy costs within the FAC mechanism, and not as part of the deferred FAC costs pursuant to Section 4928.144 of the revised Ohio code. In its Opinion and Order dated March 18, 2009, the PUCO approved the Companies' proposed inclusion of renewable energy purchases and RECs as includable FAC costs citing Section 4928.64(E) which states:

> *All costs incurred by an electric distribution utility in complying with the requirements of this section shall be bypassable by any consumer that has exercised choice of supplier under Section 4928.03 of the Revised Code.*

On January 27, 2011, AEP-Ohio witness Philip J. Nelson submitted direct testimony in Case Nos. 11-346-EL SSO and 11-348-EL-SSO in which the Company had proposed the implementation of an Alternative Energy Rider ("Rider AER"), which would segregate the REC value from Renewable Energy Purchase Agreements ("REPA"). Specifically, the REC component of renewable energy costs would be recovered through the AER and the non-REC portion of and the non-REC portion of such costs would continue to be recovered through FAC.

On August 8, 2012, the Commission issued its Opinion and Order in Case Nos. 11-346-EL-SSO, et al, in which the Alternative Energy Rider ("AER") was established. The AER is a mechanism through which AEPGR can recover its prudently incurred alternative energy compliance costs and according to the response to LA-2014-1-064, while the AER was approved by the PUCO to begin September 2012, OPCo's AER was implemented beginning with October 2012 business.

As previously discussed, In May 2014, the Ohio General Assembly passed SB 310, which became effective on September 12, 2014. Pursuant to SB 310's passage, as illustrated above, several provisions of the Ohio Revised Code were amended.

Audit Period for Review of Renewables Cost and Rider AER

The audit period for renewables is 2014. We reviewed the Company's renewables costs for 2014. As noted above, Rider AER recovers the REC value of the Company's renewable purchased power agreements. The capacity costs and energy value of the REPAs continued to be recovered through the FAC for the period January through March 2014 and recovered through the APIR for the period April through December 2014.

As a result of implementing Rider AER in October 2012, the Company began computing a capacity and an energy value for its REPAs, with the REC value being the reminder after subtracting the capacity value and energy value from the total cost.

Rider AER – First Quarter 2014

On November 27, 2013, AEP Ohio submitted its first Alternative Energy Rider ("AER") quarterly filing, for CSP and OPCO, which reflected projected data for the period January through March 2014 and an RA component based on information from July through September 2013. AEP Ohio's filing for this quarter included a submittal letter and Schedules 4 through 6 supporting the Companies proposed calculations for CSP and OPCO.

The Companies used the same methodology described above as it relates to the format of the schedules in its initial AER filing. The sections below discuss AEP Ohio's first quarter 2014 AER filings by reproducing Schedules 4 through 6, broken out separately between CSP and OPCO.

Exhibit 7-4
CSP and OPCO Schedule 4, January – March 2014

Schedule 4

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
January 2014 through March 2014
Summary - Proposed AER Rate

COLUMBUS SOUTHERN POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.16093	0.18562	0.07605	0.261670
2	Primary	0.15535	0.17918	0.07341	0.252590
3	Sub/Transmission	0.15226	0.17561	0.07195	0.247560

OHIO POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.10064	0.12533	0.07605	0.201380
2	Primary	0.09716	0.12099	0.07341	0.194400
3	Sub/Transmission	0.09523	0.11858	0.07195	0.190530

Schedule 4: Column A of this schedule reflects the then current AER rate by delivery voltage. Column B reflects the forecast component ("FC") rate necessary to recover the estimated REC cost for the period January through March 2014. Column C presents the Companies' reconciliation adjustment ("RA"), which is calculated based on information for July through September 2013. Column D reflects the sum of the FC and RA components.

Exhibit 7-5
CSP and OPCO Schedule 5, January – March 2014

Schedule 5

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
January 2014 through March 2014
FC Component

Line	Description		Forecast Period - 1st Quarter 2014 January	February	March	Total
	TOTAL COMPANY					
1	Renewable Energy Credits		1,882,085.290	2,036,317.983	2,187,207.998	$ 6,105,611
2	Retail Non-Shopping Sales - Generation Level Kwh		1,361,404,187	1,379,474,628	1,600,964,607	4,341,843,423
3	**COLUMBUS SOUTHERN POWER RATE ZONE**					
4	CSP % for Retail Load	49.20%				$ 3,003,961
5	CSP % Non-Shopping Sales	39.54%				1,716,764,889
6	FC Component of AER Rate At Generation Level - Cents/kWh					0.17498
			Secondary	**Primary**	**Sub/Trans**	
7	FC Component of AER Rate At Generation Level		0.17498	0.17498	0.17498	
8	Loss Factor		1.0608	1.0240	1.0036	
9	**FC at the Meter Level - Cents/kWh**	**Line 17 x Line 18**	**0.18562**	**0.17918**	**0.17561**	
10	**OHIO POWER RATE ZONE**					
11	OPCo % for Retail Load	50.80%				$ 3,101,651
12	OPCo % Non-Shopping Sales	60.46%				2,625,078,533
13	FC Component of AER Rate At Generation Level - Cents/kWh					0.11815
			Secondary	**Primary**	**Sub/Trans**	
14	FC Component of AER Rate At Generation Level		0.11815	0.11815	0.11815	
15	Loss Factor		1.0608	1.0240	1.0036	
16	**FC at the Meter Level - Cents/kWh**	**Line 23 x Line 24**	**0.12533**	**0.12099**	**0.11858**	

Schedule 5: This schedule reflects AEP Ohio's estimates of monthly REC costs it expected to incur during the period January through March 2014. AEP Ohio stated that it calculated the rates by voltage necessary to recover its forecast costs. For the first quarter of 2014, AEP Ohio has projected REC costs totaling $6.106 million.

The Companies calculated the FC portion of the AER rate at the Generation level. This amounted to .17498 cents per kWh for CSP and .11815 cents per kWh for OPCO and was calculated by dividing the projected AER for retail load by each Company's projected retail non-shopping sales at the Generation level.

CSP and OPCO applied loss factors to each respective FC portion of the AER rate based on delivery voltage levels in order to derive the FC portion of the AER rate at meter level. The Companies applied the loss factors of 1.0608, 1.0240 and 1.0036 cents per kWh for secondary, primary, and sub/trans voltage levels, respectively,[43] which resulted in FCs of .18562, .17918 and .17561 cents per kWh for CSP and FCs of .12533, .12099 and .11858 cents per kWh for OPCO.

[43] The data request EVA-2014-3-016 asked if it would be more equitable to have one AER rate rather than the three rates based on loss factors. AEP's response stated that voltage adjustments have been used for the AER rates since its inception and the adjustments are necessary to follow the regulatory principal of cost causation. The response also stated that a change in methodology could result in significant increases for some customers.

Exhibit 7-6
CSP and OPCO Schedule 6, January – March 2014

Schedule 6

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
January 2014 through March 2014
RA

			Actual Period - July 2013 through September 2013		
Line	Month	Kwh Retail Non-Shopping Sales	Renewable Revenue	Renewable Cost	AER (Over)/Under Recovery
1	**Beginning Balance**				$ (2,244,708)
2	Jul-13	1,816,710,057	$ 427,316	$ 1,751,155	$ 1,323,839
3	Aug-13	1,569,920,404	$ 512,291	$ 2,268,994	$ 1,756,703
4	Sep-13	1,352,755,407	$ 441,513	$ 2,718,362	$ 2,276,849
5	**Ending Balance**	4,739,385,868	$ 1,381,120	$ 6,738,511	$ 3,112,683
6	Total (Over)/Under Recovery Balance				$ 3,112,683
7	Loss Adjusted Retail Sales Billing Period - kWh				4,341,843,423
8	RA Component at Generation - Cents/kWh				0.07169

			Secondary	Primary	Sub/Trans
9					
10	RA Component of FAC Rate At Generation Level		0.07169	0.07169	0.07169
11	Loss Factor		1.0608	1.024	1.0036
12	**RA at the Meter Level - Cents/kWh**	Line 10 x Line 11	**0.07605**	**0.07341**	**0.07195**

Schedule 6: This schedule represents the Companies' RA components of their first quarter 2014 AER filings. Specifically, Schedule 6 reflects the Companies' beginning over-recovered balance as well as the under/over-recovery of REC expenses for each month during the period July through September 2013, which were calculated as the difference between the monthly renewable revenues for the third quarter of 2013 and the monthly renewable costs for the same period. This resulted in total over-recoveries of $3.113 million.

The Companies calculated the RA component of its AER rate at Generation level by dividing the recoveries by the same forecasted retail non-shopping sales at Generation level referenced in the Schedule 5 section above. The RA component for this filing was .07169 cents per kWh. The Companies applied the loss factors related to the secondary, primary, and sub/trans voltage levels to these RA components in order to derive the RA portion of the FAC rate at meter level. The application of the loss factors results in RA at the meter level of .07605, .07341 and .07195 cents per kWh for the secondary, primary, and sub/trans voltage levels, respectively.

Rider AER – Second Quarter 2014

On March 3, 2014, AEP Ohio submitted its AER quarterly filing, for CSP and OPCO, which reflected projected data for the period April through May 2014 and an RA component based on information from October through December 2013. AEP Ohio's filing for this quarter included a submittal letter and Schedules 4 through 6 supporting the Companies proposed calculations for CSP and OPCO.

The Companies used the same methodology described above as it relates to the format of the schedules in its initial AER filing. The sections below discuss AEP Ohio's second quarter 2014 AER filings by reproducing Schedules 4 through 6, broken out separately between CSP and OPCO.

Exhibit 7-7
CSP and OPCO Schedule 4, April – June 2014

Schedule 4

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
April 2014 through June 2014
Summary - Proposed AER Rate

COLUMBUS SOUTHERN POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.26167	0.23863	-0.01109	0.227540
2	Primary	0.25259	0.23035	-0.01071	0.219640
3	Sub/Transmission	0.24756	0.22576	-0.01049	0.215270

OHIO POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.20138	0.16114	-0.01109	0.150050
2	Primary	0.19440	0.15555	-0.01071	0.144840
3	Sub/Transmission	0.19053	0.15245	-0.01049	0.141960

Schedule 4: Column A of this schedule reflects the then current AER rate by delivery voltage. Column B reflects the FC rate necessary to recover the estimated REC cost for the period April through June 2014. Column C presents the Companies' RA, which is calculated based on information for October through December 2013. Column D reflects the sum of the FC and RA components.

Exhibit 7-8
CSP and OPCO Schedule 5, April – June 2014

Schedule 5

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
April 2014 through June 2014
FC Component

Line	Description		Forecast Period - 2nd Quarter 2014 April	May	June	Total
	TOTAL COMPANY					
1	Renewable Energy Credits		2,100,000	2,100,000	2,100,000	$ 6,300,000
2	Retail Non-Shopping Sales - Generation Level Kwh		1,025,761,491	1,150,409,085	1,308,681,024	3,484,851,600
3	**COLUMBUS SOUTHERN POWER RATE ZONE**					
4	CSP % for Retail Load	49.20%				$ 3,099,600
5	CSP % Non-Shopping Sales	39.54%				1,377,910,323
6	FC Component of AER Rate At Generation Level - Cents/kWh					0.22495
			Secondary	**Primary**	**Sub/Trans**	
7	FC Component of AER Rate At Generation Level		0.22495	0.22495	0.22495	
8	Loss Factor		1.0608	1.0240	1.0036	
9	**FC at the Meter Level - Cents/kWh**	**Line 17 x Line 18**	**0.23863**	**0.23035**	**0.22576**	
10	**OHIO POWER RATE ZONE**					
11	OPCo % for Retail Load	50.80%				$ 3,200,400
12	OPCo % Non-Shopping Sales	60.46%				2,106,941,277
13						0.15190
			Secondary	**Primary**	**Sub/Trans**	
14	*FC Component of AER Rate At Generation Level*		0.15190	0.15190	0.15190	
15	Loss Factor		1.0608	1.0240	1.0036	
16	**FC at the Meter Level - Cents/kWh**	**Line 23 x Line 24**	**0.16114**	**0.15555**	**0.15245**	

Schedule 5: This schedule reflects AEP Ohio's estimates of monthly REC costs it expected to incur during the period April through June 2014. AEP Ohio stated that it calculated the rates by voltage necessary to recover its forecast costs. For the second quarter of 2014, AEP Ohio has projected REC costs totaling $6.3 million.

The Companies calculated the FC portion of the AER rate at the Generation level. This amounted to .22495 cents per kWh for CSP and .15190 cents per kWh for OPCO and was calculated by dividing the projected AER for retail load by each Company's projected retail non-shopping sales at the Generation level.

CSP and OPCO applied loss factors to each respective FC portion of the AER rate based on delivery voltage levels in order to derive the FC portion of the AER rate at meter level. The Companies applied the loss factors of 1.0608, 1.0240 and 1.0036 cents per kWh for secondary, primary, and sub/trans voltage levels, respectively, which resulted in FCs of .23863, .23035 and .22576 cents per kWh for CSP and FCs of .16114, .15555 and .15245 cents per kWh for OPCO.

Exhibit 7-9
CSP and OPCO Schedule 6, April – June 2014

Schedule 6

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
April 2014 through June 2014
RA

			Actual Period - October 2013 through December 2013		
Line	Month	Kwh Retail Non-Shopping Sales	Renewable Revenue	Renewable Cost	AER (Over)/Under Recovery
1	**Beginning Balance**				$ (1,010,383)
2	Oct-13	1,136,792,592	$ 2,035,424	$ 2,087,094	$ 51,670
3	Nov-13	1,239,197,737	$ 1,605,527	$ 2,248,291	$ 642,764
4	Dec-13	1,539,913,698	$ 2,021,133	$ 1,972,692	$ (48,441)
5	**Ending Balance**	3,915,904,027	$ 5,662,084	$ 6,308,077	$ (364,390)
6	Total (Over)/Under Recovery Balance				$ (364,390)
7	Loss Adjusted Retail Sales Billing Period - kWh				3,484,851,600
8	RA Component at Generation - Cents/kWh				-0.01046

			Secondary	Primary	Sub/Trans
9					
10	RA Component of FAC Rate At Generation Level		(0.01046)	(0.01046)	(0.01046)
11	Loss Factor		1.0608	1.024	1.0036
12	**RA at the Meter Level - Cents/kWh**	Line 10 x Line 11	**-0.01109**	**-0.01071**	**-0.01049**

Schedule 6: This schedule represents the Companies' RA components of their second quarter 2014 AER filings. Specifically, Schedule 6 reflects the Companies' beginning over-recovered balance as well as the under/over-recovery of REC expenses for each month during the period October through December 2013, which were calculated as the difference between the monthly renewable revenues for the fourth quarter of 2013 and the monthly renewable costs for the same period. This resulted in total over-recoveries of $364,390.

The Companies calculated the RA component of its AER rate at Generation level by dividing the recoveries by the same forecasted retail non-shopping sales at Generation level referenced in the Schedule 5 section above. The RA component for this filing was (.01046) cents per kWh. The Companies applied the loss factors related to the secondary, primary, and sub/trans voltage levels to these RA components in order to derive the RA portion of the FAC rate at meter level. The application of the loss factors results in RA at the meter level of (.01109), (.01071) and (.01049) cents per kWh for the secondary, primary, and sub/trans voltage levels, respectively.

Rider AER – Third Quarter 2014

On June 2, 2014, AEP Ohio submitted quarterly AER filings for CSP and OPCO, projected data for the period July through September 2014 and a RA component based on information from January through March 2014. AEP Ohio's filing for this quarter included a submittal letter, Schedules 4 through 6 supporting the Companies proposed calculations for CSP and OPCO, and the explanations of each schedule.

The Companies used the same methodology described above as it relates to the format of the schedules in its initial AER filing. The sections below discuss AEP Ohio's third quarter 2013 AER filings by reproducing Schedules 4 through 6, broken out separately between CSP and OPCO, and then briefly summarizing each schedule.

Exhibit 7-10
CSP and OPCO Schedule 4, July – September 2014

Schedule 4

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
July 2014 through September 2014
Summary - Proposed AER Rate

COLUMBUS SOUTHERN POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.22754	0.14269	-0.13350	0.009190
2	Primary	0.21964	0.13774	-0.12887	0.008870
3	Sub/Transmission	0.21527	0.13499	-0.12630	0.008690

OHIO POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.15005	0.09635	-0.13350	-0.037150
2	Primary	0.14484	0.09301	-0.12887	-0.035860
3	Sub/Transmission	0.14196	0.09116	-0.12630	-0.035140

Schedule 4: Column A of this schedule reflects the then current AER rate by delivery voltage. Column B reflects the FC rate necessary to recover the estimated REC cost for the period July through September 2014. Column C presents the Companies RA, which is calculated on Schedule 6 for the REC over or under recovery it experienced January through March 2014. Column D reflects the sum of the FC and RA components.

Exhibit 7-11
CSP and OPCO Schedule 5, July – September 2014

Schedule 5

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
July 2014 through September 2014
FC Component

Line	Description		Forecast Period - 3rd Quarter 2014 July	August	September	Total
	TOTAL COMPANY					
1	Renewable Energy Credits		1,400,000	1,300,000	1,300,000	$ 4,000,000
2	Retail Non-Shopping Sales - Generation Level Kwh		1,622,980,428	1,345,393,859	731,891,145	3,700,265,432
3	**COLUMBUS SOUTHERN POWER RATE ZONE**					
4	CSP % for Retail Load	49.20%				$ 1,968,000
5	CSP % Non-Shopping Sales	39.54%				1,463,084,952
6	FC Component of AER Rate At Generation Level - Cents/kWh					0.13451
			Secondary	**Primary**	**Sub/Trans**	
7	FC Component of AER Rate At Generation Level		0.13451	0.13451	0.13451	
8	Loss Factor		1.0608	1.0240	1.0036	
9	**FC at the Meter Level - Cents/kWh**	**Line 17 x Line 18**	**0.14269**	**0.13774**	**0.13499**	
10	**OHIO POWER RATE ZONE**					
11	OPCo % for Retail Load	50.80%				$ 2,032,000
12	OPCo % Non-Shopping Sales	60.46%				2,237,180,480
13						0.09083
			Secondary	**Primary**	**Sub/Trans**	
14	FC Component of AER Rate At Generation Level		0.09083	0.09083	0.09083	
15	Loss Factor		1.0608	1.0240	1.0036	
16	**FC at the Meter Level - Cents/kWh**	**Line 23 x Line 24**	**0.09635**	**0.09301**	**0.09116**	

Schedule 5: This schedule reflects AEP Ohio's estimates of monthly REC costs it expected to incur during the period July through September 2014. AEP Ohio stated that it calculated the rates by voltage necessary to recover its forecast costs. For the third quarter of 2014, AEP Ohio projected REC costs totaling $4.0 million.

The Companies calculated the FC portion of the AER rate at the Generation level. This amounted to .13451 cents per kWh for CSP and .09083 cents per kWh for OPCO and was calculated by dividing the projected AER for retail load by each Company's projected retail non-shopping sales at the Generation level.

CSP and OPCO then applied loss factors to each respective FC portion of the AER rate based on delivery voltage levels in order to derive the FC portion of the AER rate at meter level. The Companies applied the loss factors of 1.0608, 1.0240 and 1.0036 cents per kWh for secondary, primary, and sub/trans voltage levels, respectively, which resulted in FCs of .14269, .13774 and .13499 cents per kWh for CSP and FCs of .09635, .09301 and .09116 cents per kWh for OPCO.

Exhibit 7-12
CSP and OPCO Schedule 6, July – September 2014

Schedule 6

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
July 2014 through September 2014
RA

Actual Period - January 2014 through March 2014

Line	Month	Renewable Revenue	Renewable Cost	AER (Over)/Under Recovery
1	**Beginning Balance**			$ 3,112,683
2	Jan-14	$ 4,725,452	$ 1,336,677	$ (3,388,775)
3	Feb-14	$ 3,626,306	$ 1,301,475	$ (2,324,831)
4	Mar-14	$ 3,385,259	$ 1,329,332	$ (2,055,927)
5	**Ending Balance**	$ 11,737,017	$ 3,967,484	$ (4,656,850)
6	Total (Over)/Under Recovery Balance			$ (4,656,850)
7	Loss Adjusted Retail Sales Billing Period - kWh			3,700,265,432
8	RA Component at Generation - Cents/kWh			-0.12585

9		Secondary	Primary	Sub/Trans
10	RA Component of FAC Rate At Generation Level	(0.12585)	(0.12585)	(0.12585)
11	Loss Factor	1.0608	1.024	1.0036
12	**RA at the Meter Le** Line 10 x Line 11	**-0.13350**	**-0.12887**	**-0.12630**

Schedule 6: This schedule represents the Companies' RA components of their third quarter 2014 AER filings. Specifically, Schedule 6 reflects the Companies' beginning cumulative under-recovered balance of $3.113 million as well as the over-recovery of REC costs for each month during the period January through March 2014, which were calculated as the difference between the monthly renewable revenues for the first quarter of 2014 and the monthly renewable costs for the same period. This resulted in total over-recoveries of $4.657 million.

The Companies calculated the RA component of its AER rate at Generation level by dividing the over-recoveries by the same forecasted retail non-shopping sales at Generation level referenced in the Schedule 5 section above. The RA component for this filing was (.12585) cents per kWh. The Companies applied the loss factors related to the secondary, primary, and sub/trans voltage levels to these RA components in order to derive the RA portion of the FAC rate at meter level. The application of the loss factors results in RA at the meter level of (.13350), (.12887) and (.12630) cents per kWh for the secondary, primary, and sub/trans voltage levels, respectively.

Rider AER – Fourth Quarter 2014

On September 2, 2014, AEP Ohio submitted its quarterly AER filings, for CSP and OPCO, projected data for the period October through December 2014, and an RA component based on information from April through June 2014. AEP Ohio's filing for this quarter included a submittal letter and Schedules 4 through 6 showing the Companies' proposed Rider AER calculations for CSP and OPCO.

The Companies used the same methodology described above as it relates to the format of the schedules in its initial AER filing. The sections below discuss AEP Ohio's fourth quarter 2014 AER filings by reproducing Schedules 4 through 6, broken out separately between CSP and OPCO.

Exhibit 7-13
CSP and OPCO Schedule 4, October – December 2014

Schedule 4

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
October 2014 through December 2014
Summary - Proposed AER Rate

COLUMBUS SOUTHERN POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.00919	0.22104	-0.04613	0.17491
2	Primary	0.00887	0.21337	-0.04453	0.16884
3	Sub/Transmission	0.00869	0.20912	-0.04364	0.16548

OHIO POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	-0.03715	0.14925	-0.04613	0.10312
2	Primary	-0.03586	0.14408	-0.04453	0.09955
3	Sub/Transmission	-0.03514	0.14121	-0.04364	0.09757

Schedule 4: Column A of this schedule reflects the then current AER rate by delivery voltage. Column B reflects the FC rate necessary to recover the estimated REC cost for the period October through December 2014. Column C presents the Companies' RA, which is calculated based on information for April through June 2014. Column D reflects the sum of the FC and RA components.

Exhibit 7-14
CSP and OPCO Schedule 5, October – December 2014

Schedule 5

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
October 2014 through December 2014
FC Component

Line	Description		Forecast Period - 4th Quarter 2014 October	November	December		Total
	TOTAL COMPANY						
1	Renewable Energy Credits		1,600,000	1,700,000	1,700,000	$	5,000,000
2	Retail Non-Shopping Sales - Generation Level Kwh		908,113,253	978,810,989	1,098,919,788		2,985,844,030
3	**COLUMBUS SOUTHERN POWER RATE ZONE**						
4	CSP % for Retail Load	49.20%				$	2,460,000
5	CSP % Non-Shopping Sales	39.54%					1,180,602,729
6	FC Component of AER Rate At Generation Level - Cents/kWh						0.20837
			Secondary	**Primary**	**Sub/Trans**		
7	FC Component of AER Rate At Generation Level		0.20837	0.20837	0.20837		
8	Loss Factor		1.0608	1.0240	1.0036		
9	**FC at the Meter Level - Cents/kWh**	**Line 17 x Line 18**	**0.22104**	**0.21337**	**0.20912**		
10	**OHIO POWER RATE ZONE**						
11	OPCo % for Retail Load	50.80%				$	2,540,000
12	OPCo % Non-Shopping Sales	60.46%					1,805,241,301
13							0.14070
			Secondary	**Primary**	**Sub/Trans**		
14	FC Component of AER Rate At Generation Level		0.14070	0.14070	0.14070		
15	Loss Factor		1.0608	1.0240	1.0036		
16	**FC at the Meter Level - Cents/kWh**	**Line 23 x Line 24**	**0.14925**	**0.14408**	**0.14121**		

Schedule 5: This schedule reflects AEP Ohio's estimates of monthly REC costs it expected to incur during the period October through December 2014. AEP Ohio stated that it calculated the rates by voltage necessary to recover its forecast costs. For the fourth quarter of 2014, AEP Ohio has projected REC costs totaling $5.0 million.

The Companies calculated the FC portion of the AER rate at the Generation level. This amounted to .20837 cents per kWh for CSP and .14070 cents per kWh for OPCO and was calculated by dividing the projected AER for retail load by each Company's projected retail non-shopping sales at the Generation level.

CSP and OPCO applied loss factors to each respective FC portion of the AER rate based on delivery voltage levels in order to derive the FC portion of the AER rate at meter level. The Companies applied the loss factors of 1.0608, 1.0240 and 1.0036 cents per kWh for secondary, primary, and sub/trans voltage levels, respectively, which resulted in FCs of .22104, .21337 and .20912 cents per kWh for CSP and FCs of .14925, .14408 and .14121 cents per kWh for OPCO.

Exhibit 7-15
CSP and OPCO Schedule 6, October – December 2014

Schedule 6

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
October 2014 through December 2014
RA

			Actual Period - April 2014 through June 2014		
Line	Month		Renewable Revenue	Renewable Cost	AER (Over)/Under Recovery
1	**Beginning Balance**				$ (364,390)
2	Apr-14	$	1,709,634	$ 1,618,436	$ (91,198)
3	May-14	$	2,033,051	$ 1,677,395	$ (355,656)
4	Jun-14	$	2,229,174	$ 1,742,111	$ (487,063)
5	**Ending Balance**	$	5,971,859	$ 5,037,942	$ (1,298,307)
6	Total (Over)/Under Recovery Balance				$ (1,298,307)
7	Loss Adjusted Retail Sales Billing Period - kWh				2,985,844,030
8	RA Component at Generation - Cents/kWh				-0.04348

		Secondary	Primary	Sub/Trans
9				
10	RA Component of FAC Rate At Generation Level	(0.04348)	(0.04348)	(0.04348)
11	Loss Factor	1.0608	1.024	1.0036
12	**RA at the Meter Le** Line 10 x Line 11	**-0.04613**	**-0.04453**	**-0.04364**

Schedule 6: This schedule represents the Companies' RA components of their fourth quarter 2014 AER filings. Specifically, Schedule 6 reflects the Companies' beginning cumulative over-recovered balance as well as the under/over-recovery of REC costs for each month during the period April through June 2014, which were calculated as the difference between the monthly renewable revenues for the second quarter of 2014 and the monthly renewable costs for the same period. This resulted in total over-recoveries of $1.298 million.

The Companies calculated the RA component of its AER rate at Generation level by dividing the over-recoveries by the same forecasted retail non-shopping sales at Generation level referenced in the Schedule 5 section above. The RA component for this filing was (.04348) cents per kWh. The Companies applied the loss factors related to the secondary, primary, and sub/trans voltage levels to these RA components in order to derive the RA portion of the FAC rate at meter level. The application of the loss factors results in RA at the meter level of (.04613), (.04453) and (.04364) cents per kWh for the secondary, primary, and sub/trans voltage levels, respectively.

Rider AER – First Quarter 2015

On December 1, 2014, AEP Ohio submitted its Alternative Energy Rider ("AER") quarterly filing, for CSP and OPCO, which reflected projected data for the period January through March 2015 and an RA component based on information from July through September 2014. AEP Ohio's filing for this quarter included a submittal letter and Schedules 4 through 6 supporting the Companies proposed calculations for CSP and OPCO.

The Companies used the same methodology described above as it relates to the format of the schedules in its initial AER filing. The sections below discuss AEP Ohio's first quarter 2015

AER filings by reproducing Schedules 4 through 6, broken out separately between CSP and OPCO.

Exhibit 7-16
CSP and OPCO Schedule 4, January – March 2015

Schedule 4

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
January 2015 through March 2015
Summary - Proposed AER Rate

COLUMBUS SOUTHERN POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.17491	0.14604	0.06948	0.21552
2	Primary	0.16884	0.14096	0.06706	0.20802
3	Sub/Transmission	0.16548	0.13814	0.06572	0.20386

OHIO POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.10312	0.14604	0.06948	0.21552
2	Primary	0.09955	0.14096	0.06706	0.20802
3	Sub/Transmission	0.09757	0.13814	0.06572	0.20386

Schedule 4: Column A of this schedule reflects the then current AER rate by delivery voltage. Column B reflects the FC rate necessary to recover the estimated REC cost for the period January through March 2015. Column C presents the Companies' RA, which is calculated based on information for July through September 2014. Column D reflects the sum of the FC and RA components.

Exhibit 7-17
CSP and OPCO Schedule 5, January – March 2015

Schedule 5

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
January 2015 through March 2015
FC Component

Line	Description		Forecast Period - 1st Quarter 2015 January	February	March		Total
	TOTAL COMPANY						
1	Renewable Energy Credits		1,900,000	1,900,000	1,900,000	$	5,700,000
2	Retail Non-Shopping Sales - Generation Level Kwh		1,514,977,327	1,394,017,978	1,229,893,007		4,138,888,312
3	**TOTAL COMPANY**						
4	CSP % for Retail Load					$	5,700,000
5	CSP % Non-Shopping Sales						4,138,888,312
6	FC Component of AER Rate At Generation Level - Cents/kWh						0.13772
			Secondary	**Primary**	**Sub/Trans**		
7	FC Component of AER Rate At Generation Level		0.13772	0.13772	0.13772		
8	Loss Factor		1.0604	1.0235	1.0031		
9	**FC at the Meter Level - Cents/kWh**	**Line 7 x Line 8**	**0.14604**	**0.14096**	**0.13814**		

Schedule 5: *This schedule reflects AEP Ohio's estimates of monthly REC costs it expected to* incur during the period January through March 2015. AEP Ohio stated that it calculated the rates by voltage necessary to recover its forecast costs. For the first quarter of 2015, AEP Ohio has projected REC costs totaling $5.700 million.

The Companies calculated the FC portion of the AER rate at the Generation level. This amounted to .13772 cents per kWh for OPCo and was calculated by dividing the projected AER for retail load by the Company's projected retail non-shopping sales at the Generation level.

CSP applied loss factors to each respective FC portion of the AER rate based on delivery voltage levels in order to derive the FC portion of the AER rate at meter level. The Companies applied the loss factors of 1.0604, 1.0235 and 1.0031 cents per kWh for secondary, primary, and sub/trans voltage levels, respectively, which resulted in FCs of .14604, .14096 and .13814 cents per kWh for CSP.

Exhibit 7-18
CSP and OPCO Schedule 6, January – March 2015

Schedule 6

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
January 2015 through March 2015
RA

Line	Month		Renewable Revenue		Renewable Cost		AER (Over)/Under Recovery
1	**Beginning Balance**					$	(4,656,850)
2	Jul-14	$	(1,374,985)	$	1,878,678	$	3,253,663
3	Aug-14	$	(189,253)	$	1,889,040	$	2,078,293
4	Sep-14	$	(142,047)	$	1,894,675	$	2,036,722
5	**Ending Balance**	$	(1,706,285)	$	5,662,393	$	2,711,828
6	Total (Over)/Under Recovery Balance					$	2,711,828
7	Loss Adjusted Retail Sales Billing Period - kWh						4,138,888,312
8	RA Component at Generation - Cents/kWh						0.06552

9			Secondary	Primary	Sub/Trans
10	RA Component of FAC Rate At Generation Level		0.06552	0.06552	0.06552
11	Loss Factor		1.0604	1.0235	1.0031
12	**RA at the Meter Level - Cents/kWh**	Line 10 x Line 11	**0.06948**	**0.06706**	**0.06572**

Schedule 6: This schedule represents the Companies' RA components of their first quarter 2015 AER filings. Specifically, Schedule 6 reflects the Companies' beginning over-recovered balance as well as the under/over-recovery of REC expenses for each month during the period July through September 2014, which were calculated as the difference between the monthly renewable revenues for the third quarter of 2014 and the monthly renewable costs for the same period. This resulted in total under-recoveries of $2.712 million. The Companies have included in the total AER cost an amount that represents the revenue requirement associated with solar panels installed by the Company to help meet the renewable energy requirements of SB221, as well as other renewable energy costs.

The Companies calculated the RA component of its AER rate at Generation level by dividing the recoveries by the same forecasted retail non-shopping sales at Generation level referenced in the Schedule 5 section above. The RA component for this filing was .06552 cents per kWh. The Companies applied the loss factors related to the secondary, primary, and sub/trans voltage levels to these RA components in order to derive the RA portion of the FAC rate at meter level. The application of the loss factors results in RA at meter level of .06948, .06706, and .06572 cents per kWh for the secondary, primary, and sub/trans voltage levels, respectively.

Rider AER – Second Quarter 2015

On March 2, 2015, AEP Ohio submitted its AER quarterly filing, for CSP and OPCO, which reflected projected data for the period April through June 2015 and an RA component based on information from October through December 2014. AEP Ohio's filing for this quarter included a submittal letter and Schedules 4 through 6 supporting the Companies proposed calculations for CSP and OPCO.

The Companies used the same methodology described above as it relates to the format of the schedules in its initial AER filing. The sections below discuss AEP Ohio's second quarter 2015 AER filings by reproducing Schedules 4 through 6, broken out separately between CSP and OPCO.

Exhibit 7-19
CSP and OPCO Schedule 4, April – June 2015

Schedule 4

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
April 2015 through June 2015
Summary - Proposed AER Rate

COLUMBUS SOUTHERN POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.21552	0.08405	-0.03926	0.04479
2	Primary	0.20802	0.08113	-0.03790	0.04323
3	Sub/Transmission	0.20386	0.07950	-0.03714	0.04236

OHIO POWER RATE ZONE

		A	B	C	D
			Schedule 5	Schedule 6	
Line	Delivery Voltage	Current AER Rate	Forecast (FC) Component	Reconciliation (RA) Adjustment Comp.	Total of FC and RA Components
1	Secondary	0.21552	0.08405	-0.03926	0.04479
2	Primary	0.20802	0.08113	-0.03790	0.04323
3	Sub/Transmission	0.20386	0.07950	-0.03714	0.04236

Schedule 4: Column A of this schedule reflects the then current AER rate by delivery voltage. Column B reflects the FC rate necessary to recover the estimated REC cost for the period April through June 2015. Column C presents the Companies' RA, which is calculated based on information for October through December 2014. Column D reflects the sum of the FC and RA components.

Exhibit 7-20
CSP and OPCO Schedule 5, April – June 2015

Schedule 5

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
April 2015 through June 2015
FC Component

Line	Description		Forecast Period - 2nd Quarter 2015 April	May	June	Total
	TOTAL COMPANY					
1	Renewable Energy Credits		833,667	833,667	833,667	$ 2,501,000
2	Retail Non-Shopping Sales - Generation Level Kwh		1,105,968,190	970,155,454	1,079,461,703	3,155,585,347
3	TOTAL COMPANY					
4	% for Retail Load					$ 2,501,000
5	% Non-Shopping Sales					3,155,585,347
6	FC Component of AER Rate At Generation Level - Cents/kWh					0.07926
			Secondary	Primary	Sub/Trans	
7	FC Component of AER Rate At Generation Level		0.07926	0.07926	0.07926	
8	Loss Factor		1.0604	1.0235	1.0031	
9	**FC at the Meter Level - Cents/kWh**	**Line 7 x Line 8**	***0.08405***	***0.08113***	***0.07950***	

Schedule 5: This schedule reflects AEP Ohio's estimates of monthly REC costs it expected to incur during the period April through June 2015. AEP Ohio stated that it calculated the rates by voltage necessary to recover its forecast costs. For the second quarter of 2015, AEP Ohio has projected REC costs totaling $2.501 million.

The Companies calculated the FC portion of the AER rate at the Generation level. This amounted to .07926 cents per kWh and was calculated by dividing the projected AER for retail load by each Company's projected retail non-shopping sales at the Generation level.

The Company applied loss factors to the FC portion of the AER rate based on delivery voltage levels in order to derive the FC portion of the AER rate at meter level. The Companies applied the loss factors of 1.0604, 1.0235 and 1.0031 cents per kWh for secondary, primary, and sub/trans voltage levels, respectively, which resulted in FCs of .08405, .08113 and .07950 cents per kWh.

Exhibit 7-21
CSP and OPCO Schedule 6, April – June 2015

Schedule 6

OHIO POWER COMPANY and COLUMBUS SOUTHERN POWER COMPANY
Calculation of Quarterly AER For Billing During
April 2015 through June 2015
RA

Line	Month	Renewable Revenue	Renewable Cost	AER (Over)/Under Recovery
1	**Beginning Balance**			$ (1,298,307)
2	Oct-14	$ 2,144,317	$ 2,033,362	$ (110,955)
3	Nov-14	$ 1,524,345	$ 2,009,341	$ 484,996
4	Dec-14	$ 2,025,113	$ 1,780,955	$ (244,158)
5	**Ending Balance**	$ 5,693,775	$ 5,823,658	$ (1,168,424)
6	Total (Over)/Under Recovery Balance			$ (1,168,424)
7	Loss Adjusted Retail Sales Billing Period - kWh			3,155,585,347
8	RA Component at Generation - Cents/kWh			-0.03703

			Secondary	Primary	Sub/Trans
9					
10	RA Component of FAC Rate At Generation Level		(0.03703)	(0.03703)	(0.03703)
11	Loss Factor		1.0604	1.0235	1.0031
12	**RA at the Meter Level - Cents/kWh**	Line 10 x Line 11	**-0.03926**	**-0.03790**	**-0.03714**

Schedule 6: This schedule represents the Companies' RA components of their second quarter 2015 AER filings. Specifically, Schedule 6 reflects the Companies' beginning over-recovered balance as well as the under/over-recovery of REC expenses for each month during the period October through December 2014, which were calculated as the difference between the monthly renewable revenues for the fourth quarter of 2014 and the monthly renewable costs for the same period. This resulted in total over-recoveries of $1.168 million.

The Companies calculated the RA component of its AER rate at Generation level by dividing the recoveries by the same forecasted retail non-shopping sales at Generation level referenced in the Schedule 5 section above. The RA component for this filing was (.03703) cents per kWh. The Companies applied the loss factors related to the secondary, primary, and sub/trans voltage levels to these RA components in order to derive the RA portion of the FAC rate at meter level. The application of the loss factors results in RA components of the FAC rate of (.03926), (.03790) and (.03714) cents per kWh for the secondary, primary, and sub/trans voltage levels, respectively.

Minimum Review Requirements

As noted above, Larkin referred to the objectives and procedures outlined in Attachment 4 of the RFP as guidance for the review requirements of this project. The Financial Audit Program Standards are intended to be used as a guide for the auditor in conformance with the specific requirements of the Alternative Energy Rider and should not be used to the exclusion of the auditor's initiative, imagination and thoroughness.

Those Standards provides for the following Minimum Review Requirements:

The financial audit shall include at least the following items:

1) *A review of the Company's AER quarterly filings during the audit period to verify the accuracy of the calculations;*

2) *A review of the individual components (including, but not limited to, transactions of RECs or S-RECs and costs of implementing associated RFPs) that have been included within the Company's AER calculations in order to verify that the costs were appropriately included;*

3) *A review to verify the accuracy of calculations related to any carrying charges included in the Company's quarterly AER calculations;*

4) *A review of the Company's status relative to the 3% provision contained within Section, 4928.64(C)(3), Revised Code, and as further detailed in the Rule 4901:1-40-07, Ohio Administrative Code;*

5) *A review comparing the costs recovered through the Company's AER during the audit period to the costs incurred; and*

6) *A review of any other specific items as identified by the Commission or its Staff.*

As part of its review of renewable energy resources, Larkin asked AEP Ohio a series of questions pertaining to its renewable energy purchases and RECs from data requests LA-2014-1-064 through LA-2014-1-091.

Carrying Charges

RFP No. [redacted] provides at Attachment 4, Item 3 that the auditor conduct:

> *A review to verify the accuracy of calculations related to any carrying charges included in the Company's quarterly AER calculations.*

For the AEP Ohio 2014 quarterly AER filings, there were no carrying charges.

Status Relative to the 3% Provision in Section, 4928.64(C)(3), Revised Code

RFP No. [redacted] provided standards for reviewing the Company's AER which included Attachment 4, Item 4, which states:

> *A review of the Company's status relative to the 3% provision contained within Section, 4928.64(C)(3), Revised Code, and as further detailed in the Rule 4901:1-40-07, Ohio Administrative Code.*

In accordance with Section 4928.64(C)(1) of the revised Ohio Code, the Commission annually reviews electric distribution utilities and/or electric services companies compliance with the benchmarks reflected in the Renewable and Solar Benchmarks exhibit above. As part of that review, the Commission identifies under-compliance or non-compliance that it determines is related to weather, equipment, resource shortages for advanced energy, or renewable energy sources, and which is outside a utility's or electric service company's control. Section 4928.64(C)(3) of the revised code states that:

> *An electric distribution utility or an electric services company need not comply with a benchmark division (B)(1) or (2) of this section to the extent that its reasonably expected*

cost of that compliance exceeds its reasonably expected cost of otherwise producing or acquiring the requisite electricity by three percent or more. The cost of compliance shall be calculated as though any exemption from taxes and assessments had not been granted under section 5727.75 of the Revised Code.

AEP Ohio provided its confidential Alternative Energy Status and Compliance Report for 2014 in the response to LA-2014-3-002. The Company's 2014 compliance report stated that OPCO achieved compliance by meeting the 2014 benchmarks for the Ohio Alternative Energy Portfolio Standard for both solar and non-solar renewables. Specifically, as it relates to AEP Ohio's non-solar renewables, the 2014 compliance report stated in part:

Non-Solar achievement was met through two alternative energy purchase agreements with wind as the renewable energy resource and the OPCo customer Renewable Energy Technology program.

As it relates to AEP Ohio's solar renewables, the compliance stated in part:

Solar achievement was met through OPCo facilities, the OPCo customer Renewable Energy Technology program, a renewable energy purchase agreement, and REC purchases.

A summary of AEP Ohio's compliance with the 2014 renewable energy benchmark is provided in the exhibit below.

Exhibit 7-22
Summary of AEP Ohio's Compliance with the 2014 Renewable Energy Benchmark

Compliance Year 2014 Summary

	Sales Unadjusted (MWHs)	Proposed Adjustments (MWHs)	Sales Adjusted (MWHs)
2011		0	0
2012		0	0
2013		0	0

	Baseline for 2014 Compliance Obligation (MWHs)	13,424,168
2.50%	**2014 Statutory Compliance Obligation**	
	2014 Non-Solar Renewable Benchmark	2.38%
	2014 Solar Renewable Benchmark	0.12%
	Total 2014 Renewable Benchmark	2.50%
	Per ORC, 4928.64(B)(2)	
	2014 Compliance Obligation	
	Non-Solar RECs Needed for Compliance	319,495
	Solar RECs Needed for Compliance	16,109
	Carry-Over from Previous Year(s), if applicable	
	Non-Solar (RECs)	0
	Solar (S-RECs)	0
	Total 2014 Compliance Obligations	
	Non-Solar RECs Needed for Compliance	319,495
	Solar RECs Needed for Compliance	16,109
	2014 Performance (Per GATS or MRETS Data)	
	Non-Solar (RECs)	319,495
	Solar (S-RECs)	16,109
	Under Compliance in 2014, if applicable	
	Non-Solar (RECs)	0
	Solar (S-RECs)	0
	2014 Alternative Compliance Payments	
	Non-Solar, per REC (Refer to Case 14-0746-EL-ACP)	$49.22
	Solar, per S-REC - per 4928.64(C)(2)(a)	$300.00
	2014 Payments, if applicable	
	Non-Solar Total	$0.00
	Solar Total	$0.00
	TOTAL	$0.00

As shown in the exhibit, the Company appears to have met the 2.50% renewable energy benchmark for 2014, in which 2.38% related to the non-solar renewable benchmark and .12% related to the solar renewable benchmark.

As noted above, the Ohio General Assembly passed SB 310 in May 2014 and which became effective on September 12, 2014. The 2014 compliance report states that pursuant to SB 310, all generation service providers have the option to establish their benchmarks based on the actual retail sales for the compliance year or through the average of the previous three years of actual sales. OPCo opted to use the actual compliance year retail sales for 2014 and plans to continue using this methodology on a prospective basis. In response to EVA-2014-3-017, the Company stated that it opted to use its compliance year sales due to the increased number of shopping customers, which resulted in a lower RPS baseline and lower costs for customers as compared to using a three-year average. In terms of any impacts that using compliance year sales had on the process for performing AER calculations, AEP Ohio stated:

> *With the allowance of this option to determine the RPS benchmark per SB 310, AEP Ohio's legal team could not confirm that the option would be applicable for 2014 until the end of 2014. As AEP Ohio didn't make a final decision to apply this option until January 2015, the costs in 2014 for the AER were based on the 3 year average.*

During the renewables related interview that was conducted on October 19, 2015, the Company stated that a forward-looking estimate was accrued through December 2014 for purposes of separating the non-solar and non-Ohio non-solar RECs and that a true-up of these amounts was calculated in April 2015. In addition, the Company stated that a similar true-up for 2013 was calculated in April 2014. In LA-2014-3-003, Larkin requested that AEP Ohio provide the detail associated with the April 2014 and April 2015 true-up calculations. In response, the Company stated the following:

> *The true-up of 2014 REC consumption was recorded as an inventory adjustment in January of 2015, rather than April of 2015 as stated in the interview. The estimated 2014 RPS Benchmark used for AER consumption recovery was based on a three-year historical baseline. In late 2014, Substitute Senate Bill 310 became effective which offered a new option of using 2014 sales as the baseline for the Compliance Year 2014. The Company chose to utilize this new option in January of 2015. The use of this new option caused actual REC consumption for the 2014 Compliance Year to be lower than AER consumption leading to a true-up quantity. The true-up quantity was added back to inventory January 1, 2015 at $0 value. Additionally, the Non-Solar, Non-Ohio inventory and the Non-Solar, Ohio inventory were combined as a result of SB 310's removal of minimum in-state requirements.*
>
> *There was no REC 2013 consumption difference that required a true-up to be recorded in 2014. This is because the April 2013 and April 2014 Annual Alternative Energy Compliance Plan filings did not change the 2013 compliance obligation. In other words, the estimate used for AER REC consumption during 2013 was exactly the same number of RECs that were actually retired. The April 2014 filing did, however, change the estimate used for 2014 consumption. A*

cumulative true-up of this estimate change is input by changing the REC Obligation for April 2014.

The exhibit below provides the detail associated with the true-up calculation recorded to inventory in January 2015.

Exhibit 7-23
January 2015 True-Up Calculation Recorded to Inventory

[redacted]

As shown in the exhibit above, the Company's true-up inventory adjustment calculation for solar RECs increases the REC balance of 103 RECs at December 31, 2014 to 15,485 RECs at January 1, 2015. The actual inventory adjustment of 15,382 RECs reflects $0 for total value and unit cost. As a result, the solar REC unit cost at January 1, 2015 decreased to $.11 per REC versus $16.91 per REC as December 31, 2014. In addition, the Company's true-up inventory adjustment calculation for non-solar RECs increases the January 1, 2015 REC balance from

101,939 RECs and 37,517 RECs (non-solar non-Ohio and non-solar Ohio separately) at December 31, 2014 to 444,530 RECs at January 1, 2015 (all non-solar combined per SB 310). The actual inventory adjustment of 305,074 RECs reflects $0 for total value and unit cost. As a result, the solar REC unit cost for non-solar at January 1, 2015 decreased to $12.30 per REC (non-solar combined per SB 310) versus $46.43 per REC and $19.64 per REC for non-solar non-Ohio and non-solar Ohio, respectively, as December 31, 2014.

The exhibit below provides the detail associated with the true-up calculation in April 2014.

Exhibit 7-24
April 2014 True-Up Calculation Related to the Estimate Used for 2014 Consumption

[redacted]

The response to LA-2014-3-003 stated that the true-up calculated in January 2015 did not flow through the AER in 2014, but that the true-up of the estimate change in consumption did impact expenses flowing through the AER in 2014.

The response to EVA-2014-3-017 also stated that there was no impact to the AER calculations in 2014 and that any uncertainty can be reasonably managed by utilizing the previous years' sales and tracking the current years' sales and making adjustments as appropriate.

The 2014 compliance report concluded by stating that OPCO was compliant with the solar and non-solar benchmarks and that achievement of this compliance was based on actual RECs achieved in solar and non-solar. In addition, OPCo's 2014 compliance year RECs were transferred to OPCo's GATS reserve subaccount.

REC Inventories

Larkin inquired as to whether AEP-Ohio maintained more than one REC inventory in 2014 and if so, to describe the purpose of each. In response to LA-2014-1-067, the Company stated that it maintains the following three REC inventories:

- Solar RECs that were used during all of 2014.
- Non-solar, non-Ohio RECs used during all of 2014.
- Non-solar, Ohio generated RECs used during all of 2014.

In its response to LA-2014-1-066, AEP-Ohio stated that its Accounting Department maintains an inventory system for its RECs. In addition, AEP-Ohio provided its monthly REC inventory balances which is reflected in the exhibit below.

Exhibit 7-25
Monthly REC Inventory for 2014

[redacted]

As shown in the above table, the Company reflected a negative quantity of 1,326 for solar RECs in November 2014. In addition, for the non-solar Ohio RECs, in March 2014, AEP Ohio reflected a total value of $33 with a unit cost of $0. Larkin inquired about this in LA-2014-6-003 and in response, AEP Ohio stated that the negative quantity in November was due to the solar RECs consumed exceeding the solar REC inventory by the 1,326 RECs indicated, but that a purchase recorded in December brought the solar REC inventory back to a long position. With

respect to the low REC value and $0 unit cost associated with the March non-solar Ohio RECs, the response to LA-2014-6-003 stated:

> *During late 2013, purchases were accrued at $18.86/REC. Actual purchases were made in January 2014 ($13/REC) and February 2014 ($5/REC). The Company's accounting methodology requires accrued purchases to be reversed as soon as possible, while not allowing the Unit Cost to go below $0. Accrued purchase reversals were recorded February 2014 through April 2014. In this case, the price differential between the actual and accrued purchsaes drove Unit Costs very low during the months which included an accrued purchase reversal.*

LA-2014-1-068 asked whether the Company participates in any speculative REC purchases utilizing below-the-line shareholder funds and if so, to describe the procurement and inventory methodologies used to account for such RECs. In response, AEP Ohio stated that OPCO has not made any speculative REC purchases.

As it relates to maintaining REC inventory, LA-2014-1-069 requested that AEP Ohio provide the following:

(a) Whether the Company relies on any particular accounting guidance for how items are entered into or extracted from REC inventory, and if so, to describe such guidance.

Response: AEP-Ohio stated that since 2009, OPCO has used the framework for the accounting for emission allowances as the basis for accounting for the RECs necessary to meet OPCO's obligations under Ohio's Renewable Portfolio Standards. In addition, separate inventories are maintained for specific REC obligations.

(b) Describe the kinds of costs, other than REC purchase costs, that are included in REC inventory.

Response: Only related costs to purchase RECs are included in REC inventories.

(c) Indicate the value at which RECs are entered into inventory if they are generated by AEP Ohio, and if other than zero, to describe the methodology used for determining the value.

Response: Beginning with the implementation of the AER in September 2012, only an incremental renewable value of RECs generated from biodiesel is included in Ohio non-solar REC inventory. In addition, there were no biodiesel RECs created in 2014 or in 2015through May.

(d) Indicate the value at which RECs are entered into inventory if they are purchased as part of a bundled energy transaction.

Response: Prior to the implementation of the AER in September 2012, the prorated renewable value of solar RECs, as part of a bundled energy purchase, were included in solar REC inventory expense. With respect to wind purchases during that period, no

renewable value was associated with RECs received due to the market for RECs being immature at the time AEP-Ohio entered into that Purchase Power Agreement ("PPA").

As for REC values associated with bundled energy purchases, as of September 2012, the Company began using a residual method to value the RECs for REC inventory expense purposes. AEP-Ohio stated that this method is consistent with OPCO's AER testimony with respect to how REC values would be determined. The residual value method is calculated as follows:

REC Value = Total bundled price less energy and capacity values.

(e) Explain when RECs are considered consumed or surrendered and when the costs appear in the Company's rates.

Response: AEP Ohio stated that RECs are considered consumed or expensed when the obligation has been incurred using accrual accounting. Upon the RECs being expensed, then such costs are included for cost recovery under the AER.

REC Costs Included in Rider FAC and APIR

LA-2014-1-070 asked AEP Ohio to identify all specific costs, by amount and account, in REC inventory that were charged to FAC and/or APIR-includable accounts during 2014 and through May 2015. In response, [redacted]

Exhibit 7-26
REC Inventory Costs for 2014

[redacted]

Determination of REC Values

Larkin requested that AEP-Ohio show in detail how non-solar RECs were valued during 2014 and 2015 through May and to identify and provide all accounting policies and procedures in effect during 2014 and 2015 through May as it relates to valuing RECs. In response to LA-2014-1-071, the Company stated that it separates the REC value by subtracting the portions of the bundled purchase that are allocated to energy an d capacity and that the remaining value reflects the cost of the RECs. In addition, the Company stated that there were no new accounting policies or procedures issued for 2014 and that the accounting treatment has been previously

provided. In the 2012/2013 audit review period, a similar data request[44] was asked of AEP-Ohio and in response, AEP Ohio provided a Confidential Attachment, which was an intercompany memo that discussed the accounting treatment of RECs upon the AER being implemented effective October 2012. Specifically, this intercompany memo stated in part:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted] RECs

The response to LA-2014-1-071 included Confidential Attachment 1, which reflected the Company's determination of REC values for the [redacted] and [redacted]. The Company stated that it separates the REC value by subtracting the portions of the bundled purchase that are allocated to energy and capacity and that the remaining value reflects the cost of the RECs. The exhibit below summarizes the valuation of the [redacted] RECs.

[44] See the confidential response to LA-2012/2013-1-072 from the 2012/2013 audit review period.
[45] FASB Accounting Standards Codification Topic 980 - Regulated Operations.

Exhibit 7-27
[redacted] REC Values

[redacted]

As shown in the exhibit above, AEP-Ohio used capacity rates of $27.73/ MW-day from January through May 2014 and $125.99/MW-day from June through December 2014.

We found that AEP Ohio's use of energy values and of the MW's attributable to capacity were reasonable. However, the Commission's findings in Case No. 10-2929-EL-UNC and testimony submitted by AEP Ohio in that docket and elsewhere presented reasons why the PJM RPM capacity auction pricing results for the periods encompassing the 2014 periods were unrealistically low and were not compensatory or representative of AEP Ohio's capacity costs.

In Case No. 10-2929-EL-UNC, *In the Matter of the Commission Review of the Capacity Charges of Ohio Power Company and Columbus Southern Power Company,* capacity costs were addressed. Witnesses for AEP Ohio presented testimony concerning why the PJM capacity prices set in PJM's Reliability Pricing Model (RPM) auctions were extremely low for the periods June 2012 through May 2013 and June 2013 through May 2014, and how the PJM RPM prices for capacity were not compensatory or representative of AEP Ohio's capacity costs, and why such rates were unrealistically low, and, if used, would create problems such as introducing uneconomic bypass opportunities for CRES providers. Additionally, it was pointed out that AEP Ohio's circumstances as a holder of Fixed Resource Requirements ("FRR") obligations as a member of PJM reflected the embedded (fully allocated accounting) costs of the assets that AEP Ohio must hold under its FRR requirement obligations, rather than the capacity prices set in PJM's RPM auctions.[46] In Case No. 10-2929-EL-UNC, for example, AEP Ohio claimed that using capacity prices set in PJM's RPM auctions

[46] See, e.g., AEP Ohio Direct Testimony filed August 31, 2011 in Case No. 10-2929-EL-UNC.

> *. . .would simply involve the sale of AEP Ohio's capacity at a discounting, subsidizing CRES providers at the expense of AEP Ohio which would be taking a loss on the resale of their existing capacity (potentially reallocating those shortfalls to non-shopping AEP Ohio customers). In essence, it would be an uneconomic bypass, not efficiency gains from true competition.*[47]

Other witnesses for AEP Ohio explained how the development of the FRR as an alternative to the RPM was driven largely by AEP, and ultimately how FERC had agreed that it was not necessary or appropriate to force utilities such as AEP to participate in the RPM auction. As described in the Direct Testimony of AEP Ohio witness Dana Horton (at page 8) FERC's April 20, 2006 Initial Order, paragraph 110 stated that: "We agree with AEP that LSEs and states should have the option of choosing an alternative to the forward procurement auction if they identify sufficient capacity to meet their loads...." Rules were accordingly developed that enabled utilities such as AEP Ohio to meet its capacity obligations through the use of its own generation (including bilateral arrangements) and to maintain reserve margins established by the PJM planning process rather than through the PJM auction process. As pointed out by AEP Ohio witness William Klum, the three-year time horizon used in the PJM RPM process "is inconsistent with the fundamental conventions of generation finance" (p.4) and "the term of the RPM is simply too short to be used by investors (both debt and equity) as a mechanism for financing new construction." (p.5). Testimony filed by AEP Ohio witness Kelly Pearce supported a capacity rate as high as $355.72/MW-day (without an energy credit) and $338.14/MW-day reflecting an energy credit using AEP Ohio's proposed methodology.[48] The Commission's July 2, 2012 Opinion and Order in Case No. 10-2929-EL-UNC at page 36 ultimately found "... that a capacity charge of $188.88/MW-day is just, reasonable, and should be adopted." The Commission concluded that the $188.88 rate "should reasonably and fairly compensate the Company and should not significantly undermine the Company's ability to earn an adequate return on its investment."[49] Moreover,

> *... by adopting a cost-based state compensation mechanism for AEP Ohio, with a capacity charge of $188.88/MW-day, in conjunction with the authorized deferral of the Company's incurred capacity costs, to the extent that the total incurred capacity costs do not exceed $188.88/MW-day not recovered from CRES provider billings reflecting the adjusted RPM-based price, we have accomplished those objectives, while also protecting the interests of all stakeholders.*[50]

Based on all of the foregoing and a review of the evidence presented concerning AEP Ohio's capacity costs in 10-2929-EL-UNC among other proceedings, we believe that the $188.88/MW-day capacity cost should also be applied to AEP Ohio's wind REPAs for purposes of ascertaining the REC values of such renewables purchases using the residual method.

Larkin prepared a similar REC valuation schedule for [redacted], but used a capacity rate of $188.88/MW-day. This capacity rate was found to be just and reasonable by the Commission in its Opinion and Order dated July 2, 2012 in Case No. 10-2929-EL-UNC. Specifically, on page 36 of its Opinion and Order, the Commission stated in part:

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[47] See, e.g., AEP Ohio Direct Testimony of Frank Graves, page 10, lines 9-14, in Case No. 10-2929-EL-UNC. Testimony by other AEP Ohio witnesses made similar points.

[48] See, e.g., AEP Ohio Direct Testimony of Kelly Pearce filed September 13, 2011 in Case Nos. 10-2376-EL-UNC/10-2929-EL-UNC et al., at pages 9-10.

[49] Commission's July 2, 2012 Opinion and Order in Case No. 10-2929-EL-UNC at page 36.

[50] Id.

Accordingly, we adopt Staff's proposed energy credit, as modified above to account for AEP-Ohio's full requirements contract with Wheeling Power Company, and find that a capacity charge of $188.88/MW-day is just, reasonable, and should be adopted...The Commission believes that, by adopting a cost-based state compensation mechanism for AEP-Ohio, with a capacity charge of $188.88/MW-day, in conjunction with the authorized deferral of the Company's incurred capacity costs, to the extent that the total incurred capacity costs do not exceed $188.88/MW-day not recovered from CRES provider billings reflecting the adjusted RPM-based price, we have accomplished those objectives, while also protecting the interests of all stakeholders.

The exhibit below reflects Larkin's valuation of the [redacted] RECs using the $188.88/MW-day capacity rate.

Exhibit 7-28
[redacted] REC Values Recomputed Using $188.88/MW-Day Capacity Cost

[redacted]

The effect of using the Commission ordered capacity rate of $188.88/MW-day results in a shifting of costs associated with [redacted] from the AER to the FAC and/or APIR in the amount of [redacted] before considering the changes in beginning and ending REC inventory, as shown in the exhibit below.

Exhibit 7-29
Effect of Using Commission Ordered Capacity Rate

The response to LA-2014-1-073 stated is the Company's sole source of non-Ohio non-solar renewable energy. The effect of Larkin using the Commission ordered capacity rate of $188.88/MW-day reduced AEP-Ohio's ending REC inventory balances as shown in the exhibit below.

Exhibit 7-30
Inventory Summary

RECs

2014 REC values are shown in the exhibit below.

Exhibit 7-31
REC Value per AEP-Ohio

As shown in the exhibit above, for , AEP-Ohio used the capacity rates of $27.73/MW-day from January through May 2014 and $125.99/MW-day from June through December 2014, based on PJM RPM auction prices applicable during those periods. Similar to , and as shown in the exhibit below, Larkin prepared a similar REC valuation schedule for using the capacity rate of $188.88/MW-day that was found to be just and reasonable by the Commission in its Opinion and Order in Case No. 10-2929-EL-UNC.

Exhibit 7-32
REC Values Recomputed Using $188.88/MW-Day Capacity Cost

Similar to the effect of using the Commission ordered capacity rate of $188.88/MW-day results in a shifting of costs associated with from the AER to the

FAC and/or APIR in the amount of [redacted]

Exhibit 7-33
Effect of Using $188.88/MW-Day Capacity Cost

[redacted]

As it relates to [redacted], for each month of 2014, Larkin asked how the Company recorded (1) the bundled purchase unit cost, and (2) the PJM's Day Ahead LMP amounts. In response to LA-2014-3-004, the Company provided a confidential attachment showing the requested data which Larkin replicated in the exhibit below.

Exhibit 7-34
Recordation of Bundled Purchase Unit Cost and PJM's Day Ahead LMP Amounts

[redacted]

Larkin asked AEP Ohio to explain whether the difference flowed through eitherthe FAC, AER and/or the APIR. In response AEP Ohio stated:

Larkin asked that AEP-Ohio explain in detail the monthly position of OPCO as it relates to non-solar REC for each month of 2014 and 2015 through May and whether the Companies were in a short position throughout 2014 and 2015 through May with respect to non-solar RECs. In addition, Larkin asked whether the Company anticipates fulfilling its 2014 obligations for non-solar RECs from purchases made during the first quarters of 2014 and 2015. In response to LA-2014-1-078, AEP-Ohio stated that the inventory began 2014 with a shortage of 17,932 RECs, but with the purchase of RECs during January 2014, the short position was eliminated.

The exhibit below reflects the Company's long position from January through December 2014 as stated in the passage above. As also shown in the exhibit, the effect of using the Commission ordered capacity rate of $188.88/MW-day reduced AEP-Ohio's ending REC inventory balances for in the amount of :

Exhibit 7-35
Effect of Using $188.88/MW-Day Capacity Cost

Solar RECs

Similar to the non-solar RECs, Larkin also requested that AEP-Ohio show in detail how its solar RECs were valued during 2014. In response to LA-2014-6-004, the Company provided a

confidential attachment which reflected the valuation of the [redacted] solar RECs during 2014, which is reproduced in the exhibit below.

Exhibit 7-36
[redacted] REC Values per AEP-Ohio

[redacted]

As shown in the exhibit above, for [redacted], AEP-Ohio used the capacity rates of $27.73/MW-day from January through May 2014 and $125.99/MW-day from June through December 2014, based on the PJM RPM capacity auction results applicable during those periods. Similar to [redacted], as shown in the exhibit below, Larkin prepared a similar REC valuation schedule for [redacted] using the capacity rate of $188.88/MW-day that was found to be just and reasonable by the Commission in its Opinion and Order in Case No. 10-2929-EL-UNC.

Exhibit 7-37
[redacted] REC Values Using $188.88/MW-Day Capacity Cost

[redacted]

The effect of using the Commission ordered capacity rate of $188.88/MW-day results in a shifting of costs associated with [redacted] from the AER to the FAC and/or APIR in the amount of [redacted] before accounting for beginning and ending REC inventory cost impacts, as shown in the exhibit below.

Exhibit 7-38
[redacted] REC Value Summary

[redacted]

The effect of using the Commission ordered capacity rate of $188.88/MW-day also reduces AEP-Ohio's ending REC inventory balances for [redacted] by the amount of [redacted], as shown in the exhibit below.

Exhibit 7-39
[redacted] Inventory Summary

[redacted]

Value for Non-Solar, Non-Ohio REC Inventory Before Rider AER Effective Date

In response to Larkin's request that AEP-Ohio provide all written guidance, accounting policy directives and other written documentation from the Accounting Policy Group related to the use of a zero dollar value for the non-solar REC inventory quantities for each month of 2014 and 2015 (through May) before Rider AER became effective, the Company stated in response to LA-2014-1-074, stated that its use of a zero dollar value for non-solar, non-Ohio RECs ended when AER accounting commenced in October 2012. LA-2014-1-075, requested that the Company provide comparable market information which supports the use of [redacted]

Exhibit 7-39
Summary of the Ohio Contiguous REC Quotes for 2013 and 2014

[redacted]

[redacted]

REC purchases during the audit period are summarized in Exhibit 7-40. The prices paid for REC's compare favorably to market prices.

Exhibit 7-40.
REC Purchases During 2014 Period

[redacted]

The market price of RECs can represent another data set with which the results of the Company's residual method for determining REC cost can be compared. For October 2012 through December 2013, the market prices for non-solar RECs were below the cost for such RECs derived by the Company's residual method.

Fulfillment of Renewables Obligation

LA-2014-1-076 asked whether any of the 2014 or 2015 (through May) non-Ohio non-solar REC obligation was fulfilled with REC purchases. In response, AEP-Ohio reiterated that its sole contract source of non-Ohio non-solar RECs is [redacted] wind farm. In addition, when asked whether any of the 2012 or 2013 non-Ohio non-solar REC obligation was fulfilled with spot market or contract purchases of renewable power, including, but not limited to Purchase Power Agreements ("PPA"), AEP-Ohio referred to the response to LA-2014-1-076 (discussed above).

Larkin requested that the Company provide a summary and details of CSP's and OPCO's status as it relates to renewable energy objectives and minimum requirements for 2014 and 2015 (through May), including whether there was any shortfall in achieving the minimum requirements. Larkin also requested copies of any waivers obtained by AEP-Ohio as it related to meeting renewable energy objectives for 2014 and 2015 (through May). In response to LA-2014-1-083, AEP-Ohio stated that OPCO met the 2014 Ohio renewable energy requirements for both solar and non-solar, thus no waivers were necessary.

Non-Solar REC Inventory and REC Consumption

As it relates to physical REC inventory, LA-2014-1-079 requested that AEP-Ohio provide a listing of the out of state non solar inventory positions for each month of 2014 and 2015 (through May), and within that listing to provide quantities of these RECs for each of the following:

- RECs related to previous year compliance
- RECs used for 2014 and 2015 (through May) compliance in each month
- Unused out of state non-solar RECs that are in the inventory quantity that could be used for 2014 or 2015 (through May) for subsequent period compliance.

In response, the Company stated that RECs are removed from inventory upon consumption for compliance purposes and that ending inventory balances are eligible to be used for subsequent period compliance. The exhibit below, which was provided as a confidential attachment in LA-2014-1-073, is a schedule of the Company's REC activity, including consumption by month.

Exhibit 7-41
REC Activity Including Consumption By Month

[redacted]

REC Accounting

LA-2014-1-080 asked AEP-Ohio to indicate the accounts in which the following renewable items were booked in 2014 and 2015 (through May) and to provide the 2014 and 2015 detail general ledger pages for each such account:

- REC Purchase Costs
- Gains on Sale of RECs
- Loss on Sales of RECs
- Costs associated with Attribute Tracking System(s)
- Consumed or surrendered RECs

In response, the Company provided a schedule which Larkin has reproduced in the exhibit below.

Exhibit 7-42
REC General Ledger Detail

Description	Account No.	2014
REC Purchase Costs		
Solar	1740036	$ 2,877,813
Non-Solar, Ohio Generated	1740041	$ 4,246,006
Non-Solar, Non-Ohio	1740040	$ 12,183,771
		$ 3,903,895
Gain on Sale of RECs	5570009 & 5570012*	$ -
Loss on Sale of RECs	5570009 & 5570012*	$ -
Costs Associated with Attribute Tracking System	5570009 & 5570012*	$ 49,346
Consumed or Surrendered RECs	5570009 & 5570012*	
Solar	5570009 & 5570012*	$ 3,609,391
Non-Solar, Ohio Generated	5570009 & 5570012*	$ 3,171,059
Non-Solar, Non-Ohio	5570009 & 5570012*	$ 13,494,060
* Account 5570012 replaced 5570009 in April 2014		
Source: LA-2014-1-080		

Biodiesel and Biomass Testing

As it relates to biodiesel fuel, LA-2014-1-082 requested that AEP-Ohio:

a. Identify the plants, units and dates where biodiesel testing was conducted during 2014 and 2015 (through May).

b. Identify the cost per MMBtu of the biodiesel fuel burned for each plant during 2014 and 2015 (through May).

c. Show in detail how AEP-Ohio identified and separated (1) the energy value, and (2) the REC value for the biodiesel fuel burned in 2014 and 2015 (through May).

In response, the Company stated that it did not burn any biodiesel fuel in 2014.

As it relates to biomass testing, according to the response to LA-2014-11-082, the Company did not conduct such biomass burning in 2014.

Supporting Workpapers and Documentation for AER Filings

Documentation relating to the review of supporting workpapers for the calculations in the AER filings was requested in data requests LA-2014-1-085 through LA-2014-1-091. LA-2014-1-085 requested copies of AEP Ohio's quarterly AER filings (which are filed in conjunction with the FAC filings). In response, the Company referred to the response to LA-2014-1-046.

Data requests LA-2014-1-086, LA-2014-1-087, LA-2014-1-088, LA-204-1-089 and LA-2014-1-090 requested the Excel files associated with the AER filings as well as all documentation which provides a complete audit trail to the Company's AER calculations. The responses to these data requests referred to either LA-2014-1-046 or LA-2014-1-065, which requested similar supporting documentation, but in the context of the FAC. The one exception was the response to LA-2014-1-088, which included a confidential attachment that provided the monthly REC expenses included in the AER as well as the under-over recovery for 2014.

When comparing the over/(under) recovery amounts that were reflected in the AER workbooks provided in LA-2014-1-065 to the confidential attachment provided with LA-2014-1-088, a variance in the amount of [redacted] was noted in [redacted] and a much [redacted] variance [redacted] was noted [redacted] as summarized in the exhibit below.

Exhibit 7-43
Comparison of Over/(Under) Recovery Amount per Month

[redacted]

Upon Larkin's inquiry regarding these discrepancies, in response to LA-2014-6-005, AEP-Ohio stated that the [redacted] reflected the quarterly distribution center solar panel costs, which total [redacted] on a monthly basis. As for the larger variance of [redacted] that was noted between the AER monthly workbooks and the response to LA-2014-1-088 for [redacted], in response to LA-2014-6-005, AEP Ohio stated:

> *The data provided for in the AER filings is correct and the balance for 2014 as shown by Larkin in the table attached to this data request is $1,348,024 (which excludes the solar panels). The query included in LA-2014-1-088 inadvertently included the year end entry to move expenses to retained earnings. See LA-2014-6-005 Attachment 1 for a list of journal ID's. The journal ID of CLOSE is the annual year end entry that should not have been included in the total as it just zeros out the expense account at year end. The correct value for December 2014 should be $220,302 as shown in LA-2014-6-005 Attachment 1 (which*

*appropriately excludes the close entry). The total value as shown in LA-2014-1-088 of ($984,586) reflects the incorrect inclusion of the CLOSE entry and should be $220,302 (($984,586) + $1,204,888) = $220,302. With this correction, the table attached in this data request would report data provided in AER filings for December of $256,086 and data provided in LA-2014-1-088 as $220,302 for a difference of $35,784. Another check would be to add the total expenses in LA-2014-6-005 Attachment 1 excluding the close entry (which brings the total for the year to zero), and the total for 2014 is the $1,204,888 (hence the value of the CLOSE entry). The annual difference of $143,136 which is the cost of the solar panels ($11,928*12 = $143,136).*

Larkin reviewed the attachment to LA-2014-6-005 and concurs with the Company's explanation noted in the passage above.

Memorandum Of Findings And Recommendations

Our findings and recommendations are summarized in Chapter 1.