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IN THE MATTER OF THE 2011 THROUGH 2016 REVIEW OF THE ENERGY EFFICIENCY AND PEAK DEMAND REDUCTION RIDER CONTAINED IN THE TARIFFS OF OHIO POWER COMPANY

Case No.17-30-EL-RDR

April 13, 2018

Prepared for:
PUBLIC UTILITIES COMMISSION OF OHIO
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Rider EE/PDR Background

Ohio's 2008 electric law, Senate Bill No. 221, requires electric distribution utilities to implement energy efficiency and peak demand reduction ("EE/PDR") programs that achieve energy savings and peak demand reduction, consistent with R.C. 4928.66. By Opinion and Order issued on March 18, 2009, the Commission approved an electric security plan ("ESP I") for Columbus Southern Power Company ("CSP") and Ohio Power Company ("OPCo") (collectively, "Companies" or "AEP Ohio"), in Case Nos. 08-917-EL-SSO and 08-918-EL-SSO (ESP 1 Cases), that, among other things, authorized the Companies to establish an EE/PDR rider to recover the costs of AEP Ohio's implementation of its programs to reduce energy consumption and peak demand on its system. The EE/PDR rider was initially set to zero in the ESP I Cases. Subsequently, the Commission approved a settlement that set the initial EE/PDR rider rates in the Companies' 2009-2011 Program Portfolio Plans in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR ("2009 Portfolio Cases"), effective on the first billing cycle in June 2010. The process to update the Companies' EE/PDR rider rates was also determined in the 2009 Portfolio Cases. AEP Ohio filed its annual rider updates in the following cases: Case Nos. 11-2768-EL-RDR, 11-2769-EL-RDR, 12-1557-EL-RDR, 13-1201-EL-RDR, 14-0873-ELRDR, 15-0960-EL-RDR, 16-1108-EL-RDR and 17-1266-EL-RDR. In approving subsequent ESPs for AEP Ohio, in Case No. 11-346-EL-SSO, et al., and Case No. 13-2385-EL-SSO, et al., the Commission has also approved the continuation of the EE/PDR rider.

AEP Ohio in Case Nos. 08-917-EL-SSO and 08-918-EL-SSO, proposed a comprehensive energy efficiency and peak demand reduction plan. The Commission ordered the Companies to move forward with the proposed programs and to work with a stakeholder collaboration to refine the process. In the Company's initial Portfolio Plan proceedings (Case Nos. 09-1089-EL-POR and 09-1090-EL-POR) (collectively the "2009 Portfolio cases"), in an Opinion and Order issued on May 13, 2010, the Commission approved a settlement that implemented the Company's first EE/PDR riders, effective on the first billing cycle of June 2010. The Commission's Opinion and Order also established an ongoing process whereby AEP Ohio is to update its EE/PDR rider. Specifically, the EE/PDR rider is trued-up on an annual basis to reflect actual program costs. The initial true-up was net of lost distribution revenues and shared savings. The net lost distribution revenues were to be calculated based on a half-year convention. The Commission's May 13, 2010 Order also found that the annual true-up of the Company's EE/PDR rider would be effective for the first billing cycle of July 2010 and 2011. Lost distribution revenues and shared savings calculations were to be based on the same data approved by the Commission in the Company's annual compliance filings. However, in its Order dated January 27, 2011 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR, the Commission ruled that net lost distribution revenues were no longer to be recovered in the EE/PDR rates.[1] The Company has filed a number of annual compliance filings, including:

- An April 29, 2011 application in Case No. 11-2768-EL-RDR for approval to update the Companies' EE/PDR Riders to become effective with the first billing cycle of July 2011;
- A May 15, 2012 application in Case No. 12-1557-EL-RDR, for a 2009-2011 comprehensive update under the 2009 Portfolio Plan case;
- A May 15, 2013 application in Case No. 13-1201-EL-RDR for the 2012-2014 comprehensive update under the 2012 Portfolio Plan case.
- A May 15, 2014 application in Case No. 14-0873-EL-RDR for the 2012-2014 comprehensive update under the 2012 Portfolio Plan case.
- A May 15, 2015 application in Case No. 15-0960-EL-RDR for the 2012-2014 comprehensive update under the 2012 Portfolio Plan case, with a 2015-2016 projection as allowed by Senate Bill 310.[2]
- A May 16, 2016 application in Case No. 16-1108-EL-RDR to update its EE/PDR Riders to become effective with the first billing cycle of August 2016, consistent with the March 21, 2012 Order in the 2012 Portfolio Plan case.
- A May 15, 2017 application in Case No. 17-1266-EL-RDR to update the EE/PDR riders to include the 2012-2016 actual EE/PDR program costs, as well as the pass back of the net actual over recovery from 2009-2011 and the collection of the 2016 actual Program Costs and Shared Savings, to become effective with the first billing cycle of August 2017.

AEP Ohio's Application dated May 15, 2017 in Case No. 17-1266-EL-RDR includes the following information with regard to the actual EE/PDR program costs for the period 2012 through 2016:[3]

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[1] In its Entry on Rehearing dated March 23, 2011 in Case No. 09-1089-EL-POR, the Commission denied AEP Ohio's Application for Rehearing of its prior decision to disallow the recovery of net lost distribution revenues in the EE/PDR rates.

[2] On June 13, 2014, Senate Bill 310 became effective, which implemented a two-year freeze on standards that apply to electric utilities for renewable energy and energy efficiency, effective September 12, 2014. A provision in that law allows utility companies to extend their approved energy efficiency portfolio plans, which the Company did. AEP Ohio has proposed to update its 2015 forecast with actual expenses and include a forecast of 2016 Program Costs and Shared Savings in its May 16, 2016 application in Case No. 16-1108-EL-RDR.

[3] Information for 2011 was not shown in that AEP Ohio application, but was presented in other AEP Ohio applications and is addressed in our audit report.

Exhibit 1-1. Annual Total Investments by Program - 2012-2016 Actual

		Actual					Total
Program Name	Percent*	2012	2013	2014	2015	2016	2012-2016
Residential Program							
Consumer Sector							
Products		$ 10,808,536	$ 12,078,924	$ 15,175,590	$ 10,344,878	$ 9,992,275	$ 58,400,203
Recycling		$ 2,841,627	$ 3,615,443	$ 3,262,502	$ 2,166,604	$ 1,435,438	$ 13,321,614
Retrofit		$ 3,374,159	$ 5,051,382	$ 5,064,289	$ 4,663,660	$ 4,020,483	$ 22,173,974
Behavior Change		$ 1,244,977	$ 2,393,710	$ 1,564,115	$ 707,748	$ 816,157	$ 6,726,707
New Construction		$ 2,174,609	$ 2,748,346	$ 1,473,375	$ 1,757,700	$ 1,861,954	$ 10,015,984
e^3SMART		$ 914,636	$ 697,447	$ 968,677	$ 953,003	$ 727,543	$ 4,261,306
Community Assistance		$ 7,469,722	$ 12,739,555	$ 11,709,065	$ 6,651,548	$ 9,213,291	$ 47,783,180
Research and Development		$ 229,441	$ 271,548	$ 1,106,694	$ 349,031	$ 2,239,703	$ 4,196,417
Education and Training	20%	$ 54,109	$ 59,232	$ 50,610	$ 66,075	$ 73,373	$ 303,399
Targeted Advertising	80%	$ 5,253,503	$ 3,532,724	$ 1,095,077	$ 1,823,844	$ 1,577,645	$ 13,282,794
Codes and Standards		$ 2,697	$ 59,879	$ 132,983	$ 739	$ -	$ 196,298
Residential Program Subtotal		$ 34,368,016	$ 43,248,190	$ 41,602,978	$ 29,484,830	$ 31,957,862	$ 180,661,876
C&I Programs							
Prescriptive		$ 17,174,822	$ 14,532,913	$ 13,294,968	$ 16,162,075	$ 14,839,563	$ 76,004,342
Custom		$ 3,055,156	$ 4,734,052	$ 5,932,752	$ 3,902,864	$ 1,779,399	$ 19,404,223
Custom-CHP		$ -	$ -	$ -	$ -	$ -	$ -
New Construction		$ 2,419,387	$ 4,401,470	$ 4,075,062	$ 3,873,849	$ 5,550,815	$ 20,320,583
Express		$ 2,170,658	$ 3,136,790	$ 1,955,901	$ 3,122,617	$ 3,186,639	$ 13,572,604
Self Direct		$ 2,887,520	$ 2,007,237	$ 726,127	$ 949,885	$ 1,499,636	$ 8,070,405
Demand Response		$ 5,100	$ 336	$ -	$ -	$ -	$ 5,436
Retro-Commissioning		$ 200,529	$ 813,453	$ 742,119	$ 1,037,047	$ 1,156,665	$ 3,949,812
Continuous Improvement		$ 234,819	$ 1,541,726	$ 4,348,618	$ 2,664,144	$ 4,367,014	$ 13,156,320
Energy Efficiency Auction		$ -	$ 386,230	$ 653,899	$ 1,091,195	$ 3,102,746	$ 5,234,070
Data Center		$ 8,298	$ 1,832,821	$ 1,995,630	$ 1,663,575	$ 1,940,095	$ 7,440,418
Research and Development		$ 61,459	$ 494,470	$ 747,549	$ 460,426	$ 360,434	$ 2,124,339
Education and Trainign	80%	$ 216,435	$ 236,927	$ 202,440	$ 264,301	$ 293,493	$ 1,213,596
Targeted Advertising	20%	$ 1,313,376	$ 883,181	$ 273,769	$ 455,961	$ 394,411	$ 3,320,698
Business Behavior Change		$ -	$ 26,212	$ 24,565	$ 14,778	$ -	$ 65,555
C&I Program Subtotal		$ 29,747,558	$ 35,027,819	$ 34,973,399	$ 35,662,716	$ 38,470,910	$ 173,882,402
Total Programs		$ 64,115,574	$ 78,276,008	$ 76,576,377	$ 65,147,546	$ 70,428,772	$ 354,544,278

* The applicable percentage is 100% unless specific percent shown in column

Source: AEP Ohio Application dated May 15, 2017 in Case No 17-1266-EL-RDR (Schedule 2, page 1)

In addition, the allocation of the EE/PDR program costs among AEP Ohio's rate classes for the years 2012-2016 are shown in the exhibit below:

Exhibit 1-2. Allocation of Program Costs by Rate Class - 2012-2016 Actual

Tariffs	Program Costs – Actual 2012	2013	2014	2015	2016	Total 2012-2016
RS	$ 34,368,016	$ 43,248,190	$ 41,602,978	$ 29,484,830	$ 31,957,862	$ 180,661,876
All Other C&I	$ 26,924,519	$ 31,703,870	$ 31,654,614	$ 32,278,520	$ 34,820,231	$ 157,381,754
GS4/IRP	$ 2,823,040	$ 3,323,948	$ 3,318,784	$ 3,384,197	$ 3,650,679	$ 16,500,648
Total C&I	$ 29,747,559	$ 35,027,819	$ 34,973,399	$ 35,662,716	$ 38,470,910	$ 173,882,403
Total	$ 64,115,574	$ 78,276,008	$ 76,576,377	$ 65,147,546	$ 70,428,772	$ 354,544,278

Source: AEP Ohio Application dated May 15, 2017 in Case No. 17-1266-EL-RDR (Schedule 2, page 2)

Schedule 1 from AEP Ohio's May 15, 2017 Application in Case No. 17-1266-EL-RDR reflects a summary by rate class of (1) the over-collection from the 2009 through 2011 period; (2) the actual EE/PDR program costs for the period 2012 through 2016; (3) actual shared savings for the period 2012 through 2016; (4) total IRP-D credit recovery net of PJM EE revenue credits; (5) actual EE/PDR rider revenue for the period 2012 through 2016; and (6) the remaining rider revenue to be collected (i.e., the (over)/under collection). The amounts from Schedule 1 of that AEP Ohio filing are summarized in the exhibit below:

Exhibit 1-3. Amount of Rider Revenue Collected for the Period 2012-2016 and Remaining Rider Revenue to be Collected (Over/Under Collection)

Tariffs	2009-2011 (Over) / Under	2012-2016 Actual Program Costs ($)	2012-2016 Actual Shared Savings ($)	Total ($)	Total IRP Less Revenue Credits	Total Revenue Requirement	Actual 2012-2016 Rider Revenue	Remaining Rider Revenue To be Collected	2017 Forecasted Metered Energy (kWh)	EE&PDR Rider ($/kWh)	Revenue Verification ($)
RS	$ 1,843,289	$ 180,661,876	63,042,185	$ 245,547,350	$ 23,708,306	$ 269,255,656	$265,565,586	$ 3,690,070	14,316,196,403	0.0002578	3,690,070
	$ -										
All Other C&I	$ (18,052,090)	$ 157,381,754	84,135,759	$ 223,465,423	$ 31,879,702	$ 255,345,125	$289,736,012	$ (34,390,887)	19,250,471,895	(0.0017865)	(34,390,887)
GS4/IRP	$ (1,957,152)	$ 16,500,648	8,821,097	$ 23,364,593	$ 11,043,625	$ 34,408,218	$32,765,870	$ 1,642,348	6,668,663,405	0.0002463	1,642,348
Total C&I	$ (20,009,242)	$ 173,882,402	92,956,856	$ 246,830,016	42,923,327	289,753,343	$322,501,882	($32,748,539)	25,919,135,300		(32,748,539)
	$ -			$ -							
Total	$ (18,165,953)	$ 354,544,278	155,999,041	$ 492,377,366	66,631,633	559,008,999	$588,067,468	($29,058,469)	40,235,331,703		(29,058,469)

Source AEP Ohio Application dated May 15, 2017 in Case No. 17-1266-EL-RDR (Schedule 1)

As shown in the exhibit above, the over-recovery for the 2009-2011 period, 2012-2016 actual program costs, 2012-2016 shared savings and total IRP credit recovery less PJM EE revenue credits net to a revenue requirement of approximately $559.009 million. When netted against the actual EE/PDR rider revenue for 2012 through 2016 of $588.067 million, the result is an over-collection of approximately $29.058 million. In addition, Schedule 1 from the Company's Application dated May 15, 2017 reflects the following calculation of its IRP credit recovery net of PJM EE revenue credits:

Exhibit 1-4. IRP-D Credit Credit Recovery Less PJM EE Revenue Credits for the Period of 2012-2016

Tariffs		2012-2016 Actual IRP Credit Recovery	2015-2016 Actual PJM EE Revenue Credits		Total Less: Revenue Credits	2017 Forecasted Metered Energy		IRP Portion EE&PDR Rider	Revenue Verification
		($)	($)		($)	(kWh)		($/kWh)	($)
RS	$	29,222,463	($5,514,158)		23,708,306	14,316,196,403	$	0.001656	23,708,306
All Other C&I	$	39,294,390	($7,414,689)		31,879,702	19,250,471,895	$	0.001656	31,879,702
GS4/IRP	$	13,612,189	($2,568,564)		11,043,625	6,668,663,405	$	0.001656	11,043,625
Total C&I	$	52,906,579	($9,983,252)		42,923,327	25,919,135,300			42,923,327
Total	$	82,129,043	(15,497,409.86)	$	66,631,633	40,235,331,703			66,631,633

As shown in the above exhibit, the IRP-D credit recovery of $82.1 million less PJM EE revenue credits of $15.5 million produces $66.6 million of net revenue credits as shown above by rate class. The IRP-D credits are discussed in further detail in Chapter 4.

Schedule 3 from the Company's May 15, 2017 Application reflects the derivation of actual shared savings for the period 2012 through 2016, and Schedule 4 presents the Company's allocation of IRP-D credits among rate classes, which the Company indicates is in compliance with the Commission's May 28, 2015 Second Entry on Rehearing in ESP III (paragraph 20, Case No. 13-2385-EL-SSO) which required that: "Ohio should bid the IRP-D related capacity resources into PJM's incremental capacity auctions held during the ESP term, to the extent that such capacity resources have not already been bid by the customer into any of PJM's auctions for the three delivery years of the ESP 3 term. The resulting revenues should be credited back to customers through the EE/PDR rider."

Audit Approach

The Public Utilities Commission of Ohio ("PUCO" or "Commission") solicited proposals to review AEP Ohio's EE/PDR rider for the period of January 1, 2011 through December 31, 2016.

Following a competitive solicitation, Larkin & Associates PLLC ("Larkin") with our subcontractor Mims Consulting, LLC ("Mims"), was selected by the PUCO to review the accounting accuracy, prudency, and compliance of the EE/PDR recovery mechanism and the prudency of management decisions in the administration of the Company's EE/PDR program portfolio plans in the cases listed above, which include activity for the period 2011 through 2016.

Our review of AEP Ohio's EE/PDR Rider included reviewing the accounting accuracy, prudency, and AEP Ohio's compliance with the Commission approved EE/PDR rider as it relates to (1) actual program costs, (2) revenues including lost distribution revenues, (3) shared savings included in the rider, and (4) reviewing the prudency of management decisions pursuant to the administration of the Company's EE/PDR program portfolio plans.

This engagement included a review of the Company's EE/PDR rider updates and filings for the period January 2011 through December 2016. This includes the period when the EE/PDR rider was significantly modified[4] and a period prior to the merger of CSP and OPCo.

This engagement was conducted through a combination of document review, interrogatories, on-site visits and interviews with Company personnel (see additional discussion below). Furthermore, a webinar and walk-through of the Company's Cost-Benefit Calculator Excel files for selected EE/PDR programs was conducted on October 16, 2017, and follow-up was subsequently conducted including a conference call on January 9, 2018. Other discussions were held as needed via teleconferences during the course of the audit to clarify specific items.

Interviews

As noted above, Larkin conducted a series of interviews with AEP-Ohio and AEP Service Corporation personnel at the Company's offices in Gahanna, Ohio on August 1 and 2, 2017 as well as in Canton, Ohio on October 19 and 20, 2017. The Company personnel interviewed are summarized in the exhibit below by name, position and location:

[4] Significant changes were made to the EE/PDR program in transitioning from the 2009-2011 plan and the Commission's approval of the 2012-2016 plan. Starting with 2011 for example, lost distribution revenue was no longer recoverable as part of annual EE/PDR costs.

Exhibit 1-5. Interviews Conducted

Number	Title	Position/Area	Location
1	Director Regulatory Services	Regulatory Pricing and Analysis: EE/PDR calculations and support	Gahanna, OH
2	Regulatory Consultant Principal	Regulatory Pricing and Analysis: EE/PDR calculations and support	
3	Compliance Manager	Compliance and Evaluation	Gahanna, OH
4	EE & Consumer Programs Manager	Residential Program Manager	Gahanna, OH
5	EE & Consumer Program Coordinator Principal	Marketing of EE overall	
6	EE & Consumer Programs Manager	C&I Program Management	Gahanna, OH
7	EE & Consumer Program Coordinator Senior	Residential Program Manager	Gahanna, OH
8	EE & Consumer Program Coordinator Principal	Research and Development - Pilot Programs	Gahanna, OH
9	Engineer Principal	Research and Development - Pilot Programs	
10	Administrator Regulatory Accounting*	Adminsitory Regulatory Accounting/Accounting, Journal Entries	Gahanna, OH*
11	Director Audit Services	Internal Audits	Gahanna, OH
12	Director Audit Services	Internal Audits	
13	Director Audit Services	Internal Audits	
14	EE & Consumer Program Coordinator Principal	Internal Financial Reporting	Canton, OH
15	EE & Consumer Program Coordinator Principal	Internal Financial Reporting	
16	Allocations Manager (AEPSC)	Corporate Accounting	Canton, OH
17	EE & Consumer Program Coordinator Principal	Financial Reporting, Community Assistance Program	Canton, OH
18	Engineer Principal	Commercial Program Management - Custom Program and Demand Reponse Program	Canton, OH
19	Engineer Principal	Commercial Program Management - Continuous Improvement Program and Data Center Program	Canton, OH
20	EE & Consumer Program Coordinator Senior	Residential Program Management - In-Home Audit Program and New Home Program	Canton, OH
21	Director Distribution Technology & Innovation	EE/PDR Manager	Canton, OH
	*Via phone from AEP Headquarters		

Follow-up interviews to clarify responses to audit discovery were conducted via telephone, as needed, during the audit.

Financial Audit Findings

General

1. AEP Ohio records EE/PDR program costs in the following accounts, as also shown in Exhibit 4-2:

Account	Description
1840040	Undistributed Labor Fringe Benefits Clearing
1840041	Undistributed Incentive Fringe Benefits Clearing
5880000	**Miscellaneous Distribution Expenses**
5930000	**Maintenance of Overhead Lines**
9070000	**Supervision - Customer Service**
9070001	Supervision of Demand Side Management (DSM) Activities
9080000	**Customer Assistance Expenses**
9080001	DSM - Customer Advisory Group
9080009	Customer Assistance Expense - DSM
9100000	**Misc. Customer Service & Informational Expense**
9100001	**Misc. Customer Service & Informational Expense- RCS**
9110001	Supervision - Residential Sales Activities
9110002	Supervision - Commercial & Industrial Sales Activities
9200000	**Administrative & General Salaries**
9210001	***Office Supplies & Expense - Nonassociated***
9210002	Office Supplies & Expense - Associated
9230001	Outside Services
9260055	**Employee Pension & Benefits**
9301001	Newspaper Advertising Space
9301007	Special Advertising Space & Production Expenses
9301009	Fairs, Shows, and Exhibits
9301015	Other Corporate Communication Expenses
9302000	**Miscellaneous General Expenses**
9350015	**Maintenance of Office Furniture & Equipment**
Source: LA-EE PDR-1-3 (Supplemental)	

The Company's initial response to LA-EE PDR-1-3 did not include the accounts shown in bold in the table above. During a conference call with AEP Ohio on February 16, 2018, the Company stated that it inadvertently omitted the accounts highlighted in bold when it ran its query in the general ledger detail. As a result, the Company provided a supplemental response to LA-EE PDR-1-3, which included all of the accounts listed above.

2. The EE/PDR program costs for the period January 1, 2011 through December 31, 2016 are summarized in the following table:

EE/PDR Costs By Program	2011	2012	2013	2014	2015	2016	Total
EE/PDR Department	$ 3,239,208	$ 2,758,021	$ 3,916,416	$ 4,585,477	$ 4,051,589	$ 5,184,905	$ 23,735,616
Education	$ 5,424,474	$ 148,153	$ 135,212	$ 103,132	$ 127,037	$ 111,372	$ 6,049,380
Evaluation	$ 3,211,615	$ 2,442,041	$ 3,619,952	$ 2,436,843	$ 2,363,387	$ 2,357,809	$ 16,431,647
Implementation	$ 12,914,240	$ 13,049,511	$19,232,371	$ 18,906,714	$ 15,012,223	$ 15,425,226	$ 94,540,285
Incentives	$ 40,387,199	$38,027,446	$45,245,760	$46,529,847	$ 40,033,878	$ 42,646,425	$ 252,870,555
Marketing	$ 689,393	$ 1,181,088	$ 1,535,392	$ 2,367,571	$ 1,207,941	$ 2,761,770	$ 9,743,155
Media*	$ -	$ 6,559,313	$ 4,415,905	$ 1,369,742	$ 2,276,492	$ 1,941,264	$ 16,562,716
R&D General	$ 536,780	$ -	$ 175,000	$ 277,053	$ 75,000	$ -	$ 1,063,833
Over accrual	$ -	$ (50,000)					$ (50,000)
Grand Total	$ 66,402,910	$ 64,115,574	$ 78,276,008	$ 76,576,377	$ 65,147,549	$ 70,428,772	$ 420,947,188
In 2011, the Media and Education EE/PDR programs were combined as one cost in the general ledger							

3. The source of the programs costs in the Company's EE/PDR filings (per the response to LA-EE PDR-14-2) is the general ledger.

4. While there are some evaluation, measurement and verification ("EM&V") and administrative costs charged directly to each of the EE/PDR programs, the majority of such costs are allocated to each EE/PDR program based upon each such program's percentage of the month's overall EE/PDR costs. Specific findings by year are discussed below.

5. A major component of the EE/PDR program costs relate to incentive payments to AEP Ohio's customers. Larkin requested that for each EE/PDR program, that AEP Ohio identify the amount of incentives recorded by the Company in each year of the 2011-2016 review period, and AEP Ohio provided that information in its response to LA-EE PDR-1-8. Specific findings by year are discussed below.

6. According to the response to LA-EE PDR-8-9, there were no office building related overhead costs (e.g., building depreciation, leases, maintenance, etc.) charged to the EE/PDR programs during the review period.

7. According to the response to LA-EE PDR-2-4, marketing and education costs are not charged directly to the EE/PDR programs nor are such costs allocated to the EE/PDR programs, but rather, these costs are reported separately in the year-end Portfolio Status Reports.

8. As it relates to outreach costs, a contract was executed between the Company and [redacted] in January 2015, in which [redacted] was hired to perform outreach services. According to the response to LA-EE PDR-2-4, AEP Ohio did not employee outside consultants to perform outreach services prior to executing the contract with [redacted], nor were costs related to outreach type services tracked by the EE/PDR program implementers prior to the [redacted] contract.

9. Larkin reviewed the contract with [redacted] as well as copies of the invoices for the 2015 and 2016 work performed by [redacted] and billed to AEP Ohio. Upon reviewing the [redacted] invoices issued to AEP Ohio in 2015 and 2016, Larkin noted that the invoice totals for each year were different than the total outreach costs shown for 2015 and 2016 in the response to LA-EE PDR-2-4. Specifically, the 2015 and 2015 [redacted] invoices totaled $1,481,281, and $1,436,587, respectively, while the response to LA-EE PDR-2-4 indicated total outreach costs of $1,584,986 and $1,520,179 for 2015 and 2016, respectively. In response to Larkin's informal inquiry, AEP Ohio stated that the differences relate to direct charges to the Outreach program that were incurred by the Program Coordinator, who is part of the EE/PDR employee group. In addition, AEP Ohio advised that by using the filter function to isolate the Project ID designation "C&I Outreach" in the electronic version of the general ledger detail provided in response to LA-EE PDR-1-5, the differences identified for 2015 and 2016 will reconcile. Larkin confirmed this by using the filter function as described by AEP Ohio in the 2015 and 2016 general ledger detail. No exceptions were noted.

10. AEP Ohio included the line item "Targeted Advertising" under the Multi-Sector category of EE/PDR program costs for which the Company provided approximately 300 files containing advertisements that were used during the 2011-2016 review period. We reviewed each advertisement individually in order to ensure that they were related to energy efficiency and/or the EE/PDR programs. Many of the advertisements were designed to bring awareness to customers that many of their appliances are not energy efficient and that AEP Ohio offers ways in which customers can save both energy and money. Other examples of the advertisements included information about the EE/PDR programs and the availability of in-home audits to customers. In addition, certain ads provided customers with a link to AEP Ohio's website "AEPOhio.com/Wasteless," whereby the Company provides information related to the energy efficiency programs. Moreover, other advertisements were related to rebates the Company offers to customers who switch to energy-efficient appliances, such as those with the Energy Star designation. Based on our review, all of the advertising materials provided for the 2011-2016 review period pertained to energy efficiency and/or the Company's EE/PDR programs. None of the advertisements appeared to be for non-EE/PDR activities such as corporate image-building. No exceptions were noted.

11. For each year of the 2011 through 2016 review period, Larkin reviewed a number of vendor invoices for the purpose of (1) verifying the amounts of such invoices, and (2) verifying that the charges reflected on the vendor invoices were related to the EE/PDR programs, and were properly recorded as EE/PDR program costs. Pursuant to this review, Larkin employed the sampling guidelines discussed in Chapter 4 of this report.

12. For each year 2011 through 2016, Larkin selected as one group for review, "big dollar" invoices, i.e., invoices that were generally in excess of $300,000, issued by vendors. For 2015, Larkin also selected as part of the "big dollar" invoice review, an invoice from vendor [redacted] in the amount of $273,429.86. Specific findings by year are discussed below.

13. Larkin noted that in some years of the review period, the Company provided vendor invoices with negative amounts. Larkin selected for review 100% of the invoices with negative amounts of $10,000 or higher. Specific findings by year are discussed below.

14. Larkin evaluated whether labor costs related to the EE/PDR programs in 2011 were excluded from the base rate labor costs in the Company's last distribution rate case in Case Nos. 11-351-EL-AIR and 11-352-EL-AIR. In those rate case filings, which were based on a test year that was the 12 months ended May 31, 2011, the Company proposed adjustments to remove from distribution base rates, the revenues and expenses associated with the EE/PDR rider, which was based on three months of actual amounts and nine months of forecasted amounts. On September 5, 2011, Staff filed reports with the Commission in which it submitted its findings and recommended adjustments pursuant to its review of AEP Ohio's distribution rate case filings in the aforementioned proceedings. As discussed in its respective reports for CSP and OPCo, Staff agreed with the Company's proposed adjustments to remove the revenues and expenses associated with its various riders, including the EE/PDR rider, but updated

these adjustments using actual costs through May 31, 2011. The documentation we reviewed in the context of AEP Ohio's 2011 distribution rate case and the EE/PDR accounting information for 2011gave no indication that that there was double-counting or duplicative recovery of EE/PDR related labor costs between only the 2011 distribution rate case filings (i.e., labor costs included in base rates) and labor costs charged to the 2011 EE/PDR programs.

15. The potential for duplicative recovery and/or shifting of AEP Ohio's labor costs from base rates to the EE/PDR rider exists because base rates for electric distribution service are set periodically in rate cases whereas the EE/PDR programs track costs annually for recovery via the EE/PDR rider. Thus, there could be a situation where labor costs are included for recovery in base rates for electric distribution service, then after such rates have been set, labor costs could be shifted into riders such as the EE/PDR rider while still being recovered in base rates. Because of this risk of potential duplicative recovery of labor costs between base rates and the EE/PDR rider, Larkin performed testing to determine if this occurred during the 2011 through 2016 EE/PDR audit period. The documentation Larkin reviewed in the context of AEP Ohio's 2011 distribution rate case and the EE/PDR accounting information for 2011, gave no indication that that there was double-counting or duplicative recovery of EE/PDR related labor costs between the 2011 distribution rate case filings (i.e., labor costs included in base rates) and the 2011 EE/PDR programs.

16. AEP Ohio did not have additional base rate cases for electric distribution service in the years 2012 through 2016. During the years 2012 through 2016, AEP Ohio charged labor costs to the EE/PDR programs, based on the costs recorded in its general ledger. For accounting purposes, AEP Ohio records the labor costs associated with the EE/PDR programs in a manner that makes such costs identifiable in the Company's general ledger. Larkin reviewed the AEP Ohio EE/PDR labor costs for each year in the EE/PDR audit period, as described in this report.

17. Larkin has not made a finding that duplicative recovery of AEP Ohio's labor costs has occurred between the Company's base rates and the EE/PDR rider during any years in the 2011 through 2016 EE/PDR audit period. However, because of the potential for shifting labor costs that are being recovered in base rates for electric distribution service into the EE/PDR rider during the periods between rate cases continues to present a risk that double recovery of such costs could occur, Larkin recommends that the Company develop additional procedures to track costs, including labor costs of employees whose costs had been included for recovery in electric distribution rates, and who were transferred subsequent to the rate case test year to provide service related to the EE/PDR programs (see recommendations).

18. The labor cost centers related to the EE/PDR programs are summarized below:

Cost Component	Description
120	Labor Fringes (Straight Time)
121	Labor Fringes (Overtime)
122	Labor Fringes (Incentv Accr)
123	Labor Fringes - Other NTL Pymt
125	Payroll Dist Nonproductive
141	Incentive Accrual Dept Level
145	Stock-Based Compensation
148	Corp & Shared Svcs Incentives
154	Restricted Stock Incentives
155	Transmission Incentives

19. Labor overheads are charged to the EE/PDR programs when loaded on the following cost elements:

    - Cost Center 120 - full fringe loading on all 11E and U3E (exempt), 11N (non-exempt), 11S (salaried) straight-time labor, and 125 nonproductive load/actual
    - Cost Center 121 - partial fringe loading on all 13E (exempt), 13N (non-exempt) and 13S (salaried) overtime labor
    - Cost Center 122 - partial fringe loading on applicable incentive accrual: 141 (general)
    - Cost Center 123 - partial fringe loading on 142 (relocation) and 143 (various taxable non-time sheet, payroll-related payments which spread over the labor base when paid)

20. Cost Centers 141, 148 and 155 are corporate incentive loadings and Cost Center 125 relates to a Non-Productive Labor Load/Accrual.

21. With regard to Cost Center 125, the non-productive load is an overhead that is apportioned over productive straight-time labor (11E, U3E, 11N and 11S) for each bi-weekly period. This cost element accrues for vacation entitlement and other paid time off for holidays, sick time, assigned personal days, rest period, bereavement, etc.

22. There are four cost centers that are applicable to incentive compensation and stock-based compensation being charged to the EE/PDR programs during the review period, including (1) Cost Center 122 - Labor Fringes (Incentive Accrual); (2) Cost Center 141 - Incentive Accrual Department Level; (3) Cost Center 145 - Stock-Based Compensation; and (4) Cost Center 154 - Restricted Stock Incentives.

23. The 122 labor fringe loading cost component is applicable to the incentive accruals related to cost component 141 (general) and were allocated to the EE/PDR programs. *In addition, the allocation method for the 122 labor fringe loading cost component is* determined quarterly and spread over labor based on fringe and labor costs.

24. As it relates to labor costs included in the EE/PDR program costs, specific findings by year are discussed below.

25. As it relates to Cost Centers 145 and 154 for stock-based compensation (also referred to as Performance Share incentives) and restricted stock incentives, incentives are loaded over the labor basis on each biweekly pay, as applicable. Pool costs are submitted based on Human Resources ("HR") and Corporate Accounting analyses and the amounts will load over the labor basis consisting of both straight-time and overtime earnings subject to qualifying plans. Incentives are apportioned based on the benefiting organizations; accordingly the costs spread over the General Ledger Business Unit ("GLBU") and departmental groups included in the cost assignment.

26. Performance share incentives ("PSI") and restricted stock units ("RSU") do not receive a partial fringe loading (cost component 122) or a FICA and savings accrual (cost component 127) and both incentives are excluded from compensation for purposes of the savings plan. The Company stated that the reason for not loading FICA for these two plans is because the participants are at the executive level and typically reach the FICA limit with their bi-weekly pay.

27. The Expense Allocations ("EA") group at the Company's offices in Canton, Ohio is responsible for loading the annual incentive accrual, while the Regulated Accounting group at AEPSC, along with Corporate Planning and Budgeting, supplies the estimated incentive compensation amounts.

28. Larkin was advised that the components of employee incentive compensation that was related to the Company's financial goals had been removed by Staff in AEP Ohio's last distribution rate case filing (Case Nos. 11-351-EL-AIR and 11-352-EL-AIR) and that such costs should also be removed from EE/PDR program costs. Specifically, as it relates to CSP and OPCo, in its reports dated September 5, 2011 that were filed with the Commission in the aforementioned distribution rate case, Staff stated the following:

> Incentive pay is based on actual incentive pay as of May 31, 2011, reduced by 40% for incentive pay attributable to the obtainment of financial goals.

Through discovery and as discussed in the findings below, Larkin identified amounts of disallowable incentive and stock-based compensation for each year, 2011 through 2016.

29. AEP Ohio has indicated in responses to discovery, including LA-EE PDR-12-3, that it does not agree with the removal of any of the incentive or stock-based compensation costs identified. Incentive compensation related to financial results would be recommended for disallowance in an AEP Ohio distribution rate case; it should therefore not be included in recoverable EE/PDR costs. As noted above, in the most recent AEP Ohio distribution rate case in Case Nos. 11-351-EL-AIR and 11-352-EL-AIR, Staff reduced O&M related incentive compensation by 40% to reflect the removal of incentive compensation related to the Company's financial goals.

30. With respect to employee expenses charged to the EE/PDR programs, the general ledger detail includes the following specific cost centers, which the Company stated relates to employee expenses charged to the EE/PDR programs: Cost Center 510 -

Business Expense 100% Deductible and Cost Center 520 - Business Expense Partially Deductible.

31. Using data from the general ledger detail, in response to LA-EE PDR-18-3, the Company provided two pivot tables which were classified to Cost Centers 510 and 520. The first pivot table summarized the employee expenses classified to Cost Centers 510 and 520 by the general ledger accounts in which such costs were recorded. The second pivot table summarized the Cost Center 510 and 520 costs by EE/PDR project ID.

32. In order to obtain an understanding of how the Company treats employee expenses pursuant to the EE/PDR programs, Larkin requested the Company's related policies and procedures. In response to LA-EE PDR-20-1, AEP Ohio provided two documents including the (1) AEP Corporate Credit Card Policy (REV 002 ("Policy"), and (2) the American Electric Power Travel and Entertainment Policy Guide ("T&E Policy").

33. The stated purpose of the AEP Corporate Credit Card Policy is that it is a payment mechanism that may be provided to all business units for employee use in day-to-day business activities, including but not limited to (1) business travel and entertainment expenses, (2) procurement of low dollar material or approved services, and (3) cash withdrawals at ATMs for authorized business purposes.

    The date of this version of the Policy is May 29, 2015 and it indicates that the original effective date was July 1, 2013. Larkin inquired as to whether the provisions of the Policy applied to EE/PDR related employee expenses prior to July 1, 2013. Pursuant to a conference call with AEP Ohio on February 16, 2018, in which this issue was discussed, the Company supplemented its response to LA-EE PDR-20-1 by providing an older version of the Policy that was dated November 24, 2009. Insofar as the older version of the Policy contains language that is identical or similar to the subsequent version, Larkin concluded that the provisions of the Policy applied to the EE/PDR related employee expenses for the entire 2011-2016 review period.

34. The Statement of Purpose of the T&E Policy is as follows:

    > AEP's Travel and Entertainment ("T&E") Policy is to provide employees (authorized to travel on the Company's behalf) with reasonable transportation, lodging, meals, and other services necessary to conduct official business. This policy applies only to travel and entertainment expenses. The Company's policy is also to reimburse employees for all reasonable expenses they incur on business in a timely manner. Since every situation encountered while traveling on business cannot be anticipated, each employee shall exercise good judgment and fiscal responsibility when doing business for the Company. Whenever possible, employees should obtain prior management approval for any expenditures not specifically covered in the policy. Exceptions to this policy require prior approval from the employee's immediate supervisor. It is the responsibility of all managers to ensure that employees who travel are aware of and adhere to this policy.

The date of this version of the T&E Policy is August 2015. Larkin made an informal inquiry regarding whether the provisions of the T&E Policy applied to EE/PDR related employee expenses prior to August 2015. Pursuant to the aforementioned conference call with AEP Ohio on February 16, 2018, the Company supplemented its response to LA-EE PDR-20-1 by providing two older versions of the T&E Policy. One was dated January 2011 and the other was dated January 2012. Insofar as the older versions of the T&E Policy contain language that is identical or similar to the subsequent version, Larkin concluded that the provisions of the T&E Policy applied to the EE/PDR related employee expenses for the entire 2011-2016 review period.

35. With respect to how the employee expenses charged to the EE/PDR programs during the 2011-2016 period relate to those programs, in response to LA-EE PDR-20-1, the Company provided the following narrative:

> The employee expenses are used to support all programs and may not be attributable to only one program. For instance, employee expenses are necessary to support the overall EE/PDR program. Some examples of expenses could be employee mileage and meals for travel to either customer premises to discuss programs, or to measure savings from the programs. Some expenses are for shared learnings at industry conferences/events to enhance programs for better participation and cost effectiveness. Other employee expenses include training for both the EE/PDR team to better equip team members to educate customers on participation in the programs, as well as training costs for other front line employees with direct contact with the customers, such as customer service employees, in order for the employees to promote customer participation in the programs and be able to assist in customer education about the overall program. The EE/PDR team is very active in holding seminars throughout the state of Ohio in which customers can attend to learn more about the programs. These seminars include customer education but also provide testimonials from customers that have participated in the programs in the past, allowing them to share with other customers the benefits they have experienced through their participation. Additional employee expenses include participation in public education through booths and displays at local events throughout the state of Ohio. These displays provide additional opportunities to educate customers on the benefits of the EE/PDR programs and lead to greater participation of the customer base. These educational events are held residential, commercial and industrial customers.

36. AEP Ohio records EE/PDR Rider revenues in the following accounts, as also shown in Exhibit 4-12:

Account	Description
4400001	Residential Sales - With Space Heating
4400002	Residential Sales - Without Space Heating
4420001	Commercial Sales
4420002	Industrial Sales (Excluding Mines)
4420004	Industrial Sales - Nonaffiliated (Including Mines)
4420005	C&I Sales - Affiliated Companies
4420006	Sales to Public Authorities - Schools
4420007	Sales to Public Authorities - Excluding Schools
4440000	Public Street - Highway Lighting
4450002	Other Sales - Public Authorities - Excluding Schools
4470027	Wholesale / Municipal / Public Authorities

37. The Company provided its detailed revenue account transactions for the period January 1, 2011 through December 31, 2016, which is summarized in the following exhibit, and also shown in Exhibit 4-13:

Description	Account	2011	2012	2013	2014	2015	2016	Grand Total
Residential Sales - With Space Heating	4400001	$ 12,973,523	$ 11,795,278	$ 12,506,888	$ 15,578,617	$ 19,357,867	$ 18,300,920	$ 90,513,092
Residential Sales - Without Space Heating	4400002	$ 30,838,639	$ 30,008,068	$ 29,426,565	$ 36,157,968	$ 45,845,375	$ 46,587,700	$ 218,864,316
Commercial Sales	4420001	$ 30,835,107	$ 30,116,815	$ 29,748,949	$ 33,183,722	$ 37,787,767	$ 38,138,607	$ 199,810,967
Industrial Sales (Excluding Mines)	4420002	$ 20,216,528	$ 19,956,868	$ 19,637,024	$ 22,836,019	$ 28,112,420	$ 27,447,172	$ 138,206,031
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$ 176,401	$ 181,629	$ 189,589	$ 205,050	$ 231,747	$ 159,802	$ 1,144,217
C&I Sales - Affiliated Companies	4420005	$ 141,170	$ 100,264	$ 73,872	$ 104,727	$ 108,934	$ 112,360	$ 641,327
Sales to Public Authorities - Schools	4420006	$ 2,682,852	$ 2,592,428	$ 2,588,907	$ 2,994,800	$ 3,456,938	$ 3,519,294	$ 17,835,220
Sales to Public Authorities - Excluding Schools	4420007	$ 2,574,527	$ 2,850,601	$ 3,238,573	$ 3,748,184	$ 4,335,800	$ 4,339,573	$ 21,087,258
Public Street - Highway Lighting	4440000	$ 56,394	$ 53,785	$ 54,421	$ 53,591	$ 55,603	$ 55,698	$ 329,492
Other Sales - Public Authorities - Excluding Schools	4450002	$ 2,319	$ 1,317	$ 1,382	$ 1,474	$ 2,367	$ 1,686	$ 10,346
Wholesale / Municipal / Public Authorities	4470027	$ 21,475	$ 21,121	$ 21,720	$ 24,661	$ 27,950	$ 27,212	$ 144,138
Total		$ 100 518 936	$ 97 677 974	$ 97 487 889	$ 114 888 815	$ 139 322 767	$ 138 690 023	$ 688 586 404

Specific revenue related findings by year are discussed below.

38. The Company provided copies of its tariff sheets that were associated with the EE/PDR Rider during the period 2011 through 2016. Specifically, during the 2011-2016 review period, for each rate class there were three different sets of EE/PDR rates reflected on the Company's tariff sheets, which included the following three periods: (1) May 28, 2010 through August 27, 2012 per Order dated May 13, 2010 in Case No. 09-1089-EL-POR; (2) August 28, 2012 through July 3, 2014 per Order dated August 8, 2012 in Case No. 11-346-EL-SSO; and (3) July 31, 2014 through December 31, 2016 per Order dated July 30, 2014 in Case No. 13-1201-EL-RDR.

39. AEP Ohio provided screenshots from its customer billing system for each rate schedule (RR, GS-1, GS-2, GS-3 and GS-4), which illustrate how the EE/PDR program costs were billed to customers during the review period using the authorized EE/PDR tariff rates. In order to verify that AEP Ohio has included the correct EE/PDR Rider rates on its electric bills, Larkin recalculated the EE/PDR charges by multiplying the EE/PDR rates for each rate type by the meter usage indicated on each of the customer billing screenshots and then compared the results to each of the customer screenshots by the line item "Enrgy Eff Cost Rcvry". No exceptions were noted.

40. For the 2011-2016 review period, AEP Ohio's EE/PDR filings included calculations related to two separate shared savings mechanisms. Specifically, for 2011, the shared savings mechanism was based on the Commission's Opinion and Order dated May 13, 2010 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR, which also approved the Stipulation and Recommendation dated November 12, 2009. For the period 2012

through 2016, the shared savings mechanism was based on the Commission's Opinion and Order dated March 21, 2012 in Case Nos. 11-5568-EL-POR and 11-5569-EL-POR, which also approved the Stipulation and Recommendation dated November 29, 2011.

41. A summary of the 2011 shared savings mechanism is summarized in the following exhibit, and also shown in Exhibit 4-15:

Performance Incentives = Lesser of Shared Savings or Program Investment Cap Percentage		
Benchmark EE Target % Achievement for Overcompliance	Shared Savings	Program Investment Cost Cap % for Measureable Programs
Greater than 100% to 106%	15%	6%
Greater than 106% to 115%	15%	12%
Greater than 115%	15%	17%

42. A summary of the 2012-2016 shared savings mechanism is summarized in the following exhibit, and also shown in Exhibit 4-16:

Achievement of Annual Target	**Shared Savings %**
Less than 100%	0%
100% to 105%	5%
Greater than 105% to 110%	7.5%
Greater than 110% to 115%	10%
Greater than 115%	13%

43. For the 2011-2016 review period, the Company's EE/PDR filings reflect the following levels of shared savings, and also shown in Exhibit 4-17:

Tariff	2011	2012	2013	2014	2015	2016	Total
Residential	$ 6,720,281	$ 16,017,964	$ 12,846,718	$ 12,813,899	$ 10,798,420	$10,565,184	$ 69,762,466
All Other C&I		$ 13,764,872	$ 16,682,036	$ 16,598,326	$ 18,431,685	$18,658,839	$ 84,135,758
GS4/IRP		$ 1,443,159	$ 1,749,005	$ 1,740,228	$ 1,932,445	$ 1,956,260	$ 8,821,097
C&I Total	$ 7,297,031	$ 15,208,031	$ 18,431,041	$ 18,338,554	$ 20,364,130	$20,615,099	$ 100,253,886
Grand Total	$ 14,017,312	$ 31,225,995	$ 31,277,759	$ 31,152,454	$ 31,162,550	$31,180,283	$ 170,016,353

44. The Company stated that shared savings are recorded in the general ledger as follows (per the response to LA-18-4):

> The Regulated Accounting EE/PDR over/under calculation compared the Shared Savings allowed to be recovered to an allocated portion of rider revenues and the difference was recorded as an over or under recovery. The over/under recovery income statement offset accounts were retail revenue accounts 4400002, 4420001, and 4420002 from June 2010 - October 2012. Beginning in November 2012, additional retail revenue accounts were used mainly due to the creation of new accounts for customers served under customer choice Open Access Distribution (OAD) tariffs: 4400102, 4420101, 4440000, 4440100, 4450002, 4450101, and 4420102. The over/under recovery balance sheet accounts used were 1823012 and 2540118.

45. Pursuant to the previous finding, the supplemental response to LA-EE PDR-18-4 stated the following with regard to shared savings amounts recorded to the general ledger:

> Shared savings are not separately identified in the GL but are a component of the costs included in the monthly journal entry...Shared savings are booked to the 44XXXX retail revenue accounts as well as the over/under regulatory liability and asset account. The amounts are not booked to the ledger separately but instead included in this attachment as ledger detail...These values are recorded to the ledger and were also provided in data request 12-18 for shared savings. The totals can be traced back to both the ledger balance from 12-18 and verified through the values as stated above.

46. In its confidential response to LA-EE PDR-12-18 (referenced in the finding above), AEP Ohio provided a reconciliation that was done to reflect the methodology of creating a new regulated accounting over/under calculation and to show corrections and/or adjustments made to match the Company's EE/PDR filings. Included in this reconciliation were the amounts of the shared savings recorded in AEP Ohio's regulated accounting records for each year of the 2011-2016 review period, and which are shown in the exhibit below, and also shown in: Exhibit 4-18

2011	2012	2013	2014	2015	2016	Total
$ 13,633,929	$ 32,571,434	$ 31,277,759	$ 31,152,454	$ 31,741,956	$31,200,000	$ 171,577,531

47. In its Opinion and Order dated May 13, 2010 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR, the Commission authorized AEP Ohio recovery of Net Lost Distribution Revenue through January 1, 2011 through the EE/PDR rider. In its Order dated January 27, 2011 in the same proceeding, the Commission clarified its original ruling and stated that net lost distribution revenues were no longer to be recovered in the EE/PDR rates after December 31, 2010. Larkin requested that the Company identify the amounts of lost revenues and to describe how such lost revenues were measured in each year of the review period. In its response to LA-EE PDR-1-9, the Company stated that there were no lost revenues recovered for costs measured or incurred during the January 1, 2011 through December 31, 2016 review period. Through the reconciliation provided in the confidential response to LA-EE PDR-12-18, Larkin verified that the Company's EE/PDR filings did not include Net Lost Distribution Revenues in EE/PDR costs for the 2011-2016 review period. There is pre-2011 lost distribution revenue in the amount of $6,042,108 ($3,656,167 - CSP + $2,385,941 - OPCo) that is reflected in the Company's January 1, 2011 deferred EE/PDR balance.

48. In Case No. 11-346-EL-SSO, AEP Ohio proposed that Schedule Interruptible Power-Discretionary ("IRP-D") be available to all current customers as well as potential customers seeking interruptible service. In its Opinion and Order dated August 8, 2012 the Commission approved the IRP-D credit at $8.21/kW-month and ruled that since the IRP-D credit promotes energy efficiency, it was appropriate for AEP Ohio to recover any costs associated with the IRP-D through the EE/PDR Rider. Pursuant to the Commission's ruling, beginning with the Company's EE/PDR filing dated May 15,

2013 in Case No. 13-1201-EL-RDR, AEP Ohio began reflecting the calculation of the IRP-D credits on Schedule 1 of its EE/PDR filings.

49. The actual 2012-2016 IRP-D credit recovery totaled $82.1 million. This amount was reduced by PJM EE revenue credits, totaling $15.5 million, which results in net IRP-D credits of $66.6 million which were allocated between the Company's rate classes. The net IRP-D credits of $66.6 million were included in the calculation of the EE/PDR Rider in AEP Ohio's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR. Schedule 4 from the Company's filing in that case reflects the actual IRP-D credits totaling $82.1 million for the period 2012 through 2016. Specific findings by year are discussed below.

50. With regard to the PJM EE revenue credits, on February 25, 2015, the PUCO issued its Final Order in OPCo Case No. 13-2385-EL-SSO for Authority to Establish a Standard Service Offer (for the Company's June 2015 through May 2018 Ohio Electric Security Plan). The Commission ruled that OPCo's energy efficiency program has resulted in excess resources that OPCo subsequently bid into the PJM auction. By bidding these resources into the PJM auction, the Company began receiving PJM Energy Efficiency ("PJM EE") revenues in June 2015. Therefore, starting June 2015, 100% of the PJM EE revenues are recorded by the Company in Account 4470189 - Energy Efficiency Revenue. The Company includes 80% of the PJM EE revenues that are recorded in account 4470189 as a revenue credit in the Company's EE/PDR while the remaining 20% impacts OPCo's pre-tax income. The 80%/20% sharing ratio is consistent with the Commission's Order.

51. The $15.5 million that is offset against the IRP-D credits includes amounts recorded in Account 4420026, which, per the response to LA-EE PDR-8-25, relates to Demand Response payments received from [redacted]. *The 80/20 sharing that relates to the PJM* EE revenue credits does not apply to [redacted].

52. Pursuant to a Stipulation and Recommendation dated November 29, 2011 in Case Nos. 11-5568-EL-POR and 11-5569-EL-POR, AEP Ohio does not collect carrying charges in connection with the operation of the EE/PDR Rider. The Stipulation and Recommendation was approved by the Commission in its Opinion and Order dated March 21, 2012. Larkin verified that AEP Ohio has not included carrying costs in its EE/PDR Rider filings during the 2011-2016 review period.

53. AEP Ohio reflected an over-collected EE/PDR balance as of January 1, 2011 of $23,806. Specifically, at January 1, 2011, the general ledger account 1823012 showed an EE/PDR under-collected amount for CSP of $2,220,967 and an EE/PDR over-collected amount for Ohio Power of $2,244,772 in general ledger account 2540118. Larkin verified both of these amounts to the general ledger.

54. Larkin reviewed the AEP Ohio filing in Case No. 12-1557-EL-RDR, which covered the period 2009-2011 and which reflected a combined over-collected balance of $18,165,953 as of December 31, 2011. This over-collected balance was comprised of an over-collected amount for CSP of $4,236,346 and an over-collected amount for OPCo of $13,929,607. However, the general ledger reflects an over-collected balance

of $19,124,332, or a difference of $958,380. The Company's confidential response to LA-EE PDR-12-18 provided a reconciliation of these two amounts. Larkin traced this amount to the general ledger. The response to LA-EE PDR-12-18 stated that the difference is due to the methodology of creating a new regulated accounting over/under calculation for corrections and adjustments to match the EE/PDR filings whereby the new over/under balance was subtracted from the original over/under calculation.

55. The Company's regulatory accounting records reflected a cumulative under-recovery balance of $903,177 as of December 31, 2010, which is inconsistent with the aforementioned $23,806 over-recovery balance as of January 1, 2011 that Larkin traced to the general ledger. The reconciliation provided in the confidential response to LA-EE PDR-12-18 included a footnote which stated that the difference between the $903,177 under-recovery in the Company's accounting records and the $23,806 over-recovery, or $926,982 was adjusted in the general ledger in 2011. However, upon Larkin reviewing the 2011 general ledger detail, it was not clear where the $926,982 adjustment was reflected. Upon Larkin's inquiry, in its response to LA-EE PDR-21-1 AEP Ohio stated:

> In February 2011 an adjusting entry of $1,116,481 was made to the Energy Efficiency Rider Over/Under calculation for 2009 through 2011due to the Lost D Revenues Energy Savings at the Meter (kWh) being changed from an invoiced kWh basis to an installed kWh basis and some new programs were added to Shared Savings. The adjustment for $926,982 was the 2009 through December 2010 portion of this entry and was reflected in the G/L as an over-recovery for both CSP and OP in account 2540118.
>
> Net Lost Distribution Revenues were no longer allowed for recovery as of December 31, 2010, but due to the 2 month lag for receiving actual Net Lost Distribution Revenues they were included until February 2011.

Using data from its general ledger detail, the Company provided a reconciliation which showed the derivation of the $926,982 in its response to LA-EE PDR-21-1.

56. By removing the 2009 and 2010 amounts from AEP Ohio's accumulation of the 2009-2011 information that resulted in the December 31, 2011 EE/PDR over/under collected balance, Larkin derived the January 1, 2011 EE/PDR over-collected balance of $23,806.

Specific findings by year are discussed below.

2011

57. For the period 2009-2011, Schedule 1a from the Company's filing dated May 15, 2017 in Case No. 17-1266-EL-RDR reflects program costs totaling $112.68 million and revenues totaling $159.26 million. For 2011, AEP Ohio reported EE/PDR costs of $66.4 million and EE/PDR revenues of $100.52 million.

58. Larkin compared the 2011 EE/PDR program costs of $66.4 million listed in the table below[5] to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-5.

Description	2011 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 6,715,893
Appliance Recycling	$ 2,658,259
Home Retrofit + In-Home	$ 2,407,413
Low Income	$ 13,984,737
Residential New Construction	$ 1,037,953
Behavior Change	$ 1,835,178
e3smart	$ 1,086,044
BUSINESS	
Prescriptive	$ 14,795,754
Custom	$ 3,622,822
Self Direct	$ 7,564,645
C&I New Construction	$ 1,842,736
C&I Demand Response	$ 487,457
Express	$ 1,695,605
Retro-Commissioning	
Continuous Improvement	
Energy Efficiency Auction	
Data Center	
MULTI-SECTOR	
Energy Education and Training	$ 251,612
Targeted Advertising	$ 5,880,022
Research and Development	$ 536,780
Total Program Costs	**$ 66,402,910**

Larkin verified that the 2011 EE/PDR program costs listed above were recorded in the general ledger and tied to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.

LA-EE PDR-1-3 requested in part that the Company identify the general ledger accounts in which EE/PDR program costs are recorded. Larkin noted that there were

[5] The table is also shown in Exhibit 6-1.

costs recorded in general ledger accounts other than the accounts specified in that response. In response to Larkin's informal inquiry, the Company stated that it inadvertently omitted those additional accounts when performing a query of its general ledger. As a result, AEP Ohio provided a supplemental response to LA-EE PDR-1-3 which included the accounts previously omitted.

As noted above, the general ledger detail reflected 2011 EE/PDR program costs totaling $66.40 million. However, Schedule 1a from the Company's May 15, 2017 filing in Case No. 17-1266-EL-RDR reflected combined EE/PDR program costs for the period 2009 through 2011 of $112.68 million. Through a reconciliation that was provided in a confidential attachment to the response to LA-EE PDR-12-18, Larkin verified that the 2011 EE/PDR program costs of $66.40 million were embedded in the $112.68 million of 2009-2011 program costs and that remaining costs of $8.08 million and $38.20 million pertained to 2009 and 2010, respectively. No exceptions were noted.

59. The response to LA-EE PDR-1-8 provided the following breakout of 2011 incentive costs by EE/PDR program:[6]

Description	2011
Consumer	
Efficient Products	$ 4,267,493
Appliance Recycling	$ 1,736,534
Home Retrofit + In-Home	$ 1,270,323
Low Income	$ 10,742,811
Residential New Construction	$ 322,440
Behavior Change	
e3smart	$ 420,842
Business	
Prescriptive	$ 10,746,953
Custom	$ 1,996,050
Self Direct	$ 5,800,943
C&I New Construction	$ 1,406,977
C&I Demand Response	$ 447,125
Express	$ 820,431
Retro-Commissioning	
Continuous Improvement	
Energy Efficiency Auction	
Data Center	
Multi-Sector	
Energy Education and Training	
Targeted Advertising	
Research and Development	$ 408,277
Total Incentive Costs	$ 40,387,199

[6] Also see Exhibit 6-4.

60. Larkin verified the incentive costs in the exhibit above to the Company's general ledger detail as summarized in the table below.[7] No exceptions were noted.

Description	Account	2011
Customer Assistance Expense	9080000	$ 96,284
Customer Assistance Expense - DSM	9080009	$ 40,290,916
Total Incentive Costs		$ 40,387,199

61. The table below provides a breakout of the 2011 EM&V costs by Project ID:[8]

Description		*2011*
OHDSM008A	DSM Meas,Eval and Verification	$ 3,136,532
OHDSM008B	Evaluation	$ 11,888
OHDSM008C	Evaluation - PUCO	$ 178,513
OHDSM009P	Pilot Screening	$ 92,774
Total 2011 EM&V Costs		$ 3,419,707

Larkin verified the 2011 EM&V costs in the exhibit above to the general ledger and to the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

62. The majority of the EM&V costs in 2011 (i.e., $3,136,532) were incurred pursuant to EM&V procedures conducted by [redacted] As discussed below, as part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected ten [redacted] invoices as part of its sample for 2011. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted] to the general ledger. No exceptions were noted.

63. Per the response to LA-EE PDR-3-8, the 2011 EE/PDR program costs included administrative costs totaling $3,031,116 whereby administrative costs totaling $1,415,691 were directly charged to the EE/PDR programs while $1,615,426 was allocated to the EE/PDR programs.

64. The response to LA-EE PDR-3-8 provided the following breakout of 2011 administrative costs between EE/PDR programs:[9]

[7] Also see Exhibit 6-5.
[8] Also see Exhibit 6-6.
[9] Also see Exhibit 6-8.

EE/PDR Program	2011
OHDSM0001 - DSM NonAssign Pgm Adm&Corp Spt	$ 1,615,426
OHDSM004A - R-Efficient Products	$ 74,919
OHDSM004B - R-Home Retrofit	$ 109,897
OHDSM004C - R-New Construction	$ 64,545
OHDSM004D - R-Appliance Recycling	$ 64,617
OHDSM004E - R-Low Income	$ 42,511
OHDSM004G - R-Energy Conservation Kit	$ 11,584
OHDSM004H - R-Behavioral	$ 55,508
OHDSM005A - CII-Prescriptive Incentives	$ 180,877
OHDSM005B - CII-Custom	$ 245,153
OHDSM005C - CII-Self Direct	$ 219,758
OHDSM005D - CII-New Construction	$ 61,738
OHDSM005E - CII-Custom Direct Install	$ 78,809
OHDSM007A - DSM Education	$ 170,380
OHDSM009B - Hospital Energy Audit Pilot	$ 13,363
OHDSM009C - E3 Audits	$ 591
OHDSM009D - Community Light Bulbs	$ 104
OHDSM009F - C&I Energy Audits	$ 206
OHDSM009G - Energy Check Toolkit Library	$ 9,246
OHDSM009H - Metropolitan Housing CFL Program	$ 324
OHDSM009I - HP Water Heating Pilot	$ 3,522
OHDSM009J - OH DSM Smart Strips	$ 5,411
OHDSM009K - Commercial Recycling	$ 303
OHDSM009L - Vending/Beverage Machine EMS	$ 767
OHDSM009P - Pilot Screening	$ 1,255
OHDSM009Q - LiUNA Weatherization Project	$ 305
Grand Total	$ 3,031,116

65. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail. No exceptions were noted.

66. AEP Ohio provided an Excel file which reflected EE/PDR related vendor invoices totaling $53.465 million for 2011. From this Excel file, Larkin selected invoices totaling $24.997 million, or approximately 47% of that total, for review. Upon reviewing the 2011 invoices, Larkin noted that some of the invoice amounts in the Company's Excel file did not agree with the copies of invoices provided in the responses to LA-EE PDR-6-1 and LA-EE PDR-7-1. A conference call was conducted on September 8, 2017 between Larkin and AEP Ohio in which the discrepancies between the 2011 vendor invoices and the amounts provided in discovery requests were discussed. The Company explained that the reason some of the 2011 invoice amounts did not agree with the summaries provided in response to discovery was that in many cases, the invoice amounts are allocated to multiple project and that the invoice totals agree with what is posted to the general ledger. Larkin tied the invoices in question back to the general ledger. No exceptions were noted.

67. One of the invoices discussed the Company during the September 8, 2017 conference call was invoice number M15104, dated July 29, 2011. Using the Company's

explanation as a guide, we checked the invoice total amount to the corresponding general ledger.[10]

Years	Periods		Project	PO ID	AP Invoice ID	Vendor Name #	Act $
2011	(08) Aug	OHDSM007B	DSM Corp Com		M15104	[redacted]	41,965.12
2011	(08) Aug	OHDSM007B	DSM Corp Com		M15104		41,965.13
							$ 83,930.25

The total amount in the general ledger of $83,930.25 agreed to the total amount shown on the invoice. We verified the other invoices we had concerns about in a similar manner and those invoice amounts agreed to the general ledger, as well. No exceptions were noted.

68. During the interviews conducted on October 19, 2017, the Company stated that for 2011, the labor costs charged to the EE/PDR programs were incurred by AEPSC employees as the merger between CSP and OPCo had not yet occurred. Subsequent to the merger of CSP and OPCo on December 31, 2011, the Service Company employees associated with the EE/PDR programs were transferred to the Ohio Power distribution company.

69. The labor costs totaling $2.882 million in the table below were charged to the EE/PDR programs during 2011. The response to LA-EE PDR-3-3 stated that these costs include (1) AEP Ohio employee labor costs; (2) affiliate employee costs; (3) employee associated labor fringes; and (4) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. Larkin traced the labor costs to the general ledger detail provided in response to LA-EE PDR-1-5.[11]

Description	Account	2011 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 905
Undistributed Incentive Fringe Benefit Clearing	1840041	$ (12)
Supervision DSM	9070001	$ 1,241,602
Customer Assistance Expense - DSM	9080009	$ 1,329,467
Cust Serv & Info - Supv - Residential	9110001	$ 243,739
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 65,881
Total Company and Affiliate Labor Costs		$ 2,881,581

70. According to the supplemental response to LA-EE PDR-11-1, for 2011, AEPSC employees working on the AEP Ohio EE/PDR programs charged a total of 26,740 labor hours to the EE/PDR programs out of their total labor hours of 32,404, i.e., 82.52% of their 2011 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.151 million (which is embedded in the table in the previous finding) of $1.397 million of their total labor costs. The source of the data for labor hours are from each respective employee's timesheets.

[10] Also, see Exhibit 6-11.
[11] Also, see Exhibit 6-12.

71. Employee expenses totaling $85,611 were charged to EE/PDR programs during 2011. In order to test the employee expenses that were charged to the EE/PDR programs in 2011, Larkin initially selected ten transactions from the general ledger detail that relate to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense report, invoices and any other documentation which supports the amounts shown for each selected transaction. The ten transactions Larkin selected totaled $14,057.

72. With regard to employee expenses, for 2011, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2011 general ledger detail; (2) copies of employee expense reports, invoices and receipts; (3) a narrative summary of all of the expenses reflected on the employee expense reports (including those not specifically selected for review, but which were itemized on the same expense reports); and (4) an Excel worksheet that the Company provided to assist in tying out the transaction line amounts selected with the expense account and/or invoice. This worksheet, which imported data from the general ledger, was provided only for 2011 since this was prior to the merger of CSP and OPCo. As such, many of the transactions in 2011 were originally booked as AEPSC expenses and then subsequently billed to CSP and OPCo. For these transactions, it was necessary to review both companies' transactions to the see the total expense.

73. Larkin reviewed the referenced expense detail for each of the ten transactions that were initially selected for review and verified that the amounts that were recorded to the general ledger. No exceptions were noted. However, upon reviewing the documentation, Larkin identified some concerns with regard to certain employee expenses being charged to the EE/PDR programs for which Larkin requested additional information. These areas of concern included (1) many instances where AEP Ohio employees attended conferences or other events in states other than Ohio; (2) instances where the Company purchased gift cards from [redacted] and charged the costs to the EE/PDR programs; and (3) instances where AEP Ohio employees charged the cost of annual dues to memberships in various organizations to the EE/PDR programs.

74. For each of these areas of costs charged to the EE/PDR programs in 2011, Larkin requested that the Company provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs. In addition, although not specifically identified in the employee expense detail selected for review, Larkin asked AEP Ohio whether the 2011 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2011, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

75. As it relates to AEP Ohio's basis for including the costs of out of state travel in the EE/PDR programs, in response to LA-EE PDR-22-1, the Company stated that its EE/PDR team members attend the conferences of various organizations to:

    - Improve the cost effectiveness of our programs to lower the overall cost of program delivery. AEP Ohio's programs have historically been among the lowest cost in the country and have also historically underspent the overall approved program spend by significant levels. Attendance at these conferences has contributed to keeping costs lower than they otherwise could have been.
    - The out of state conferences are either regional or national conferences and best practices are most efficiently obtained by attending the conferences where they are located. Energy efficiency programs are offered throughout the country and the efficiency of learnings is concentrated at these events.
    - The cost of obtaining the level of knowledge, contacts and ideas from attending these conferences would be higher if obtained through consulting fees and other paid expertise.
    - Network with other utilities and organizations to keep abreast of the latest in energy efficiency research, development, and programs.
    - Share successes and failures with other individuals involved in running energy efficiency programs with the goal of improving the effectiveness of our EE/PDR programs.
    - Continually look for new or improved EE/PDR programs to consider for our AEP Ohio customers.

    The foregoing reasons for AEP Ohio including out of state travel costs in its EE/PDR programs also applied to the period 2012 through 2016.

76. The 2011 out of state travel totaled (1) $8,289 for airfare; (2) $18,908 for lodging; (3) $1,765 for transportation; and (4) $1,928 for meals for an overall total of $30,890 Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2011 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

77. With regard to [redacted] and other gift cards purchased by AEP Ohio and charged to the EE/PDR program costs, in response to LA-EE PDR-22-2, the Company stated that the gift cards were purchased as incentives for AEP Ohio's customers, solution providers and conference attendees and that they are awarded based on drawings. In addition, the Company stated that gift cards are used to attract individuals to booths to hear about AEP Ohio's energy efficiency programs and that they provide an incentive for people to attend educational seminars and solution provider kickoff meetings in order to learn about the EE/PDR programs and help in marketing the programs. With regard to the cost of gift cards included in the 2011 EE/PDR program costs, Attachment 1 from the response to LA-EE PDR-22-1 indicated costs totaling $500 for gift cards were charged to the EE/PDR programs in 2011. In Larkin's view, the costs associated with AEP

Ohio purchasing and giving away [redacted] and other gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs (see recommendation).

78. With regard to its basis for charging the costs of annual membership dues to the EE/PDR programs, in response to LA-EE PDR-22-3, the Company stated:

> AEP encourages the continued growth and development of all of its employees. These memberships allow our EEPDR team members to be more valuable to the EEPDR department. The growth and development achieved through the networking with other professionals in these organizations as well as participation in the organizations' meetings/training sessions is very valuable and assists our team members in making their programs more efficient and effective.

The foregoing reasons for AEP Ohio including the costs associated with annual membership dues in its EE/PDR programs also applied to the period 2012 through 2016.

79. The Company included costs totaling $1,637 in its 2011 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and related to energy efficiency or to the professional development of the employees working on the EE/PDR programs.

80. With regard to the whether the EE/PDR programs included costs for items such as sporting and/or theater events, sky boxes, concerts, festivals and fairs, in response to LA-EE PDR-22-4, the Company, referring to Attachment 1 from the response to LA-EE PDR-22-1, stated:

> These expenses for AEP Ohio's EEPDR team, whose costs are incremental to AEP Ohio base rates, are reasonable and not excessive. These activities are important to demonstrate appreciation for the team's efforts and celebrate the team's successes. These events also improve the effectiveness of the team by increasing the engagement of the team members.

The foregoing reasons for AEP Ohio including the costs associated with these types of costs in its EE/PDR programs also applied to the period 2012 through 2016.

81. For 2011, AEP Ohio included employee costs associated with two events. Specifically, Attachment 1 to the response to LA-EE PDR-22-1 listed an athletic sporting event with costs totaling $836 and an entertainment event with costs totaling $384 for a total of $1,220. The Company provided the following rationale for including the costs of both of these events in the 2011 EE/PDR program costs:

> This expense was for a team building event after an all day staff meeting. Our periodic all day staff meetings are held to: provide an update on the year-to-date status and accomplishments achieved under each EEPDR program; provide a year-to-date update on the status of our total EEPDR portfolio - energy savings, demand savings, and a comparison of actual

costs incurred versus our department budget; provide an update on the status of collecting customer / savings information from implementers; provide on the status of any contracts / amendments; provide an update on the status of any regulatory filings or audits in progress.

82. In Larkin's view, the costs for sporting and entertainment events are not needed for energy efficiency and should not be included in costs charged to the EE/PDR programs (see recommendations).

83. Larkin verified the 2011 EE/PDR revenues of $100.52 million to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-4. In addition, Larkin reviewed revenue screenshots provided in AEP Ohio's response to LA-EE PDR-8-6 which broke out monthly revenues separately for CSP and OPCo, and which also broke out the EE/PDR Rider revenues by the Residential, Commercial and Industrial and GS-4 rate classes. Larkin verified the revenue reflected in the general ledger detail to the revenue screenshots and to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR (see next finding).

84. As noted in the previous finding, the Company's general ledger detail reflected 2011 EE/PDR Rider revenue totaling $100.52 million. However, Schedule 1a from the Company's May 15, 2017 filing in Case No. 17-1266-EL-RDR reflected EE/PDR Rider revenue for combined 2010 and 2011 of $159.26 million. Through a reconciliation that was provided in a confidential attachment to the response to LA-EE PDR-12-18, Larkin verified that the 2011 revenue of $100.52 million was embedded in the $159.26 million of combined 2010-2011 Rider revenue and that the remaining revenue totaling $58.74 million pertained to 2010. No exceptions were noted.

85. In response to LA-EE PDR-14-16, the Company stated that the general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 were provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided tables which reconciled the 2011 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded. No exceptions were noted.

86. For 2011, from the "Merged" tab from the supplemental attachment to LA-EE PDR-18-4, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the table below:[12]

Description	2011	
Residential Rate Class	$	8,728,347
Commercial Rate Class	$	3,494,587
Industrial Rate Class	$	1,410,994
Grand Total	$	13,633,929

[12] Also see Exhibit 6-20.

Larkin verified the total amount in the table above to the ledger data provided in the reconciliation from the confidential response to LA-EE PDR-12-18. No exceptions were noted.

87. The amount of 2011 shared savings reflected in the Company's EE/PDR filing dated May 15, 2012 in Case No. 12-1557-EL-RDR was $14,017,312, or a difference of $383,383. The reconciliation provided in the confidential response to LA-EE PDR-12-18 included footnote "f", which in part addressed this difference and stated:

> The 2009-2012 differences for Shared Savings and Lost Distribution Revenues (SS and Lost D Rev) are primarily due to Reg. Acct. timing differences due to using a 2 month lag for SS and Lost D Rev Estimate and Actual Revenue cycles versus the filings using Actual revenues. The two month lag ended 12-31-2012.

Larkin requested that AEP Ohio clarify how the difference noted in the footnote above was resolved and in its supplemental response to LA-EE PDR-12-18, the Company stated:

> Confidential Attachment LA-EE PDR-12-18 included a list of differences between the ledger and the filing. In section f of that attachment, the Company explained that for the period 2009 through December 2012, there was a timing difference (2 month lag) between the ledger and the actual balances that were incurred for the EE/PDR program. When the filing for the EE/PDR rider was made, the Company was using the actuals for each month, recognizing that the ledger balance would be off by 2 months...The 2 month lag on the ledger originated in order to allow time to obtain an accurate lost D revenue amount each month. However, on 12/31/2012 the Company eliminated the two month lag because the Commission had previously ruled that lost D revenue was no longer recoverable after 2010.

88. For 2011, the level of incentive compensation and stock-based compensation included in the EE/PDR program costs included the following amounts: (1) $28,143 for cost center 122 - Labor Fringes (Incentive Accrual); (2) $240,299 for cost center 141 (Incentive Accrual Dept Level); (3) $210,210 for cost center 145 (Stock-based Compensation); and (4) $35,118 for cost center 154 (Restricted Stock Incentives) for an overall total of $513,770. Larkin traced these amounts to the general ledger. Each of the amounts shown above, including the amounts associated with cost component 122, include elements related to AEP's stock price, dividends, and/or financial goals.

89. For 2011, Larkin identified the following amounts of disallowable incentive compensation and stock-based compensation cost that should be removed from EE/PDR costs (see recommendations):

Line No.	Description	Cost Center	Total	Reference
1	Incentive Accrual Department Level	141	$ 240,299	
2	Labor Fringes (Incentive Accrual)	122	$ 28,143	
3	Total Incentive Accrual and Related Labor Fringes		$ 268,442	L1 + L2
4	Disallowance Percentage		0.4%	
5	Adjustment to Incentive Accrual Department Level		$ (1,037)	L3 x L4
6	Stock-Based Compensation	145	$ (210,210)	
7	Restricted Stock Incentives	154	$ (35,118)	
8	Overall Adjustment to Incentive and Stock-Based Compensation		$ (246,365)	L5 + L6 + L7

90. Supplemental Executive Retirement Plan ("SERP") expense totaling $16,340 was allocated to the EE/PDR programs in 2011. The Company's response to LA-EE PDR-9-1 stated that no SERP expense was allocated to the EE/PDR programs during the period 2012 through 2016 (see recommendations).

2012

91. For 2012, AEP Ohio reported EE/PDR costs of $64.12 million and EE/PDR revenues of $97.68 million.

92. Larkin compared the 2012 EE/PDR program costs of $64.12 million listed in the table below to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-5.[13]

[13] Also, see Exhibit 7-1.

Description	2012 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 10,808,536
Appliance Recycling	$ 2,841,627
Home Retrofit + In-Home	$ 3,374,159
Low Income	$ 7,469,722
Residential New Construction	$ 2,174,609
Behavior Change	$ 1,244,977
e3smart	$ 914,636
BUSINESS	
Prescriptive	$ 17,174,822
Custom	$ 3,055,156
Self Direct	$ 2,887,520
C&I New Construction	$ 2,419,387
C&I Demand Response	$ 5,100
Express	$ 2,170,658
Retro-Commissioning	$ 200,529
Continuous Improvement	$ 234,819
Energy Efficiency Auction	
Data Center	$ 8,298
MULTI-SECTOR	
Energy Education and Training	$ 270,544
Targeted Advertising	$ 6,566,879
Research and Development	$ 293,596
Total Program Costs	$ **64,115,574**

Larkin verified that the 2012 EE/PDR program costs listed above were recorded in the general ledger and tied to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.

93. The response to LA-EE PDR-1-8 provided the following breakout of 2012 incentive costs by EE/PDR program:[14]

[14] Also see Exhibit 7-4.

Description	2012
Consumer	
Efficient Products	$ 8,046,064
Appliance Recycling	$ 2,018,746
Home Retrofit + In-Home	$ 1,811,492
Low Income	$ 5,748,845
Residential New Construction	$ 1,395,601
Behavior Change	
e3smart	$ 571,735
Business	
Prescriptive	$ 11,914,354
Custom	$ 1,650,826
Self Direct	$ 1,657,797
C&I New Construction	$ 1,699,646
C&I Demand Response	
Express	$ 1,412,605
Retro-Commissioning	
Continuous Improvement	
Energy Efficiency Auction	
Data Center	
Multi-Sector	
Energy Education and Training	
Targeted Advertising	
Research and Development	$ 49,735
Total Incentive Costs	$ 37,977,446

94. Larkin verified the incentive costs in the table above to the Company's general ledger detail as summarized in the table below.[15] No exceptions were noted.

Description	Account	2012
Customer Assistance Expense	9080000	$ (463,052)
Customer Assistance Expense - DSM	9080009	$ 38,436,498
Supervision - Commercial & Industrial Sales Activities	9110002	$ 4,000
Total Incentive Costs		$ 37,977,446

95. The table below provides a breakout of the 2012 EM&V costs by Project ID:[16]

Description		2012
OHDSM008A	DSM Meas,Eval and Verification	$ 2,395,481
OHDSM008Z	Evaluation General	$ 121,443
OHDSM009P	Pilot Screening	$ 18,111
Total 2012 EM&V Costs		$ 2,535,036

[15] Also see Exhibit 7-5.
[16] Also see Exhibit 7-6.

Larkin verified the 2012 EM&V costs in the table above to the general ledger and to the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

96. Similar to 2011, the majority of the EM&V costs in 2012 (i.e., $2,395,481) were incurred pursuant to EM&V procedures conducted by [redacted] As discussed below, as part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected [redacted] invoices as part of its sample for 2012. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted] to the general ledger. No exceptions were noted.

97. Per the response to LA-EE PDR-3-8, the 2012 EE/PDR program costs included administrative costs totaling $2,665,027 whereby administrative costs totaling $1,290,662 were directly charged to the EE/PDR programs while $1,374,265 was allocated to the EE/PDR programs.

98. The response to LA-EE PDR-3-8 provided the following breakout of 2012 administrative costs between EE/PDR programs:[17]

[17] Also, see Exhibit 7-8.

EE/PDR Program		2012
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 1,192,878
OHDSM004A	R-Efficient Products	$ 46,191
OHDSM004B	R-Home Retrofit	$ 82,493
OHDSM004C	R-New Construction	$ 56,002
OHDSM004D	R-Appliance Recycling	$ 44,659
OHDSM004E	R-Low Income	$ 57,298
OHDSM004G	R-Energy Conservation Kit	$ 5,258
OHDSM004H	R-Behavioral	$ 59,040
OHDSM004Z	Residential General	$ 3,387
OHDSM005A	CII-Prescriptive Incentives	$ 114,268
OHDSM005B	CII-Custom	$ 204,442
OHDSM005C	CII-Self Direct	$ 64,928
OHDSM005D	CII-New Construction	$ 71,047
OHDSM005E	CII-Custom Direct Install	$ 77,366
OHDSM005F	CII-Demand Response Pgm	$ 4,613
OHDSM005G	CII-Retro-Commissioning	$ 35,670
OHDSM005H	CII-Continuous Improvement	$ 21,196
OHDSM005K	CII - Data Center	$ 7,792
OHDSM005Z	CII General	$ 3,099
OHDSM007A	DSM Education	$ 122,566
OHDSM007B	DSM Corp Com	$ 7,566
OHDSM009B	Hospital Energy Audit Pilot	$ 11,422
OHDSM009C	E3 Audits	$ 3,800
OHDSM009D	Community Light Bulbs	$ 5,443
OHDSM009E	Ohio Manufacturing Audits	$ 14,912
OHDSM009F	C&I Energy Audits	$ 15,564
OHDSM009G	Energy Check Toolkit Library	$ 191
OHDSM009J	OH DSM Smart Strips	$ 2,363
OHDSM009N	Codes and Standards	$ 2,640
OHDSM009P	Pilot Screening	$ 151,933
OHDSM010Z	R&D General	$ 175,000
Grand Total		$ 2,665,027

99. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail. No exceptions were noted.

100. AEP Ohio provided an Excel file which reflected EE/PDR related vendor invoices totaling $60.288 million for 2012. From the Excel, Larkin selected invoices totaling $36.97 million, or approximately 61% of that total, for review. Upon reviewing the 2012 invoices, Larkin noted that some of the amounts on the Company's Excel file did not agree with the copies of invoices provided in the responses to LA-EE PDR-6-2 and LA-EE PDR-7-2. A conference call was conducted on September 8, 2017 between Larkin and AEP Ohio in which the discrepancies between the 2012 vendor invoices and the amounts provided in discovery requests were discussed. The Company explained that the reason some of the 2012 invoice amounts did not agree with the summaries provided in response to discovery was that in many cases, the invoice amounts are allocated to multiple projects and that the invoice totals agree with what is

posted to the general ledger. Larkin tied the invoices in question back to the general ledger. No exceptions were noted.

101. One of the invoices discussed the Company during the September 8, 2017 conference call was invoice number 18795, dated January 31, 2012. Using the Company's explanation as a guide, we checked the total invoice amount to the corresponding general ledger. Below shows the general ledger entries for this invoice:[18]

Years	Periods		Project	PO ID	AP Invoice ID	Vendor Name #	Act $
2012	(03) Mar	OHDSM004C	R-New Construction	3368290002	18795	[redacted]	8,913 38
2012	(03) Mar	OHDSM004C	R-New Construction	3368290002	18795	[redacted]	36,835 50
							$45,748 88

The total amount in the general ledger of $45,748.88 agreed to the total amount shown on the invoice. We verified the other invoices we had concerns about in a similar manner and those invoice amounts agreed to the general ledger as well. No exceptions were noted.

102. The labor costs totaling $2.214 million in the table below were charged to the EE/PDR programs during 2012.[19] The response to LA-EE PDR-3-3 stated that these costs include (1) AEP Ohio employee labor costs; (2) employee associated labor fringes; and (3) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. Larkin traced the labor costs to the general ledger detail provided in response to LA-EE PDR-1-5.

Description	*Account*	**2012** *Labor Costs*
Undistributed Labor Fringe Benefit Clearing	1840040	$ 697,267
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 16,145
Supervision DSM	9070001	$ 629,398
Customer Assistance Expense - DSM	9080009	$ 822
Cust Serv & Info - Supv - Residential	9110001	$ 302,059
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 568,718
Total Company and Affiliate Labor Costs		$ 2,214,408

103. In its response to LA-EE PDR-16-2, the Company stated that the 2012 labor costs charged to the EE/PDR programs included $925.02 plus applicable overheads for employees who were not members of Department 12949 (EE and Consumer Programs). AEP Ohio stated that it will record a credit to address this issue in 2018 (see recommendations).

104. According to the supplemental response to LA-EE PDR-11-1, for 2012, Ohio Power employees working on the AEP Ohio EE/PDR programs charged a total of 25,740 labor hours to the EE/PDR programs out of their total labor hours of 29,957, i.e. 85.92% of their 2012 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.175 million (which is embedded in the table in

[18] Also, see Exhibit 7-11.
[19] Also, see Exhibit 7-12.

the previous finding) of $1.364 million of their total labor costs. The individual Company employees (identified by Employee ID) charged the majority of their time in 2012 to the EE/PDR programs. The source of the data for labor hours are from each respective employee's timesheets.

105. Employee expenses totaling $117,056 were charged to EE/PDR programs during 2012. In order to test the employee expenses that were charged to the EE/PDR programs in 2012, Larkin initially selected ten transactions from the general ledger detail that relates to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense reports, invoices and any other documentation which supports the amounts shown for each selected transaction. The ten transactions Larkin selected totaled $12,553.

106. With regard to employee expenses, for 2012, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2012 general ledger detail; (2) copies of employee expense reports, invoices and receipts; and (3) a narrative summary of all of the expenses reflected on the employee expense reports (including those not specifically selected for review, but which were itemized on the same expense reports).

107. Larkin reviewed the referenced expense detail for each of the ten transactions that were initially selected for review and verified the amounts that were recorded to the general ledger. No exceptions were noted. However, upon reviewing the documentation, Larkin identified some concerns with regard to certain employee expenses being charged to the EE/PDR programs for which Larkin requested additional information. These areas of concern included (1) many instances where AEP Ohio employees attended conferences or other events in states other than Ohio; (2) instances where the Company purchased gift cards from [redacted] and charged the costs to the EE/PDR programs; and (3) instances where AEP Ohio employees charged the cost of annual dues to memberships in various organizations to the EE/PDR programs.

108. For each of these areas of costs charged to the EE/PDR programs in 2012, Larkin requested that the Company provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs. In addition, although not specifically identified in the employee expense detail selected for review, Larkin asked AEP Ohio whether the 2012 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2012, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

109. The 2012 out of state travel totaled $9,786 for airfare; (2) $18,298 for lodging; (3) $1,947 for transportation; and (4) $1,868 for meals for an overall total of $31,899

Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2012 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

110. As it relates to the cost of [redacted] and other gift cards included in 2012 EE/PDR program costs, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to the cost of gift cards charged to the EE/PDR programs in 2012, the response to LA-EE PDR-22-1 indicated costs totaling $156 were charged to the EE/PDR programs in 2012, and which relate to two separate transactions. In Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs (see recommendations).

111. The Company included costs totaling $6,271 in its 2012 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and related to energy efficiency or to the professional development of the employees working on the EE/PDR programs.

112. For 2012, AEP Ohio included entertainment type costs for one event. Specifically, Attachment 1 to the response to LA-EE PDR-22-1 listed an entertainment event with costs totaling $78. The Company provided the following rationale for including the cost of this event, which relates to an ACEEE conference, in the 2012 EE/PDR program costs:

> Renting of bicycles for EEPDR team members as a team building experience at the end of a full day of conference activities.

In Larkin's view, this cost is not needed for energy efficiency and should not be included in costs charged to the EE/PDR programs (see recommendations).

113. Larkin verified the 2012 EE/PDR revenues of $97.68 million to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-4. In addition, Larkin reviewed revenue screenshots provided in AEP Ohio's response to LA-EE PDR-8-6 which broke out monthly revenues separately for CSP and OPCo, and which also broke out the EE/PDR Rider revenues by the Residential, Commercial and Industrial and GS-4 rate classes. Larkin verified the 2012 revenue reflected in the general ledger detail to the revenue screenshots and to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.

114. As previously noted, the general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 were provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided tables which reconciled the 2012 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded. No exceptions were noted.

115. For 2012, from the "Merged" tab from the supplemental attachment to LA-EE PDR-18-4, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the table below:[20]

Description	2012	
Residential Rate Class	$	13,856,044
Commercial Rate Class	$	11,236,812
Industrial Rate Class	$	7,478,578
Total Shared Savings	$	32,571,434

Larkin verified the total amount in the table above to the ledger data provided in the reconciliation from the confidential response to LA-EE PDR-12-18. No exceptions were noted.

116. The amount of 2012 shared savings reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR was $31,225,995 or a difference of $1,345,439. The reconciliation provided in the confidential response to LA-EE PDR-12-18 included footnote "f", which in part addressed this difference and stated:

> The 2009-2012 differences for Shared Savings and Lost Distribution Revenues (SS and Lost D Rev) are primarily due to Reg. Acct. timing differences due to using a 2 month lag for SS and Lost D Rev Estimate and Actual Revenue cycles versus the filings using Actual revenues. The two month lag ended 12-31-2012.

Larkin requested that AEP Ohio clarify how the difference noted in the footnote above was resolved and in its supplemental response to LA-EE PDR-12-18, the Company stated:

> Confidential Attachment LA-EE PDR-12-18 included a list of differences between the ledger and the filing. In section f of that attachment, the Company explained that for the period 2009 through December 2012, there was a timing difference (2 month lag) between the ledger and the actual balances that were incurred for the EE/PDR program. When the filing for the EE/PDR rider was made, the Company was using the actuals for each month, recognizing that the ledger balance would be off by 2 months...The 2 month lag on the ledger originated in order to allow time to obtain an accurate lost D revenue amount each month. However, on 12/31/2012 the Company eliminated the two month lag because the Commission had previously ruled that lost D revenue was no longer recoverable after 2010.

117. Schedule 4 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR reflects actual IRP-D credits for 2012 totaling $6,865,723. The

[20] Also see Exhibit 7-21.

Company provided support for this amount in its confidential response to LA-EE PDR-18-5, which has been replicated in the table below:[21]

Account Number	Sep	Oct	Nov	Dec	Total
[redacted]	[redacted]				[redacted]
Total IRP KW	250,415.8	253,410.1	198,544.0	133,893.6	836,263.50
PUCO Ordered Credit	$ 8.21	$ 8.21	$ 8.21	$ 8.21	
Monthly Charge to EE/PDR rider	$ 2,055,914	$ 2,080,497	$ 1,630,046	$ 1,099,266	$ 6,865,723
Cumulative 2012 Charge to EE/PDR rider	$ 2,055,914	$ 4,136,411	$ 5,766,457	$ 6,865,723	$ 6,865,723

As shown in the exhibit, the 2012 IRP-D credit was calculated using the $8.21/kW-month rate that was authorized by the Commission in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO.

118. For 2012, the level of incentive compensation and stock-based compensation included in the EE/PDR program costs included the following amounts: (1) $16,145 for cost center 122 - Labor Fringes (Incentive Accrual); (2) $136,819 for cost center 141 (Incentive Accrual Dept Level); (3) $3,316 for cost center 145 (Stock-based Compensation); and (4) $2,234 for cost center 154 (Restricted Stock Incentives) for an overall total of $158,514. Larkin traced these amounts to the general ledger. Each of these amounts, including the amounts associated with cost component 122, include elements related to AEP's stock price, dividends, and/or financial goals.

119. For 2012, Larkin identified the following amounts of disallowable incentive compensation and stock-based compensation cost that should be removed from EE/PDR costs (see recommendations):

Line No.	Description	Cost Center	Total	Reference
1	Incentive Accrual Department Level	141	$ 136,819	
2	Labor Fringes (Incentive Accrual)	122	$ 16,145	
3	Total Incentive Accrual and Related Labor Fringes		$ 152,964	L1 + L2
4	Disallowance Percentage		17.3%	
5	Adjustment to Incentive Accrual Department Level		$ (26,514)	L3 x L4
6	Stock-Based Compensation	145	$ (3,316)	
7	Restricted Stock Incentives	154	$ (2,234)	
8	Overall Adjustment to Incentive and Stock-Based Compensation		$ (32,064)	L5 + L6 + L7

[21] Also see Exhibit 7-22.

2013

120. For 2013, AEP Ohio reported EE/PDR costs of $78.28 million and EE/PDR revenues of $97.49 million.

121. Larkin compared the 2013 EE/PDR program costs of $78.28 million listed in the table below to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-5.[22]

Description	2013 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 12,078,924
Appliance Recycling	$ 3,615,443
Home Retrofit + In-Home	$ 5,051,382
Low Income	$ 12,739,555
Residential New Construction	$ 2,748,346
Behavior Change	$ 2,393,710
e3smart	$ 697,447
BUSINESS	
Prescriptive	$ 14,532,913
Custom	$ 4,734,052
Self Direct	$ 2,007,237
C&I New Construction	$ 4,401,470
C&I Demand Response	$ 336
Express	$ 3,136,790
Retro-Commissioning	$ 813,453
Continuous Improvement	$ 1,541,726
Energy Efficiency Auction	$ 386,230
Data Center	$ 1,832,821
MULTI-SECTOR	
Energy Education and Training	$ 296,159
Targeted Advertising	$ 4,415,905
Research and Development	$ 852,109
Total Program Costs	$ **78,276,008**

Larkin verified that the 2013 EE/PDR program costs listed above were recorded in the general ledger and tied to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.

122. The response to LA-EE PDR-1-8 provided the following breakout of 2013 incentive costs by EE/PDR program:[23]

[22] Also see Exhibit 8-1.
[23] Also see Exhibit 8-4.

Description	2013
Consumer	
Efficient Products	$ 8,911,736
Appliance Recycling	$ 2,308,964
Home Retrofit + In-Home	$ 2,218,879
Low Income	$ 9,671,593
Residential New Construction	$ 1,561,650
Behavior Change	
e3smart	$ 366,711
Business	
Prescriptive	$ 9,045,757
Custom	$ 2,817,886
Self Direct	$ 1,220,192
C&I New Construction	$ 2,981,225
C&I Demand Response	
Express	$ 2,791,425
Retro-Commissioning	$ 187,838
Continuous Improvement	
Energy Efficiency Auction	
Data Center	$ 864,230
Multi-Sector	
Energy Education and Training	
Targeted Advertising	
Research and Development	$ 297,674
Total Incentive Costs	$ 45,245,760

123. Larkin verified the incentive costs in the exhibit above to the Company's general ledger detail as summarized in the table below.[24] No exceptions were noted.

Description	Account	2013
Customer Assistance Expense - DSM	9080009	$ 45,245,760
Total Incentive Costs		$ 45,245,760

124. The table below provides a breakout of the 2013 EM&V costs by Project ID:[25]

Description		2013
OHDSM008A	DSM Meas,Eval and Verification	$ 3,724,199
OHDSM008C	Evaluation - PUCO	$ 182,061
OHDSM008Z	Evaluation General	$ 80,347
Total EM&V Costs		$ 3,986,607

Larkin verified the 2013 EM&V costs in the table above to the general ledger and the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

[24] Also see Exhibit 8-5.
[25] Also see Exhibit 8-6.

125. Similar to prior years, the majority of the EM&V costs in 2013 (i.e., $3,724,199) were incurred pursuant to EM&V procedures conducted by [redacted] As discussed below, as part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected four [redacted] invoices as part of its sample for 2013. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted] to the general ledger. No exceptions were noted.

126. Per the response to LA-EE PDR-3-8, the 2013 EE/PDR program costs included administrative costs totaling $3,549,760 whereby administrative costs totaling $1,273,220 were directly charged to the EE/PDR programs while $2,276,540 was allocated to the EE/PDR programs.

127. The response to LA-EE PDR-3-8 provided the following breakout of 2013 administrative costs between EE/PDR programs:[26]

[26] Also see Exhibit 8-8.

EE/PDR Program		2013
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 1,627,052
OHDSM004A	R-Efficient Products	$ 50,173
OHDSM004B	R-Home Retrofit	$ 75,430
OHDSM004C	R-New Construction	$ 51,767
OHDSM004D	R-Appliance Recycling	$ 49,722
OHDSM004E	R-Low Income	$ 66,101
OHDSM004G	R-Energy Conservation Kit	$ 1,810
OHDSM004H	R-Behavioral	$ 49,216
OHDSM004Z	Residential General	$ 385,125
OHDSM005A	CII-Prescriptive Incentives	$ 112,163
OHDSM005B	CII-Custom	$ 185,033
OHDSM005C	CII-Self Direct	$ 66,168
OHDSM005D	CII-New Construction	$ 76,402
OHDSM005E	CII-Custom Direct Install	$ 72,129
OHDSM005F	CII-Demand Response Pgm	$ 311
OHDSM005G	Retro-Commissioning	$ 67,437
OHDSM005H	CII-Continuous Improvement	$ 53,508
OHDSM005J	CII-Energy Efficiency Auction	$ 26,406
OHDSM005K	CII - Data Center	$ 43,563
OHDSM005Z	CII General	$ 25,958
OHDSM007A	DSM Education	$ 160,946
OHDSM009A	EPRI LED Pilot Program	$ 38
OHDSM009B	Hospital Energy Audit Pilot	$ 6,736
OHDSM009C	E3 Audits	$ 401
OHDSM009E	Ohio Manufacturing Audits	$ 1,692
OHDSM009F	C&I Energy Audits	$ 8,303
OHDSM009N	Codes and Standards	$ 23,213
OHDSM009P	Pilot Screening	$ 21,201
OHDSM009X	Government/Community Pilots	$ 3,350
OHDSM010Z	R&D General	$ 238,406
Grand Total		$ 3,549,760

128. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail. No exceptions were noted.

129. AEP Ohio provided an Excel file which reflected EE/PDR related vendor invoices totaling $67.468 million. From this Excel file, Larkin selected invoices totaling $38.6 million, or approximately 57% of that total, for review. Upon reviewing the 2013 invoices, Larkin noted that some of the amounts on the Company's Excel file did not agree with the copies of invoices provided in the responses to LA-EE PDR-6-3 and LA-EE PDR-7-3. A conference call was conducted on September 8, 2017 between Larkin and AEP Ohio in which the discrepancies between the 2013 vendor invoices and the amounts provided in discovery requests were discussed. The Company explained that the reason some of the 2013 invoice amounts did not agree with the summaries provided in response to discovery was that in many cases, amounts are allocated to multiple projects, but that the invoice totals agree with what is posted to the general ledger. Larkin tied the invoices in question back to the general ledger. No exceptions were noted.

130. One of the invoices discussed the Company during the September 8, 2017 conference call was invoice number 45094, dated November 4, 2013. Using the Company's explanation as a guide, we verified the invoice total amount to the corresponding general ledger. Below shows the general ledger entries for this invoice:[27]

Years	Periods		Project	PO ID	AP Invoice ID	Vendor Name #	Act $
2013	(11) Nov	OHDSM004D	R-Appliance Recycling	2559295	45094	[redacted]	$ 174,986.20
2013	(11) Nov	OHDSM004D	R-Appliance Recycling	2559295	45094		$ 66,570.00
2013	(11) Nov	OHDSM004D	R-Appliance Recycling	2559295	45094		$ 110,950.00
							$ 352,506.20

The total amount in the general ledger of $352,506.20 agreed to the total amount shown on the invoice. We verified the other invoices we had concerns about in a similar manner and those invoice amounts agreed to the general ledger as well. No exceptions were noted.

131. The labor costs totaling $3.077 million in the table below were charged to the EE/PDR programs during 2013.[28] The response to LA-EE PDR-3-3 stated that these costs include (1) AEP Ohio employee labor costs; (2) employee associated labor fringes; and (3) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. Larkin traced the labor costs to the general ledger detail provided in response to LA-EE PDR-1-5.

Description	Account	2013 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 850,046
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 25,783
Supervision DSM	9070001	$ 1,025,916
Customer Assistance Expense - DSM	9080009	
Cust Serv & Info - Supv - Residential	9110001	$ 510,282
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 665,069
Total Company and Affiliate Labor Costs		$ 3,077,096

132. According to the supplemental response to LA-EE PDR-11-1, for 2013, Ohio Power employees working on the AEP Ohio EE/PDR programs charged a total of 36,452 labor hours to the EE/PDR programs out of their total labor hours of 42,871, i.e., 85.03% of their 2013 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.659 million (which is embedded in the table in the previous finding) of $1.950 million of their total labor costs. The individual Company employees (identified by Employee ID) charged the majority of their time in 2013 to the EE/PDR programs. The source of the data for labor hours are from each respective employee's timesheets.

133. Employee expenses totaling $162,546 were charged to EE/PDR programs during 2013. In order to test the employee expenses that were charged to the EE/PDR programs in 2013, Larkin initially selected ten transactions from the general ledger detail that relate

[27] Also see Exhibit 8-11.
[28] Also see Exhibit 8-12.

to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense reports, invoices and any other documentation which supports the amounts shown for each selected transaction. The ten transactions Larkin selected totaled $14,108.

134. With regard to employee expenses, for 2013, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2013 general ledger detail; (2) copies of employee expense reports, invoices and receipts; and (3) a narrative summary of all of the expenses reflected on the employee expense reports (including those not specifically selected for review, but which were itemized on the same expense reports).

135. Larkin reviewed the referenced 2013 employee expense detail for each of the ten transactions that were initially selected for review and verified that the amounts that were recorded to the general ledger. No exceptions were noted. However, upon reviewing the documentation, Larkin identified some concerns with regard to certain employee expenses being charged to the EE/PDR programs for which Larkin requested additional information. These areas of concern included (1) many instances where AEP Ohio employees attended conferences or other events in states other than Ohio; (2) instances where the Company purchased gift cards [redacted] and charged the costs to the EE/PDR programs; and (3) instances where AEP Ohio employees charged the cost of annual dues to memberships in various organizations to the EE/PDR programs.

136. For each of these areas of costs charged to the EE/PDR programs in 2013, Larkin requested that the Company provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs. In addition, although not specifically identified in the employee expense detail selected for review, Larkin asked AEP Ohio whether the 2013 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2013, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

137. The 2013 out of state travel totaled $14,372 for airfare; (2) $21,255 for lodging; (3) $3,619 for transportation; and (4) $2,815 for meals for an overall total of $42,060. Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2013 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

138. With regard to the cost of [redacted] and other gift cards charged to the EE/PDR programs in 2013, the response to LA-EE PDR-22-1 indicated costs totaling $375 were charged

to the EE/PDR programs in 2013, and which relate to two separate transactions. As discussed in Chapter 6, in Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs (see recommendations).

139. The Company included costs totaling $3,916 in its 2013 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and related to energy efficiency or to the professional development of the employees working on the EE/PDR programs. However, Attachment 1 to the response to LA-EE PDR-22-1 included membership dues described as "AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education". Attachment 1 reflected this three-year membership for employees that had similar three-year renewals for the same membership in 2012. In response to Larkin's informal inquiry, the Company explained that Attachment 1 to the response to LA-EE PDR-22-1 contained incorrect descriptions for those employees and that the amounts reflected in Attachment 1 were actually for annual AEE membership dues as opposed to three-year renewals.

140. For 2013, AEP Ohio included sporting event type costs for one event. Specifically, Attachment 1 to the response to LA-EE PDR-22-1 listed an entertainment event with costs totaling $1,782. This cost was related to an OSU basketball game and the Company provided the following rationale for including the cost of this sporting event in the 2013 EE/PDR program costs:

> This expense was for a team building event after an all day staff meeting. This event was attended by EEPDR team members and 3 representatives of our implementation contractors. Our periodic all day staff meetings are held to: provide an update on the year-to-date status and accomplishments achieved under each EEPDR program; provide a year-to-date update on the status of our total EEPDR portfolio - energy savings, demand savings, and a comparison of actual costs incurred versus our department budget; provide an update on the status of collecting customer / savings information from implementers; provide on the status of any contracts / amendments; provide an update on the status of any regulatory filings or audits in progress.

In Larkin's view, this cost is not needed for energy efficiency and should not be included in costs charged to the EE/PDR programs (see recommendations).

141. Larkin verified the 2013 EE/PDR revenues of $97.49 million to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-4. In addition, Larkin reviewed revenue screenshots provided in AEP Ohio's response to LA-EE PDR-8-6 which broke out monthly revenues separately for CSP and OPCo, and which also broke out the EE/PDR Rider revenues by the Residential, Commercial and Industrial and GS-4 rate classes. Larkin verified the 2013 revenue reflected in the general ledger

detail to the revenue screenshots, and to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.

142. The general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 were provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided tables which reconciled the 2013 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded. No exceptions were noted.

143. For 2013, from the "Merged" tab from the supplemental attachment to LA-EE PDR-18-4, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the table below:[29]

Description	2013	
Residential Rate Class	$	18,766,655
Commercial Rate Class	$	7,381,551
Industrial Rate Class	$	5,129,552
Total Shared Savings	$	31,277,759

Larkin verified the total amount in the table above to the ledger data provided in the reconciliation from the confidential response to LA-EE PDR-12-18. No exceptions were noted.

144. The amount of 2013 shared savings reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR was also $31,277,759. No exceptions were noted.

145. Schedule 4 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR reflects actual IRP-D credits for 2013 totaling $18,889,240. The Company provided support for this amount in its confidential response to LA-EE PDR-18-5, which has been replicated in the table below:[30]

Account Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
[redacted]	[redacted]												
Total IRP KW	185,831.8	187,178 6	212,994.6	183,225.0	194,174.0	172,124.0	171,841.0	181,712.0	203,614.0	203,113.0	203,848.0	201,104.0	2,300,760 00
PUCO Ordered Credit	$ 8 21	$ 8.21	$ 8 21	$ 8.21	$ 8.21	$ 8 21	$ 8 21	$ 8.21	$ 8.21	$ 8 21	$ 8.21	$ 8.21	
Monthly Charge to EE/PDR ride	$ 1,525,679	$ 1,536,736	$ 1,748,686	$ 1,504,277	$ 1,594,169	$ 1,413,138	$ 1,410,815	$ 1,491,856	$ 1,671,671	$ 1,667,558	$ 1,673,592	$ 1,651,064	$ 18,889,240
Cumulative 2013 Charge	$ 1,525,679	$ 3,062,415	$ 4,811,101	$ 6,315,378	$ 7,909,547	$ 9,322,685	$ 10,733,499	$ 12,225,355	$ 13,897,026	$ 15,564,584	$ 17,238,176	$ 18,889,240	$ 18,889,240

As shown in the exhibit, the 2013 IRP-D credit was calculated using the $8.21/kW-month rate that was authorized by the Commission in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO.

146. For 2013, the level of incentive compensation and stock-based compensation included in the EE/PDR program costs included the following amounts: (1) $25,783for cost

[29] Also see Exhibit 8-21.
[30] Also see Exhibit 8-22.

center 122 - Labor Fringes (Incentive Accrual); (2) $224,075 for cost center 141 (Incentive Accrual Dept Level); (3) $5,714 for cost center 145 (Stock-based Compensation); and (4) $2,255 for cost center 154 (Restricted Stock Incentives) for an overall total of $257,827. Larkin traced these amounts to the general ledger. Each of these amounts, including the amounts associated with cost component 122, include elements related to AEP's stock price, dividends, and/or financial goals.

147. For 2013, Larkin identified the following amounts of disallowable incentive compensation and stock-based compensation cost that should be removed from EE/PDR costs (see recommendations):

Line No.	Description	Cost Center	Total	Reference
1	Incentive Accrual Department Level	141	$ 224,075	
2	Labor Fringes (Incentive Accrual)	122	$ 25,783	
3	Total Incentive Accrual and Related Labor Fringes		$ 249,858	L1 + L2
4	Disallowance Percentage		16.9%	
5	Adjustment to Incentive Accrual Department Level		$ (42,225)	L3 x L4
6	Stock-Based Compensation	145	$ (5,714)	
7	Restricted Stock Incentives	154	$ (2,255)	
8	Overall Adjustment to Incentive and Stock-Based Compensation		$ (50,194)	L5 + L6 + L7

2014

148. For 2014, AEP Ohio reported EE/PDR costs of $76.58 million and EE/PDR revenues of $114.89 million.

149. Larkin compared the 2014 EE/PDR program costs of $76.58 million listed in the table below to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-5.[31]

[31] Also see Exhibit 9-1.

Description		2014 EE and PDR Program Costs
CONSUMER		
Efficient Products	$	15,175,590
Appliance Recycling	$	3,262,502
Home Retrofit + In-Home	$	5,064,289
Low Income	$	11,709,065
Residential New Construction	$	1,473,375
Behavior Change	$	1,564,115
e3smart	$	968,677
BUSINESS		
Prescriptive	$	13,294,968
Custom	$	5,932,752
Self Direct	$	726,127
C&I New Construction	$	4,075,062
C&I Demand Response		
Express	$	1,955,901
Retro-Commissioning	$	742,119
Continuous Improvement	$	4,348,618
Energy Efficiency Auction	$	653,899
Data Center	$	1,995,630
MULTI-SECTOR		
Energy Education and Training	$	253,051
Targeted Advertising	$	1,368,846
Research and Development	$	2,011,791
Total Program Costs	$	76,576,377

Larkin verified that the 2014 EE/PDR program costs listed above were recorded in the general ledger and tied to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR. No exceptions were noted.

150. The response to LA-EE PDR-1-8 provided the following breakout of 2014 incentive costs between EE/PDR programs:[32]

[32] Also see Exhibit 9-4.

Description	2014
Consumer	
Efficient Products	$ 11,840,031
Appliance Recycling	$ 2,135,963
Home Retrofit + In-Home	$ 2,190,443
Low Income	$ 8,971,800
Residential New Construction	$ 486,740
Behavior Change	
e3smart	$ 650,250
Business	
Prescriptive	$ 9,117,021
Custom	$ 3,307,075
Self Direct	$ 231,359
C&I New Construction	$ 2,626,563
C&I Demand Response	
Express	$ 1,755,650
Retro-Commissioning	$ 353,951
Continuous Improvement	$ 849,768
Energy Efficiency Auction	$ 180,949
Data Center	$ 1,083,131
Multi-Sector	
Energy Education and Training	
Targeted Advertising	
Research and Development	$ 749,153
Total Incentive Costs	$ 46,529,847

151. Larkin verified the incentive costs in the exhibit above to the Company's general ledger detail as summarized in the table below.[33] No exceptions were noted.

Description	Account	2014
Customer Assistance Expense - DSM	9080000	$ 46,529,847
Total Incentive Costs		$ 46,529,847

152. The table below provides a breakout of the 2014 EM&V costs by Project ID:[34]

Description		2014
OHDSM008A	DSM Meas,Eval and Verification	$ 2,448,412
OHDSM008C	Evaluation - PUCO	$ 79,992
OHDSM008Z	Evaluation General	$ 87,626
Total EM&V Costs		$ 2,616,030

Larkin verified the 2014 EM&V costs in the table above to the general ledger and to the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

[33] Also see Exhibit 9-5.
[34] Also see Exhibit 9-6.

153. Similar to prior years, the majority of the EM&V costs in 2014 (i.e., $2,448,412) were incurred pursuant to EM&V procedures conducted by [redacted] As discussed below, as part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected five [redacted] invoices as part of its sample for 2014. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted] to the general ledger. No exceptions were noted.

154. Per the response to LA-EE PDR-3-8, the 2014 EE/PDR program costs included administrative costs totaling $4,406,290 whereby administrative costs totaling $1,193,232 were directly charged to the EE/PDR programs while $3,213,059 was allocated to the EE/PDR programs.

155. The response to LA-EE PDR-3-8 provided the following breakout of 2014 administrative costs between EE/PDR programs:[35]

[35] Also see Exhibit 9-8.

EE/PDR Program		2014
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 2,396,563
OHDSM004A	R-Efficient Products	$ 60,228
OHDSM004B	R-Home Retrofit	$ 61,638
OHDSM004C	R-New Construction	$ 52,956
OHDSM004D	R-Appliance Recycling	$ 59,059
OHDSM004E	R-Low Income	$ 58,271
OHDSM004H	R-Behavioral	$ 56,898
OHDSM004Z	Residential General	$ 373,350
OHDSM005A	CII-Prescriptive Incentives	$ 106,921
OHDSM005B	CII-Custom	$ 153,075
OHDSM005C	CII-Self Direct	$ 39,300
OHDSM005D	CII-New Construction	$ 67,991
OHDSM005E	CII-Custom Direct Install	$ 60,336
OHDSM005G	Retro-Commissioning	$ 83,605
OHDSM005H	CII-Continuous Improvement	$ 69,752
OHDSM005J	CII-Energy Efficiency Auction	$ 6,026
OHDSM005K	CII - Data Center	$ 45,362
OHDSM005Z	CII General	$ 152,978
OHDSM007A	DSM Education	$ 147,999
OHDSM007B	DSM Corp Com	$ 1,025
OHDSM009B	Hospital Energy Audit Pilot	$ 6,007
OHDSM009E	Ohio Manufacturing Audits	$ 337
OHDSM009F	C&I Energy Audits	$ 8,522
OHDSM009M	Business Behavior Change	$ 614
OHDSM009N	Codes and Standards	$ 7,515
OHDSM009U	Agricultural (Commercial)	$ 738
OHDSM009V	Agricultural (Residential)	$ 8
OHDSM009X	Government/Community Pilots	$ 39,051
OHDSM010Z	R&D General	$ 290,168
(blank)		
Grand Total		$ 4,406,290

156. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail. No exceptions were noted.

157. AEP Ohio provided an Excel file which reflected EE/PDR related vendor invoices totaling $70.009 million. From the Excel file, Larkin selected invoices totaling $39.4 million, or approximately 56% of that total, for review. Upon reviewing the 2014 invoices, Larkin noted that some of the amounts on the Company's Excel file did not agree with the copies of invoices provided in the responses to LA-EE PDR-6-4 and LA-EE PDR-7-4. A conference call was conducted on September 8, 2017 between Larkin and AEP Ohio in which the discrepancies between the 2014 vendor invoices and the amounts provided in discovery requests were discussed. The Company explained that the reason some of the 2014 invoice amounts did not agree with the summaries provided in response to discovery was that in many cases, amounts are allocated to multiple projects, but that the invoice totals agree with what is posted to the general ledger. Larkin tied the invoices in question back to the general ledger. No exceptions were noted.

158. One of the invoices discussed with the Company during the September 8, 2017 conference call was invoice number 608, dated July 14, 2014. Using the Company's explanation as a guide, we checked the invoice total amount to the corresponding general ledger. Below shows the general ledger entries for this invoice:[36]

Years	Periods		Project	PO ID	AP Invoice ID	Vendor Name #	Act $
2014	(07) Jul	OHDSM004G	R-Energy Conservation Kit	02578955	608	[redacted]	$ 69,698.21
2014	(07) Jul	OHDSM004G	R-Energy Conservation Kit	02578955	608		$ 25,184.01
2014	(07) Jul	OHDSM004G	R-Energy Conservation Kit	02578955	608		$ 303,530.38
2014	(07) Jul	OHDSM004G	R-Energy Conservation Kit	02578955	608		$ 60,668.40
							$ 459,081.00

The total amount in the general ledger of $459,081.00 agreed to the total amount shown on the invoice. We verified the other invoices we had concerns about in a similar manner and those invoice amounts agreed to the general ledger as well. No exceptions were noted.

159. The labor costs totaling $3.121 million in the table below were charged to the EE/PDR programs during 2014.[37] The response to LA-EE PDR-3-3 stated that these costs include (1) AEP Ohio employee labor costs; (2) employee associated labor fringes; and (3) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. Larkin traced the labor costs to the general ledger detail provided in response to LA-EE PDR-1-5.

Description	Account	2014 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 733,673
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 28,055
Supervision DSM	9070001	$ 1,112,122
Customer Assistance Expense - DSM	9080009	$ 1,805
Cust Serv & Info - Supv - Residential	9110001	$ 540,006
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 705,347
Total Company and Affiliate Labor Costs		$ 3,121,008

160. In its response to LA-EE PDR-16-2, the Company stated that the 2014 labor costs charged to the EE/PDR programs included $1,432.87 plus applicable overheads for employees who were not members of Department 12949 (EE and Consumer Programs). AEP Ohio stated that it will record a credit to address this issue in 2018 (see recommendations).

161. According to the supplemental response to LA-EE PDR-11-1, for 2014, Ohio Power employees working on the AEP Ohio EE/PDR programs charged a total of 38,914 labor hours to the EE/PDR programs out of their total labor hours of 44,782, i.e., 86.90% of their 2014 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.806 million (which is embedded in the table in the previous finding) of $2.086 million of their total labor costs. The individual

[36] Also see Exhibit 9-11.
[37] Also see Exhibit 9-12.

Company employees (identified by Employee ID) charged the majority of their time in 2014 to the EE/PDR programs. The source of the data for labor hours are from each respective employee's timesheets.

162. Employee expenses totaling $169,846 were charged to EE/PDR programs during 2014. In order to test the employee expenses that were charged to the EE/PDR programs in 2014, Larkin initially selected ten transactions from the general ledger detail that relate to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense reports, invoices and any other documentation which supports the amounts shown for each selected transaction. The ten transactions Larkin selected totaled $19,981.

163. With regard to employee expenses, for 2014, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2014 general ledger detail; (2) copies of employee expense reports, invoices and receipts; and (3) a narrative summary of all of the expenses reflected on the employee expense reports (including those not specifically selected for review, but which were itemized on the same expense reports).

164. Larkin reviewed the referenced 2014 employee expense detail for each of the ten transactions that were initially selected for review and verified the amounts that were recorded to the general ledger. No exceptions were noted. However, upon reviewing the documentation, Larkin identified some concerns with regard to certain employee expenses being charged to the EE/PDR programs for which Larkin requested additional information. These areas of concern included (1) many instances where AEP Ohio employees attended conferences or other events in states other than Ohio; (2) instances where the Company purchased gift cards [redacted] and charged the costs to the EE/PDR programs; and (3) instances where AEP Ohio employees charged the cost of annual dues to memberships in various organizations to the EE/PDR programs.

165. For each of these areas of costs charged to the EE/PDR programs in 2014, Larkin requested that the Company provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs. In addition, although not specifically identified in the employee expense detail selected for review, Larkin asked AEP Ohio whether the 2014 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2014, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

166. The 2014 out of state travel totaled $15,887 for airfare; (2) $23,875 for lodging; (3) $4,942 for transportation; and (4) $2,949 for meals for an overall total of $47,653. Larkin, with assistance from Mims, determined that the conferences associated with the

out of state travel in 2014 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

167. With regard to the cost [redacted] and other gift cards charged to the EE/PDR programs in 2014, the response to LA-EE PDR-22-1 indicated costs totaling $2,075 were charged to the EE/PDR programs in 2014, and relate to three separate transactions. As discussed in Chapter 6, in Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs (see recommendations).

168. The Company included costs totaling $1,859 in its 2014 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and related to energy efficiency or to the professional development of the employees working on the EE/PDR programs. However, Attachment 1 to the response to LA-EE PDR-22-1 included membership dues described as "AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education". Attachment 1 reflected this three-year membership for employees that had similar three-year renewals for the same membership in 2012 and 2013. In response to Larkin's informal inquiry, the Company explained that Attachment 1 to the response to LA-EE PDR-22-1 contained incorrect descriptions for those employees and that the amounts reflected in Attachment 1 were actually for annual AEE membership dues as opposed to three-year renewals.

169. The 2014 EE/PDR program costs did not include any sporting or entertainment event type costs.

170. Larkin verified the 2014 EE/PDR revenues of $114.89 million to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-4. In addition, Larkin reviewed revenue screenshots provided in AEP Ohio's response to LA-EE PDR-8-6 which broke out monthly revenues separately for CSP and OPCo, and which also broke out the EE/PDR Rider revenues by the Residential, Commercial and Industrial and GS-4 rate classes. Larkin verified the 2014 revenue reflected in the general ledger detail to the revenue screenshots and to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR. No exceptions were noted.

171. The general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 were provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided tables which reconciled the 2014 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded. No exceptions were noted.

172. For 2014, from the "Merged" tab from the supplemental attachment to LA-EE PDR-18-4, Larkin recalculated the monthly shared savings amounts for the residential,

commercial and industrial rate class, which totaled the amounts shown in the table below:[38]

Description	2014
Residential Rate Class	$ 18,665,115
Commercial Rate Class	$ 7,367,530
Industrial Rate Class	$ 5,119,809
Total Shared Savings	$ 31,152,454

Larkin verified the total amount in the table above to the ledger data provided in the reconciliation from the confidential response to LA-EE PDR-12-18. No exceptions were noted.

173. The amount of 2014 shared savings reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR was also $31,152,454. No exceptions were noted.

174. Schedule 4 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR reflects actual IRP-D credits for 2014 totaling $19,941,934. The Company provided support for this amount in its confidential response to LA-EE PDR-18-5, which has been replicated in the table below:[39]

Account Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
[redacted]	[redacted]												
Total IRP KW	202,917.0	203,594.0	202,844.0	202,014.0	202,884.0	201,600.0	201,031.0	201,158.0	201,542.0	202,834.0	202,232.0	204,331.0	2,428,981.00
PUCO Ordered Credit	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	
Monthly Charge to EE/PDR rider	$ 1,665,949	$ 1,671,507	$ 1,665,349	$ 1,658,535	$ 1,665,678	$ 1,655,136	$ 1,650,465	$ 1,651,507	$ 1,654,660	$ 1,665,267	$ 1,660,325	$ 1,677,558	$ 19,941,934
Cumulative 2014 Charge	$ 1,665,949	$ 3,337,455	$ 5,002,805	$ 6,661,339	$ 8,327,017	$ 9,982,153	$ 11,632,618	$ 13,284,125	$ 14,938,785	$ 16,604,052	$ 18,264,377	$ 19,941,934	$ 19,941,934

As shown in the exhibit, the 2014 IRP-D credit was calculated using the $8.21/kW-month rate that was authorized by the Commission in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO.

175. For 2014, the level of incentive compensation and stock-based compensation included in the EE/PDR program costs included the following amounts: (1) $28,055 for cost center 122 - Labor Fringes (Incentive Accrual); (2) $244,694 for cost center 141 (Incentive Accrual Dept Level); (3) $28,231 for cost center 145 (Stock-based Compensation); and (4) $5,390 for cost center 154 (Restricted Stock Incentives) for an overall total of $306,370. Larkin traced these amounts to the general ledger. Each of these amounts, including the amounts associated with cost component 122, include elements related to AEP's stock price, dividends, and/or financial goals.

176. For 2014, Larkin identified the following amounts of disallowable incentive compensation and stock-based compensation cost that should be removed from EE/PDR costs (see recommendations):

[38] Also see Exhibit 9-21.

[39] Also see Exhibit 9-22.

Line No.	Description	Cost Center	Total	Reference
1	Incentive Accrual Department Level	141	$ 244,694	
2	Labor Fringes (Incentive Accrual)	122	$ 28,055	
3	Total Incentive Accrual and Related Labor Fringes		$ 272,749	L1 + L2
4	Disallowance Percentage		19.0%	
5	Adjustment to Incentive Accrual Department Level		$ (51,729)	L3 x L4
6	Stock-Based Compensation	145	$ (28,231)	
7	Restricted Stock Incentives	154	$ (5,390)	
8	Overall Adjustment to Incentive and Stock-Based Compensation		$ (85,350)	L5 + L6 + L7

2015

177. For 2015, AEP Ohio reported EE/PDR costs of $65.15 million and EE/PDR revenues of $139.32 million.

178. Larkin compared the 2015 EE/PDR program costs of $65.15 million listed in the table below to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-5.[40]

[40] Also see Exhibit 10-1.

Description	2015 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 10,344,878
Appliance Recycling	$ 2,166,604
Home Retrofit + In-Home	$ 4,663,660
Low Income	$ 6,651,548
Residential New Construction	$ 1,757,700
Behavior Change	$ 707,748
e3smart	$ 953,003
BUSINESS	
Prescriptive	$ 15,885,602
Custom	$ 4,587,041
Self Direct	$ 949,885
C&I New Construction	$ 3,873,849
C&I Demand Response	
Express	$ 3,122,617
Retro-Commissioning	$ 1,037,047
Continuous Improvement	$ 2,664,144
Energy Efficiency Auction	$ 385,819
Data Center	$ 1,663,575
MULTI-SECTOR	
Energy Education and Training	$ 330,376
Targeted Advertising	$ 2,279,806
Research and Development	$ 1,122,647
Total Program Costs	**$ 65,147,549**

Larkin verified that the 2015 EE/PDR program costs listed above were recorded in the general ledger and tied to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR. No exceptions were noted.

179. The response to LA-EE PDR-1-8 provided the following breakout of 2015 incentive costs:[41]

[41] Also see Exhibit 10-4.

Description	2015
Consumer	
Efficient Products	$ 7,126,942
Appliance Recycling	$ 1,264,440
Home Retrofit + In-Home	$ 2,502,328
Low Income	$ 5,056,724
Residential New Construction	$ 662,188
Behavior Change	
e3smart	$ 611,588
Business	
Prescriptive	$ 11,758,577
Custom	$ 2,176,559
Self Direct	$ 500,829
C&I New Construction	$ 2,302,725
C&I Demand Response	
Express	$ 2,772,708
Retro-Commissioning	$ 431,001
Continuous Improvement	$ 1,091,106
Energy Efficiency Auction	$ 875,615
Data Center	$ 866,480
Multi-Sector	
Energy Education and Training	
Targeted Advertising	$ 3,167
Research and Development	$ 30,900
Total Incentive Costs	$ 40,033,877

180. Larkin verified the incentive costs in the exhibit above to the Company's general ledger detail as summarized in the table below.[42] No exceptions were noted.

Description	Account	2015
Customer Assistance Expense - DSM	9080009	$ 40,033,877
Total Incentive Costs		$ 40,033,877

181. The table below provides a breakout of the 2015 EM&V costs by Project ID:[43]

Description		2015
OHDSM008A	DSM Meas,Eval and Verification	$ 2,593,473
OHDSM008C	Evaluation - PUCO	$ 4,051
OHDSM008Z	Evaluation General	$ 50,610
OHDSM009W	Commercial Upstream Lighting	$ 10,278
OHDSM09AA	DSM-Cogged V-Belt Pilot	$ 24,973
OHDSM09AB	Advanced Lighting Controls	$ 4,840
Total EM&V Costs		$ 2,688,225

[42] Also see Exhibit 10-5.
[43] Also see Exhibit 10-6.

Larkin verified the 2015 EM&V costs in the table above to the general ledger and to the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

182. Similar to prior years, the majority of the EM&V costs in 2015 (i.e., $2,593,473) were incurred pursuant to EM&V procedures conducted by [redacted] As discussed below, as part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected four [redacted] invoices as part of its sample for 2015. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted] to the general ledger. No exceptions were noted.

183. Per the response to LA-EE PDR-3-8, the 2015 EE/PDR program costs included administrative costs totaling $3,729,918 whereby administrative costs totaling $1,257,632 were directly charged to the EE/PDR programs while $2,472,286 was allocated to the EE/PDR programs.

184. The response to LA-EE PDR-3-8 provided the following breakout of 2015 administrative costs between EE/PDR programs:[44]

[44] Also see Exhibit 10-8.

EE/PDR Program		2015
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 1,496,126
OHDSM004A	R-Efficient Products	$ 46,846
OHDSM004B	R-Home Retrofit	$ 68,687
OHDSM004C	R-New Construction	$ 53,194
OHDSM004D	R-Appliance Recycling	$ 43,532
OHDSM004E	R-Low Income	$ 90,220
OHDSM004G	R-Energy Conservation Kit	$ 3,611
OHDSM004H	R-Behavioral	$ 35,930
OHDSM004Z	Residential General	$ 311,877
OHDSM005A	CII-Prescriptive Incentives	$ 83,490
OHDSM005B	CII-Custom	$ 161,223
OHDSM005C	CII-Self Direct	$ 33,585
OHDSM005D	CII-New Construction	$ 61,792
OHDSM005E	CII-Custom Direct Install	$ 50,880
OHDSM005G	Retro-Commissioning	$ 52,042
OHDSM005H	CII-Continuous Improvement	$ 49,047
OHDSM005J	CII-Energy Efficiency Auction	$ 519
OHDSM005K	CII - Data Center	$ 45,522
OHDSM005Y	C&I Outreach	$ 103,217
OHDSM005Z	CII General	$ 354,390
OHDSM007A	DSM Education	$ 203,339
OHDSM007B	DSM Corp Com	$ 3,313
OHDSM009B	Hospital Energy Audit Pilot	$ 10,227
OHDSM009F	C&I Energy Audits	$ 10,327
OHDSM009M	Business Behavior Change	$ 359
OHDSM009N	Codes and Standards	$ 706
OHDSM009S	EE Financing Fund	$ 10,028
OHDSM009U	Agricultural (Commercial)	$ 2
OHDSM009X	Government/Community Pilots	$ 29,730
OHDSM009Z	Intelligent Prospecting Pilot	$ 473
OHDSM010Z	R&D General	$ 309,893
OHDSM09AA	DSM-Cogged V-Belt Pilot	$ 5,791
Grand Total		$ 3,729,918

185. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail. No exceptions were noted.

186. AEP Ohio provided an Excel file which reflected EE/PDR related vendor invoices totaling $53.363 million. From this Excel file, Larkin selected invoices totaling $28.1 million, or approximately 53% of that total, for review. Upon reviewing the 2015 invoices, Larkin noted that some of the amounts on the Company's Excel file did not agree with the copies of invoices provided in the responses to LA-EE PDR-6-5 and LA-EE PDR-7-5. A conference call was conducted on September 8, 2017 between Larkin and AEP Ohio in which the discrepancies between the 2015 vendor invoices and the amounts provided in discovery requests were discussed. The Company explained that the reason some of the 2015 invoice amounts did not agree with the summaries provided in response to discovery was that in many cases, amounts are allocated to multiple projects, but that the invoice totals agree with what is posted to

the general ledger. Larkin tied the invoices in question back to the general ledger. No exceptions were noted.

187. One of the invoices discussed the Company during the September 8, 2017 conference call was invoice number 09864, dated September 18, 2015. Using the Company's explanation as a guide, we verified the invoice total amount to the corresponding general ledger. Below shows the general ledger entries for this invoice:[45]

Years	Project		PO ID	AP Invoice ID	Vendor Name #	Act $
2015	OHDSM007B	DSM Corp Com	02757369	09864	[redacted]	$ 14,305.00
2015	OHDSM007B	DSM Corp Com	02757369	09864		$ 20,338.10
						$ 34,643.10

The total amount in the general ledger of $34,643.10 agreed to the total amount shown on the invoice. We verified the other invoices we had concerns about in a similar manner and those invoice amounts agreed to the general ledger as well. No exceptions were noted.

188. The labor costs totaling $3.276 million in the table below were charged to the EE/PDR programs during 2015.[46] The response to LA-EE PDR-3-3 stated that these costs include (1) AEP Ohio employee labor costs; (2) employee associated labor fringes; and (3) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. Larkin traced the labor costs to the general ledger detail provided in response to LA-EE PDR-1-5.

Description	Account	2015 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 684,936
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 31,916
Supervision DSM	9070001	$ 1,288,508
Customer Assistance Expense - DSM	9080009	$ 19,663
Cust Serv & Info - Supv - Residential	9110001	$ 454,599
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 796,827
Total Company and Affiliate Labor Costs		$ 3,276,450

189. According to the supplemental response to LA-EE PDR-11-1, for 2015, Ohio Power employees working on the AEP Ohio EE/PDR programs charged a total of 35,028 labor hours to the EE/PDR programs out of their total labor hours of 40,461, i.e., 86.57% of their 2015 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.732 million (which is embedded in the table in the previous finding) of $2.004 million of their total labor costs. The individual Company employees (identified by Employee ID) charged the majority of their time in 2015 to the EE/PDR programs. The source of the data for labor hours are from each respective employee's timesheets.

[45] Also see Exhibit 10-11.
[46] Also see Exhibit 10-12.

190. Employee expenses totaling $245,526 were charged to EE/PDR programs during 2015. In order to test the employee expenses that were charged to the EE/PDR programs in 2015, Larkin initially selected ten transactions from the general ledger detail that relate to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense report, invoices and any other documentation which supports the amounts shown for each selected transaction. The ten transactions Larkin selected totaled $50,897.

191. With regard to employee expenses, for 2015, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2015 general ledger detail; (2) copies of employee expense reports, invoices and receipts; and (3) a narrative summary of all of the expenses reflected on the employee expense reports (including those not specifically selected for review, but which were itemized on the same expense reports).

192. Larkin reviewed the referenced 2015 employee expense detail for each of the ten transactions that were initially selected for review and verified the amounts that were recorded to the general ledger. No exceptions were noted. However, upon reviewing the documentation, Larkin identified some concerns with regard to certain employee expenses being charged to the EE/PDR programs for which Larkin requested additional information. These areas of concern included (1) many instances where AEP Ohio employees attended conferences or other events in states other than Ohio; (2) instances where the Company purchased gift cards [redacted] and charged the costs to the EE/PDR programs; and (3) instances where AEP Ohio employees charged the cost of annual dues to memberships in various organizations to the EE/PDR programs.

193. For each of these areas of costs charged to the EE/PDR programs in 2015, Larkin requested that the Company provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs. In addition, although not specifically identified in the employee expense detail selected for review, Larkin asked AEP Ohio whether the 2015 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2015, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

194. The 2015 out of state travel totaled $12,903 for airfare; (2) $22,614 for lodging; (3) $4,752 for transportation; and (4) $2,492 for meals for an overall total of $42,762. Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2015 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

195. With regard to the cost of [redacted] and other gift cards charged to the EE/PDR programs in 2015, the response to LA-EE PDR-22-1 indicated costs totaling $2,275 were charged to the EE/PDR programs in 2015, and which relate to two separate transactions. As discussed in Chapter 6, in Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs (see recommendations).

196. The Company included costs totaling $2,140 in its 2015 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and related to energy efficiency or to the professional development of employees working on the EE/PDR programs. However, Attachment 1 to the response to LA-EE PDR-22-1 included membership dues described as "AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education". Attachment 1 reflected this three-year membership for employees that had similar three-year renewals for the same membership in 2012 through 2014. In response to Larkin's informal inquiry, the Company explained that Attachment 1 to the response to LA-EE PDR-22-1 contained incorrect descriptions for those employees and that the amounts reflected in Attachment 1 were actually for annual AEE membership dues as opposed to three-year renewals.

197. The 2015 EE/PDR program costs did not include any costs for sporting or entertainment events.

198. Larkin verified the 2015 EE/PDR revenues of $139.32 million to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-4. In addition, Larkin reviewed revenue screenshots provided in AEP Ohio's response to LA-EE PDR-8-6 which broke out monthly revenues separately for CSP and OPCo, and which also broke out the EE/PDR Rider revenues by the Residential, Commercial and Industrial and GS-4 rate classes. Larkin verified the 2015 revenue reflected in the general ledger detail to the revenue screenshots and to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR. No exceptions were noted.

199. The general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 were provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided tables which reconciled the 2015 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded. No exceptions were noted.

200. For 2015, from the "Merged" tab from the supplemental attachment to LA-EE PDR-18-4, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the table below:[47]

[47] Also see Exhibit 10-21.

Description		2015
Residential Rate Class	$	14,531,998
Commercial Rate Class	$	10,153,875
Industrial Rate Class	$	7,056,083
Total Shared Savings	$	31,741,956

Larkin verified the total amount in the table above to the ledger data provided in the reconciliation from the confidential response to LA-EE PDR-12-18. No exceptions were noted.

201. The amount of 2015 shared savings reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR was $31,162,550 or a difference of $579,406. The reconciliation provided in the confidential response to LA-EE PDR-12-18 included footnote "h", which in part addressed this difference and stated:

> $579,406 is the Reg. Acct. net adjustment in 2015 for the following in order to match the rate filing (email tab), which stated:
> In August 2014, based upon a 2014 OPCo EE/PDR order received from the PUCO, Regulated Accounting made a $968,469 adjustment entry between the Shared Savings and Lost Revenue components of the EE/PDR over/under recovered balance. Regulated Accounting also made a ($387,060) adjustment to Shared Savings based on a 2009-2013 true-up. These two August 2014 adjustments resulted in a net $581,409 adjustment to Shared Savings. In December 2014, Regulated Accounting made its annual adjustment to the Shared Savings estimate grossed up for federal taxes. In making this annual tax gross-up adjustment, Regulated Accounting inadvertently used only the 2014 vintage year info and thus reversed the August 2014 net $581,409 adjustment from the calculation. As a result, the December 31, 2014 and the August 31, 2015 OPCo EE/PDR under-recovered balances in account 1823012 were understated by $581,409.

AEP Ohio indicated that the $2,003 difference between the $581,409 and $579,406 is an unreconciled difference that it considers immaterial. The Company provided a copy of the journal entry associated with the shared savings true-up in its supplemental response to LA-EE PDR-12-18.

202. Schedule 4 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR reflects actual IRP-D credits for 2015 totaling $18,661,634. The Company provided support for this amount in its confidential response to LA-EE PDR-18-5, which has been replicated in the table below:[48]

[48] Also see Exhibit 10-22.

Account Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
[redacted]	[redacted]												
Total IRP KW	202,569.0	198,882.0	200,000.0	200,420.0	200,943.0	202,156.0	200,533.0	168,720.0	175,556.0	176,550.0	176,588.0	170,120.0	2,273,037.00
PUCO Ordered Credit	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	
Monthly Charge to EE/PDR rider	$ 1,663,091	$ 1,632,821	$ 1,642,000	$ 1,645,448	$ 1,649,742	$ 1,659,701	$ 1,646,376	$ 1,385,191	$ 1,441,315	$ 1,449,476	$ 1,449,787	$ 1,396,685	$ 18,661,634
Cumulative 2015 Charge	$ 1,663,091	$ 3,295,913	$ 4,937,913	$ 6,583,361	$ 8,233,103	$ 9,892,804	$ 11,539,180	$ 12,924,371	$ 14,365,686	$ 15,815,161	$ 17,264,949	$ 18,661,634	$ 18,661,634

As shown in the exhibit, the 2015 IRP-D credit was calculated using the $8.21/kW-month rate that was authorized by the Commission in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO.

203. For 2015, the level of incentive compensation and stock-based compensation included in the EE/PDR program costs included the following amounts: (1) $31,916 for cost center 122 - Labor Fringes (Incentive Accrual); (2) $282,434 for cost center 141 (Incentive Accrual Dept Level); (3) $18,583 for cost center 145 (Stock-based Compensation); and (4) $4,730 for cost center 154 (Restricted Stock Incentives) for an overall total of $337,663. Larkin traced these amounts to the general ledger. Each of these amounts, including the amounts associated with cost component 122, include elements related to AEP's stock price, dividends, and/or financial goals.

204. For 2015, Larkin identified the following amounts of disallowable incentive compensation and stock-based compensation cost that should be removed from EE/PDR costs (see recommendations):

Line No.	Description	Cost Center	Total	Reference
1	Incentive Accrual Department Level	141	$ 282,434	
2	Labor Fringes (Incentive Accrual)	122	$ 31,916	
3	Total Incentive Accrual and Related Labor Fringes		$ 314,350	L1 + L2
4	Disallowance Percentage		22.0%	
5	Adjustment to Incentive Accrual Department Level		$ (69,299)	L3 x L4
6	Stock-Based Compensation	145	$ (18,583)	
7	Restricted Stock Incentives	154	$ (4,730)	
8	Overall Adjustment to Incentive and Stock-Based Compensation		$ (92,612)	L5 + L6 + L7

2016

205. For 2016, AEP Ohio reported EE/PDR costs of $70.43 million and EE/PDR revenues of $138.69 million.

206. Larkin compared the 2016 EE/PDR program costs of $70.43 million in the table below to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-5.[49]

[49] Also see Exhibit 11-1.

Description	2016 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 9,992,275
Appliance Recycling	$ 1,435,438
Home Retrofit + In-Home	$ 4,020,483
Low Income	$ 9,213,291
Residential New Construction	$ 1,861,954
Behavior Change	$ 816,157
e3smart	$ 727,543
BUSINESS	
Prescriptive	$ 14,839,563
Custom	$ 1,779,399
Self Direct	$ 1,499,636
C&I New Construction	$ 5,550,815
C&I Demand Response	
Express	$ 3,186,639
Retro-Commissioning	$ 1,156,665
Continuous Improvement	$ 4,367,014
Energy Efficiency Auction	$ 3,102,746
Data Center	$ 1,940,095
MULTI-SECTOR	
Energy Education and Training	$ 360,434
Targeted Advertising	$ 1,972,056
Research and Development	$ 2,606,569
Total Program Costs	$ **70,428,772**

Larkin verified that the 2016 EE/PDR program costs listed above were recorded in the general ledger and tied to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR. No exceptions were noted.

207. The response to LA-EE PDR-1-8 provided the following breakout of 2016 incentive costs by EE/PDR program:[50]

[50] Also see Exhibit 11-4.

Description	2016
Consumer	
Efficient Products	$ 6,599,063
Appliance Recycling	$ 660,938
Home Retrofit + In-Home	$ 2,105,677
Low Income	$ 7,006,671
Residential New Construction	$ 697,025
Behavior Change	
e3smart	$ 546,337
Business	
Prescriptive	$ 10,843,544
Custom	$ 853,880
Self Direct	$ 959,857
C&I New Construction	$ 3,519,527
C&I Demand Response	
Express	$ 2,759,933
Retro-Commissioning	$ 437,364
Continuous Improvement	$ 2,751,228
Energy Efficiency Auction	$ 1,624,861
Data Center	$ 1,079,969
Multi-Sector	
Energy Education and Training	
Targeted Advertising	
Research and Development	$ 200,552
Total Incentive Costs	$ 42,646,425

208. Larkin verified the incentive costs in the table above to the Company's general ledger detail as summarized in the table below.[51] No exceptions were noted.

Description	Account	2016
Customer Assistance Expense - DSM	9080009	$ 42,646,425
Total Incentive Costs		$ 42,646,425

209. The table below provides a breakout of the 2016 EM&V costs by Project ID:[52]

Description		2016
OHDSM008A	DSM Meas,Eval and Verification	$ 2,560,905
OHDSM008Z	Evaluation General	$ 29,594
OHDSM09AA	DSM-Cogged V-Belt Pilot	$ 4,987
OHDSM09AB	Advanced Lighting Controls	$ 12,240
OHDSM09AD	It's Your Power - [redacted]	$ 39,550
Total EM&V Costs		$ 2,647,277

[51] Also see Exhibit 11-5.
[52] Also see Exhibit 11-6.

Larkin verified the 2016 EM&V costs in the table above to the general ledger and to overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

210. Similar to prior years, the majority of the [redacted] in 2016 (i.e., $2,560,905) were incurred pursuant to EM&V procedures conducted by [redacted] As discussed below, as part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected six [redacted] invoices as part of its sample for 2016. As discussed below, through our initial review of the sampled vendor invoices coupled with guidance a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted] to the general ledger. No exceptions were noted.

211. Per the response to LA-EE PDR-3-8, the 2016 EE/PDR program costs included administrative costs totaling $4,895,438 whereby administrative costs totaling $1,431,617 were directly charged to the EE/PDR programs while $3,463,821 was allocated to the EE/PDR programs.

212. The response to LA-EE PDR-3-8 provided the following breakout of 2016 administrative costs between EE/PDR programs:[53]

[53] Also see Exhibit 11-8.

EE/PDR Program		2016
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 2,394,224
OHDSM004A	R-Efficient Products	$ 43,787
OHDSM004B	R-Home Retrofit	$ 70,216
OHDSM004C	R-New Construction	$ 52,105
OHDSM004D	R-Appliance Recycling	$ 41,096
OHDSM004E	R-Low Income	$ 127,204
OHDSM004G	R-Energy Conservation Kit	$ 5,111
OHDSM004H	R-Behavioral	$ 42,945
OHDSM004Z	Residential General	$ 356,695
OHDSM005A	CII-Prescriptive Incentives	$ 95,430
OHDSM005B	CII-Custom	$ 146,257
OHDSM005C	CII-Self Direct	$ 27,872
OHDSM005D	CII-New Construction	$ 66,273
OHDSM005E	CII-Custom Direct Install	$ 57,136
OHDSM005G	Retro-Commissioning	$ 45,724
OHDSM005H	CII-Continuous Improvement	$ 44,408
OHDSM005J	CII-Energy Efficiency Auction	$ 37,059
OHDSM005K	CII - Data Center	$ 33,748
OHDSM005Y	C&I Outreach	$ 83,592
OHDSM005Z	CII General	$ 376,011
OHDSM007A	DSM Education	$ 249,062
OHDSM007B	DSM Corp Com	$ 30,792
OHDSM009B	Hospital Energy Audit Pilot	$ 8,784
OHDSM009F	C&I Energy Audits	$ 15,367
OHDSM009M	Business Behavior Change	$ 319
OHDSM009N	Codes and Standards	$ 135
OHDSM009S	EE Financing Fund	$ 5
OHDSM009X	Government/Community Pilots	$ 33,451
OHDSM010Z	R&D General	$ 336,891
OHDSM09AA	DSM-Cogged V-Belt Pilot	$ 735
OHDSM09AD	Intelligent Energy Assistance	$ 145
OHDSM09AD	It's Your Power - [redacted]	$ 72,407
OHDSM09AJ	DSM Demand Response Pilot	$ 450
Grand Total		$ 4,895,438

213. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail. No exceptions were noted.

214. AEP Ohio provided an Excel file which reflected EE/PDR related vendor invoices totaling $58.416 million. From this Excel file, Larkin selected invoices totaling $31.9 million, or approximately 55% of that total, for review. Upon reviewing the 2016 invoices, Larkin noted that some of the amounts on the Company's Excel file did not agree with the copies of invoices provided in the responses to LA-EE PDR-6-6 and LA-EE PDR-7-6. A conference call was conducted on September 8, 2017 between Larkin and AEP Ohio in which the discrepancies between the 2016 vendor invoices and the amounts provided in discovery requests were discussed. The Company explained that the reason some of the 2016 invoice amounts did not agree with the summaries provided in response to discovery was that in many cases, amounts are

allocated to multiple projects, but that the invoice totals agree with what is posted to the general ledger. Larkin tied the invoices in question back to the general ledger. No exceptions were noted.

215. One of the invoices discussed the Company during the September 8, 2017 conference call was invoice number 0100000651, dated August 31, 2016. Using the Company's explanation as a guide, we verified the invoice total amount to the corresponding general ledger. Below shows the general ledger entries for this invoice:[54]

Years	Periods		Project	PO ID	AP Invoice ID	Vendor Name #	Act $
2016	(10) Oct	OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	028571430001	0100000651	[redacted]	$ 7,014 63
2016	(10) Oct	OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	028571430001	0100000651	[redacted]	$ 365,160 93
							$ 372,175 56

The total amount in the general ledger of $372,175.56 agreed to the total amount shown on the invoice. We verified the other invoices we had concerns about in a similar manner and those invoice amounts agreed to the general ledger as well. No exceptions were noted.

216. The labor costs totaling $3.198 million in the table below were charged to the EE/PDR programs during 2016.[55] The response to LA-EE PDR-3-3 stated that these costs include (1) AEP Ohio employee labor costs; (2) employee associated labor fringes; and (3) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. Larkin traced the labor costs to the general ledger detail provided in response to LA-EE PDR-1-5.

Description	Account	2016 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 632,633
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 26,161
Supervision DSM	9070001	$ 1,257,838
Customer Assistance Expense - DSM	9080009	$ 12,074
Cust Serv & Info - Supv - Residential	9110001	$ 496,908
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 772,276
Total Company and Affiliate Labor Costs		$ 3,197,891

217. Upon our initial attempt to trace the labor amounts to the general ledger detail, Larkin noted a discrepancy in the amount of $69,298, for which Larkin requested that AEP Ohio explain and reconcile to the general ledger. In its response to LA-EE PDR-16-5, the Company provided the following explanations for the variance:

   i. Cost Component 210 - Contract Labor (General) included a [redacted] in the amount of $34,815 that should be removed, thus reducing the $307,418.19 in the exhibit above to $272,603.19.[56]

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[54] Also see Exhibit 11-11.

[55] Also see Exhibit 11-14.

[56] While the $34,815 is not a labor cost, it is still an includable EE/PDR program cost.

ii. Cost Component U3E - Exempt Uncompensated Labor in the amount of $34,483.03 was inadvertently omitted from the response to LA-EE PDR-3-3. The Company provided a supplemental response to LA-EE PDR-3-3, which incorporated these corrections and which resulted in the 2016 labor costs shown in the table in the previous finding.

218. According to the supplemental response to LA-EE PDR-11-1, for 2016, Ohio Power employees working on the AEP Ohio EE/PDR programs charged a total of 34,037 labor hours to the EE/PDR programs out of their total labor hours of 40,294, i.e., 84.47% of their 2016 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.725 million (which is embedded in the table in the previous finding) of $2.043 million of their total labor costs. The individual Company employees (identified by Employee ID) charged the majority of their time in 2016 to the EE/PDR programs. The source of the data for labor hours are from each respective employee's timesheets.

219. Employee expenses totaling $213,889 were charged to EE/PDR programs during 2016. In order to test the employee expenses that were charged to the EE/PDR programs in 2016, Larkin initially selected ten transactions from the general ledger detail that relate to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense report, invoices and any other documentation which supports the amounts shown for each selected transaction. The ten transactions Larkin selected totaled $50,190.

220. With regard to employee expenses, for 2016, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2016 general ledger detail; (2) copies of employee expense reports, invoices and receipts; and (3) a narrative summary of all of the expenses reflected on the employee expense reports (including those not specifically selected for review, but which were itemized on the same expense reports).

221. Larkin reviewed the referenced 2016 employee expense detail for each of the ten transactions that were initially selected for review and verified the amounts that were recorded to the general ledger. No exceptions were noted. However, upon reviewing the documentation, Larkin identified some concerns with regard to certain employee expenses being charged to the EE/PDR programs for which Larkin requested additional information. These areas of concern included (1) many instances where AEP Ohio employees attended conferences or other events in states other than Ohio; (2) instances where the Company purchased gift cards from [redacted] and charged the costs to the EE/PDR programs; and (3) instances where AEP Ohio employees charged the cost of annual dues to memberships in various organizations to the EE/PDR programs.

222. For each of these areas of costs charged to the EE/PDR programs in 2016, Larkin requested that the Company provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues

charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs. In addition, although not specifically identified in the employee expense detail selected for review, Larkin asked AEP Ohio whether the 2016 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2016, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

223. The 2016 out of state travel totaled $11,020 for airfare; (2) $15,832 for lodging; (3) $5,150 for transportation; and (4) $3,035 for meals for an overall total of $35,037. Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2016 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

224. With regard to the cost of [redacted] and other gift cards charged to the EE/PDR programs in 2014, the response to LA-EE PDR-22-1 indicated costs totaling $2,334 were charged to the EE/PDR programs in 2016, and which relate to seven separate transactions. As discussed in Chapter 6, in Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs (see recommendations).

225. The Company included costs totaling $1,780 in its 2016 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and related to energy efficiency or to the professional development of employees working on the EE/PDR programs. However, Attachment 1 to the response to LA-EE PDR-22-1 included membership dues described as "AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education". Attachment 1 reflected this three-year membership for employees that had similar three-year renewals for the same membership in 2012 through 2015. In response to Larkin's informal inquiry, the Company explained that Attachment 1 to the response to LA-EE PDR-22-1 contained incorrect descriptions for those employees and that the amounts reflected in Attachment 1 were actually for annual AEE membership dues as opposed to three-year renewals.

226. The 2016 EE/PDR program costs did not include any costs for sporting or entertainment events.

227. Larkin verified the 2016 EE/PDR revenues of $138.69 million to the Company's general ledger detail which was provided in the response to LA-EE PDR-1-4. In addition, Larkin reviewed revenue screenshots provided in AEP Ohio's response to LA-EE PDR-8-6 which broke out monthly revenues separately for CSP and OPCo, and which also broke out the EE/PDR Rider revenues by the Residential, Commercial and Industrial and GS-4 rate classes. Larkin verified the 2016 revenue reflected in the

general ledger detail to the revenue screenshots and to the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR. No exceptions were noted.

228. The general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 were provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided tables which reconciled the 2016 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded. No exceptions were noted.

229. For 2016, from the "Merged" tab from the supplemental attachment to LA-EE PDR-18-4, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the table below:[57]

Description	2016	
Residential Rate Class	$	14,040,000
Commercial Rate Class	$	10,124,400
Industrial Rate Class	$	7,035,600
Total Shared Savings	$	31,200,000

Larkin verified the total amount in the table above to the ledger data provided in the reconciliation from the confidential response to LA-EE PDR-12-18. No exceptions were noted.

230. The amount of 2016 shared savings reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR was $31,180,283 or a difference of $19,717. The reconciliation provided in the confidential response to LA-EE PDR-12-18 included footnote "i", which stated:

> $19,717 is 2016 difference for the Shared Savings tax gross-up %. This was corrected in May 2017 (see b. on Journal Entries tab)

Larkin reviewed the journal entry on the referenced tab to the reconciliation from LA-EE PDR-12-18 and verified the amount and that it was recorded on May 1, 2017.

231. Schedule 4 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR reflects actual IRP-D credits for 2016 totaling $17,770,512. The Company provided support for this amount in its confidential response to LA-EE PDR-18-5, which has been replicated in the table below:[58]

Account Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
[redacted]	[redacted]												
Total IRP KW	171,000.0	177,566.0	179,700.0	179,714.0	180,148.0	178,879.0	170,680.0	191,597.0	192,346.0	192,362.0	170,800.0	179,704.0	2,164,496.00
PUCO Ordered Credit	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	
Monthly Charge to EE/PDR rider	$ 1,403,910	$ 1,457,817	$ 1,475,337	$ 1,475,452	$ 1,479,015	$ 1,468,597	$ 1,401,283	$ 1,573,011	$ 1,579,161	$ 1,579,292	$ 1,402,268	$ 1,475,370	$ 17,770,512
Cumulative 2016 Charge	$ 1,403,910	$ 2,861,727	$ 4,337,064	$ 5,812,516	$ 7,291,531	$ 8,760,127	$ 10,161,410	$ 11,734,422	$ 13,313,582	$ 14,892,874	$ 16,295,142	$ 17,770,512	$ 17,770,512

[57] Also see Exhibit 11-23.
[58] Also see Exhibit 11-24.

As shown in the exhibit, the 2016 IRP-D credit was calculated using the $8.21/kW-month rate that was authorized by the Commission in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO.

232. For 2016, the level of incentive compensation and stock-based compensation included in the EE/PDR program costs included the following amounts: (1) $26,172 for cost center 122 - Labor Fringes (Incentive Accrual); (2) $231,597 for cost center 141 (Incentive Accrual Dept Level); (3) $1,501 for cost center 145 (Stock-based Compensation); and (4) $2,729 for cost center 154 (Restricted Stock Incentives) for an overall total of $261,998. Larkin traced these amounts to the general ledger. Each of these amounts, including the amounts associated with cost component 122, include elements related to AEP's stock price, dividends, and/or financial goals.

233. For 2016, Larkin identified the following amounts of disallowable incentive compensation and stock-based compensation cost that should be removed from EE/PDR costs (see recommendations):

Line No.	Description	Cost Center	Total	Reference
1	Incentive Accrual Department Level	141	$ 231,597	
2	Labor Fringes (Incentive Accrual)	122	$ 26,172	
3	Total Incentive Accrual and Related Labor Fringes		$ 257,769	L1 + L2
4	Disallowance Percentage		12.7%	
5	Adjustment to Incentive Accrual Department Level		$ (32,763)	L3 x L4
6	Stock-Based Compensation	145	$ (1,501)	
7	Restricted Stock Incentives	154	$ (2,729)	
8	Overall Adjustment to Incentive and Stock-Based Compensation		$ (36,993)	L5 + L6 + L7

234. In its Application dated May 15, 2017 in Case No. 17-1266-EL-RDR, AEP Ohio showed an EE/PDR over (under) collection balance of $29,058,469 as of December 31, 2016. However, the response to LA-EE PDR-1-7 indicated an over-collection of 29,043,829, or a difference of $14,640 as of December 31, 2016[59], which Larkin traced to the general ledger. In response to LA-EE PDR-12-18, AEP Ohio explained that the difference in the over-collection balance was due to changing the methodology used for the over/under calculation. In its response to LA-EE PDR-14-22, AEP Ohio stated that it proposed to use the amount that was higher by $14,640 because it was beneficial to customers and the timing differences were known.

[59] The supplemental response to LA-EE PDR-1-7 indicated that the $29.044 million over-collection is the correct amount.

Financial Audit Recommendations

1. As it relates to AEP Ohio's labor costs, because of the potential for shifting labor costs that are being recovered in base rates for electric distribution service into the EE/PDR rider during the periods between rate cases continues to present a risk that double recovery of such costs could occur, Larkin recommends that the Company develop additional procedures to track costs, including labor costs of employees whose costs had been included for recovery in electric distribution rates, and who were transferred subsequent to the rate case test year to provide service related to the EE/PDR programs. Specifically, Larkin recommends that AEP Ohio prospectively develop a verifiable audit trail going forward which clearly shows annually, the separation between the labor costs related to the provision of electric distribution service and included in base rates and the labor costs that are included in the EE/PDR rider. This does not preclude Staff from requesting information from previous time periods. The audit trail documentation should include information on net incremental labor being included in EE/PDR costs and whether and how that relates to reductions in labor providing electric distribution service.

2. For 2011, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs be reduced by 0.4%, or $1,037, which reflects the percentage of the incentive compensation payout in 2011 that was tied to AEP Ohio's ROE goal. The portion of incentive compensation that relates to the Company achieving its financial goals should be borne by the Company's shareholders and not ratepayers.

3. For 2011, Larkin recommends that 100% of stock-based compensation totaling $210,210 and restricted stock incentives totaling $35,118 that was paid out in 2011 be removed from the 2011 EE/PDR program costs. Ratepayers should not be required to pay for compensation that is based on the performance of the Company's (or its parent company's) stock price, or which has the primary purpose of benefitting the parent company's shareholders and aligning the interests of participants in the stock-based compensation plans with those of such shareholders.

4. For 2011, Larkin recommends that 100% of the SERP costs that were allocated to the EE/PDR programs, which totaled $16,340 in 2011, be removed. The provision of additional retirement compensation to the Company's highest paid executives is not a reasonable expense that should be recovered from ratepayers.

5. For 2011, Larkin recommends that the $500 related to gift cards be removed from EE/PDR program costs.

6. As discussed in the financial audit findings, Larkin recommends that the costs associated with a sporting event and an entertainment event totaling $1,220 be removed from the 2011 EE/PDR program costs.

7. For 2012, for the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2012 be reduced by 17.3%, or $26,514, which

reflects the percentage of the incentive compensation payout in 2012 that was tied to AEP Ohio's ROE goal.

8. For 2012, for the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that 100% of stock-based compensation totaling $3,316 and restricted stock incentives totaling $2,234 that was paid out in 2012 be removed from the 2012 EE/PDR program costs.

9. As discussed in the financial audit findings, Larkin recommends that the $156 related to gift cards be removed from 2012 EE/PDR program costs.

10. Larkin recommends that the $78 bike rental costs be removed from the 2012 EE/PDR program costs.

11. For 2013, for the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2013 be reduced by 16.9%, or $42,225, which reflects the percentage of the incentive compensation payout in 2013 that was tied to AEP Ohio's ROE goal.

12. For 2013, for the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that 100% of stock-based compensation totaling $5,714 and restricted stock incentives totaling $2,255 that was paid out in 2013 be removed from the 2013 EE/PDR program costs.

13. Larkin recommends that the $375 related to gift cards be removed from 2013 EE/PDR program costs.

14. As discussed in the financial audit findings, Larkin recommends that the $1,782 of costs related to a sporting event be removed from the 2013 EE/PDR program costs.

15. For 2014, for the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2014 be reduced by 19.0%, or $51,729, which reflects the percentage of the incentive compensation payout in 2014 that was tied to AEP Ohio's net income goal.

16. For 2014, for the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that 100% of stock-based compensation totaling $28,231 and restricted stock incentives totaling $5,390 that was paid out in 2014 be removed from the 2014 EE/PDR program costs.

17. Larkin recommends that the $2,075 related to gift cards be removed from 2014 EE/PDR program costs.

18. For 2015, for the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2015 be reduced by 22.0%, or $69,299, which reflects the percentage of the incentive compensation payout in 2015 that was tied to AEP Ohio's net income goal.

19. For 2015, for the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that 100% of stock-based compensation totaling $18,583 and restricted stock incentives totaling $4,730 that was paid out in 2015 be removed from the 2015 EE/PDR program costs.

20. Larkin recommends that the $2,275 related to gift cards be removed from 2015 EE/PDR program costs.

21. For 2016, for the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2016 be reduced by 12.7%, or $32,763, which reflects the percentage of the incentive compensation payout in 2016 that was tied to AEP Ohio's net income goal.

22. For 2016, for the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that 100% of stock-based compensation totaling $1,501 and restricted stock incentives totaling $2,729 that was paid out in 2016 be removed from the 2016 EE/PDR program costs.

23. Pursuant to the Company's response to LA-EE PDR-16-2, Larkin recommends that AEP Ohio credit the EE/PDR related labor costs related to (1) $925.02 plus applicable overheads for 2012 and (2) $1,432.87 plus applicable overheads for 2014. The Company stated that these labor costs were for employees who were not members of the Department 12949 (EE and Consumer Programs) and that a credit to reverse these charges will be recorded in 2018.

24. Pursuant to the Company's response to LA-EE PDR-16-5, Larkin recommends that the 2016 labor costs under Cost Center 210 - Contract Labor (General) be reduced by $34,815 to reflect the removal of the [redacted]. It should be noted that while this cost is not related to internal labor, it is still an includable EE/PDR program cost.

25. Larkin recommends that the $2,334 related to gift cards be removed from 2016 EE/PDR program costs.

Summary of Financial Audit Recommendations

The exhibit below provides a summary of Larkin's financial audit recommendations:

Exhibit 1-6. Summary of Financial Audit Recommendations

2011	Gift Cards	Sporting Events	Entertaintment	Incentive & Stock-Based Compensation*	Labor Expense	Total Recommended Disallowance
Amounts included in EE/PDR Program Costs	$ 500	$ 836	$ 384	$ 513,770		$ 515,489
Larkin Recommendation	$ (500)	$ (836)	$ (384)	$ (262,705)		$ (264,424)
Adjusted EE/PDR Program Costs	$ -	$ -	$ -	$ 251,065	$ -	$ 251,065

2012	Gift Cards	Sporting Events	Entertaintment	Incentive & Stock-Based Compensation	Labor Expense	Total Recommended Disallowance
Amounts included in EE/PDR Program Costs	$ 156	$ -	$ 78	$ 158,514		$ 158,748
Larkin Recommendation	$ (156)		$ (78)	$ (32,064)	$ (925)	$ (33,223)
Adjusted EE/PDR Program Costs	$ -	$ -	$ -	$ 126,450	$ (925)	$ 125,525

2013	Gift Cards	Sporting Events	Entertaintment	Incentive & Stock-Based Compensation	Labor Expense	Total Recommended Disallowance
Amounts included in EE/PDR Program Costs	$ 375	$ 1,782	$ -	$ 257,827		$ 259,985
Larkin Recommendation	$ (375)	$ (1,782)		$ (50,194)		$ (52,351)
Adjusted EE/PDR Program Costs	$ -	$ -	$ -	$ 207,633	$ -	$ 207,633

2014	Gift Cards	Sporting Events	Entertaintment	Incentive & Stock-Based Compensation	Labor Expense	Total Recommended Disallowance
Amounts included in EE/PDR Program Costs	$ 2,075	$ -	$ -	$ 306,370		$ 308,445
Larkin Recommendation	$ (2,075)			$ (85,350)	$ (1,433)	$ (88,858)
Adjusted EE/PDR Program Costs	$ -	$ -	$ -	$ 221,020	$ (1,433)	$ 219,587

2015	Gift Cards	Sporting Events	Entertaintment	Incentive & Stock-Based Compensation	Labor Expense	Total Recommended Disallowance
Amounts included in EE/PDR Program Costs	$ 2,275	$ -	$ -	$ 337,663		$ 339,938
Larkin Recommendation	$ (2,275)			$ (92,612)		$ (94,887)
Adjusted EE/PDR Program Costs	$ -	$ -	$ -	$ 245,051	$ -	$ 245,051

2016	Gift Cards	Sporting Events	Entertaintment	Incentive & Stock-Based Compensation	Labor Expense	Total Recommended Disallowance
Amounts included in EE/PDR Program Costs	$ 2,334	$ -	$ -	$ 261,998		$ 264,332
Larkin Recommendation	$ (2,334)			$ (36,993)		$ (39,326)
Adjusted EE/PDR Program Costs	$ -	$ -	$ -	$ 225,006	$ -	$ 225,006
Grand Total of Adjustments for 2011-2016 Audit Period	**$ (7,714)**	**$ (2,618)**	**$ (462)**	**$ (559,918)**	**$ (2,358)**	**$ (573,070)**

* The 2011 amounts for Incentive and Stock-Based Compensation also includes SERP costs totaling $16,340

Management Audit Findings

Management audit findings and recommendations were developed by Natalie Mims Frick of Mims as a subcontractor to Larkin on this project.

1. Mims's review of AEP Ohio's EE/PDR programs included a review of relevant regulations and Commission orders.
2. For the purpose of this audit, relevant regulations for EE/PDR programs are found in the Ohio Administrative Code, Chapter 4901:1-39, Ohio Revised Code, Chapter 4928.66, and Ohio Revised Code, Chapter 4928.143.
3. AEP Ohio's shared savings incentive mechanism regulatory guidance was provided in two orders, including: (1) May 13, 2010 Order approving the 2009-2011 EE/PDR

portfolio, shared savings incentive mechanism and lost distribution revenues in dockets 09-1089-EL-POR and 09-1090-EL-POR, and (2) March 21, 2012 Order approving the 2012-2014 EE/PDR portfolio and shared savings incentive mechanism in dockets 11-5568-EL-POR and 11-5569-EL-POR.

4. Mims' review of the prudency of management decisions in the administration of the Company's EE/PDR program portfolio plans included a review of AEP Ohio's EE/PDR program impacts (energy (kWh) and capacity (kW)) for the period 2011-2016. The purpose of the audit did not include verification of energy savings claimed by the Companies, which are reviewed through the Commission's evaluation, measurement, and verification ("EM&V") process. The findings and recommendations of this audit will be subject to future adjustment based on results of such further review.

5. During the period of this audit (2011-2016), AEP Ohio has offered seven consumer sector (residential) programs and eleven business sector (non-residential) programs.

6. Mims' reviewed four sources of data on the Company's EE/PDR program portfolio impacts, including: (1) the annual Portfolio Status Reports, (2) each program annual EM&V report included with AEP Ohio's annual Portfolio Status Report filing; (3) the EE/PDR Rider applications and (4) the Excel models used to calculate the shared *savings incentive.*

7. The Company's annual Portfolio Status Reports were filed in six cases: 12-1537-EL-EEC, 13-1182-EL-EEC, 14-0853-EL-EEC, 15-0919-EL-EEC, 16-10099-EL-EEC and 17-1229-EL-EEC. The EE/PDR Riders that cover 2011-2016 were filed in Case Nos. 12-1557-EL-RDR and 17-1266-EL-RDR. The Company provided 97 Excel models used to calculate the shared savings incentive in response to LA-EE PDR-8-1, and 35 Excel models in response to LA-EE PDR-14-1.

8. Mims' review of the prudency of management decisions in the administration of the Company's EE/PDR program portfolio plans included a review of AEP Ohio's compliance with Ohio Revised Code, Chapter 4928.66, which requires electric distribution utilities to implement energy efficiency programs (benchmark savings goals). Mims reviewed the annual Portfolio Status Reports to verify AEP Ohio's compliance with their benchmark savings goals.

9. AEP Ohio meets its benchmark savings goal with annual incremental energy savings, and the peak demand savings goal is met with a combination of: transmission and distribution projects that reduce losses, interruptible tariffs and special contracts, permanent cumulative savings, and AEP Ohio's gridSMART demonstration project.

10. AEP Ohio identified that the Annual Portfolio Status Reports are the source of energy or demand savings used to calculate their performance towards AEP Ohio's annual benchmark savings goal.

11. AEP Ohio reports gross ex-ante impacts[60] in its Portfolio Status Reports. In its evaluation, measurement and verification (EM&V) reports, AEP Ohio reports gross ex-post impacts.[61]

12. Annual ex-ante energy impacts are higher than ex-post energy impacts for most years for the Consumer Products programs (2012-2016). The ex-ante annual savings ranges from -4% to 8% higher than the ex-post savings depending on the year.

13. For the Con sumer Products program, the ex-post demand savings were higher than ex-ante demand savings for most years. The exceptions to this observation were in 2012 and 2013. There does not appear to be a specific program that consistently causes the *differences in annual ex-ante and ex-post demand impacts.*

14. The Business Products programs had higher ex-ante energy impacts in 2011 and 2013-2014, and higher ex-post energy impacts in 2012 and 2015-2016. For the Business Products programs, not all programs had EM&V savings for each year reported. This contributes to the difference in annual ex-ante and ex-post savings.

15. The Business Products program had higher ex-post demand savings than ex-ante demand savings for most years. The range in demand impacts reported for 2011-2016 is quite large, from -1% to 65% difference. The largest annual difference occurred in 2011, where the ex-ante savings were 65% higher than ex-post savings. This occurred because the demand response program reported ex-ante, but not ex-post demand savings.

16. There are many reasons for the differences in ex-ante and ex-post energy and demand savings data. However, the purpose of this audit did not include verification of energy savings claimed by the Companies, which are reviewed through the Commission's EM&V process. The findings and recommendations of this audit will be subject to future adjustment based on results of such further review.

17. AEP Ohio met their energy efficiency and peak demand reduction goal each year.

18. Mims' review of the prudency of management decisions in the administration of the Company's EE/PDR program portfolio plans included a review of AEP Ohio's EE/PDR program and measure life. Program and measure life is used to calculate the lifetime savings for each program.[62] The lifetime savings are used to calculate the benefits in the cost-benefit tests. The net benefits, as calculated using the Utility Cost Test (UCT), are an input to AEP Ohio's shared savings calculations.

19. Mims reviewed two sources of data on the Company's EE/PDR program life, including: (1) each program annual EM&V report included with AEP Ohio's annual

[60] AEP Ohio uses the term ex-ante to describe EE/PDR impacts before evaluation. See AEP Ohio's response to LA-EE PDR-14-3.
[61] In AEP Ohio's Portfolio Status Reports, ex-post savings are energy and demand impacts after evaluation, measurement and verification has been conducted.
[62] First year program savings are multiplied by the program life to determine the lifetime energy savings. This is multiplied by the appropriate avoided energy and capacity cost to determine the program benefits.

Portfolio Status Report filing; and (2) the Excel models used to calculate the shared savings incentive.

20. Mims investigated the source of other measure lives provided in the Ohio Draft Technical Reference Manual ("TRM") and observed that a number of measure lives listed in the Ohio Draft TRM are dated.

21. Mims investigated the potential impact of the Efficient Product program and measure life, and changing federal lighting standards on AEP Ohio's shared savings incentive payment. Based on this preliminary analysis, there was no impact on 2012-2016 shared savings incentive because the total shared savings values did not drop below $20 million.

22. Mims reviewed five sources of data on the Company's EE/PDR program costs for its detailed program cost analysis in Chapter 15, including: (1) the annual Portfolio Status Reports, (2) each program's EM&V report included with AEP Ohio's annual Portfolio Status Report filings; and (3) the Excel models used to calculate the shared savings incentive, (4) the general ledger and, (5) the EE/PDR Rider applications. The discussion of how the portfolio costs align with the general ledger is contained in Chapters 6-11.

23. Based on these five data sources, Mims found: (1) In 2011, there was inconsistency on a portfolio level between costs reported in the Annual Portfolio Status Report and the general ledger; (2) As discussed in Chapters 6-11, costs included in the EE/PDR Rider match the general ledger filings at the portfolio level. Each year, on a program level, there was inconsistency between the EE/PDR Rider and the general ledger; (3) The EE/PDR Rider and the Excel models used to calculate shared savings annual program costs align for each year.

24. Mims reviewed specific program costs for three programs (Low Income, In-Home Energy, Self-Direct and Demand Response) where program cost inconsistencies were identified. AEP Ohio provided a sufficient explanation as to why the inconsistencies occurred.

25. Mims reviewed specific components of program costs and found that the majority of program costs (58-62%) are spent on incentives paid to customers.

26. Mims reviewed two programs (Low-Income and In-Home Audit) with negative participant costs. AEP Ohio provided a sufficient explanation as to why there were negative Participant costs.

27. Mims reviewed AEP Ohio's compliance with the Ohio's cost-recovery regulations. Ohio law permits an electric utility to request cost recovery associated with "peak-demand reduction, demand response, energy efficiency program costs, appropriate lost distribution revenues, and shared savings"[63] after filing its energy efficiency and peak demand reduction program portfolio plan.

[63] Available at: http://codes.ohio.gov/oac/4901%3A1-39

28. On March 29, 2012, in Columbus Southern Power and Ohio Power Company's EE/PDR Rider application, the PUCO approved the Companies' November 29, 2011 stipulation. The stipulation provided the terms of AEP Ohio's program cost recovery. One of the terms approved by the PUCO was that "the Total Resource Cost (TRC) test will be used to qualify the Portfolio for cost-recovery."

29. AEP Ohio's portfolio has remained cost-effective (i.e., by achieving a score of greater than 1.0) based on the TRC test for all years covered by the audit (2011-2016) and was therefore eligible for cost-recovery.

30. Mims' review of the prudency of management decisions in the administration of the Company's EE/PDR program portfolio plans included a review of AEP Ohio's EE/PDR program cost-effectiveness for 2011-2016.[64] In this audit, we focus on two of the five cost-benefit tests for energy efficiency -- the Total Resource Cost (TRC) test and the Utility Cost Test (UCT).

31. Mims reviewed three sources of data on the Company's EE/PDR program cost-benefit ratios, including: (1) the annual Portfolio Status Reports; (2) each program's EM&V report included with AEP Ohio's annual Portfolio Status Report filings; and (3) the Excel models used to calculate the shared savings incentive

32. Most of AEP Ohio's programs maintain a TRC score of greater than 1.0 during the audit period. The exceptions are the Community Assistance (low-income) program (2012-2016) and the In-Home Energy program (2012-2016). Three programs, New Homes (2012), Prescriptive (2014) and Retro-Commissioning (2016), had a TRC score of less than one for one year, and then resumed a score of greater than one.

33. AEP Ohio calculates the net benefits for its shared savings incentive (see additional discussion below) based on the UCT benefit. A program does not need to earn a UCT score greater than one to be included in the shared savings calculation.[65]

34. Most of AEP Ohio's programs maintain a UCT score of greater than one. The exception is the Community Assistance (low-income) program. Three programs – In-Home Energy (2011, 2014, and 2016), New Homes (2011), and Express (2011) had a UCT score of less than one, and then resumed a score of greater than one.

35. The audit period included two shared savings mechanisms for AEP Ohio. The 2009-2011 shared savings mechanism is based on the PUCO's order dated May 13, 2010, in Case Number 09-1089-EL-POR and 09-1090-EL-POR which approved AEP Ohio's November 12, 2009 Stipulation. The 2012-2016 shared savings mechanism is based on the PUCO's order dated March 21, 2012 in Case Number 11-5568-EL-POR and 11-5569-EL-POR, which approved AEP Ohio's November 29, 2011 Stipulation. As part of its review, Mims verified the shared savings reflected in the Company's regulated accounting records for each year of the 2011 through 2016 review period.

[64] The purpose of the audit did not include verification of energy savings claimed by the Companies, which are reviewed through the Commission's evaluation, measurement, and verification ("EM&V") process. The findings and recommendations of this audit will be subject to future adjustment based on results of such further review.
[65] AEP Ohio's response to LA-EE PDR DR 12-26.

36. In addition to verifying the shared savings reflected in the EE/PDR Rider and the regulated accounting records, Mims also traced the annual shared savings amount back to each program's calculated net benefits. In order to do this, Mims reviewed: (1) program energy and demand savings; (2) program costs; and (3) the shared savings calculation for each year.

37. Mims compared the energy savings in each Excel model used to calculate shared savings and the EE/PDR Rider and did not find any discrepancies. Next, Mims reviewed the program costs in each calculator, and compared them to the EE/PDR Rider. As discussed above, Mims reviewed all of Excel models used to calculate shared savings and verified that program costs from the shared savings excel models align with the EE/PDR Rider as shown in AEP Ohio's response to LA-EE PDR-20-4.

38. After verifying the energy savings and program costs, Mims reviewed the calculation of net benefits. Mims did not find any inconsistencies with the calculations.

39. Mims reviewed program costs that are included in the Shared Savings calculation, including the cost of research and development (pilot programs) and advertising. These costs were excluded from the shared savings calculation.

40. Based on Mims' review of AEP Ohio's EE/PDR Rider and Excel models used to calculate shared savings, AEP Ohio has appropriately calculated its shared savings incentive according to PUCO orders in Case No. 09-1089-EL-POR and 09-1090-EL-POR for 2011, and Case No. 11-5568-EL-POR and 11-5569-EL-POR for 2012-2016. However, the purpose of this audit did not include verification of energy savings claimed by the Companies, which are reviewed through the Commission's EM&V process. The findings and recommendations of this audit will be subject to future adjustment based on results of such further review.

41. Mims reviewed conferences that AEP Ohio employees attended out of state and annual membership fees charged to EE/PDR programs.

42. The conferences that AEP Ohio employees attended out of state were focused on energy efficiency program design, implementation, measurement and verification, and appear to reasonable expenditures for the EE/PDR department.

43. The annual membership fees appear to be reasonable expenditures.

Management Audit Recommendations

1. As future EM&V on AEP Ohio's program savings is already required, Mims' only recommendation regarding program impacts pertains to the ease of collecting the data for analysis. In order to gather the ex-post data from AEP Ohio's Portfolio Status Reports, each individual EM&V report must be reviewed. Mims recommends that the PUCO require that AEP Ohio provide ex-ante and ex-post savings in a summary table in the Portfolio Status Report for ease of reference and to promote transparency in the future.

2. A more thorough investigation as to why program lives change over time (e.g., a change in the measure mix that comprises the program), and the source of the data that is used to determine program life may be useful data to gather in the next independent EM&V report. Using more recent data to determine measure lives may result in more accurate net benefit and shared savings calculations.

3. Mims recommends that in the next independent EM&V report, PUCO investigate the impact of the federal lighting standard on all of AEP Ohio's EE/PDR programs and shared savings calculations.

4. In Chapter 15, Mims reviewed five sources of data on the Company's EE/PDR program costs for its detailed program cost analysis, including: (1) the annual Portfolio Status Reports; (2) each program EM&V report included with AEP Ohio's annual *Portfolio Status Report filings; and (3) the Excel models used to calculate the shared* savings incentive; (4) the general ledger and, (5) the EE/PDR Rider. After reviewing all five data sources, Mims recommends the PUCO staff create a consistent data reporting template that AEP Ohio can use for all EE/PDR program cost reporting to the PUCO.

Audit Outline

The outline of the remainder of this audit report is as follows:

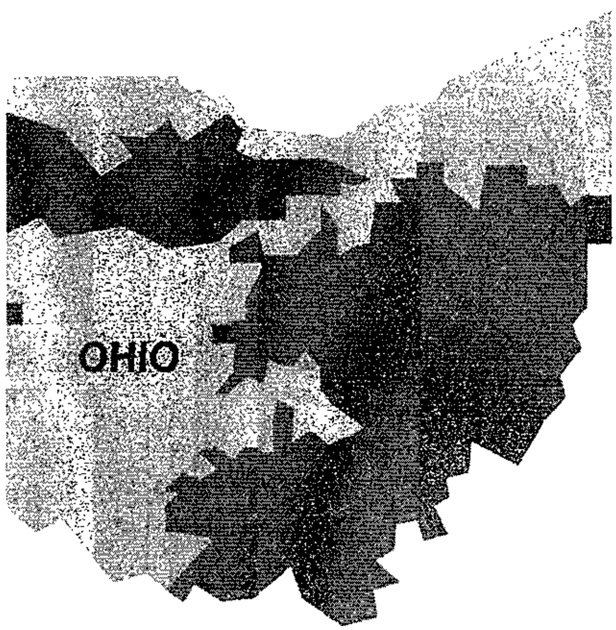
- Chapter 2 AEP Ohio Background/AEP Ohio Filings/Commission Orders
- Chapter 3 Energy Efficiency and Peak Demand Reduction Programs
- Chapter 4 Financial Review - Overview
- Chapter 5 2009-2011 EE/PDR Plan and Deferred Balances as of December 31, 2010 And December 31, 2011
- Chapter 6 2011 Costs and Revenues
- Chapter 7 2012 Costs and Revenues
- Chapter 8 2013 Costs and Revenues
- Chapter 9 2014 Costs and Revenues
- Chapter 10 2015 Costs and Revenues
- Chapter 11 2016 Costs and Revenues
- Chapter 12 Deferred Balance as of December 31, 2016
- Chapter 13 Adjustments to AEP Ohio's Recorded Costs
- Chapter 14 Management/Prudence Review – Overview
- Chapter 15 Energy Efficiency and Peak Demand Reduction Program Impacts

2 AEP OHIO BACKGROUND/AEP OHIO FILINGS/COMMISSION ORDERS

Overview

Ohio Power ("OPCo") is a wholly-owned subsidiary of American Electric Power ("AEP"). Effective January 1, 2012, the current Ohio Power was formed when Columbus Southern Power was merged into Ohio Power Company.

AEP's 2016 Fact Book shows the Ohio Power Company's service territory as follows:



Ohio Power Service Territory

OPCo has approximately 45,718 line-miles of distribution lines and is engaged in the transmission and distribution of electric power to approximately 1,468,000 retail customers in Ohio. Following the corporate separation of its generation assets in December 2013, OPCo purchases energy and capacity to serve generation service customers. As of December 31, 2015, OPCo had 1,552 employees. AEP Ohio is now a "wires-only" company, meaning that customers can choose a range of companies from which to purchase electricity, while AEP Ohio still delivers that electricity.

AEP Ohio Filings

AEP Ohio EE PDR filings were prepared and filed under the following cases:

11-5568-EL-POR

11-2768-EL-RDR

12-1557-EL-RDR

13-1201-EL-RDR

14-0873-EL-RDR

15-0960-EL-RDR

16-1108-EL-RDR

17-1266-EL-RDR

Commission Orders

The Commission's Opinion and Order (May 13, 2010), Entry on Rehearing (July 14, 2010), and Entry (January 27, 2011) in Case No. 09-1089-EL-POR, et al., approved and modified a Stipulation and Recommendation regarding AEP Ohio's application for approval of its EE/PDR program portfolio plan and initial EE/PDR rider rates.

In Case No. 11-2768-EL-RDR, et al., the Commission's Finding and Order dated July 2, 2014, approved an application filed by AEP Ohio to update its EE/PDR rider rates. The Commission's Finding and Order also stated that, consistent with Staff's recommendation, a request for proposal ("RFP") would be issued by subsequent entry, in order to acquire audit services for a financial audit of AEP Ohio's EE/PDR rider for the period of January 2011 through December 2013, during which time the rider was modified significantly due to the merger of CSP and OPCo.

The Commission's Finding and Order in Case No. 11-5568-EL-POR, dated March 21, 2012, adopted AEP Ohio's 2012 EE/PDR program portfolio plan. The PUCO concluded that the 2012 portfolio plan addressed the Company's compliance requirements. The Commission stated that AEP Ohio may file its annual portfolio status report on May 15 instead of March 15 of each year of the EE/PDR Action Plan. The Commission also granted the parties' request for a waiver of the partial year reporting convention requirement and agreed that AEP Ohio should use the annualized reporting convention for purposes of benchmark compliance each year. The Commission also ordered that AEP Ohio should file its EE/PDR rider tariffs to be effective on a bill rendered basis, no earlier than both the commencement of the Company's April 2012 billing cycle and the date when final tariffs are filed with the Commission.

The Commission's Finding and Order, dated July 2, 2014, in Case No. 12-1557-EL-RDR approved AEP Ohio's application to update its EE/PDR rider rates, as was filed in the 2013 EE/PDR Case, and which included a comprehensive update and true-up of the Company's EE/PDR costs. The 2011 EE/PDR Cases and the 2012 EE/PDR Case were subsequently closed.

On various dates, AEP Ohio has filed annual EE/PDR rider adjustment applications in Case Nos. 14-873-EL-RDR, 15-960-EL-RDR, and 16-1108-EL-RDR, which are pending before the Commission.

3 ENERGY EFFICIENCY AND PEAK DEMAND REDUCTION PROGRAMS

In Case No. 08-888-EL-ORD, the Commission approved rules for EE/PDR programs of electric utilities. The rules became effective on December 10, 2009. The rules require that each electric utility within the jurisdiction of the PUCO implement EE/PDR programs and file an annual Portfolio Status Report by May 15 of each year.[66] In 2014, the General Assembly enacted Senate Bill 310 which froze energy efficiency targets at the 2014 level for two years, and gave each electric utility the option of extending its then-current Action Plan through 2016 or amending its Action Plan to scale back to the frozen standard levels. AEP Ohio elected to continue its 2012-2014 Action Plan unchanged through 2016.

During the period of this audit (2011-2016), AEP Ohio has offered seven consumer sector (residential) programs and eleven business sector (non-residential) programs. Exhibit 3-1 provides the names and years the programs were offered.

Exhibit 3-1. AEP Ohio Consumer and Business Sector EE/PDR Program Offerings 2011-2016

Program name	Years offered (during audit period)
Consumer Sector	
Efficient Products	All offered 2011-2016
Appliance Recycling	
e³ smart℠	
In-Home Energy (retrofit)	
Community Assistance (low-income)	
Efficiency Crafted℠ New Homes (new construction)	
Home Energy Reports	
Business Sector	
Prescriptive	2011-2016
Custom	2011-2016

[66] Senate Bill 221 required that the annual Portfolio Status Report be filed by March 15 of each year. This deadline was extended to May 15 of each year in the March 21, 2012 order in Docket Nos. 11-5568-EL-POR and 11-5569-EL-POR for AEP Ohio.

Express	2011-2016
Self-Direct	2011-2016
Business New Construction	2011-2016
Demand Response	2011
EE Auction (Bid to Win)	2014-2016
Continuous Energy Improvement	2014-2016
Data Center	2014-2016
Retro-Commissioning	2014-2016
Transmission & Distribution	2011-2016

Following is an excerpt of a description of each program offered, taken from AEP Ohio's Portfolio Status Report program descriptions.[67]

Consumer Programs

Efficient Products - This program provides incentives and marketing support through retailers to encourage purchases of ENERGY STAR®-approved lighting and appliances. The Efficient Products program contains three main savings paths: The first is customer rebates at the point of sale. Over 190 participating retailers in the Company's service territory are equipped to offer instant rebates on certain ENERGY STAR®-approved lighting devices. Other retailers without the capability to offer electronic markdowns may also offer retailer-reimbursed rebates on these same approved lighting products. These products include CFLs and LEDs. In addition, the program offers customers the opportunity to mail-in rebate applications for refrigerators, freezers, clothes washers, dehumidifiers, televisions, and heat pump water heaters. These applications are available from the retailer or on the AEP Ohio website. While not ENERGY STAR®-rated, AEP Ohio also offers rebates for high-efficiency electric water heaters. These rebates and incentives range from approximately one dollar each for 13-watt CFLs to $500 for heat pump water heaters.

Appliance Recycling - This program seeks to remove functioning but inefficient refrigerators and freezers from the power grid. Often, older appliances, especially refrigerators, remain in use as second or "backup" appliances—still plugged in and using an inordinate amount of energy. By removing these high-usage appliances from the grid, the Company reduces unnecessary load and usage. This program's primary focus is on these second refrigerators, but recycling for stand-alone freezers is also available.

[67] Public Utilities Commission of Ohio. Case No. 12-1537-EI-EEC, 2011 Portfolio Status Report of the Energy Efficiency and Peak Demand Response Programs of Ohio Power Company; Case 17-1229-EL-EEC, 2016 Portfolio Status Report of the Energy Efficiency and Peak Demand Response Programs.

e^3 smart[SM] - AEP Ohio offers an educational program covering energy efficiency for students in grades 4 through 12 in schools throughout the Company's service territory. It includes a curriculum designed to meet state and national science standards for these grades, teacher training, and supplies for classroom instruction. Students served by the program will learn about different forms of energy, their sources, and how electric power reaches their homes. Students are then given a box of energy-efficient devices—CFLs, LED night lights, LED's, low-flow showerheads, faucet aerators, and weather-stripping—to install at home with their parents' or guardians' supervision. Kits also include tools students can use to measure energy use and efficiency losses.

In-home Energy Program - This program takes a long-term approach to energy efficiency by helping residential customers analyze and reduce their energy use from a whole-house perspective, identifying inefficiencies, and offering appropriate remedies. AEP Ohio offers three levels of service to customers: The least-involved, Online Energy Checkups, is a free online tool available on AEP Ohio's website that customers may use to quickly identify their home energy costs, receive recommendations on how to save, and learn how to qualify for a kit of free energy-saving items. Another option, In-Home Energy Assessments, includes an in-home visit, visual inspection, prioritized suggestions for efficiency improvements, and installation of several energy-saving devices, such as CFLs, programmable thermostats, or low-flow showerheads, at a subsidized price. The most thorough service available is the In-Home Energy Audit, which provides a more comprehensive house inspection and a blower door test to find air leaks at a subsidized price.

Community Assistance - This program offers energy efficiency services to those AEP Ohio customers with limited income to assist them in reducing their electric energy use and making their utility bills more manageable. Residential customers with incomes up to 200 percent of the federal poverty level are eligible to participate. The program offers services such as home assessments, efficient lighting, appliance replacement, health and safety repairs, and weatherization, at no cost to the customer.

Efficiency Crafted[SM] New Homes – This program seeks to affect the construction of single-family residences that meet specific ENERGY STAR® or EnergyPathSM standards. Such structures can use up to 50 percent less energy than residences built to the minimum code requirements. AEP Ohio will pay various incentives to participating builders of single-family residences to help offset incremental construction costs. In addition, builders receive training, marketing, and financial support, including site signage, consumer brochures, model home displays, advertising, and other consumer education tools. All new single-family residential construction that meets standards is eligible.

Home Energy Reports - This program targets high-usage and/or low-income customers in the Company's service territory to receive a comparison mailing of how occupied homes of similar size and heating source use electricity. This is designed to spur these selected customers to save energy and use electricity more efficiently. Customers who wish to opt out of receiving these reports may call a toll-free number to do so.

Business Programs

Prescriptive - This program offers fixed incentives for the installation and implementation of certain pre- approved types of energy efficient lighting; heating, ventilation, and air conditioning (HVAC) systems; variable frequency drives (VFDs); motors; controls; refrigeration equipment; and compressed air systems, among other commercial- and industrial-grade equipment. Incentive amounts offered to customers range between 20 and 50 percent of the incremental cost to purchase energy-efficient equipment. All non-residential customers in AEP Ohio's service territory are eligible to participate.

Custom - This program is for cost-effective energy efficiency improvements in existing buildings that reduce energy consumption or peak demand and have more complicated measures that are not included in the Prescriptive program. All non-residential customers in the Company's service territory are eligible to participate. Customers work closely with their Ohio Power account managers and other employees to determine measure eligibility and verify energy savings. Customers receive an incentive customized to the specific results of the energy savings technologies implemented. Program management will assist commercial and industrial customers with the analysis and selection of high-efficiency equipment or processes.

Express - This program provides a streamlined, one-stop, turn-key energy efficiency service for small businesses. The program implementer first conducts a free on-site assessment to identify potential energy-saving opportunities. Based on recommendations from this assessment the implementer provides the participant with a proposal for installing energy efficiency measures. If the customer approves, the implementer then hires local contractors to perform the installation work. Once the work is completed, and after the customer has signed off on the work performed, the implementer bills the participant directly, after applying incentives from AEP Ohio. Incentive levels are generally higher in this program than in the Prescriptive or Custom programs, up to 80 percent of project cost. This program is designed for small business customers with annual energy consumption levels no greater than 200 MWh or peak billing demands no higher than 100 kW.

Self Direct - This program is designed for large customers able to internally administer their own energy management initiatives. Participants design their own energy efficiency programs and submit an application documenting their energy savings. Customers may apply for inclusion in the Self Direct program up to three years after implementing their energy efficiency measures. All applications are subject to approval by both Ohio Power and the Commission. If approved, participants may either receive a one-time payment, up to 75 percent of an equivalent incentive under the Prescriptive or Custom programs, or an equivalent EE/PDR rider exemption. (The accounts may not participate in any other EE/PDR programs while under such an exemption.) Participation in this program is limited to mercantile customers.

Business New Construction Program - The New Construction program offers financial incentives for the design, construction, and installation of energy-efficient equipment and systems within new building and major renovation. This program targets non-residential customers who are either building new facilities or making major renovations to existing sites, encouraging building owners, designers, and architects to exceed requirements in current construction practices and codes—specifically, measures that exceed the ASHRAE/IESNA 90.1-2007 minimum requirements. The program includes incentives for the installation of high-efficiency lighting, HVAC systems, building envelopes, industrial refrigeration equipment, and other equipment and controls. The New Construction program offers three tracks: prescriptive and custom, similar to what is offered in those respective programs, plus a "whole building" approach based on building simulation modeling. All non-residential customers building new facilities are eligible to participate.

Demand Response – This program allowed AEP Ohio to integrate peak demand reduction from customers who commit their demand reduction capability to the Company.

Energy Efficiency Auction (Bid to Win) - The Energy Efficiency Auction is a unique reverse auction program in which pre-qualified non-residential customers and solution providers can submit bids to deliver energy savings at a price per annual kilowatt hour saved or watts reduced, either at a single site or spread out among multiple sites. The Energy Efficiency Auction program is ideal for larger projects. Bidding processes are conducted online, with competing bids placed in real time and the winning bid being that with the lowest cost per kilowatt-hour. The participant or participants with the winning bid or bids are then eligible to receive incentive payments for their projects' completion at the winning price. Auctions are typically conducted in the fall of the year for projects to be submitted through the Prescriptive or Custom program during the following calendar year.

Continuous Energy Improvement - The Continuous Energy Improvement program (CEI) is designed for large industrial customers using more than 10 GWh per year. Like Retro-Commissioning, CEI focuses on low-cost or no- cost measures to reduce usage, primarily through system efficiency and process optimization. Participants join a cohort of 10 to 20 companies, with care taken to avoid placing competitors in the same cohort, to protect participants' trade secrets. Each participant designates an internal team to act as energy champions and coordinate efforts within their companies to implement changes. Over a period of one year, energy champions attend workshops and work closely with program implementers to understand how their facilities' loads change and identify opportunities for reducing energy usage. Program implementers, using information on electric consumption, weather, and participants' internal metrics (such as production levels), develop a predictive model of energy usage for each participant. Subsequent usage levels below model predictions are counted as savings.

Data Center - The Data Center program is a capital improvement program specially geared toward the unique needs of business IT operations and space. Such equipment can be highly energy-intensive, incorporate heavy HVAC loads, and have strict uptime requirements. Measures covered under this program may include ENERGY STAR® servers and telecommunications equipment; high- efficiency uninterruptable power supplies; high-efficiency power rectifiers; server virtualization; high-efficiency computer room air conditioner units; variable-speed drives on chilled water pumps; and airflow management and controls to optimize data center cooling. An additional track covers IT load growth when measured against an industry standard baseline.

Retro-Commissioning (RCx) - This program seeks to reduce energy use through low-cost or no-cost operational changes and improve the efficiency of buildings' existing systems. It is a service-based incentive where the customer benefits from receiving a study that identifies inefficiencies in their building operation. The program targets medium to large commercial business customers that have a building automation system. The program offers two tracks for customers: RCx Standard or RCx Lite. The RCx Standard offering is available to eligible customers with at least 150,000 square feet and a peak demand of at least 500 kW. The customer receives a program-funded comprehensive RCx study of their facility in exchange for the customer to commit to spending a set amount towards implementing recommendations identified in the study. The RCx Lite offering is a more streamlined study made available to facilities between 50,000 and 150,000 square feet and peak demand of at least 125 kW. This study is also offered to the customer at no cost if the customer commits a certain amount to implementing recommendations from the study. Both tracks also provide verification results to the customer.

Transmission and Distribution - The Ohio Revised Code allows a utility to include transmission and distribution infrastructure improvements to reduce line losses to meet its benchmark, and T&D projects are a major part of Ohio Power's plan for compliance. These projects have included reconductoring, substation improvements, capacitor bank installation, and voltage regulator replacement.

Multi-Sector Programs

From 2011-2016, AEP Ohio used four categories for costs that pertain to both consumer and business sector programs. These cost categories do not have energy or demand impacts directly associated with them.

Department – These are costs that include travel expenses, membership expenses, labor, and associated fringe benefits of the employees in the EE/PDR department when their time is not related to a specific energy efficiency program. These costs were only explicitly listed in the 2011 Portfolio Status Report.

Evaluation – In accordance with OAC 4901:1-39-05 (C)(2)(b), AEP Ohio conducts evaluation, measurement and verification on its EE/PDR programs. The Company's EM&V report must "document the energy savings and peak-demand reduction values and the cost-effectiveness of each energy efficiency and demand-side management program reported in the utility's portfolio status report."[68] Measurement and verification processes must confirm that the EE/PDR were installed, operate correctly, and are expected to generate the predicted savings.

Education, Training and Targeted Advertising (also referred to as Education and Media) –AEP Ohio uses this program to provide education, training, and direct outreach for customers, customer groups, contractors, trade associations, civic associations, and employees. Activities and materials are tailored to specific audiences: facilities managers, building operators, financial decision makers, builders, contractors, trade associations, civic organizations, workforce development practitioners and students, and AEP Ohio employees whose work brings them in contact with customers.[69]

In 2011, the Company provided a general overview of these expenditures in the Portfolio Status Report. The report discusses the Company's advertising campaign (tips and reminders to visit the AEP Ohio website, collateral material to education customers on programs, and participation in

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[68] Ohio Administrative Code 4901:1-39-05 (C)(2)(b), available at http://codes.ohio.gov/oac/4901%3A1-39

[69] Excerpt from AEP Ohio's response to LA-EE PDR-14-13.

events such as the Ohio State Fair). In subsequent years, the Company provided the education and media information in the program specific evaluation, measurement and verification reports.

Pilot Programs and Research & Development – This program has a targeted focus on moving new and innovative technologies, program concepts and marketing techniques more quickly into the marketplace. The Company identifies key emerging technologies and program concepts, designs and executes research or pilot projects. One goal of the program is to determine the feasibility of technologies and programs in the Company's EE/PDR plan.[70]

[70] Excerpt from AEP Ohio's response to LA-EE PDR data request 14-13.

4 FINANCIAL REVIEW - OVERVIEW

EE/PDR Program Costs

For each EE/PDR program identified and discussed in Chapter 3, Larkin requested that the Company identify the amount of total expenditures recorded (by program) in each year 2011 through 2016. In its response to LA-EE PDR-2-1, AEP Ohio provided the total expenditures, including incentives, implementation, evaluation and Company administrative costs by program for each year 2011 through 2016. The total EE/PDR program costs are summarized in Exhibit 4-1 below:

Exhibit 4-1. Summary of EE/PDR Program Costs - 2011 Through 2016

Description	2011 EE and PDR Program Costs	2012 EE and PDR Program Costs	2013 EE and PDR Program Costs	2014 EE and PDR Program Costs	2015 EE and PDR Program Costs	2016 EE and PDR Program Costs	Grand Total
CONSUMER							
Efficient Products	$ 6,715,893	$ 10,808,536	$ 12,078,924	$ 15,175,590	$ 10,344,878	$ 9,992,275	$ 65,116,096
Appliance Recycling	$ 2,658,259	$ 2,841,627	$ 3,615,443	$ 3,262,502	$ 2,166,604	$ 1,435,438	$ 15,979,873
Home Retrofit + In-Home	$ 2,407,413	$ 3,374,159	$ 5,051,382	$ 5,064,289	$ 4,663,660	$ 4,020,483	$ 24,581,386
Low Income	$ 13,984,737	$ 7,469,722	$ 12,739,555	$ 11,709,065	$ 6,651,548	$ 9,213,291	$ 61,767,918
Residential New Construction	$ 1,037,953	$ 2,174,609	$ 2,748,346	$ 1,473,375	$ 1,757,700	$ 1,861,954	$ 11,053,937
Behavior Change	$ 1,835,178	$ 1,244,977	$ 2,393,710	$ 1,564,115	$ 707,748	$ 816,157	$ 8,561,885
e3smart	$ 1,086,044	$ 914,636	$ 697,447	$ 968,677	$ 953,003	$ 727,543	$ 5,347,350
BUSINESS							
Prescriptive	$ 14,795,754	$ 17,174,822	$ 14,532,913	$ 13,294,968	$ 15,885,602	$ 14,839,563	$ 90,523,622
Custom	$ 3,622,822	$ 3,055,156	$ 4,734,052	$ 5,932,752	$ 4,587,041	$ 1,779,399	$ 23,711,222
Self Direct	$ 7,564,645	$ 2,887,520	$ 2,007,237	$ 726,127	$ 949,885	$ 1,499,636	$ 15,635,050
C&I New Construction	$ 1,842,736	$ 2,419,387	$ 4,401,470	$ 4,075,062	$ 3,873,849	$ 5,550,815	$ 22,163,319
C&I Demand Response	$ 487,457	$ 5,100	$ 336				
Express	$ 1,695,605	$ 2,170,658	$ 3,136,790	$ 1,955,901	$ 3,122,617	$ 3,186,639	$ 15,268,210
Retro-Commissioning		$ 200,529	$ 813,453	$ 742,119	$ 1,037,047	$ 1,156,665	$ 3,949,813
Continuous Improvement		$ 234,819	$ 1,541,726	$ 4,348,618	$ 2,664,144	$ 4,367,014	$ 13,156,321
Energy Efficiency Auction			$ 386,230	$ 653,899	$ 385,819	$ 3,102,746	$ 4,528,694
Data Center		$ 8,298	$ 1,832,821	$ 1,995,630	$ 1,663,575	$ 1,940,095	$ 7,440,419
MULTI-SECTOR							
Energy Education and Training	$ 251,612	$ 270,544	$ 296,159	$ 253,051	$ 330,376	$ 360,434	$ 1,762,176
Targeted Advertising	$ 5,880,022	$ 6,566,879	$ 4,415,905	$ 1,368,846	$ 2,279,806	$ 1,972,056	$ 22,483,514
Research and Development	$ 536,780	$ 293,596	$ 852,109	$ 2,011,791	$ 1,122,647	$ 2,606,569	$ 7,423,492
Total Program Costs	$ 66,402,910	$ 64,115,574	$ 78,276,008	$ 76,576,377	$ 65,147,549	$ 70,428,772	$ 420,454,297
Source: LA-EE PDR-2-1							

As shown in the exhibit above, the EE/PDR program costs are broken out by the seven consumer sector (residential) programs and ten business sector (non-residential) programs identified in Chapter 3. In addition, Multi-Sector costs that pertain to both consumer and business sector programs are reflected as well.

According to the response to LA-EE PDR-14-2, the source of the EE/PDR program costs as reflected in AEP Ohio's EE/PDR filings is the general ledger. The Company records EE/PDR program costs in the following accounts:

Exhibit 4-2. Summary of EE/PDR Program Cost Accounts

Account	Description
1840040	Undistributed Labor Fringe Benefits Clearing
1840041	Undistributed Incentive Fringe Benefits Clearing
5880000	**Miscellaneous Distribution Expenses**
5930000	**Maintenance of Overhead Lines**
9070000	**Supervision - Customer Service**
9070001	Supervision of Demand Side Management (DSM) Activities
9080000	**Customer Assistance Expenses**
9080001	DSM - Customer Advisory Group
9080009	Customer Assistance Expense - DSM
9100000	**Misc. Customer Service & Informational Expense**
9100001	**Misc. Customer Service & Informational Expense- RCS**
9110001	Supervision - Residential Sales Activities
9110002	Supervision - Commercial & Industrial Sales Activities
9200000	**Administrative & General Salaries**
9210001	**Office Supplies & Expense - Nonassociated**
9210002	Office Supplies & Expense - Associated
9230001	Outside Services
9260055	**Employee Pension & Benefits**
9301001	Newspaper Advertising Space
9301007	Special Advertising Space & Production Expenses
9301009	Fairs, Shows, and Exhibits
9301015	Other Corporate Communication Expenses
9302000	**Miscellaneous General Expenses**
9350015	**Maintenance of Office Furniture & Equipment**

Source: LA-EE PDR-1-3 (Supplemental)

The Company's initial response to LA-EE PDR-1-3 did not include the accounts shown in bold in Exhibit 4-2 above. During a conference call with AEP Ohio on February 16, 2018, the Company stated that it inadvertently omitted the accounts highlighted in bold when it ran its query in the general ledger detail. As a result, the Company provided a supplemental response to LA-EE PDR-1-3, which included all of the accounts listed above.

Larkin requested that AEP Ohio provide the detailed general ledger information for the accounts listed in the exhibit above for each year of the 2011-2016 review period. In response to LA-EE PDR-1-5, the Company provided the requested general ledger detail for the period January 1, 2011 through December 31, 2016. A discussion of our findings related to the review of the EE/PDR program costs for each year of the 2011-2016 review period is included in Chapters 6 through 11.

Incentive Costs

A major component of the EE/PDR program costs relate to incentive payments to AEP Ohio's customers. Larkin requested that for each EE/PDR program, that AEP Ohio identify the amount of incentives recorded by the Company in each year of the 2011-2016 review period. In its response to LA-EE PDR-1-8, the Company provided the following summary of incentive costs by EE/PDR program, which AEP Ohio recorded during the review period:

Exhibit 4-3. Summary of EE/PDR Related Incentive Payments For 2011-2016

Description	2011	2012	2013	2014	2015	2016	Total
Consumer							
Efficient Products	$ 4,267,493	$ 8,046,064	$ 8,911,736	$ 11,840,031	$ 7,126,942	$ 6,599,063	$ 46,791,330
Appliance Recycling	$ 1,736,534	$ 2,018,746	$ 2,308,964	$ 2,135,963	$ 1,264,440	$ 660,938	$ 10,125,585
Home Retrofit + In-Home	$ 1,270,323	$ 1,811,492	$ 2,218,879	$ 2,190,443	$ 2,502,328	$ 2,105,677	$ 12,099,142
Low Income	$ 10,742,811	$ 5,748,845	$ 9,671,593	$ 8,971,800	$ 5,056,724	$ 7,006,671	$ 47,198,443
Residential New Construction	$ 322,440	$ 1,395,601	$ 1,561,650	$ 486,740	$ 662,188	$ 697,025	$ 5,125,643
Behavior Change							$ -
e3smart	$ 420,842	$ 571,735	$ 366,711	$ 650,250	$ 611,588	$ 546,337	$ 3,167,463
Business							
Prescriptive	$ 10,746,953	$ 11,914,354	$ 9,045,757	$ 9,117,021	$ 11,758,577	$ 10,843,544	$ 63,426,207
Custom	$ 1,996,050	$ 1,650,826	$ 2,817,886	$ 3,307,075	$ 2,176,559	$ 853,880	$ 12,802,276
Self Direct	$ 5,800,943	$ 1,657,797	$ 1,220,192	$ 231,359	$ 500,829	$ 959,857	$ 10,370,976
C&I New Construction	$ 1,406,977	$ 1,699,646	$ 2,981,225	$ 2,626,563	$ 2,302,725	$ 3,519,527	$ 14,536,663
C&I Demand Response	$ 447,125						$ 447,125
Express	$ 820,431	$ 1,412,605	$ 2,791,425	$ 1,755,650	$ 2,772,708	$ 2,759,933	$ 12,312,752
Retro-Commissioning			$ 187,838	$ 353,951	$ 431,001	$ 437,364	$ 1,410,154
Continuous Improvement				$ 849,768	$ 1,091,106	$ 2,751,228	$ 4,692,103
Energy Efficiency Auction				$ 180,949	$ 875,615	$ 1,624,861	$ 2,681,424
Data Center			$ 864,230	$ 1,083,131	$ 866,480	$ 1,079,969	$ 3,893,811
Multi-Sector							
Energy Education and Training							
Targeted Advertising					$ 3,167		$ 3,167
Research and Development	$ 408,277	$ 49,735	$ 297,674	$ 749,153	$ 30,900	$ 200,552	$ 1,736,290
Total Incentives	$ 40,387,199	$ 37,977,446	$ 45,245,760	$ 46,529,847	$ 40,033,877	$ 42,646,425	$ 252,820,555

Source: LA-EE PDR-1-8

As shown in the exhibit above, the EE/PDR related incentive costs are broken out by the seven consumer sector (residential) programs and ten business sector (non-residential) programs identified in Chapter 3. In addition, Multi-Sector costs that pertain to both consumer and business sector programs are reflected as well. A discussion of our findings related to the review of the EE/PDR incentive costs for each year of the 2011-2016 review period is included in Chapters 6 through 11.

Embedded in the overall EE/PDR program costs summarized above are costs related to (1) EM&V, and (2) administrative expenses, which are summarized in the following exhibit:

Exhibit 4-4. Summary of Certain EE/PDR Program Costs For 2011 Through 2016

Description	2011	2012	2013	2014	2015	2016	Grand Total
Evaluation, Measurement and Verification Costs	$ 3,419,707	$ 2,535,036	$ 3,986,607	$ 2,616,030	$ 2,688,225	$ 2,647,277	$ 17,892,881
Company Administrative Costs	$ 3,031,116	$ 2,665,027	$ 3,549,760	$ 4,406,290	$ 3,729,918	$ 4,895,438	$ 22,277,550

Source:
EM&V Costs from LA-EE PDR-2-2 and Administrative Costs from LA-EE PDR-2-3

The Company stated that while some of the EM&V and administrative costs are charged directly to the EE/PDR programs, the majority the majority of costs are allocated to each EE/PDR program based upon each such program's percentage of the month's overall EE/PDR costs.[71] However, there are no office building related overhead costs (e.g., building depreciation, leases, maintenance, etc.) charged to the EE/PDR programs.[72] EM&V and Administrative costs are discussed in further detail in Chapters 6 through 11.

Larkin also requested that AEP Ohio identify amounts related to Company marketing, education and outreach for each year of the review period, which the Company provided in response to LA-EE PDR-2-4 and which is summarized in the exhibit below:

Exhibit 4-5. Summary of Marketing, Education and Outreach Expenditures For 2011 Through 2016

Description	2011	2012	2013	2014	2015	2016	Grand Total
Marketing Costs	$ 5,880,022	$ 6,566,879	$ 4,415,905	$ 1,368,846	$ 2,279,806	$ 1,972,056	$ 22,483,515
Education Costs	$ 251,612	$ 270,544	$ 296,159	$ 253,051	$ 330,376	$ 360,434	$ 1,762,175
Outreach Costs	$ -	$ -	$ -	$ -	$ 1,584,986	$ 1,520,179	$ 3,105,165
Source: LA-EE PDR-2-4							

AEP Ohio stated that the marketing and education costs are not charged directly to the EE/PDR programs nor are such costs allocated to the EE/PDR programs, but rather, these costs are reported separately in the year-end Portfolio Status Reports. Marketing costs are discussed in detail in a later section of this chapter.

As it relates to the outreach costs, a contract was executed between the Company and [redacted] *in January 2015, in which* [redacted] *was hired* to perform outreach services. AEP Ohio did not employee outside consultants to perform *outreach services prior to executing the contract with* [redacted] *nor were costs related to* outreach type services tracked by the EE/PDR program implementers.[73]

Larkin reviewed the contract with [redacted] which the Company provided in response to LA-EE PDR-3-4 as well as copies of the invoices for the 2015 and 2016 work performed by [redacted] and billed to AEP Ohio. Upon reviewing the [redacted] and as shown in the exhibit below, Larkin noted that the invoice totals for each year 2015 and 2016 are different than the total outreach costs shown in Exhibit 4-5 above.

[71] See the responses to LA-EE PDR-2-2 and LA-EE PDR-2-3.
[72] See the response to LA-EE PDR-8-9.
[73] See the response to LA-EE PDR-2-4.

Exhibit 4-6. Discrepancy Between [redacted] Invoices to Total Outreach Costs Included in 2015 and 2016 EE/PDR Program Costs

2015 Invoice Period	Invoice Number	Invoice Amount
1/1/2015 - 1/31/2015	058206	$ 103,831.31
2/1/2015 - 2/28/2015	059424	$ 146,743.36
3/1/2015 - 3/27/2015	0161842	$ 158,190.34
3/28/2015 - 4/24/2015	064836	$ 138,141.76
4/25/2015 - 5/22/2015	066967	$ 128,202.53
5/23/2015 - 6/19/2015	069131	$ 130,419.67
6/20/2015 - 7/24/2015	070816A	$ 111,197.86
7/25/2015 - 8/21/2015	072656	$ 112,924.07
8/22/2015 - 9/25/2015	074384	$ 132,337.29
9/26/2015 - 10/23/2015	076308	$ 146,874.36
10/24/2015 - 11/20/2015	078606	$ 139,458.45
11/21/2015 - 12/31/2015	082460	$ 32,960.13
Total 2015 [redacted] Invoices		$ 1,481,281.13
2015 Outreach Costs (LA-EE PDR 2-4)		$ 1,584,986.00
Difference		$ (103,704.87)

2016 Invoice Period	Invoice Number	Invoice Amount
1/1/2016 - 1/22/2016	082523	$ 109,706.78
1/23/2016 - 2/19/2016	084264	$ 156,989.64
2/20/2016 - 3/25/2016	086516	$ 131,721.28
3/26/2016 - 4/29/2016	087494	$ 115,352.14
4/30/2016 - 5/27/2016	088289	$ 115,352.14
5/28/2016 - 6/30/2016	090459	$ 115,352.14
7/1/2016 - 7/29/2016	091611	$ 115,352.14
7/30/2016 - 8/31/2016	092468	$ 115,352.14
9/1/2016 - 9/30/2016	094501	$ 115,352.14
10/1/2016 - 10/28/2016	095569	$ 115,352.14
10/29/2016 - 11/25/2016	096745	$ 115,352.14
11/26/2016 - 12/31/2016	098412	$ 115,352.14
Total 2016 [redacted] Invoices		$ 1,436,586.96
2016 Outreach Costs (LA-EE PDR 2-4)		$ 1,520,179.00
Difference		$ (83,592.04)

Larkin noted that the budget section of the [redacted] contract indicated that the budgeted amounts for [redacted] services were $1,481,769 and $1,436,587 for 2015 and 2016, respectively. As shown in Exhibit 4-5 above, the total 2015 invoices were slightly less than the 2015 budget and the total 2016 invoices equaled the 2016 budget. However, in both years, the amount of outreach costs indicated by AEP Ohio (per the response to LA-EE PDR-2-4) exceeded the total amounts of invoices issued by [redacted] In response to Larkin's informal inquiry, AEP Ohio stated that the differences relate to direct charges to the Outreach program that were incurred by the Program Coordinator, who is part of the EE/PDR employee group. In addition, AEP Ohio advised that by using the filter function to isolate the Project ID designation "C&I Outreach" in the electronic version of the general ledger detail provided in response to LA-EE PDR-1-5, the differences identified in the exhibit above for 2015 and 2016 will reconcile. Larkin confirmed this by using the filter function as described by AEP Ohio in the 2015 and 2016 general ledger detail. No exceptions were noted.

Review of EE/PDR Advertisements (Marketing Costs)

As shown in Exhibit 4-1 above, the breakout of EE/PDR program expenses during the 2011-2016 review period included the line item "Targeted Advertising" under the Multi-Sector category of EE/PDR program costs. For this group of program costs, Larkin requested that AEP Ohio identify and provide copies of each advertisement for which costs were included in Targeted Advertising category of program costs. In response to LA-EE PDR-3-11, the Company provided approximately 300 files containing advertisements that were used during the 2011-2016 review period. The majority of these advertisements were in the form of television, radio, and internet ads, as well as signs and brochures.

We reviewed each advertisement individually in order to ensure that they were related to energy efficiency and/or the EE/PDR programs. For example, many of the advertisements were designed to bring awareness to customers that many of their appliances are not energy efficient and that AEP Ohio offers ways in which customers can save both energy and money. Other examples of the advertisements included information about the EE/PDR programs and the availability of in-home audits to customers. In addition, certain ads provided customers with a link to AEP Ohio's website "AEPOhio.com/Wasteless," whereby the Company provides information related to the energy efficiency programs. Moreover, other advertisements were related to rebates the Company offers to customers who switch to energy-efficient appliances, such as those with the Energy Star designation.

Based on our review, all of the advertising materials provided for the 2011-2016 review period pertained to energy efficiency and/or the Company's EE/PDR programs. None of the advertisements appeared to be related to corporate image-building. No exceptions were noted.

AEP Ohio and Affiliate Labor Costs

Larkin's review of the costs associated with AEP Ohio's EE/PDR programs for the period 2011 through 2016 included a review of the policies and procedures related to how labor costs are direct charged and/or allocated to the Company's EE/PDR programs. In addition, Larkin reviewed the actual labor related costs that were included in the EE/PDR program costs in each year 2011 through 2016.

2011 Distribution Rate Case Labor Costs

Larkin evaluated whether labor costs related to the EE/PDR programs in 2011 were excluded from the base rate labor costs in the Company's last distribution rate case in Case Nos. 11-351-EL-AIR and 11-352-EL-AIR, which were filed by AEP Ohio in 2011 with a test year that was the 12 months ending May 31, 2011. AEP Ohio filed its Application in the distribution rate case proceeding on February 28, 2011. At the time, the merger between CSP and OPCo was still pending and awaiting approval, thus there was a separate filing for each company. In both of those rate case filings, the Company proposed adjustments to remove from distribution base rates, the revenues and expenses associated with several riders, including those associated with the EE/PDR rider. Specifically, on page 13 of his direct testimony in that distribution rate case proceeding, AEP Ohio witness Thomas Mitchell stated:

> Consistent with rider revenue adjustments supported by Company witness Zelina, I have removed rider-related expenses from distribution cost of service. Revenues and expenses for riders have been removed from the distribution cost of service because these revenue and expenses are collected and recovered separately through the various approved Commission riders. The expenses for these riders consist of actual expense for three-months ended August 31, 2010 (actual expenses) and forecasted expense for the nine-months ended May 31, 2011 (forecasted expenses).

In addition, as discussed on page 14 of Mr. Mitchell's direct testimony in those rate cases, the adjustments to remove the EE/PDR related revenues and expenses from distribution base rates were reflected on Schedule C-3.4 in the respective CSP and OPCo filings. Specifically, for CSP, the Company removed EE/PDR revenues of $49.982 million and EE/PDR expenses of $39.549 million for a net adjustment of ($10.433 million). For OPCo, the Company removed EE/PDR revenues of $52.744 million and EE/PDR expenses of $43.686 million for a net adjustment of

($9.058 million).[74] However, the labor costs associated with EE/PDR programs were not separately identified within these adjustments.

On September 5, 2011, Staff filed reports with the Commission in which it submitted its findings and recommended adjustments pursuant to its review of AEP Ohio's distribution rate case filings in the aforementioned proceedings. As discussed in its respective reports for CSP and OPCo, Staff agreed with the Company's proposed adjustments to remove the revenues and expenses associated with its various riders, including the EE/PDR rider, but updated these adjustments using actual costs through May 31, 2011. Specifically, on page 8 of its report for CSP (Case No. 11-351-EL-AIR) Staff stated:[75]

> The Applicant adjusted test year operating income to remove the effects of approved riders (Universal Service Fund, Advanced Energy Fund, KWH Tax, **Energy Efficiency/Peak Demand**, Economic Development Cost Recovery, Enhanced Service Reliability, Mon Power Litigation Termination, and gridSMART®) from the distribution test year. Staff adjusted test year operating income to remove the same effects using actual data. These adjustments are reflected on Schedules C-3.1 through C-3.6, C-3.21 and C-3.22. (Emphasis supplied)

Note: EE/PDR labor costs were not separately identified in the Energy Efficiency/Peak Demand Rider, nor any of the other Schedules mentioned in the quote above.

Similar to AEP Ohio, Staff's adjustments to remove the revenues and expenses associated with the EE/PDR programs were reflected on Schedule C-3.4 for each company. For CSP, Staff removed EE/PDR revenues of $49.194 million and EE/PDR expenses of $24.077 million for a net adjustment of ($25.116 million). For OPCo, Staff removed EE/PDR revenues of $51.905 million and EE/PDR expenses of $50.348 million for a net adjustment of ($1.557 million).

Thus, both Staff and the Company removed EE/PDR revenue and expenses in determining the revenue requirement for electric distribution service in the Company's last distribution base rate cases.

During 2011, which was prior to the merger of CSP and OPCo, labor for the Ohio EE/PDR programs was provided by AEP Service Company employees. In its response to LA-EE PDR-11-2, AEP Ohio stated that the service company labor that is incorporated into the Company's base rates is a separately determined figure. A review by Larkin of the CSP and OPCo general ledger detail for 2011 shows that AEP Service Company labor costs for the Ohio EE/PDR programs were recorded in accounts 1840040, 1840041, 9070001, 9080009, 9110001 and 9110002.[76] While neither AEP Ohio's nor Staff's Schedule C-3.4 in those prior rate cases isolated the specific EE/PDR labor costs that were being removed from test year distribution cost of service, Larkin noted that the total expenses removed included, but were not limited to, labor costs that were recorded in the following accounts: (1) 9070001 - Supervision - DSM; (2)

[74] See Schedule C-3.4 from CSP's filing in Case No. 11-351-EL-AIR and OPCo's filing in Case No. 11-352-EL-AIR.

[75] Staff's report in Case No. 11-352-EL-AIR contained similar language on pages 8-9 for OPCo.

[76] See Chapter 6 of this report which contains a more detailed discussion.

9080009 - Customer Assistance Expense - DSM; (3) 9110001 - Supervision - Residential; and (4) 9110002 - Supervision - Commercial & Industrial. As noted above and as indicated in the response to LA-EE PDR-3-3 (and discussed in Chapters 6 through 11), the Company recorded EE/PDR related labor costs in each of these accounts during the 2011-2016 review period, which Larkin verified to the general ledger. However, these accounts are not exclusively used for recording labor costs and as such, contain other non-labor related costs.

The potential for duplicative recovery and/or shifting of AEP Ohio's labor costs from base rates to the EE/PDR rider exists because base rates for electric distribution service are set periodically in rate cases whereas the EE/PDR programs track costs annually for recovery via the EE/PDR rider. Thus, there could be a situation where labor costs are included for recovery in base rates for electric distribution service, then after such rates have been set, labor costs could be shifted into riders such as the EE/PDR rider while still being recovered in base rates. Because of this risk of potential duplicative recovery of labor costs between base rates and the EE/PDR rider, Larkin performed testing to determine if this occurred during the 2011 through 2016 EE/PDR audit period. The documentation Larkin reviewed in the context of AEP Ohio's 2011 distribution rate case and the EE/PDR accounting information for 2011, gave no indication that that there was double-counting or duplicative recovery of EE/PDR related labor costs between the 2011 distribution rate case filings (i.e., labor costs included in base rates) and the 2011 EE/PDR programs.

As described above, Larkin reviewed the referenced Company and Staff testimony/reports and schedules from AEP Ohio's 2011 distribution rate case filing. Larkin also reviewed the Company's EE/PDR program costs for the period 2011 through 2016, including the labor costs charged to the EE/PDR program, which are recorded in the Company's general ledger.

Based on interviews with the Company and the documentation provided in response to data requests, Larkin found no indications of duplicative recovery between the EE/PDR related labor costs and the labor costs being recovered in base rates for electric distribution service for 2011.

AEP Ohio did not have additional base rate cases for electric distribution service in the years 2012 through 2016. During the years 2012 through 2016, AEP Ohio charged labor costs to the EE/PDR programs, based on the costs recorded in its general ledger. For accounting purposes, AEP Ohio records the labor costs associated with the EE/PDR programs in a manner that makes such costs identifiable in the Company's general ledger. Larkin reviewed the AEP Ohio EE/PDR labor costs for each year in the EE/PDR audit period, as described in this report.

In summary, the documentation Larkin reviewed related to the Company's 2011 distribution rate case shows that AEP Ohio (and Staff) removed all of the costs associated with the EE/PDR programs for the test year June 1, 2010 through May 31, 2011 to determine the appropriate level of operating costs (including labor) pursuant to the establishment of base rates in the Company's 2011 rate case.

As described in our report, Larkin has not made a finding that duplicative recovery of AEP Ohio's labor costs has occurred between the Company's base rates and the EE/PDR rider during any years in the 2011 through 2016 EE/PDR audit period. However, because of the potential for shifting labor costs that are being recovered in base rates for electric distribution service into the EE/PDR rider during the periods between rate cases continues to present a risk that double recovery of such costs could occur, Larkin recommends that the Company develop additional procedures to track costs, including labor costs of employees whose costs had been included for recovery in electric distribution rates, and who were transferred subsequent to the rate case test year to provide service related to the EE/PDR programs.

Therefore, Larkin recommends that AEP Ohio develop a verifiable audit trail which clearly shows annually, the separation between the labor costs related to the provision of electric distribution service and included in base rates and the labor costs that are included in the EE/PDR rider. The audit trail documentation should include information on net incremental labor being included in EE/PDR costs and whether and how that relates to reductions in labor providing electric distribution service.

In terms of the policies and procedures the Company has in place with regard to how labor costs are direct charged and/or allocated to the EE/PDR programs, the Company provided three attachments in its response to LA-EE PDR-8-8, including (1) a summary of labor cost components; (2) the procedures used to allocate fringe benefits on actual productive labor; and (3) procedures used to allocate Company incentive plan costs to productive labor costs.[77]

The labor cost centers used by AEP Ohio are summarized in the Exhibit below:

Exhibit 4-7. Labor Cost Components of the EE/PDR Programs

Cost Component	Description	Cost Types	Allocation Method
120	Labor Fringes (Straight Time)	FICA, FUI, SUI, W/C, Pension, OPEB, Insurances, Savings	Fringe Loading rate determined quarterly to spread over labor based on fringe loading costs
121	Labor Fringes (Overtime)	FICA Savings	Fringe Loading rate determined quarterly to spread over labor based on fringe loading costs
122	Labor Fringes (Incentv Accr)	FICA Savings	Fringe Loading rate determined quarterly to spread over labor based on fringe loading costs
123	Labor Fringes - Other NTL Pymt	FICA Savings	Fringe Loading rate determined quarterly to spread over labor based on fringe loading costs
125	Payroll Dist Nonproductive	Accrual for Vacation, Holiday, Sick, Personal Days, etc.	Rate established for GLBU/Department based on projected requirement for accrual
141	Incentive Accrual Dept Level	Corp Incentives	HR and Corp Accounting present monetary amount to load over labor costs
145	Stock-Based Compensation	Corp Incentives	HR and Corp Accounting present monetary amount to load over labor costs
148	Corp & Shared Svcs Incentives	Corp Incentives	HR and Corp Accounting present monetary amount to load over labor costs
154	Restricted Stock Incentives	Corp Incentives	HR and Corp Accounting present monetary amount to load over labor costs
155	Transmission Incentives	Corp Incentives	HR and Corp Accounting present monetary amount to load over labor costs

Source LA-EE PDR-8-8

The labor fringe loading cost centers listed in the exhibit above include the following:

Cost Center 120 - Regular (straight time) labor, including non-productive time accrued

Cost Center 121 - Overtime Labor

Cost Center 122 - Incentive Accrual (see below)

Cost Center 123 - Taxable relocation, lump sum payments and other miscellaneous taxable payments

According to Attachment 1 from the response to LA-EE PDR-8-8, labor overheads are charged to the EE/PDR programs when loaded on the following cost centers:

Cost Center 120 = full fringe loading on all 11E and U3E (exempt), 11N (non-exempt), 11S (salaried) straight-time labor, and 125 nonproductive load/accrual

Cost Center 121 = partial fringe loading on all 13E (exempt), 13N (non-exempt) and 13S (salaried) overtime labor

[77] Attachment 3 is discussed in detail in Chapter 13, which addresses incentive compensation and stock-based compensation.

> Cost Center 122 = partial fringe loading on applicable incentive accruals: 141 (general),
>
> Cost Center 123 = partial fringe loading on 142 (relocation) and 143 (various taxable, non-time sheet, payroll-related payments which spread over the labor base when paid)

In addition, Cost Centers 141, 148 and 155 are corporate incentive loadings. With regard to Cost Center 125 - Non-Productive Labor Load/Accrual, the response to LA-EE PDR-8-8 provided the following narrative:

> The non-productive load is an overhead that is apportioned over productive straight-time labor (11E, U3E, 11N and 11S) each bi-weekly period. This cost element accrues for vacation entitlement and other paid time off for holidays, sick time, assigned personal days, rest period, bereavement, etc. Each General Ledger Business Unit ("GLBU") and Department is analyzed monthly to determine the required loading rate to maintain the accrual for the corporate obligation for paid time off.

A discussion of Cost Centers 122 (Incentive Accrual), 141 (Incentive Accrual Dept Level), 145 (Stock-Based Compensation), and 154 (Restricted Stock Incentives) is included in Chapter 13.

Distribution of Labor Costs Charged to EE/PDR Programs

In order to obtain an understanding of the level of the internal labor hours and costs that were charged to the EE/PDR programs during the 2011-2016 review period in proportion to the total labor hours and costs incurred during each year of the review period, Larkin requested that AEP Ohio provide: (1) total labor hours charged to the EE/PDR Rider; (2) total labor hours worked for the year; (3) total labor dollars charged to the EE/PDR Rider; (4) total labor dollars for the year; and (5) the percentage of time that each employee charged to the EE/PDR Rider in proportion to the overall labor costs. In its response to LA-EE PDR-4-3, which was supplemented by the response to LA-EE PDR-11-1, the Company provided the requested information in the format shown in the following exhibit, which reflects 2016 data:[78]

[78] The 2016 labor data is discussed in further detail in Chapter 11 of this report.

Exhibit 4-8. Ohio Power Distribution Labor Costs Charged to the EE/PDR Rider in 2016

	Year 2016					
	EE LaborHrs for the Year	Total Employee Labor Hrs for Year	EE LaborDollars for the Year	TotalLaborDollars for the Year	% of EE Hrs ChargedToRider	
Employee ID	Ohio Power	Ohio Power	Ohio Power	Ohio Power	Ohio Power	Comments
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OT
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OT
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OT
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*EE terminated on 10/04/2016
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OT
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK - Part-Time employee as of 08/26/2014
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OT
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*OK
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*EE was hired into department on 10/10/2016
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*EE was hired into department on 10/24/2016
Total	34,037.25	40,293.75	$ 1,724,578	$ 2,043,491	84.47%	

As shown in the exhibit above, for 2016, Ohio Power employees working on the AEP Ohio EE/PDR programs charged 34,037 labor hours to the EE/PDR programs out of their total labor hours of 40,294, i.e., 84.47% of their 2016 labor hours were for the EE/PDR programs. In addition, the EE/PDR related internal labor costs totaled $1.725 million of $2.043 million of their total labor costs. As shown under the column heading "% of EE Hrs Charged to Rider", the individual Company employees (identified by Employee ID) charged the majority of their time in 2016 to the EE/PDR programs. The data shown for labor hours are from each respective employee's timesheets. During the onsite interviews conducted on October 19, 2017, the Company stated that employees who reflect either less than or greater than 2,080 annual hours, explanations are provided under the "Comments" column. For example, as shown above for the employees identified by Employee ID numbers [redacted] and [redacted] both employees were hired to perform work in the EE/PDR programs in October 2017.

During the October 19, 2017 interviews, Larkin and the Company held discussions and performed a walkthrough of the attachment provided in the supplemental response to LA-EE PDR-11-1. *Pursuant to the discussion and walkthrough and referencing Exhibit 4-8 above,* Larkin requested that AEP Ohio provide an analysis of the data related to Employee ID [redacted]. Specifically, for each year 2011 through 2016, Larkin requested that AEP Ohio show how that employee's labor cost (including the costs related to straight time, overtime and non-productive time) was charged to the EE/PDR projects and/or to other cost areas. In response to LA-EE PDR-12-2, the Company provided the requested information related to Employee ID [redacted] which is replicated in the exhibit below:

Exhibit 4-9. Summary of Employee ID [redacted] Labor Costs Charged to EE/PDR Projects During the Period 2011-2016

2011 - EMPLID [redacted]	Amount Charged to EE/PDR	Amount Charged to OTHER	Total Charged
	(A)	(B)	(C)
Straight Time & Over Time Productive Charges	$ 66,144.31	$ 947.59	$ 67,091.90
Non-Productive Accrual	$ 10,626.45	$ 70.70	$ 10,697.15
Non-Productive Accrual Over/(Under) Amount Paid	$ -	$ (2,285.63)	$ (2,285.63)
Total Charged	$ 76,770.76	$ (1,267.34)	$ 75,503.42

2012 - EMPLID [redacted]	Amount Charged to EE/PDR	Amount Charged to OTHER	Total Charged
Straight Time & Over Time Productive Charges	$ 62,182.43	$ 3,526.87	$ 65,709.30
Non-Productive Accrual	$ 9,513.91	$ 139.66	$ 9,653.57
Non-Productive Accrual Over/(Under) Amount Paid	$ -	$ 3,505.68	$ 3,505.68
Total Charged	$ 71,696.34	$ 7,172.21	$ 78,868.55

2013 - EMPLID [redacted]	Amount Charged to EE/PDR	Amount Charged to OTHER	Total Charged
Straight Time & Over Time Productive Charges	$ 69,512.85	$ 1,078.91	$ 70,591.76
Non-Productive Accrual	$ 12,300.20	$ 106.41	$ 12,406.61
Non-Productive Accrual Over/(Under) Amount Paid	$ -	$ (3,211.66)	$ (3,211.66)
Total Charged	$ 81,813.05	$ (2,026.34)	$ 79,786.71

2014 - EMPLID [redacted]	Amount Charged to EE/PDR	Amount Charged to OTHER	Total Charged
Straight Time & Over Time Productive Charges	$ 65,673.17	$ 953.05	$ 66,626.22
Non-Productive Accrual	$ 10,077.33	$ 131.58	$ 10,208.91
Non-Productive Accrual Over/(Under) Amount Paid	$ -	$ 5,095.47	$ 5,095.47
Total Charged	$ 75,750.50	$ 6,180.10	$ 81,930.60

2015 - EMPLID [redacted]	Amount Charged to EE/PDR	Amount Charged to OTHER	Total Charged
Straight Time & Over Time Productive Charges	$ 72,533.87	$ -	$ 72,533.87
Non-Productive Accrual	$ 12,107.32	$ -	$ 12,107.32
Non-Productive Accrual Over/(Under) Amount Paid	$ -	$ (249.43)	$ (249.43)
Total Charged	$ 84,641.19	$ (249.43)	$ 84,391.76

2016 - EMPLID [redacted]	Amount Charged to EE/PDR	Amount Charged to OTHER	Total Charged
Straight Time & Over Time Productive Charges	$ 72,708.07	$ 143.98	$ 72,852.05
Non-Productive Accrual	$ 12,723.15	$ 24.10	$ 12,747.25
Non-Productive Accrual Over/(Under) Amount Paid	$ -	$ 710.56	$ 710.56
Total Charged	$ 85,431.22	$ 878.64	$ 86,309.86

As shown in the exhibit above, under Column A (Amount Charged to EE/PDR), for each year 2011 through 2016, it shows amounts [redacted] including (1) straight time and over time productive charges, and (2) non-productive accrual. Under Column B (Amount

Charged to OTHER), it shows the amount of straight time and over time and non-productive accrual charged to non-EE/PDR programs and includes an additional amount for the line item "Non-Productive Accrual Over/(Under) Amount Paid." Finally, the total of Columns A and B are shown in Column C. Larkin verified: (1) the amounts shown for Straight Time and Over Time Productive Charges in Column A (except for 2011 - see discussion below), and (2) the overall Total Charged amounts in Column C back to Attachment 1 from the supplemental response to LA-EE PDR-11-1.

For each year 2011 through 2016, it was unclear how the amounts shown under Column A for the Non-Productive Accrual were derived. In response to Larkin's inquiry, a conference call was held between Larkin and AEP Ohio on February 16, 2018. Pursuant to this call, the Company provided a supplemental response to LA-EE PDR-12-2, which included additional tabs showing how the Non-Productive Accrual amounts were calculated. Specifically, the non-productive accrual amounts in the exhibit above were calculated by applying the Non-Productive Labor Load/Accrual rate (i.e., Cost Center 125) to the straight time and overtime productive charges. Attachment 1 to the response to LA-EE PDR-8-8 describes Cost Center 125 as follows:

> The non-productive load is an overhead that is apportioned over productive straight-time labor (11E, U3E, 11N, and 11S) each biweekly pay period. This cost element accrues for vacation entitlement and other paid time off for holidays, sick time, assigned personal days, rest period, bereavement, etc. Each General Ledger Business Unit and Department is analyzed monthly to determine the required loading rate to maintain the accrual for the corporate obligation for paid time off.

The non-productive accrual amounts for Employee ID [redacted] were calculated by multiplying the monthly amounts for straight time and overtime productive charges in each year of the review period by (1) the actual non-productive vacation rate, and (2) the actual non-productive rate for other paid time off. The sum of these monthly calculations total the annual non-productive accruals reflected in the exhibit above. For example, the calculation of the 2011 non-productive accrual for [redacted] is shown in the exhibit below:

Exhibit 4-10. 2011 Calculation of Non-Productive Accrual for Employee ID [redacted]

Emp. ID	Cost Comp	Time Rptg Cd	Sum Quantity	Sum BU Amount	Ledger	Year	Acctg Date	NP Effective Date	Act NP Vac Rt	Actual NP Rate	CC125 Rate	NP VAC Calc	NP Calc	CC 125 Load
[redacted]	11E	REGS	52 00	$ 1,825 00	ACTUALS	2011	1/14/2011	1/12/2011	9 00%	5 40%	14 40%	$ 164 25	$ 98 55	$ 262 80
	11E	REGS	20 00	$ 701 92	ACTUALS	2011	1/14/2011	1/12/2011	9 00%	5 40%	14 40%	$ 63 17	$ 37 90	$ 101 07
	11E	REGS	58 00	$ 2,035 57	ACTUALS	2011	1/28/2011	1/12/2011	9 00%	5 40%	14 40%	$ 183 20	$ 109 92	$ 293 12
	11E	REGS	22 00	$ 772 12	ACTUALS	2011	1/28/2011	1/12/2011	9 00%	5 40%	14 40%	$ 69 49	$ 41 69	$ 111 18
	11E	REGS	56 00	$ 1,965 38	ACTUALS	2011	2/11/2011	2/7/2011	6 39%	5 59%	11 98%	$ 125 59	$ 109 86	$ 235 45
	11E	REGS	24 00	$ 842 31	ACTUALS	2011	2/11/2011	2/7/2011	6 39%	5 59%	11 98%	$ 53 82	$ 47 09	$ 100 91
	11E	REGS	46 00	$ 1,614 42	ACTUALS	2011	2/25/2011	2/21/2011	7 12%	5 47%	12 59%	$ 114 95	$ 88 31	$ 203 26
	11E	REGS	18 00	$ 631 73	ACTUALS	2011	2/25/2011	2/21/2011	7 12%	5 47%	12 59%	$ 44 98	$ 34 56	$ 79 54
	13E	OTE	8 00	$ 280 77	ACTUALS	2011	2/25/2011	2/21/2011	0 00%	0 00%	0 00%	$ -	$ -	$ -
	11E	REGS	32 00	$ 1,123 08	ACTUALS	2011	3/11/2011	3/7/2011	7 07%	5 49%	12 56%	$ 79 40	$ 61 66	$ 141 06
	11E	REGS	16 00	$ 561 53	ACTUALS	2011	3/11/2011	3/7/2011	7 07%	5 49%	12 56%	$ 39 70	$ 30 83	$ 70 53
	11E	REGS	32 00	$ 1,123 08	ACTUALS	2011	3/11/2011	3/7/2011	7 07%	5 49%	12 56%	$ 79 40	$ 61 66	$ 141 06
	11E	REGS	52 00	$ 1,825 01	ACTUALS	2011	3/25/2011	3/21/2011	7 49%	5 38%	12 87%	$ 136 69	$ 98 19	$ 234 88
	11E	REGS	28 00	$ 982 68	ACTUALS	2011	3/25/2011	3/21/2011	7 49%	5 38%	12 87%	$ 73 60	$ 52 87	$ 126 47
	11E	REGS	25 00	$ 880 42	ACTUALS	2011	4/8/2011	4/4/2011	7 58%	5 38%	12 96%	$ 66 74	$ 47 37	$ 114 11
	11E	REGS	15 00	$ 528 25	ACTUALS	2011	4/8/2011	4/4/2011	7 58%	5 38%	12 96%	$ 40 04	$ 28 42	$ 68 46
	11E	REGS	40 00	$ 1,408 64	ACTUALS	2011	4/8/2011	4/4/2011	7 58%	5 38%	12 96%	$ 106 77	$ 75 78	$ 182 55
	11E	REGS	48 00	$ 1,742 32	ACTUALS	2011	4/22/2011	4/18/2011	7 62%	5 53%	13 15%	$ 132 76	$ 96 35	$ 229 11
	11E	REGS	32 00	$ 1,161 53	ACTUALS	2011	4/22/2011	4/18/2011	7 62%	5 53%	13 15%	$ 88 51	$ 64 23	$ 152 74
	11E	REGS	44 00	$ 1,597 13	ACTUALS	2011	5/6/2011	5/2/2011	7 81%	5 64%	13 45%	$ 124 74	$ 90 08	$ 214 82
	11E	REGS	28 00	$ 1,016 34	ACTUALS	2011	5/6/2011	5/2/2011	7 81%	5 64%	13 45%	$ 79 38	$ 57 32	$ 136 70
	11E	REGS	49 00	$ 1,778 62	ACTUALS	2011	5/20/2011	5/16/2011	8 01%	5 80%	13 81%	$ 142 47	$ 103 16	$ 245 63
	11E	REGS	31 00	$ 1,125 23	ACTUALS	2011	5/20/2011	5/16/2011	8 01%	5 80%	13 81%	$ 90 13	$ 65 26	$ 155 39
	11E	REGS	26 00	$ 943 76	ACTUALS	2011	6/3/2011	6/1/2011	8 32%	5 98%	14 30%	$ 78 52	$ 56 44	$ 134 96
	11E	REGS	14 00	$ 508 17	ACTUALS	2011	6/3/2011	6/1/2011	8 32%	5 98%	14 30%	$ 42 28	$ 30 39	$ 72 67
	11E	REGS	36 00	$ 1,306 75	ACTUALS	2011	6/17/2011	6/13/2011	8 07%	5 79%	13 86%	$ 105 45	$ 75 66	$ 181 11
	11E	REGS	20 00	$ 725 95	ACTUALS	2011	6/17/2011	6/13/2011	8 07%	5 79%	13 86%	$ 58 58	$ 42 03	$ 100 61
	11E	REGS	45 00	$ 1,633 41	ACTUALS	2011	7/1/2011	6/27/2011	7 47%	5 87%	13 34%	$ 122 02	$ 95 88	$ 217 90
	11E	REGS	23 00	$ 834 86	ACTUALS	2011	7/1/2011	6/27/2011	7 47%	5 87%	13 34%	$ 62 36	$ 49 01	$ 111 37
	11E	REGS	47 00	$ 1,706 02	ACTUALS	2011	7/15/2011	7/11/2011	7 51%	6 21%	13 72%	$ 128 12	$ 105 94	$ 234 06
	11E	REGS	25 00	$ 907 45	ACTUALS	2011	7/15/2011	7/11/2011	7 51%	6 21%	13 72%	$ 68 15	$ 56 35	$ 124 50
	11E	REGS	48 00	$ 1,742 31	ACTUALS	2011	7/29/2011	7/11/2011	7 51%	6 21%	13 72%	$ 130 85	$ 108 20	$ 239 05
	11E	REGS	32 00	$ 1,161 54	ACTUALS	2011	7/29/2011	7/11/2011	7 51%	6 21%	13 72%	$ 87 23	$ 72 13	$ 159 36
	11E	REGS	43 00	$ 1,560 82	ACTUALS	2011	8/12/2011	8/8/2011	5 96%	6 30%	12 26%	$ 93 02	$ 98 33	$ 191 35
	11E	REGS	29 00	$ 1,052 65	ACTUALS	2011	8/12/2011	8/8/2011	5 96%	6 30%	12 26%	$ 62 74	$ 66 32	$ 129 06
	11E	REGS	48 00	$ 1,742 31	ACTUALS	2011	8/26/2011	8/23/2011	10 47%	6 84%	17 31%	$ 182 42	$ 119 17	$ 301 59
	11E	REGS	32 00	$ 1,161 54	ACTUALS	2011	8/26/2011	8/23/2011	10 47%	6 84%	17 31%	$ 121 61	$ 79 45	$ 201 06
	11E	REGS	45 00	$ 1,633 42	ACTUALS	2011	9/9/2011	9/5/2011	12 11%	6 77%	18 88%	$ 197 81	$ 110 58	$ 308 39
	11E	REGS	35 00	$ 1,270 43	ACTUALS	2011	9/9/2011	9/5/2011	12 11%	6 77%	18 88%	$ 153 85	$ 86 01	$ 239 86
	11E	REGS	24 00	$ 871 16	ACTUALS	2011	9/23/2011	9/19/2011	12 17%	6 48%	18 65%	$ 106 02	$ 56 45	$ 162 47
	11E	REGS	24 00	$ 871 15	ACTUALS	2011	9/23/2011	9/19/2011	12 17%	6 48%	18 65%	$ 106 02	$ 56 45	$ 162 47
	11E	REGS	16 00	$ 580 77	ACTUALS	2011	9/23/2011	9/19/2011	12 17%	6 48%	18 65%	$ 70 68	$ 37 63	$ 108 31
	11E	REGS	47 00	$ 1,706 01	ACTUALS	2011	10/7/2011	10/3/2011	12 17%	6 45%	18 62%	$ 207 62	$ 110 04	$ 317 66
	11E	REGS	33 00	$ 1,197 84	ACTUALS	2011	10/7/2011	10/3/2011	12 17%	6 45%	18 62%	$ 145 78	$ 77 26	$ 223 04
	11E	REGS	39 00	$ 1,415 64	ACTUALS	2011	10/21/2011	10/3/2011	12 17%	6 45%	18 62%	$ 172 28	$ 91 31	$ 263 59
	11E	REGS	25 00	$ 907 44	ACTUALS	2011	10/21/2011	10/3/2011	12 17%	6 45%	18 62%	$ 110 44	$ 58 53	$ 168 97
	11E	REGS	17 00	$ 617 07	ACTUALS	2011	11/4/2011	11/1/2011	6 07%	12 90%	18 97%	$ 37 46	$ 79 60	$ 117 06
	11E	REGS	23 00	$ 834 86	ACTUALS	2011	11/4/2011	11/1/2011	6 07%	12 90%	18 97%	$ 50 68	$ 107 70	$ 158 38
	11E	REGS	26 00	$ 943 74	ACTUALS	2011	11/18/2011	11/14/2011	6 28%	16 92%	23 20%	$ 59 27	$ 159 68	$ 218 95
	11E	REGS	22 00	$ 798 54	ACTUALS	2011	11/18/2011	11/14/2011	6 28%	16 92%	23 20%	$ 50 15	$ 135 11	$ 185 26
	11E	REGS	32 00	$ 1,161 57	ACTUALS	2011	11/18/2011	11/14/2011	6 28%	16 92%	23 20%	$ 72 95	$ 196 54	$ 269 49
	11E	REGS	29 00	$ 1,052 63	ACTUALS	2011	12/2/2011	12/1/2011	6 74%	18 51%	25 25%	$ 70 95	$ 194 84	$ 265 79
	11E	REGS	27 00	$ 980 03	ACTUALS	2011	12/2/2011	12/1/2011	6 74%	18 51%	25 25%	$ 66 05	$ 181 40	$ 247 45
	11E	REGS	8 00	$ 290 42	ACTUALS	2011	12/2/2011	12/1/2011	6 74%	18 51%	25 25%	$ 19 57	$ 53 76	$ 73 33
	11E	REGS	31 00	$ 1,125 26	ACTUALS	2011	12/16/2011	12/1/2011	6 74%	18 51%	25 25%	$ 75 84	$ 208 29	$ 284 13
	11E	REGS	25 00	$ 907 44	ACTUALS	2011	12/16/2011	12/1/2011	6 74%	18 51%	25 25%	$ 61 16	$ 167 97	$ 229 13
	11E	REGS	33 00	$ 1,197 83	ACTUALS	2011	12/30/2011	12/1/2011	6 74%	18 51%	25 25%	$ 80 73	$ 221 72	$ 302 45
	11E	REGS	27 00	$ 980 04	ACTUALS	2011	12/30/2011	12/1/2011	6 74%	18 51%	25 25%	$ 66 05	$ 181 41	$ 247 46
	11E	REGS	8 00	$ 290 40	ACTUALS	2011	12/30/2011	12/1/2011	6 74%	18 51%	25 25%	$ 19 57	$ 53 75	$ 73 32
			Total	$ 66,144.31								$ 5,444.06	$ 5,182.39	$ 10,626.45

Source: LA-EE PDR-12-2 (Supplemental)

As shown in the exhibit above, for 2011, the sum of the non-productive accrual calculations for Employee ID [redacted] totals the $10,626 that is shown in Exhibit 4-9. Larkin reviewed similar calculations for this employee for 2012 through 2016. No exceptions were noted.

Additional discussion of the labor costs charged to the EE/PDR programs for each year of the 2011-2016 review period is included in Chapters 6 through 11 of this report.

Review of EE/PDR Vendor Invoices - Overall Approach

Larkin requested that AEP Ohio provide copies of the internal procedures it used to ensure that the costs recorded for each EE/PDR program during the 2011-2016 review period were prudent and reasonable. In its response to LA-EE PDR-1-13, the Company provided, among other things, a multi-tabbed Excel spreadsheet titled "Accounting Manual 2015-2016." Included in this Excel file was a tab titled "Programs and Contracts", which was a schedule with the heading "Valid PeopleSoft DSM Project and Work Order IDs." From this schedule, Larkin compiled a list of vendors, which was submitted to AEP Ohio for which Larkin requested that the Company identify and provide copies of vendor invoices. In its responses to LA-EE PDR-3-5 and LA-EE PDR-3-6, AEP Ohio provided additional Excel files for each year of the 2011-2016 review period (e.g., 2011, the Excel file provided was titled "2011 Match to GL (Modified)."

Larkin used the vendor invoice information contained in those Excel files for each year of the review period to select a sample of invoices to be reviewed. The sample selection process was conducted in two phases. First, "big dollar" invoices were selected on a judgmental basis for each year 2011 through 2016. This process generally involved Larkin requesting all EE/PDR invoices for each year of the review period that were over $300,000. However, for 2015, Larkin noted that the highest invoice below the $300,000 threshold was from the vendor [redacted] in the amount of $273,429.86. Larkin included this invoice in the judgmental selection for 2015. The objective of selecting all of the "big dollar" invoices was to review vendor costs that had the largest impact on EE/PDR program costs in each year of the 2011-2016 review period.

Larkin noted that the "big dollar" invoices were issued by a limited number of vendors. In order to conduct a more detailed review of the EE/PDR program vendor invoices, an additional stratification[79] was performed, using the data in the Excel files that were provided in the responses to LA-EE PDR-3-5 and LA-EE PDR-3-6. To assure appropriate coverage of the "middle" dollar range of vendor invoices for each year 2011-2016, the vendor invoice information was grouped into categories by dollar amount. Specifically, vendor invoices between $100,000 and $300,000 were judgmentally and/or statistically selected for review.

Larkin used the guidance provided in the American Institute of Certified Public Accountants Audit Guide-Audit Sampling dated March 1, 2014 ("AICPA Audit Sampling Guide" or "Sampling Guide"). Paragraphs 3.96 and 4.07 of the AICPA Audit Sampling guide listed a number of key items that are commonly documented for audit samples. Each of these items is discussed below.

The objectives of the test and the accounts and assertions affected.

The objectives of this audit test are to ascertain whether the balances recorded by AEP Ohio for the EE/PDR vendor invoices have been appropriately recorded and the costs relate to the EE/PDR program and are reasonable and prudent with respect to the design and implementation

[79] Stratification is the process of dividing members of a population into homogeneous subgroups before sampling. The strata should be mutually exclusive: every element in the population must be assigned to only one stratum.

of the EE/PDR program. This objective is thus deeper than merely matching the amount of the vendor invoice with the amount recorded by AEP Ohio in the general ledger. The detail of the invoice needs to be reviewed, with an understanding of how it relates to the EE/PDR programs, and whether the costs are necessary, reasonable, and prudent.

The definition of the population and the sampling unit, including how the auditor considered the completeness of the population.

The Sample Guide at paragraph 4.06 indicates that:

> The population consists of the items constituting the account balance or class of transactions of interest subject to audit sampling. It is best practice for the auditor to determine at the beginning of the sampling application that the population from which he or she selects the sample is appropriate for the specific audit objective, because sample results can be projected only to the population from which the sample was selected.

The Sample Guide at paragraph 4.07 includes the following guidance about testing debit and credit balance items:

> Because the nature of the transactions resulting in debit balances, credit balances, and zero balances typically differ, the audit considerations might also differ because the risks and relevant assertions may differ. Therefore, the auditor usually considers whether the population to be sampled should include all those items together. For example, a retailer's accounts-receivable balance may include both debit and credit balances. The debit balances may result from customer sales on credit, whereas the credit balances might result from advance payments or credit memos and therefore represent liabilities. The audit objectives and assertions for testing those debit and credit balances might be different (for example, the auditor might be more concerned about completeness of credit balances versus existence for the debit balances). If the amount of credit balances is significant, the auditor might find it more effective and efficient to perform separate tests of the debit balances and the credit balances. In that case, the debit and credit balances might be defined as separate populations for the purpose of audit sampling.

For purposes of the EE/PDR vendor invoice review, the population is defined as the vendor invoices listed by AEP Ohio for each year, 2011 through 2016, in the Excel files "2011 Match to GL (Modified)" through "2016 Match to GL (Modified)".

To facilitate the verification of vendor invoices charged to the EE/PDR programs for each year, 2011 through 2016, the population of vendor invoices was stratified each year into the following groups by invoice dollar amounts:

1) invoices over $300,000 - which were all selected for review (note: for 2015 the "big dollar" invoices sampled included all invoices over $273,429)
2) invoices between $100,000 and $300,000 (or all invoices over $273,429 for 2015).
3) invoices between $10,000 and $100,000

4) invoices below $10,000 and credit invoices up to -$10,000
5) invoices showing credits of -$10,000 or more. All (i.e., 100%) of the credit balance items of more than $10,000 were selected for review.

For the stratified populations, listed in items 2 and 3 above, a random statistical sample was used. For category 4 (*di minimus* items), no items were selected for review.

The AICPA Audit Sampling Guide at paragraph 4.13 states that:

> A sampling unit is any of the individual elements that constitute the population. The auditor identifies a sampling unit for a particular audit sampling application. A sampling unit might be a customer account balance, an individual transaction, or an individual entry within a transaction (for example, an individual line item included on a sales invoice)

The Sampling Guide at paragraph 4.14 indicates that the effectiveness and efficiency in relation to the objective of the test should be considered, and the ease of applying alternative procedures may also be a consideration.

The sampling unit for these tests was determined to be each vendor invoice that AEP Ohio indicated was the basis of charging cost to the EE/PDR programs.

The completeness of the population was addressed by tying the dollar amounts of the vendor invoices into the applicable AEP Ohio work orders for the EE/PDR program by year.

The definition of a misstatement.

A misstatement is defined as a vendor invoice amount in the listings provided by AEP Ohio which cannot be verified to the selected invoice. A misstatement also includes vendor dollars recorded by AEP Ohio to its EE/PDR programs which are determined to not be necessary and/or determined to be unreasonable for the EE/PDR programs.

The risk of incorrect acceptance or level of desired assurance (confidence).

AU section 350, Audit Sampling (AICPA, Professional Standards), discusses the specific terms and risk of assessing control risk too low (when sampling for tests of controls) and risk of incorrect acceptance (for substantive testing). Paragraph 1.289(a) of the Sampling Guide, indicates that in the case of a test of details, there is a risk that a material misstatement does not exist when, in fact, it does. The auditor is primarily concerned with this type of erroneous conclusion because it affects audit effectiveness and is more likely to lead to an inappropriate audit opinion.

The risk of incorrect rejection, if used.

The risk of incorrect rejection for substantive tests refers to a situation where a test of details suggests that a material misstatement exists when, in fact, it does not. This type of erroneous conclusion affects audit efficiency because it would usually lead to additional work to establish that inclusion conclusions were incorrect. (See, e.g., paragraph 1.289(b) of the Sampling Guide.)

Estimated and tolerable misstatement.

The AICPA Professional Standards at AU-C section 530, Audit Sampling suggests that the auditor examine separately those items of high risk or for which accepting some sampling risk is not justified. According to paragraph .A15 of AU-C section 530, "the auditor might first separately examine those items deemed to be of relatively high risk and then use audit sampling ... to form an estimate of some characteristic of the remaining population." For example, individually material items or high risk items might be selected and tested 100 percent before sampling the remainder.

For the AEP Ohio EE/PDR vendor invoices, the "big dollar" invoices (generally amounts over $300,000) were determined to have high risk and necessitated that a 100 percent of these invoices be reviewed because they have the largest impact, per invoice, on whether the EE/PDR vendor costs shown by AEP Ohio were properly stated. Additionally, the invoices with credit amounts (i.e., with negative amounts) below $10,000 appeared to represent unusual situations or corrections, and thus were also deemed to be an area of high risk, and were thus subjected to a 100 percent review. Invoices in the middle categories, (i.e., $100,000 to $300,000 and $10,000 to $100,000) were deemed to be of moderate risk. These middle categories of invoices typically contained several hundred invoices. It was noted that these middle categories contained invoices from some of the same vendors in which invoices in the "big dollar" (generally over $300,000 category) were selected for review. A statistical sample was used to select the invoices in these categories that were judged to have moderate risk. The final category of invoices (between $10,000 and -$10,000) were deemed to have low risk, since the value of invoices in this group did not have a large impact on the overall EE/PDR program costs. It was determined that the focus of Larkin's time should be on the groups of vendor invoices that had significant impacts on whether the EE/PDR costs were properly stated and reasonable. Larkin thus determined that no invoices in this *di minumus* group would be selected for sampling.

Paragraph 6.17 of the Sample Guide states that:

> Items in the population with negative balances require special consideration, usually because they have different risk characteristics. One way is to exclude them from the selection process and test them separately. Another approach is to change the sign of the negative items and add them to the positive population before selection, thereby testing the entire population in one sample. The latter approach is typically used only when there are few negative items and few or no misstatements expected, as the evaluation of misstatements involving negative items that were included in the population may necessitate the assistance of a statistical sampling specialist to interpret the results. Some auditors therefore use only the former approach.

Based on this guidance, Larkin noted that for some years, AEP Ohio had listed vendor invoices with negative balances. Larkin concurred with the above guidance that such invoices with negative balances required special consideration and had different risk characteristics. Larkin determined that invoices with negative balances of more than $10,000 should be reviewed (i.e., a 100 percent judgmental sample was determined for those invoices).

For purposes of the randomly sampled portion of the EE/PDR vendor invoice testing, Larkin selected a 90 percent confidence level, a 1 percent expected population deviation rate, and a 10 percent tolerable rate of deviation. The random samples of these stratified vendor invoice populations were selected by applying the guidance from the following exhibit[80]:

Exhibit 4-11. Sample Size by Population Size

Sample Size by Population Size (Reflects a 90 percent confidence level, a 1 percent expected population deviation rate, and a 10 percent tolerable rate of deviation)	
Population Size	Sample Size
100	33
200	35
500	37
1000	37
2000	38
2000 over over	38
Sample sizes are rounded to the next highest whole number	

The audit sampling technique used.

The sampling technique used involved stratifying the population by the dollar amounts of vendor invoices. To facilitate the verification of vendor invoices charged to the EE/PDR programs for each year 2011 through 2016, the population of vendor invoices was stratified each year into the following groups by invoice dollar amounts:

1) invoices over $300,000 - which were all selected for review (note: for 2015 the "big dollar" invoices sampled included all invoices over $273,429)
2) invoices between $100,000 and $300,000 (or all invoices over $273,429 for 2015).
3) invoices between $10,000 and $100,000

[80] This table appears in the AICPA Audit Sampling Guide at paragraph 3.60, as Table 3-4.

4) invoices below $10,000 and credit invoices up to -$10,000
5) invoices showing credits of -$10,000 or more. All (i.e., 100%) of the credit balance items of more than $10,000 were selected for review.

For categories 1 and 5, all invoices (a 100% sample based on auditor judgment) were selected for review. For categories 2 and 3, invoices were randomly selected from each of those populations by applying a random-number generator in Excel to the listing of EE/PDR vendor invoices provided by AEP Ohio. As explained above, no invoices were selected for review from category 4.

Findings Related to Review of Vendor Invoices

A discussion of our findings related to the review of the vendor invoices selected for the 2011-2016 period is included in Chapters 6 through 11.

Review of Employee Expenses (Meals, Travel & Entertainment)

Pursuant to Section III, Subsection A of the RFP, i.e., General Project Requirements, one of Larkin's tasks was to determine whether employee expenses charged to the EE/PDR programs, including meals, travel and entertainment related costs, were prudent and related to energy efficiency.

In order to facilitate this review of employee expenses charged to the EE/PDR programs during each year 2011 through 2016, Larkin spoke to the Company via telephone, used the general ledger detail provided in response to LA-EE PDR-1-5 and issued discovery requests in order to obtain the data necessary to complete our analysis.

During telephone conversations with AEP Ohio, the Company stated that the general ledger detail includes the following specific cost centers, which relate to employee expenses charged to the EE/PDR programs:

Cost Center 510 - Business Expense 100% Deductible

Cost Center 520 - Business Expense Partially Deductible

Using the general ledger detail as a starting point, for each year 2011 through 2016, Larkin requested that AEP Ohio provide a breakout, by general ledger account, of all employee expenses, including meals, travel and entertainment, that were charged to the EE/PDR programs during each year of the review period. From this information Larkin requested that the Company match those employee expenses to the EE/PDR programs to which they applied and to explain how those expenses related to those specific EE/PDR programs. In addition, Larkin requested that AEP Ohio provide its policies and procedures related to the treatment of employee expenses charged to the EE/PDR programs.

In its response to LA-EE PDR-18-3, using the electronic data from the general ledger detail provided in response to LA-EE PDR-1-5, for each year 2011 through 2016, the Company generated two pivot tables which were classified to Cost Centers 510 and 520. The first pivot table summarized the employee expenses classified to Cost Centers 510 and 520 by the general ledger accounts in which those costs were recorded. The second pivot table summarized the Cost Center 510 and 520 costs by EE/PDR project ID. The specific findings regarding the employee expenses charged to the EE/PDR programs in each year of the review period are discussed in Chapters 6 through 11.

In order to obtain an understanding of the treatment of employee expenses pursuant to the EE/PDR program, Larkin requested the Company's related policies and procedures. In response to LA-EE PDR-20-1, AEP Ohio provided two documents including the (1) AEP Corporate Credit Card Policy (REV 002 ("Policy"), and (2) the American Electric Power Travel and Entertainment Policy Guide ("T&E Policy"). A summary of each of these documents is discussed below.

AEP Corporate Credit Card Policy

The date of the initial version of the Policy provided is May 29, 2015 and it indicates that the original effective date was July 1, 2013. Larkin made an informal inquiry regarding whether the provisions of the Policy applied to EE/PDR related employee expenses prior to July 1, 2013. Pursuant to a conference call with AEP Ohio on February 16, 2018 in which this issue was discussed, the Company supplemented its response to LA-EE PDR-20-1 by providing an older version of the Policy that was dated November 24, 2009. Insofar as the older version of the Policy contains language that is identical or similar to the subsequent version, Larkin concluded that the provisions of the Policy applied to the EE/PDR related employee expenses for the entire 2011-2016 review period.

The Policy Purpose Statement is as follows:

> This Policy identifies the purpose and approved usage of the AEP Corporate Credit Card Program for all cardholders and expense approvers. It provides the restrictions and expected compliance when using the AEP Corporate Credit Card.

The stated purpose of the AEP Corporate Credit Card ("Card") is that it is a payment mechanism that may be provided to all business units for employee use in day-to-day business activities, including but not limited to (1) business travel and entertainment expenses, (2) procurement of low dollar material or approved services, and (3) cash withdrawals at ATMs for authorized business purposes. Certain selected sections of the Policy are highlighted below.

> Section 3.2.4 states that the Card is AEP property and is to be used only for authorized business purposes and shall not be used for personal or non-business purposes.
>
> Section 3.2.5 states that each expense report submitted by a cardholder shall have a designated approving supervisor, who is responsible for verifying the validity of the charges and ensuring all necessary receipts are provided to Accounts Payable. In addition, charges shall be verified by reviewing scanned receipts attached to the expense reports.
>
> Section 3.2.6 states in part that cardholders shall submit itemized receipts as part of their electronic expense report to Accounts Payable for transactions that are $26 or greater.

Section 3.4.1 states that cardholders who incur business related travel and entertainment expenses may use the Card to pay for such expenses.

Section 3.5.1 states that the Card may be used to purchase goods through approved programs as determined by Procurement Buyers or the Credit Card Administrator.

Section 3.5.3 states that gift card purchases must be made in accordance with the Awards and Gifts Policy and that any gift card purchases shall identify the purpose and the individual receiving the gift card on cardholder's expense report.

Section 3.6.1 states that individual professional memberships should be placed on the Card, but that corporate memberships should not be placed on the card.

Section 3.7.1 lists examples of unauthorized purchases, including but not limited to:

i. stock items available through Company warehouse/storerooms or through approved ordering practices

ii. Leased equipment (laptop/desktop computers, etc.)

iii. Software, which is prohibited by AEP's Software License Compliance Policy

iv. Software and/or Applications on smart devices (I-phones, I-pads, etc.)

v. Furniture (excluding temporary construction site furniture)

vi. Safety items deemed critical to operations or requiring a high degree of certification

vii. Any item requiring a Quality Assurance ("QA") certification

viii. Corporate contributions (except when no other form of payment other than a credit card is accepted)

As discussed in detail in Chapters 6 through 11, Larkin requested supporting documentation for certain employee expense transactions that were selected from the Company's general ledger detail.

American Electric Power Travel and Entertainment Policy Guide

The date of the initial version of the T&E Policy provided is August 2015. Larkin made an informal inquiry regarding whether the provisions of the T&E Policy applied to EE/PDR related employee expenses prior to August 2015. Pursuant to the aforementioned conference call with AEP Ohio on February 16, 2018, the Company supplemented its response to LA-EE PDR-20-1 by providing two older versions of the T&E Policy. One was dated January 2011 and the other was dated January 2012. Insofar as the older versions of the T&E Policy contain language that is identical or similar to the subsequent version, Larkin concluded that the provisions of the T&E

Policy applied to the EE/PDR related employee expenses for the entire 2011-2016 review period.[81]

The Statement of Purpose for the T&E Policy is as follows:

> AEP's Travel and Entertainment ("T&E") Policy is to provide employees (authorized to travel on the Company's behalf) with reasonable transportation, lodging, meals, and other services necessary to conduct official business. This policy applies only to travel and entertainment expenses. The Company's policy is also to reimburse employees for all reasonable expenses they incur on business in a timely manner.
>
> Since every situation encountered while traveling on business cannot be anticipated, each employee shall exercise good judgment and fiscal responsibility when doing business for the Company.
>
> Whenever possible, employees should obtain prior management approval for any expenditures not specifically covered in the policy. Exceptions to this policy require prior approval from the employee's immediate supervisor. It is the responsibility of all managers to ensure that employees who travel are aware of and adhere to this policy.

Certain selected sections of the T&E Policy are highlighted below.

In the Responsibilities section, the T&E Policy states in part:

> Each individual who incurs business expenses must be guided by the stated policies and is responsible for adhering to those policies
>
> Each employee who incurs business expense is responsible for obtaining the approvals required by the T&E Policy
>
> Employees must use the corporate credit card and the AEP travel department for all business travel arrangements
>
> It is the responsibility of each employee to ensure that an expense report is prepared and submitted for T&E business expenses incurred on behalf of the Company. In addition, it is the employee's and the approving manager's responsibility to ensure that all required receipts are attached, that there is a proper accounting of expenses and applicable codes of conduct are followed
>
> The responsible administrator must determine that the travel or entertainment is necessary to accomplish a legitimate business purpose and that the modes of transportation, type and extent of entertainment, accommodations, etc. are appropriate for that purpose

[81] One notable difference with the older versions of the T&E Policy is that Travel and/or entertainment expenses must be documented by submitting an expense report and receipts for expenses of $75 or greater whereas the T&E Policy dated August 2015 states that receipts greater than $26 must be attached to employees' expense reports.

Charging another department in an expense account other than the employee's department is permitted only when authorized by the department being charged with the expense

Employees who use or administer Company funds, assets and other resources used for travel and entertainment purposes are responsible for ensuring that any use of these resources has been properly authorized, proper receipts are provided, and that adequate records are maintained to ensure that the use of these resources is properly controlled and accounted for

In the Business Meals section, the T&E Policy states in part:

Meal expenses are generally reimbursable when the employee is on overnight travel status and employees shall use their corporate credit card whenever possible

Employees should select restaurants that are reasonably priced for the locality and conducive to the business purpose. Employees are not to charge meals that are lavish or otherwise extravagant

Employees at the same location are not to entertain one another at the Company's expense. However, if a group of employees dine together for business purposes, the cost of these meals can be charged

A meal receipt must be attached to the expense report if the total is $26 or greater

In the Business Entertainment section, the T&E Policy states in part:

Most business entertainment will consist of business lunches and dinners and employees providing these meals should ensure such expenses are reasonable and not extravagant

This entertainment should not be repetitious or excessive with the same party and care should be exercised in the frequency of using a lunch or dinner to discuss business with customers

Acceptable business gift amounts that are given and received are clarified in the AEP Code of Conduct. Gifts should be nominal and have approval from the business unit manager

In the Non-Reimbursable Expenses section, the T&E Policy states in part:

The following expenses are usually considered to be non-reimbursable and any exceptions or unusual circumstances should be detailed on the expense report and must be approved by the employee's immediate supervisor: personal care items, barber/hair stylist, shoe shine, toiletries, personal entertainment, books/magazines, sporting events, theater tickets, personal losses, baby sitting, gifts, pet care, personal property insurance and travel insurance

In the Documentation section, the T&E Policy states in part:

Travel and/or entertainment expenses must be documented by submitting an expense report and receipts for expenses of $26 or greater must be scanned and attached to the expense report including receipts for: airfare, rental car, meals, hotel (detailed receipts to breakdown expenses), taxi/shuttle, gas for rental car and parking

With respect to how the employee expenses charged to the EE/PDR programs during the 2011-2016 period relate to those programs, in response to LA-EE PDR-20-1, the Company provided the following narrative:

> The employee expenses are used to support all programs and may not be attributable to only one program. For instance, employee expenses are necessary to support the overall EE/PDR program. Some examples of expenses could be employee mileage and meals for travel to either customer premises to discuss programs, or to measure savings from the programs. Some expenses are for shared learnings at industry conferences/events to enhance programs for better participation and cost effectiveness. Other employee expenses include training for both the EE/PDR team to better equip team members to educate customers on participation in the programs, as well as training costs for other front line employees with direct contact with the customers, such as customer service employees, in order for the employees to promote customer participation in the programs and be able to assist in customer education about the overall program. The EE/PDR team is very active in holding seminars throughout the state of Ohio in which customers can attend to learn more about the programs. These seminars include customer education but also provide testimonials from customers that have participated in the programs in the past, allowing them to share with other customers the benefits they have experienced through their participation. Additional employee expenses include participation in public education through booths and displays at local events throughout the state of Ohio. These displays provide additional opportunities to educate customers on the benefits of the EE/PDR programs and lead to greater participation of the customer base. These educational events are held residential, commercial and industrial customers.

In order to test the employee expenses that were charged to the EE/PDR programs in each year of the review period, using the general ledger detail that relates to Cost Centers 510 and 520, Larkin selected ten transactions from each year of the 2011-2016 review period. For each such transaction, Larkin requested that the Company provide copies of employee expense reports, invoices, receipts and any other documentation which supports the amounts shown for each transaction. A discussion of our findings related to the review of the employee expense transactions selected for review for the 2011-2016 review period is included in Chapters 6 through 11.

EE/PDR Rider Revenue

According to the response to LA-EE PDR-1-3, the Company records EE/PDR Rider revenues in the following accounts:

Exhibit 4-12. Summary of EE/PDR Related Revenue Accounts

Account	Description
4400001	Residential Sales - With Space Heating
4400002	Residential Sales - Without Space Heating
4420001	Commercial Sales
4420002	Industrial Sales (Excluding Mines)
4420004	Industrial Sales - Nonaffiliated (Including Mines)
4420005	C&I Sales - Affiliated Companies
4420006	Sales to Public Authorities - Schools
4420007	Sales to Public Authorities - Excluding Schools
4440000	Public Street - Highway Lighting
4450002	Other Sales - Public Authorities - Excluding Schools
4470027	Wholesale / Municipal / Public Authorities

Source: LA-EE PDR-1-3

As part of our review, Larkin requested that AEP Ohio provide the detailed general ledger information for the revenue accounts listed in the exhibit above for each year of the 2011-2016 review period. In response to LA-EE PDR-1-4, the Company provided its detailed revenue account transactions for the period January 1, 2011 through December 31, 2016. These amounts are summarized by account and year in the exhibit below:

Exhibit 4-13. Summary of EE/PDR Related Revenue - 2011 through 2016

Account	2011	2012	2013	2014	2015	2016	Grand Total
4400001	$ 12,973,523	$ 11,795,278	$ 12,506,888	$ 15,578,617	$ 19,357,867	$ 18,300,920	$ 90,513,092
4400002	$ 30,838,639	$ 30,008,068	$ 29,426,565	$ 36,157,968	$ 45,845,375	$ 46,587,700	$ 218,864,316
4420001	$ 30,835,107	$ 30,116,815	$ 29,748,949	$ 33,183,722	$ 37,787,767	$ 38,138,607	$ 199,810,967
4420002	$ 20,216,528	$ 19,956,868	$ 19,637,024	$ 22,836,019	$ 28,112,420	$ 27,447,172	$ 138,206,031
4420004	$ 176,401	$ 181,629	$ 189,589	$ 205,050	$ 231,747	$ 159,802	$ 1,144,217
4420005	$ 141,170	$ 100,264	$ 73,872	$ 104,727	$ 108,934	$ 112,360	$ 641,327
4420006	$ 2,682,852	$ 2,592,428	$ 2,588,907	$ 2,994,800	$ 3,456,938	$ 3,519,294	$ 17,835,220
4420007	$ 2,574,527	$ 2,850,601	$ 3,238,573	$ 3,748,184	$ 4,335,800	$ 4,339,573	$ 21,087,258
4440000	$ 56,394	$ 53,785	$ 54,421	$ 53,591	$ 55,603	$ 55,698	$ 329,492
4450002	$ 2,319	$ 1,117	$ 1,382	$ 1,474	$ 2,367	$ 1,686	$ 10,346
4470027	$ 21,475	$ 21,121	$ 21,720	$ 24,661	$ 27,950	$ 27,212	$ 144,138
Total	$ 100,518,936	$ 97,677,974	$ 97,487,889	$ 114,888,815	$ 139,322,767	$ 138,690,023	$ 688,586,404

Source: LA-EE PDR-1-4

Upon reviewing the 2011 through 2016 revenue detail in the general ledger that is summarized in the exhibit above, Larkin noted that under the column heading "FERC Acct Class Desc", the description given for Account 4470027 indicates Sales For Resale. Larkin inquired as to why Sales For Resale are included in the EE/PDR program revenues. In its response to LA-EE PDR-2-7, the Company stated:

> The account title for account 4470027 is "Wholesale/Municipal/Public Authority - Fuel Revenues." AEP Ohio has three Ohio Edison accounts served at retail rates. The EE/PDR revenues received from these accounts are credited against EE/PDR costs and reduce the overall costs of the EE/PDR programs for other retail customers.

The response to LA-EE PDR-2-7 also indicated that none of the EE or PDR programs relate to Sales For Resale.

Application of EE/PDR Rider Rates to Customers Bills

The Company provided copies of its tariff sheets that were associated with the EE/PDR Rider during the period 2011 through 2016.[82] Specifically, during the 2011-2016 review period, for each rate class there were three different sets of EE/PDR rates reflected on the Company's tariff sheets, which included the following periods:

> May 28, 2010 through August 27, 2012 (per Order dated May 13, 2010 in Case No. 09-1089-EL-POR)
>
> August 28, 2012 through July 30, 2014 (per Order dated August 8, 2012 in Case No. 11-346-EL-SSO)
>
> July 31, 2014 through December 31, 2016 (per Order dated July 30, 2014 in Case No. 13-1201-EL-RDR)

In order to verify that AEP Ohio has included the correct EE/PDR Rider rates on its electric bills, Larkin requested that the Company provide illustrative sample bills for each rate class to which EE/PDR costs were charged during the 2011-2016 review period. In its responses to LA-EE PDR-1-12 and LA-EE PDR-7-7, AEP Ohio provided screenshots from its customer billing system for each rate schedule (RR, GS-1, GS-2, GS-3 and GS-4), which illustrate how the EE/PDR program costs were billed to customers during the review period. The screenshots provided were for each period in which new EE/PDR rates were effective (per the tariff sheets referenced above).[83] There were a total of 19 customer screenshots provided that were spread out between the three EE/PDR rate effective periods noted above. Larkin recalculated the EE/PDR charges by multiplying the EE/PDR rates for each rate type by the meter usage indicated on each of the customer billing screenshots and then compared the results to each of the customer screenshots by the line item "Enrgy Eff Cost Rcvry". No exceptions were noted as reflected in Exhibit 4-14 below. It should be noted that one of the screenshots provided had a billing date of September 7, 2010, which was prior to the review period. However, this screenshot reflected the same EE/PDR rates that are on the tariff sheets that were effective from May 28, 2010 through August 27, 2012.

[82] See the response to LA-EE PDR-1-10.

[83] An exception to this was the Residential schedule for the tariff period (5/28/2010-8/27/2012). In response to LA-EE PDR-7-7, AEP Ohio stated that there was no data stored in its system prior to May 2014.

Exhibit 4-14. Summary of Customer Bill Analysis

Billing Date	Description on Bill	Tariff Class	Tariff Effective Period	Usage (kWh)	Rate Per kWh	Calculated Total	Bill Amount	Difference
7/17/2012	Enrgy Eff Cost Rcvry	GS-1	5/28/2010 - 8/27/2012	971	$ 0.0027589	$ 2.68	$ 2.68	$ (0.00)
9/7/2010	Enrgy Eff Cost Rcvry	GS-2	5/28/2010 - 8/27/2012	1,541	$ 0.0027589	$ 4.25	$ 4.25	$ 0.00
5/4/2011	Enrgy Eff Cost Rcvry	GS-3	5/28/2010 - 8/27/2012	218,440	$ 0.0027589	$ 602.65	$ 602.65	$ 0.00
10/3/2011	Enrgy Eff Cost Rcvry	GS-4	5/28/2010 - 8/27/2012	9,483,600	$ 0.0004108	$ 3,895.86	$ 3,895.86	$ 0.00
5/13/2014	Enrgy Eff Cost Rcvry	RR	8/28/2012 - 7/31/2014	714	$ 0.0028902	$ 2.06	$ 2.06	$ 0.00
7/17/2014	Enrgy Eff Cost Rcvry	GS-1	8/28/2012 - 7/31/2014	168	$ 0.0026773	$ 0.45	$ 0.45	$ (0.00)
7/11/2014	Enrgy Eff Cost Rcvry	GS-2	8/28/2012 - 7/31/2014	153	$ 0.0026773	$ 0.41	$ 0.41	$ (0.00)
6/27/2014	Enrgy Eff Cost Rcvry	GS-3	8/28/2012 - 7/31/2014	261,620	$ 0.0026773	$ 700.44	$ 700.44	$ (0.00)
4/1/2014	Enrgy Eff Cost Rcvry	GS-4	8/28/2012 - 7/31/2014	6,812,400	$ 0.0003845	$ 2,619.37	$ 2,619.37	$ (0.00)
6/30/2014	Enrgy Eff Cost Rcvry	GS-4	8/28/2012 - 7/31/2014	8,492,400	$ 0.0003845	$ 3,265.33	$ 3,265.33	$ (0.00)
7/16/2015	Enrgy Eff Cost Rcvry	RR	7/31/2014 - 12/31/2016	1,438	$ 0.0045666	$ 6.57	$ 6.57	$ (0.00)
5/13/2016	Enrgy Eff Cost Rcvry	RR	7/31/2014 - 12/31/2016	882	$ 0.0045666	$ 4.03	$ 4.03	$ (0.00)
4/20/2016	Enrgy Eff Cost Rcvry	GS-1	7/31/2014 - 12/31/2016	289	$ 0.0033390	$ 0.96	$ 0.96	$ 0.00
5/19/2016	Enrgy Eff Cost Rcvry	GS-1	7/31/2014 - 12/31/2016	299	$ 0.0033390	$ 1.00	$ 1.00	$ (0.00)
8/11/2014	Enrgy Eff Cost Rcvry	GS-2	7/31/2014 - 12/31/2016	144	$ 0.0033390	$ 0.48	$ 0.48	$ 0.00
11/6/2014	Enrgy Eff Cost Rcvry	GS-2	7/31/2014 - 12/31/2016	244	$ 0.0033390	$ 0.81	$ 0.81	$ 0.00
3/30/2016	Enrgy Eff Cost Rcvry	GS-3	7/31/2014 - 12/31/2016	205,740	$ 0.0033390	$ 686.97	$ 686.97	$ (0.00)
5/27/2016	Enrgy Eff Cost Rcvry	GS-3	7/31/2014 - 12/31/2016	217,170	$ 0.0033390	$ 725.13	$ 725.13	$ 0.00
6/1/2016	Enrgy Eff Cost Rcvry	GS-4	7/31/2014 - 12/31/2016	7,854,000	$ 0.0009533	$ 7,487.22	$ 7,487.22	$ (0.00)
Source: LA-EE PDR-1-12 and LA-EE PDR-7-7								

Shared Savings

For the 2011-2016 review period, AEP Ohio's EE/PDR filings included calculations related to two shared savings mechanisms. Specifically, for 2011, the shared savings mechanism was based on the Commission's Opinion and Order dated May 13, 2010 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR., which also approved the Stipulation and Recommendation dated November 12, 2009.[84] On page 11 of its Order and Opinion, the Commission at Section D, subsection 1 stated:

> A shared savings mechanism that provides an after-tax net benefit of 15 percent to the Companies and 85 percent to Customers for measurable EE/PDR programs, based on the Utility Cost Test (UCT) and subject to the incentive caps in Section E below, will be implemented.

The incentive caps in Section E, as referenced in the passage above, are replicated in the following exhibit:

[84] The shared savings mechanism also covered the period 2009-2010.

Exhibit 4-15. 2011 Shared Savings Incentive Mechanism

Performance Incentives = Lesser of Shared Savings or Program Investment Cap Percentage		
Benchmark EE Target % Achievement for Overcompliance	Shared Savings	Program Investment Cost Cap % for Measureable Programs
Greater than 100% to 106%	15%	6%
Greater than 106% to 115%	15%	12%
Greater than 115%	15%	17%

For the period 2012 through 2016, the shared savings mechanism was based on the Commission's Opinion and Order dated March 21, 2012 in Case Nos. 11-5568-EL-POR and 11-5569-EL-POR, which also approved the Stipulation and Recommendation dated November 29, 2011. On page s 7-8 of its Opinion and Order, the Commission at Section B, subsection 1 stated:

> There will be a shared savings mechanism that provides an after-tax benefit of 87 percent to AEP-Ohio's customers and 13 percent to AEP-Ohio, based on the utility cost test (UCT) inclusive of all costs at the portfolio level, when it exceeds the energy efficiency benchmark compliance requirement by 15 percent.

The percentage of net benefits awarded to the Company are reflected in the following exhibit:

Exhibit 4-16. 2012-2016 Shared Savings Mechanism

Achievement of Annual Target	Shared Savings %
Less than 100%	0%
100% to 105%	5%
Greater than 105% to 110%	7.5%
Greater than 110% to 115%	10%
Greater than 115%	13%

In terms of a cap on the 2012-2016 shared savings mechanism, the Commission's Opinion and Order also stated:

> There will be a cap on shared savings of $20 million per year after tax, which means that AEP-Ohio would receive the lesser of the calculated shared savings above or $20 million after tax in each of the three plan years.

For the 2011-2016 review period, the Company's EE/PDR filings reflect the following levels of shared savings:

Exhibit 4-17. 2011-2016 Shared Savings Included in AEP Ohio's EE/PDR Filings

Tariff	2011	2012	2013	2014	2015	2016	Total
Residential	$ 6,720,281	$ 16,017,964	$ 12,846,718	$ 12,813,899	$ 10,798,420	$ 10,565,184	$ 69,762,466
All Other C&I		$ 13,764,872	$ 16,682,036	$ 16,598,326	$ 18,431,685	$ 18,658,839	$ 84,135,758
GS4/IRP		$ 1,443,159	$ 1,749,005	$ 1,740,228	$ 1,932,445	$ 1,956,260	$ 8,821,097
C&I Total	$ 7,297,031	$ 15,208,031	$ 18,431,041	$ 18,338,554	$ 20,364,130	$ 20,615,099	$ 100,253,886
Grand Total	$ 14,017,312	$ 31,225,995	$ 31,277,759	$ 31,152,454	$ 31,162,550	$ 31,180,283	$ 170,016,353
Source: AEP Ohio's EE/PDR filings (per the responses to LA-EE PDR-3-1 and LA-EE PDR-5-1)							

As shown in the exhibit above, AEP Ohio's EE/PDR Rider filings have reflected shared savings totaling $170.02 million over the 2011 through 2016 review period. A discussion of the shared savings by year is included in Chapters 6 through 11. In addition, a detailed discussion of the shared savings calculations in the Company's filings for each year of the 2011-2016 review period is included in Chapter 15 of this report.

As part of our review, it was necessary for Larkin to verify the shared savings that were reflected in the Company's accounting records for the period 2011 through 2016 . Pursuant to this review, data request LA-EE PDR-18-4 requested the general ledger detail that was associated with the shared savings for each year of the review period. In its initial response to that data request, the Company stated that shared savings are recorded in the general ledger as follows:

> The Regulated Accounting EE/PDR over/under calculation compared the Shared Savings allowed to be recovered to an allocated portion of rider revenues and the difference was recorded as an over or under recovery. the over/under recovery income statement offset accounts were retail revenue accounts 4400002, 4420001, and 4420002 from June 2010 - October 2012. Beginning in November 2012, additional retail revenue accounts were used mainly due to the creation of new accounts for customers served under customer choice Open Access Distribution (OAD) tariffs: 4400102, 4420101, 4440000, 4440100, 4450002, 4450101, and 4420102. The over/under recovery balance sheet accounts used were 1823012 and 2540118.

While this explanation was helpful in understanding how the shared savings are recorded on the Company's books, AEP-Ohio did not provide the requested general ledger detail. This issue was discussed during a conference call on February 16, 2018, and pursuant to that call, a supplemental response to LA-EE PDR-18-4 was provided in which the Company, referencing Supplemental Attachment 1 to that response, stated:

> Shared savings are not separately identified in the GL but are a component of the costs included in the monthly journal entry as provided in this attachment. Shared savings are booked to the 44XXXX retail revenue accounts as well as the over/under regulatory liability and asset account. The amounts are not booked to the ledger separately but instead included in this attachment as ledger detail...These values are recorded to the ledger and were also provided in data request 12-18 for shared savings. The totals can be traced back to both the ledger balance from 12-18 and verified through the values as stated above.

In its confidential response to LA-EE PDR-12-18 (referenced in the passage above), AEP Ohio provided a reconciliation that was done to reflect the methodology of creating a new regulated accounting over/under calculation and to show corrections and/or adjustments made to match the Company's EE/PDR filings. Included in this reconciliation were the amounts of the shared savings recorded in AEP Ohio's regulated accounting records for each year of the 2011-2016 review period, and which are shown in the exhibit below:

Exhibit 4-18. 2011-2016 Shared Savings Included in AEP Ohio's Regulated Accounting Records

2011	2012	2013	2014	2015	2016	Total
$ 13,633,929	$ 32,571,434	$ 31,277,759	$ 31,152,454	$ 31,741,956	$ 31,200,000	$171,577,531

Source: LA-EE PDR-12-18

As shown in the exhibit above, with the exception of 2013 and 2014, the amounts of shared savings recorded on the Company's books were different than what was reflected in the EE/PDR filings shown in Exhibit 4-17 above.

For each year 2011 through 2016, a discussion of the shared savings in the Company's regulated accounting records, which includes the aforementioned attachment that was provided in the supplemental response to LA-EE PDR-18-4, as well as the differences between the book amounts and the amounts included in the EE/PDR filings, are discussed in Chapters 6 through 11 of this report.

Net Lost Distribution Revenue

In its Opinion and Order dated May 13, 2010 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR, the Commission authorized AEP Ohio recovery of Net Lost Distribution Revenue through January 1, 2011. However, in its Order dated January 27, 2011 in the same proceeding, the Commission clarified its original ruling and stated that net lost distribution revenues were no longer to be recovered in the EE/PDR rates after December 31, 2010. Specifically, on page 3 of the Commission's January 27, 2011 Order it states in part:

> However, the Commission did recognize that the Companies would experience lost distribution revenues and should have some opportunity to recover those revenues. Therefore, the Commission granted AEP Ohio lost distribution revenue recovery through January 1, 2011. In making this determination, it was the Commission's intent that the Companies would be able to recover lost distribution revenues that occurred through December 31, 2010. We always understood that the recovery of such 2010 lost distribution revenues would extend into calendar year 2011. Thus, AEP Ohio will permitted to continue to recover calendar year 2010 lost distribution revenue resulting from the implementation of EE/PDR programs through the existing Commission-approved program until 2010 lost distribution revenue is recovered during 2011. However, to the extent that AEP Ohio is requesting recovery of lost distribution revenue costs incurred after December 31, 2010, such request is denied.

Larkin requested that the Company identify the amounts of lost revenues and to describe how such lost revenues were measured in each year of the review period. In its response to LA-EE PDR-1-9, the Company stated that there were no lost revenues recovered for costs measured or incurred during the January 1, 2011 through December 31, 2016 review period. For further explanation, AEP Ohio referred to its Application dated May 15, 2012 in Case No. 12-1557-EL-

RDR. Specifically, the Company cited Paragraph 5 of its Application from that prior proceeding which stated:[85]

> On March 23, 2011, the Commission denied the Company's Application for Rehearing of the Commission's January 27, 2011 Entry denying the Company's net lost distribution revenues on programs established in 2011. This filing is consistent with the Commission's determination that the Company will be permitted to continue to recover calendar year 2010 lost distribution revenue resulting from the implementation of EE/PDR programs through the existing Commission-approved program until such 2010 lost distribution revenue is recovered during 2011, and not from 2011 implementation.

Schedule 3 (pages 1 and 2) from the Company's Application in Case No. 12-1557-EL-RDR provided the following actual 2009 and 2010 Net Lost Distribution Revenue data for CSP and OPCo[86]:

Exhibit 4-19. Actual 2009 Net Lost Distribution Revenue - CSP

Tariffs	Billed Energy (kWh)	Net Distribution Base Revenue ($)	Average Revenue ($/kWh)	Energy Savings at Meter (kWh)	Net Lost Distribution Revenue ($)
RS	5,013,533,042	130,444,839	$0.0260185	13,677,724	$355,874
GS 1	233,812,037	3,453,510		22,717	
GS 2	1,290,775,753	18,680,122		324,214	
GS 3	5,281,065,627	39,929,835		2,421,764	
Subtotal GS1-GS3	6,805,653,417	62,063,467	$0.0091194	2,768,695	$25,249
GS4/IRP	2,995,771,927	4,783,728	$0.0015968	32,034	$51
Total C&I	9,801,425,344	66,847,195	$0.0068202	2,800,729	$25,300
Total	14,814,958,386	197,292,034		16,478,453	$381,174

As shown in the exhibit above, in 2009, CSP had Net Lost Distribution Revenue totaling $381,174 among the rate classes which are affected by the EE/PDR programs.

[85] AEP Ohio's Applications to update the EE/PDR Rider that were filed subsequent to its May 15, 2012 Application in Case No. 12-1557-EL-RDR contained similar language.
[86] The CSP and OPCo amounts pre-merger and thus are shown separately.

Exhibit 4-20. Actual 2010 Net Lost Distribution Revenue - CSP

Tariffs	Billed Energy (kWh)	Net Distribution Base Revenue ($)	Average Revenue ($/kWh)	Energy Savings at Meter (kWh)	Net Lost Distribution Revenue ($)
RS	7,732,957,159	185,870,475	$0.0240361	92,740,260	$2,229,118
GS 1	342,714,432	5,062,083		461,063	
GS 2	1,794,279,994	24,802,906		6,046,875	
GS 3	7,110,100,457	52,759,599		45,071,722	
Subtotal GS1-GS3	9,247,094,883	82,624,588	$0.0089352	51,579,660	$460,874
GS4/IRP	3,801,312,018	5,843,751	$0.0015373	13,383,459	$20,574
Total C&I	13,048,406,901	88,468,339	$0.0067800	64,963,119	$481,449
Total	20,781,364,060	274,338,814		157,703,379	$2,710,567

As shown in the exhibit above, in 2010, CSP had Net Lost Distribution Revenue totaling $2,710,567 among the rate classes which are affected by the EE/PDR programs.

Exhibit 4-21. Actual 2009 Net Lost Distribution Revenue - OPCo

Tariffs	Billed Energy (kWh)	Net Distribution Base Revenue ($)	Average Revenue ($/kWh)	Energy Savings at Meter (kWh)	Net Lost Distribution Revenue ($)
RS	4,923,639,033	103,867,018	$0.0210956	9,299,415	$196,177
GS 1	261,525,048	731,683		2,562	
GS 2	2,425,995,800	28,874,955		1,073,804	
GS 3	4,539,611,079	38,219,009		1,743,983	
Subtotal GS1-GS3	7,227,131,927	67,825,647	$0.0093849	2,820,349	$26,469
GS4/IRP	5,677,914,501	9,177,787	$0.0016164	820,971	$1,327
EHG	14,558,300	202,531			
EHS/SS	34,044,440	422,112			
Total C&I	12,953,649,168	77,628,078	$0.0059928	3,641,320	$27,796
Total	17,877,288,201	181,495,096		12,940,735	$223,973

As shown in the exhibit above, in 2009, OPCo had Net Lost Distribution Revenue totaling $223,973 among the rate classes which are affected by the EE/PDR programs.

Exhibit 4-22. Actual 2010 Net Lost Distribution Revenue - OPCo

Tariffs	Billed Energy (kWh)	Net Distribution Base Revenue ($)	Average Revenue ($/kWh)	Energy Savings at Meter (kWh)	Net Lost Distribution Revenue ($)
RS	7,608,259,860	142,864,424	$0.0187775	75,858,667	$1,424,439
GS 1	377,566,883	963,621		916,613	
GS 2	3,525,846,078	35,894,858		18,143,683	
GS 3	6,129,068,823	44,342,795		28,455,312	
Subtotal GS1-GS3	10,032,481,784	81,201,275	$0.0080938	47,515,608	$384,584
GS4/IRP	8,031,533,914	12,115,454	$0.0015085	5,537,537	$8,353
EHG	23,182,271	298,276			
EHS/SS	44,183,045	515,017			
Total C&I	18,131,381,014	94,130,022	$0.0051916	53,053,145	$392,937
Total	25,739,640,874	236,994,446		128,911,812	$1,817,376

As shown in the exhibit above, in 2010, OPCo had Net Lost Distribution Revenue totaling $1,817,376 among the rate classes which are affected by the EE/PDR programs.

As part of its review, Larkin requested that the Company identify each account in which Net Lost Distribution Revenues are recorded and to provide the related general ledger detail for each year 2009 through 2016. The purpose of reviewing this information is to (1) confirm the accuracy of the 2009-2010 Net Lost Distribution Revenues, and (2) to verify that Net Lost Distribution Revenues were not collected through the EE/PDR Rider during the 2011 through 2016 review period. In its response to LA-EE PDR-18-1, the Company stated that lost distribution revenues are recorded in the general ledger as follows:

> The Regulated Accounting EE/PDR over/under calculation compared the Net Lost Distribution Revenues allowed to be recovered to an allocated portion of rider revenues and the difference was recorded as an over or under recovery. The over/under recovery income statement offset accounts were retail revenue accounts 4400002, 4420001, and 4420002 from June 2010 - February 2011. Note: Net Lost Distribution Revenues were no longer allowed for recovery as of December 31, 2010, but due to the 2 month lag for receiving actual Net Lost Distribution Revenues they were included until February 2011. The over/under recovery balance sheet accounts used were 1823012 and 2540118.
>
> The final Net Lost Distribution Revenues under-recovery balance at the end of February 2011 was $6,075,468. Therefore, in the Regulated Accounting over/under calculation, from March 2011 until July 2014, EE/PDR rider revenues continued to be allocated to recover this under-recovered balance. In August 2014, the under-recovered balance of $968,469 was transferred to the Shared Savings section of the over/under calculation for recovery.

Larkin noted that the reconciliation provided in the confidential response to LA-EE PDR-12-18 reflected the $968,469 under-recovery balance noted in the passage above in the Company's regulated accounting records in 2014. In response to Larkin's inquiry regarding this, the response to LA-EE PDR-18-1 stated:

> The Net Lost Distribution Revenues in 2014 are due to the Regulated Accounting transfer within the over/under calculation sheet from Net Lost Distribution Revenues to Shared Savings in August 2014 not reflected in the rate filing.

Through the same reconciliation provided in LA-EE PDR-12-18, Larkin verified that the Company's EE/PDR filings did not include Net Lost Distribution Revenues for the 2011-2016 review period.

IRP-D Credits

In Case No. 11-346-EL-SSO, AEP Ohio had proposed that it would be appropriate to restructure its then current interruptible service provisions to be consistent with the options that were available upon the Company's participation in the PJM Base Residual Auction that began in June 2015. Specifically, in order for AEP Ohio's interruptible service options consistent with the regulatory environment at that time, the Company proposed that Schedule Interruptible Power-Discretionary ("IRP-D") be available to all current customers as well as potential customers seeking interruptible service. As proposed by AEP Ohio, the IRP-D credit would be $8.21/kW-month upon approval of the modified ESP whereby the Company proposed to collect costs associated with the IRP-D through the Retail Stability Rider ("RSR") to reflect reductions in base generation revenues. In its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO, the Commission approved the IRP-D credit at $8.21/kW-month. However, the Commission did not agree with the Company's proposal to collect costs associated with the IRP-D credit through the RSR and instead ruled that the IRP-D credit promotes energy efficiency, and therefore it was more appropriate for AEP Ohio to recover any costs associated with the IRP-D through the EE/PDR Rider.

Pursuant to the Commission's ruling, beginning with the Company's EE/PDR filing dated May 15, 2013 in Case No. 13-1201-EL-RDR, AEP Ohio began reflecting the calculation of the IRP-D credits on Schedule 1 of its EE/PDR filings. Since it reflects actuals for the period 2012 through 2016, for purposes of illustration, the exhibit below is from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR:

Exhibit 4-23. IRP-D Credit Credit Recovery Less PJM EE Revenue Credits for the Period of 2012-2016

Tariffs		2012-2016 Actual IRP Credit Recovery	PJM EE Revenue Credits		Total Less: Revenue Credits	2017 Forecasted Metered Energy		IRP Portion EE&PDR Rider	Revenue Verification
		($)	($)		($)	(kWh)		($/kWh)	($)
RS	$	29,222,463	($5,514,158)		23,708,306	14,316,196,403	$	0.001656	23,708,306
All Other C&I	$	39,294,390	($7,414,689)		31,879,702	19,250,471,895	$	0.001656	31,879,702
GS4/IRP	$	13,612,189	($2,568,564)		11,043,625	6,668,663,405	$	0.001656	11,043,625
Total C&I	$	52,906,579	($9,983,252)		42,923,327	25,919,135,300			42,923,327
Total	$	82,129,043	(15,497,409.86)	$	66,631,633	40,235,331,703			66,631,633

As shown in the above exhibit, the actual 2012-2016 IRP-D credit recovery totaled $82.1 million. As discussed in further detail below, this amount is reduced by PJM EE revenue credits, totaling $15.5 million, which results in net IRP-D credits of $66.6 million between the Company's rate classes. The net IRP-D credits of $66.6 million were included in the calculation of the EE/PDR Rider in AEP Ohio's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR. Schedule 4 from the Company's filing reflects the actual IRP-D credits totaling $82.1 million for the period 2012 through 2016 and which are shown in the exhibit below:

Exhibit 4-24. Actual IRP-D Credit Credits for 2012 Through 2016

Year		Actual IRPD Credits
2012	$	6,865,723
2013	$	18,889,240
2014	$	19,941,934
2015	$	18,661,634
2016	$	17,770,512
Total	$	82,129,043

Larkin requested that the Company provide documentation which supports the actual IRP-D credit amounts shown for each year 2012 through 2016 in the exhibit above. In its confidential response to LA-EE PDR-18-5, AEP Ohio provided the requested support for those IRP-D credit amounts, which is discussed in further detail in Chapters 7 through 11.

PJM EE Revenue Credits

As shown in Exhibit 4-23 above, Schedule 1 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR[87] included PJM EE revenue credits totaling $15.5 million

[87] AEP Ohio's EE/PDR filing dated May 16, 2016 in Case No. 16-1108-EL-RDR also reflected the offset of PJM EE revenue credits against the IRP-D credits.

which were offset against the IRP-D credits. By way of background, the response to LA-EE PDR-14-23 provides the following explanation for the PJM EE revenue credits:

> On February 25, 2015, Public Utilities Commission of Ohio ("PUCO") issued the Final Order in Ohio Power Company ("OPCo") Case Nos. 13-2385-EL-SSO for Authority to Establish a Standard Service Offer (for the June 2015 through May 2018 Ohio Electric Security Plan). In this case the Commission ruled that OPCo's energy efficiency program has resulted in excess resources that OPCo are subsequently bid into the PJM auction. By bidding these resources into the PJM auction, the Company began receiving PJM Energy Efficiency ("PJM EE") revenues in June 2015. Therefore, starting June 2015, 100% of the PJM EE revenues are recorded to account 4470189 - Energy Efficiency Revenue. The Company includes 80% of the PJM EE revenues recorded in account 4470189 as a revenue credit in the Company's EE/PDR. The remaining 20% impacts OPCo's pre-tax income. The 80%/20% sharing ratio is consistent with the Commission's Order referenced above.

In addition to the PJM EE revenues recorded to account 4470189, the $15.5 million that is offset against the IRP-D credits includes amounts recorded to Account 4420026, which according to the response to LA-EE PDR-8-25, relates to Demand Response payments received from [redacted] This response indicated that the 80/20 sharing does not apply to [redacted]. A breakout of the $15.5 million is shown on Schedule 5 from the Company's May 15, 2017 EE/PDR filing and replicated in the exhibit below:

Exhibit 4-25. Summary of PJM Energy Efficiency Credits for 2015 and 2016

Account	Actual Year 2015 Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
4470189	EE Rev Cr.	-	-	-	-	-	860,710.72	889,420.32	889,381.84	860,710.72	889,401.08	860,710.72	889,401.08	6,139,736.48
	80% Revenue Cr.	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
	Total Revenue Cr.	-	-	-	-	-	688,568 58	711,536.26	711,505.47	688,568.58	711,520.86	688,568.58	711,520.86	4,911,789.18
4420026	Reasonable Arrg't PJM Rev Cr.	-	-	-	-	-	327,052.80	337,954.56	337,954.56	327,052.80	319,377.84	316,957.24	341,126.56	2,307,476.36
												Total 2015 Actual		7,219,265.54

Account	Actual Year 2016 Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
4470189	EE Rev Cr.	889,401.08	832,020.37	889,401.08	860,710.72	889,401.08	551,909.92	570,306.92	552,455.42	546,086.81	564,290.57	546,087.77	564,291.57	8,256,363.31
	80% Revenue Cr.	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
	Total Revenue Cr.	711,520.86	665,616.30	711,520.86	688,568.58	711,520.86	441,527.94	456,245.54	441,964.34	436,869.45	451,432.46	436,870 22	451,433.26	6,605,090.65
4420026	Reasonable Arrg't PJM Rev Cr.	333,704.56	311,901.04	333,704.56	322,802.80	333,704.56	322,802.80	337,954.56	(647,171.80)	5,815.53	6,009.56	5,815 73	6,009.77	1,673,053.67
												Total 2016 Actual		8,278,144.32
												Total 2015 and 2016		15,497,409.86

Larkin traced the amounts above in Accounts 4440189 and 4420026 to the general ledger detail, which was provided in the confidential response to LA-EE PDR-18-5. No exceptions were noted.

5 2009-2011 EE/PDR PLAN AND DEFERRED BALANCES AS OF DECEMBER 31, 2010 AND DECEMBER 31, 2011

December 1, 2011 Net Over-Recovery Balance

As part of our review of EE/PDR costs for the period 2011-2016, it was necessary to verify the amount deferred at the beginning of the review period. Larkin requested that the Company identify the amount of any deferred asset, regulatory asset, and/or regulatory liability balance as of December 31 of each year 2010 through 2016.

With respect to the deferred balance as of January 1, 2011, the beginning of the review period, in its response to LA-EE PDR-1-7, the Company initially indicated that the December 31, 2010 balance was an under-recovery in the amount of $2,220,967. However, the Company supplemented its response to LA-EE PDR-1-7 by stating that the December 31, 2010 under-recovery balance of $2,220,967 was for CSP only and that an over-recovery amount $2,244,772 for OPCo had been inadvertently omitted from the original response to LA-EE PDR-1-7. As a result of combining CSP's and OPCo's balances, at December 31, 2010, there was a net over-recovery balance of $23,806.

EE/PDR Activity in 2009 and 2010 that Impacted the January 1, 2011 Deferral Balance

Larkin requested that the Company provide the detail related to the EE/PDR costs and revenues that were recorded in 2009 and 2010, which had resulted in the December 31, 2010 net over-recovery balance of $23,806. In its confidential response to LA-EE PDR-12-18, the Company provided the reconciliation shown in Exhibit 5-1 below:

Exhibit 5-1. 2009-2010 Over-Recovery Balance Detail

Reg. Acct. Revenues	2009	2010	Total	
CSP	-	28,898,953	28,898,953	
OPCo	-	29,838,126	29,838,126	
Total	-	58,737,079	58,737,079	
Reg. Acct. Costs				
CSP				
Shared Savings	-	3,275,490	3,275,490	
Program Costs	4,070,698	20,117,565	24,188,263	
IRPD-Cr	-	-	-	
Lost D Reve	-	3,656,167	3,656,167	
Total	4,070,698	27,049,222	31,119,920	
OPCo				
Shared Savings	-	3,116,582	3,116,582	
Program Costs	4,006,910	18,083,921	22,090,831	
IRPD-Cr	-	-	-	
Lost D Reve	-	2,385,941	2,385,941	
Total	4,006,910	23,586,444	27,593,354	
Over/(Under) Recovery				Account
CSP	(4,070,698)	1,849,731	(2,220,967)	1823012
OPCo	(4,006,910)	6,251,682	2,244,772	2540118
Total	(8,077,608)	8,101,414	23,806	

As shown in the exhibit, the combined 2009 and 2010 over/under recovery balances for CSP and OPCo result in the aforementioned net over-recovery balance of $23,806 as of December 31, 2010. Larkin traced the CSP under-recovery of $2,220,967 to Account 1823012 and the OPCo over-recovery of $2,244,772 to Account 2540118 in the general ledger detail to confirm that the Company's January 1, 2011 beginning balance was the net over-recovery amount of $23,806.

Information in AEP Ohio's Docket No. 12-1557-EL-RDR Filing Showing Combined Activity for 2009 Through 2011

The Company's EE/PDR filing dated May 15, 2012 in Docket No. 12-1557-EL-RDR, Schedule 1 reflected an over-recovery amount of $4,236,346 for CSP and an over-recovery amount of $13,929,607 for OPCo for a total over-recovery balance of $18,165,953 at December 31, 2011, based on EE/PDR costs and revenue for the period 2009-2011, which is summarized under the "Net Total" column for both companies in Exhibit 5-2 below:

Exhibit 5-2. Calculation of EE/PDR Rider for Period of January 2009 through December 2011

Calculation of Energy Efficiency and Peak Demand Reduction Rider January 2009 - December 2011
Columbus Southern Power

Tariffs	Program Costs ($)	Net Lost Distribution Revenue ($)	Shared Savings ($)	Total ($)	Allocation on Distribution Revenue ($)	Allocated Total ($)	Rider Revenue Actual thru Dec 2011 Jan-Dec 2011 ($)	Net Total ($)	Forecasted Metered Energy (kWh)	EE&PDR Rider ($/kWh)	Revenue Verification ($)
RS	29,431,734	2,584,992	4,946,099	36,962,825		36,962,825	34,364,764	2,598,061	22,054,526,041	0.0001178	2,598,023
All Other C&I					297,625,688	34,321,233	40,629,416	(6,308,183)	27,617,937,150	-0.0002284	(6,307,937)
GS4/IRP					20,576,761	2,372,846	2,899,069	(526,223)	14,167,977,623	-0.0000371	(525,632)
Total C&I	29,013,330	506,749	7,174,000	36,694,078	318,202,449	36,694,078	43,528,485	(6,834,406)	41,785,914,773		(6,833,569)
Total	58,445,063	3,091,741	12,120,099	73,656,903		73,656,903	77,893,249	(4,236,346)	63,840,440,814		(4,235,546)

Calculation of Energy Efficiency and Peak Demand Reduction Rider January 2009 - December 2011
Ohio Power Company

Tariffs	Program Costs ($)	Net Lost Distribution Revenue ($)	Shared Savings ($)	Total ($)	Allocation on Distribution Revenue ($)	Allocated Total ($)	Rider Revenue Actual thru Dec 2011 Jan-Dec 2011 ($)	Net Total ($)	Forecasted Metered Energy (kWh)	EE&PDR Rider ($/kWh)	Revenue Verification ($)
RS	27,643,572	1,620,616	4,749,639	34,013,827		34,013,827	34,768,598	(754,772)	21,896,314,547	-0.0000345	(755,423)
All Other C&I					333,556,059	29,807,487	41,357,693	(11,550,206)	30,243,259,115	-0.0003819	(11,549,901)
GS4/IRP					40,417,797	3,611,846	5,236,476	(1,624,630)	28,459,447,877	-0.0000571	(1,625,034)
Total C&I	26,593,638	420,732	6,404,962	33,419,333	373,973,856	33,419,333	46,594,168	(13,174,836)	58,702,706,992		(13,174,935)
Total	54,237,210	2,041,348	11,154,601	67,433,159		67,433,159	81,362,766	(13,929,607)	80,599,021,539		(13,930,358)
Total CSP and OPCo	112,682,273	5,133,089	23,274,700	141,090,062		141,090,062	159,256,015	(18,165,953)	144,439,462,353		(18,165,904)

As shown in the exhibit above under the column "Net Total", the CSP and OPCo combined over-recovery balance in the Company's filings for the period 2009-2011 is $18,165,953.

According to the supplemental response to LA-EE PDR-1-7, however, the Company had an over-recovery of $19,124,332 as of December 31, 2011. Larkin traced this amount to the general ledger detail that AEP Ohio provided in response to LA-EE PDR-13-1.[88]

Larkin requested that the Company reconcile these two amounts. In its confidential response to LA-EE PDR-12-18 the Company provided the requested reconciliation. The exhibit below shows the differences between the Company's general ledger and its EE/PDR filings for the 2009-2011 over/(under) balances on both an annual basis and on a cumulative basis for the 2009-2011 period:

[88] Upon reviewing the general ledger detail, Larkin noted that the $19,124,332 over-recovery amount includes the aforementioned 2010 over-recovery amount for Ohio Power of $2,244,772.

Exhibit 5-3. Difference of the 2009-2011 Over-Recovery Balance between AEP Ohio's General Ledger and EE/PDR Filings

Date		Over/(Under) Balance Per Accounting Records		Cumulative Over/(Under) Balance Per Accounting Records
12/31/2009	$	(8,077,608)	$	(8,077,608)
12/31/2010	$	7,174,431	$	(903,177)
12/31/2011	$	20,027,509	$	19,124,333
Date		**Over/(Under) Balance Per EE/PDR Filings**		**Cumulative Over/(Under) Balance Filings**
12/31/2009	$	(12,800,660)	$	(12,800,660)
12/31/2010	$	10,867,898	$	(1,932,762)
12/31/2011	$	20,098,714	$	18,165,952
		Difference	$	(958,380)

As shown in Exhibit 5-3, the difference between the 2009-2011 over-recovery amount in the Company's accounting records versus its EE/PDR filings is $958,380 (see additional discussion below).

As also shown in the exhibit above, the Company's regulatory accounting records reflected a cumulative under-recovery balance of $903,177 as of December 31, 2010, which is inconsistent with the aforementioned $23,806 over-recovery balance as of January 1, 2011 that Larkin traced to the general ledger. The reconciliation provided in the confidential response to LA-EE PDR-12-18 included a footnote which stated that the difference between the $903,177 under-recovery in the Company's accounting records and the $23,806 over-recovery, or $926,982 was adjusted in the general ledger in 2011. However, upon Larkin reviewing the 2011 general ledger detail, it was not clear where the $926,982 adjustment was reflected. Upon Larkin's inquiry, in its response to LA-EE PDR-21-1 AEP Ohio stated:

> In February 2011 an adjusting entry of $1,116,481 was made to the Energy Efficiency Rider Over/Under calculation for 2009 through 2011 due to the Lost D Revenues Energy Savings at the Meter (kWh) being changed from an invoiced kWh basis to an installed kWh basis and some new programs were added to Shared Savings. The adjustment for $926,982 was the 2009 through December 2010 portion of this entry and was reflected in the G/L as an over-recovery for both CSP and OP in account 2540118.
>
> Net Lost Distribution Revenues were no longer allowed for recovery as of December 31, 2010, but due to the 2 month lag for receiving actual Net Lost Distribution Revenues they were included until February 2011.

The $926,982 adjustment is summarized in the exhibit below:

Exhibit 5-4. Summary of $926,982 Adjustment to 2011 General Ledger

Description	Amount
Energy Efficiency O/U Recovery - CSP	$ 728,943
Energy Efficiency O/U Recovery - OPCo	$ 387,538
2009 thru 1/2011 Total Adjustment to O/U Recovery - CSP and OPCo	$ 1,116,481
1/2011 portion of Adjustment for Program Costs	$ (42)
1/2011 portion of Adjustment for Lost Distribution Revenues and Shared Savings	$ 189,541
2009 thru 12/2010 Adjustment (does not include 1/2011 portion)	$ 926,982
Source: LA-EE PDR-21-1	

As shown in the exhibit above, the $926,982 was derived by offsetting the total $1,116,481 adjusting entry by a $42 adjustment to program costs (which Larkin considers immaterial) and the January 1, 2011 portion of the adjustment related to lost distribution revenues and shared savings. The components of the $189,541 related to the January 1, 2011 portion of the adjustment to lost distribution revenues and shared savings is shown in the following exhibit:

Exhibit 5-5. Components of AEP Ohio Adjustment to Lost Distribution Revenues and Shared Savings as of January 1, 2011

Lost Distribution Revenues - CSP	New	Previous	Difference
Residential	$ 180,699	$ 168,569	$ 12,130
Commercial	$ 43,358	$ 38,550	$ 4,808
Industrial	$ 9,518	$ 8,462	$ 1,056
Total Adjustment to Lost Distribution Revenues - CSP	$ 233,575	$ 215,581	$ 17,994
Shared Savings - CSP	**New**	**Previous**	**Difference**
Residential	$ 93,551	$ 74,337	$ 19,214
Commercial	$ 163,061	$ 83,763	$ 79,298
Industrial	$ 35,794	$ 18,387	$ 17,407
Total Adjustment to Shared Savings - CSP	$ 292,406	$ 176,487	$ 115,919
Total - Lost Distribution Revenue and Shared Savings for CSP	$ 525,981	$ 392,068	$ 133,913
Lost Distribution Revenues - OPCo	**New**	**Previous**	**Difference**
Residential	$ 202,424	$ 192,188	$ 10,236
Commercial	$ 36,844	$ 31,711	$ 5,133
Industrial	$ 25,604	$ 22,037	$ 3,567
Total Adjustment to Lost Distribution Revenues - OPCo	$ 264,872	$ 245,936	$ 18,936
Shared Savings - OPCo	**New**	**Previous**	**Difference**
Residential	$ 37,587	$ 26,987	$ 10,600
Commercial	$ 118,308	$ 102,914	$ 15,394
Industrial	$ 82,214	$ 71,516	$ 10,698
Total Adjustment to Shared Savings - OPCo	$ 238,109	$ 201,417	$ 36,692
Total - Lost Distribution Revenue and Shared Savings for OPCo	$ 502,981	$ 447,353	$ 55,628
Overall Adjustment to 1/1/2011 Portion of Lost Distribution Revenues and Shared Savings			$ 189,541
Source: LA-EE PDR-21-1			

As previously discussed and shown in Exhibit 5-3 above, the difference between the 2009-2011 over-recovery amount in the Company's accounting records versus the Company's EE/PDR filings is $958,380. Using additional data from the reconciliation provided in LA-EE PDR-12-18, the exhibit below breaks out the components in each year 2009-2011 that results in the $958,380 difference noted in the exhibit above:

Exhibit 5-6. Components Comprising the Difference Between the 2009-2011 Over-Recovery Balance between AEP Ohio's General Ledger and EE/PDR Filings

Per Accounting Records		2009	2010	2011	2009-2011 Difference
Shared Savings		$ -	$ 6,434,618	$ 13,633,929	
Program Costs		$ 8,077,608	$ 38,201,755	$ 66,402,910	
IRPD-Cr		$ -	$ -	$ -	
Lost D Reve		$ -	$ 6,926,275	$ 454,588	
	Total	$ 8,077,608	$ 51,562,648	$ 80,491,427	
Per Filings		**2009**	**2010**	**2011**	
Shared Savings		$ 1,631,311	$ 7,626,077	$ 14,017,312	
Program Costs		$ 8,077,608	$ 38,201,755	$ 66,402,910	
IRPD-Cr		$ -	$ -	$ -	
Lost D Reve		$ 3,091,741	$ 2,041,349	$ -	
	Total	$ 12,800,660	$ 47,869,181	$ 80,420,222	
	Difference	$ (4,723,052)	$ 3,693,467	$ 71,205	$ (958,380)
Source: LA-EE PDR-12-18					

As shown in the exhibit above, a portion of the $958,380 difference between the Company's accounting records and its EE/PDR filings relates to Net Lost Distribution Revenues. Larkin traced the $958,380 to the general ledger. As previously noted, in its Order dated January 27, 2011 in Case No. 09-1089-EL-POR, the Commission ruled that net lost distribution revenues were no longer to be recovered in the EE/PDR rates after 2010. Upon Larkin's inquiry as to why the Company's reconciliation reflected lost distribution revenues after 2010, in response to LA-EE PDR-18-1, AEP Ohio referenced a footnote (hidden in the electronic version of the reconciliation provided with LA-EE PDR-12-18) which stated:

> The 2009-2012 differences for Shared Savings and Lost Distribution Revenues (SS and Lost D Rev) are primarily due to Reg. Acct. timing differences due to using a 2 month lag for SS and Lost D Rev Estimated and Actual Revenue cycles versus the filings using Actual revenues. The two month lag ended 12/31/2012.

As discussed in further detail in Chapter 12, the $18,165,953 over-recovery balance as of December 31, 2011 has been carried over into the Company's EE/PDR filings for the 2012-2016 review period through and including the Company's filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.[89]

[89] The Company's note regarding the shared savings tax gross-up relates to the period 2009 through 2016, which resulted in a total difference of $14,441 over that seven-year period whereas the $958,380 difference pertains to 2009 through 2011.

6 2011 COSTS AND REVENUES

Review of 2011 EE/PDR Program Costs

As previously discussed, Larkin requested that the Company identify the amount of total expenditures recorded (by program) in each year 2011 through 2016, which was provided in response to LA-EE PDR-2-1. The 2011 EE/PDR program costs are summarized in Exhibit 6-1 below:

Exhibit 6-1. Summary of 2011 EE/PDR Program Costs

Description	2011 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 6,715,893
Appliance Recycling	$ 2,658,259
Home Retrofit + In-Home	$ 2,407,413
Low Income	$ 13,984,737
Residential New Construction	$ 1,037,953
Behavior Change	$ 1,835,178
e3smart	$ 1,086,044
BUSINESS	
Prescriptive	$ 14,795,754
Custom	$ 3,622,822
Self Direct	$ 7,564,645
C&I New Construction	$ 1,842,736
C&I Demand Response	$ 487,457
Express	$ 1,695,605
Retro-Commissioning	
Continuous Improvement	
Energy Efficiency Auction	
Data Center	
MULTI-SECTOR	
Energy Education and Training	$ 251,612
Targeted Advertising	$ 5,880,022
Research and Development	$ 536,780
Total Program Costs	**$ 66,402,910**

As shown in the exhibit, AEP Ohio recorded EE/PDR programs costs totaling $66.4 million in 2011. This is the amount of 2011 program costs reflected in the Company's EE/PDR filing dated May 15, 2012 in Case No. 12-1557-EL-RDR.[90]

The costs reported in AEP Ohio's EE/PDR Rider filings are sourced from the Company's general ledger.[91] The Company separated its 2011 EE/PDR costs in to the following eight cost components:

Exhibit 6-2. 2011 AEP Ohio EE/PDR Program Costs in the General Ledger

EE/PDR Program Per G/L	2011
EE/PDR Department	$ 3,239,208
Education	$ 5,961,254
Evaluation	$ 3,211,615
Implementation	$12,914,240
Incentives	$40,387,199
Marketing	$ 689,393
Media*	$ -
R&D General	$ -
Grand Total	$66,402,910

* In 2011, the Media and Education EE/PDR programs were combined as one cost in the general ledger.

The total amount of EE/PDR costs in the general ledger of $66.4 million agreed to the total amount reflected in the EE/PDR Rider filings as well as the annual Portfolio Status Report for EE/PDR program costs.

As noted above, the source for the EE/PDR program costs is the general ledger. Larkin requested the Company's general ledger detail for the accounts in which EE/PDR program costs were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-5. The general ledger detail for EE/PDR program costs recorded in 2011 is summarized by general ledger account in Exhibit 6-3 below:

[90] These amounts are broken out between CSP and OPCo on Schedule 2 (pages 1&2) from the Company's EE/PDR filing dated May 15, 2012 in Case No. 12-1557-EL-RDR.
[91] See the response to LA-EE PDR-14-2.

Exhibit 6-3. General Ledger Detail for EE/PDR Program Costs For 2011

Description	Account	2011
Undistributed Labor Fringe Benefits Clearing	1840040	$ 905
Undistributed Incentive Fringe Benefits Clearing	1840041	$ (12)
Misc Distribution Expenses	**5880000**	**$ 185**
Supervision - Customer Service	**9070000**	**$ 477**
Supervision of Demand Side Management (DSM) Activities	9070001	$ 4,619,132
Customer Assistance Expenses	**9080000**	**$ 97,509**
DSM - Customer Advisory Group	9080001	$ -
Customer Assistance Expense - DSM	*9080009*	*$ 55,283,981*
Misc Cust Svc & Informational Expense	**9100000**	**$ 2,104**
Supervision - Residential Sales Activities	9110001	$ 262,188
Supervision - Commercial & Industrial Sales Activities	9110002	$ 254,071
Adminstrative & General Salaries	**9200000**	**$ 1,243**
Off Supl & Exp - Nonassociated	**9210001**	**$ 3,176**
Office Supplies & Expense	9210002	$ -
Outside Services	9230001	$ 550,540
Employee Pension & Benefits	**9260055**	**$ (892)**
Newspaper Advertising Space	9301001	$ 571,247
Special Advertising Space & Production Expenses	9301007	$ 1,799,698
Fairs, Shows, and Exhibits	9301009	$ -
Other Corporate Communication Expenses	9301015	$ 2,957,359
Total		$ 66,402,910
Source: LA-EE PDR-1-5		

As shown in the exhibit above, the total 2011 EE/PDR costs recorded in the general ledger agree with the total amount of 2011 program costs reflected in Exhibit 6-1 and in the Company's EE/PDR filing dated May 15, 2012 in Case No. 12-1557-EL-RDR. However, Larkin noted that there were costs recorded in accounts not specified in the response to LA-EE PDR-1-3.[92] The accounts in the exhibit above that are in bold print were not included in the list of accounts in which EE/PDR program costs are recorded per the response to LA-EE PDR-1-3. During a conference call between Larkin and AEP Ohio on February 16, 2018 in which this issue was discussed, the Company stated that when it was preparing its initial response to LA-EE PDR-1-3, certain accounts were inadvertently omitted from the query performed in the general ledger detail. As a result, the Company supplemented its response and attachment to LA-EE PDR-1-3 in which all of the accounts highlighted in bold in the exhibit above were included in the list of accounts in which EE/PDR costs were recorded during the 2011-2016 review period.

Review of 2011 Incentive Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to incentive payments to customers. For 2011, incentive costs charged to the EE/PDR programs

[92] LA-EE PDR-1-3(b) requested that AEP Ohio identify each account in which costs related to the EE/PDR programs are recorded.

totaled $40,387,199. The response to LA-EE PDR-1-8 provided the following breakout of 2011 incentive costs between EE/PDR programs:

Exhibit 6-4. 2011 Incentive Payment Costs by Program

Description	2011
Consumer	
Efficient Products	$ 4,267,493
Appliance Recycling	$ 1,736,534
Home Retrofit + In-Home	$ 1,270,323
Low Income	$ 10,742,811
Residential New Construction	$ 322,440
Behavior Change	
e3smart	$ 420,842
Business	
Prescriptive	$ 10,746,953
Custom	$ 1,996,050
Self Direct	$ 5,800,943
C&I New Construction	$ 1,406,977
C&I Demand Response	$ 447,125
Express	$ 820,431
Retro-Commissioning	
Continuous Improvement	
Energy Efficiency Auction	
Data Center	
Multi-Sector	
Energy Education and Training	
Targeted Advertising	
Research and Development	$ 408,277
Total Incentive Costs	$ 40,387,199

Source: LA-EE PDR-1-8

As shown in the exhibit, the 2011 incentive costs were spread among various but not all of the EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the incentive costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 6-5. General Ledger Detail for EE/PDR Incentive Costs For 2011

Description	Account	2011
Customer Assistance Expense	9080000	$ 96,284
Customer Assistance Expense - DSM	9080009	$ 40,290,916
Total Incentive Costs		$ 40,387,199

Source: LA-EE PDR-1-5

As shown in the exhibit, the total incentive costs recorded in the general ledger in 2011 were confined to the two accounts shown and which agreed with the incentive costs by program. No exceptions were noted.

Review of 2011 Evaluation, Measurement & Verification Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to Evaluation, Measurement and Verification ("EM&V"). As discussed in Chapter 3, in accordance with Ohio Administrative Code ("OAC") 4901:1-39-05 (C)(2)(b), the Company conducts EM&V on its EE/PDR programs whereby AEP Ohio's EM&V report must document energy savings and peak-demand reduction values and the cost-effectiveness of each energy efficiency and demand side management program reported in its portfolio status reports. The Company's EM&V results are discussed in further detail in Chapters 14 and 15 of this report.

In terms of the EM&V costs included in the 2011 EE/PDR program costs, as previously noted in Chapter 4, according to the response to LA-EE PDR-2 -2, the EM&V included in 2011 EE/PDR program costs totaled $3,419,707. The exhibit below provides a breakout of the 2011 EM&V costs by Project ID:

Exhibit 6-6. 2011 EM&V Costs by Project ID

Description		2011
OHDSM008A	DSM Meas,Eval and Verification	$ 3,136,532
OHDSM008B	Evaluation	$ 11,888
OHDSM008C	Evaluation - PUCO	$ 178,513
OHDSM009P	Pilot Screening	$ 92,774
Total 2011 EM&V Costs		$ 3,419,707

Larkin verified the 2011 EM&V costs in the exhibit above to the general ledger and to the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

The majority of the EM&V costs in 2011 (i.e., $3,136,532) were incurred pursuant to EM&V procedures conducted by [redacted] [93] As part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected ten [redacted] invoices as part of its sample for 2011. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted] to the general ledger. No exceptions were noted.

[93] [redacted] is a specialized global professional services firm that focuses on four core services, including Dispute & Investigative, Financial Advisory, Economics and Management Consulting.

Review of 2011 Administrative Costs

As previously discussed in Chapter 4, the EE/PDR program costs included administrative costs. For 2011, administrative costs charged to the EE/PDR programs totaled $3,031,116. In response to LA-EE PDR-3-8 (Attachment 2) and as shown in the exhibit below, the Company provided a breakout of administrative costs between (1) costs that were directly charged to the EE/PDR programs, and (2) overhead administrative costs that were allocated to the EE/PDR programs in 2011.

Exhibit 6-7. Breakout of 2011 Administrative Costs Between Direct Charged and Allocated to EE/PDR Programs

Description	2011 Administrative Costs
Direct Charged Administrative Costs	$ 1,415,691
Allocated Overhead Administrative Costs	$ 1,615,426
Total Administrative Costs	$ 3,031,116
Source: LA-EE PDR-3-8 (Attachment 2)	

As shown in the exhibit above, administrative costs totaling $1,415,691 were directly charged to the EE/PDR programs in 2011 while $1,615,426 was overhead allocated to the EE/PDR programs. In addition, the response to LA-EE PDR-3-8 provided the following breakout of 2011 administrative costs between EE/PDR programs:

Exhibit 6-8. 2011 Administrative Costs by EE/PDR Program

EE/PDR Program	2011
OHDSM0001 - DSM NonAssign Pgm Adm&Corp Spt	$ 1,615,426
OHDSM004A - R-Efficient Products	$ 74,919
OHDSM004B - R-Home Retrofit	$ 109,897
OHDSM004C - R-New Construction	$ 64,545
OHDSM004D - R-Appliance Recycling	$ 64,617
OHDSM004E - R-Low Income	$ 42,511
OHDSM004G - R-Energy Conservation Kit	$ 11,584
OHDSM004H - R-Behavioral	$ 55,508
OHDSM005A - CII-Prescriptive Incentives	$ 180,877
OHDSM005B - CII-Custom	$ 245,153
OHDSM005C - CII-Self Direct	$ 219,758
OHDSM005D - CII-New Construction	$ 61,738
OHDSM005E - CII-Custom Direct Install	$ 78,809
OHDSM007A - DSM Education	$ 170,380
OHDSM009B - Hospital Energy Audit Pilot	$ 13,363
OHDSM009C - E3 Audits	$ 591
OHDSM009D - Community Light Bulbs	$ 104
OHDSM009F - C&I Energy Audits	$ 206
OHDSM009G - Energy Check Toolkit Library	$ 9,246
OHDSM009H - Metropolitan Housing CFL Program	$ 324
OHDSM009I - HP Water Heating Pilot	$ 3,522
OHDSM009J - OH DSM Smart Strips	$ 5,411
OHDSM009K - Commercial Recycling	$ 303
OHDSM009L - Vending/Beverage Machine EMS	$ 767
OHDSM009P - Pilot Screening	$ 1,255
OHDSM009Q - LiUNA Weatherization Project	$ 305
Grand Total	$ 3,031,116

Source: LA-EE PDR-3-8 (Attachment 1)

As shown in the exhibit, the 2011 administrative costs were spread among the various EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 6-9. General Ledger Detail for EE/PDR Administrative Costs For 2011

Description	Account	2011
Undistributed Labor Fringe Benefits Clearing	1840040	$ 905
Undistributed Incentive Fringe Benefits Clearing	1840041	$ (12)
Misc Distribution Expenses	5880000	$ 185
Supervision - Customer Service	9070000	$ 381
Supervision of Demand Side Management (DSM) Activities	9070001	$ 1,198,218
Customer Assistance Expenses	9080000	$ 1,225
Customer Assistance Expense - DSM	9080009	$ 1,340,157
Misc Cust Svc & Informational Expense	9100000	$ 2,104
Supervision - Residential Sales Activities	9110001	$ 261,789
Supervision - Commercial & Industrial Sales Activities	9110002	$ 223,848
Adminstrative & General Salaries	9200000	$ 1,243
Off Supl & Exp - Nonassociated	9210001	$ 1,966
Outside Services	9230001	$ 2
Employee Pension & Benefits	9260055	$ (892)
Grand Total		$ 3,031,116

Source: LA-EE PDR-3-8

As shown in the exhibit above, the total administrative costs recorded in the general ledger agree with the administrative costs by program. No exceptions were noted.

Review of 2011 Vendor Invoices

The file provided by AEP Ohio entitled "2011 Match to GL (Modified)" contained EE/PDR vendor invoices totaling to $53,465,049.

In data request LA-EE PDR-6-1, all invoices above $300,000 were selected for review. Those invoices totaled $19,348,492.

In data request LA-EE PDR-7-1 AEP Ohio was asked to provide invoices that were randomly selected from the "2011 Match to GL (Modified)" listing that had amounts ranging from $10,000 to $100,000 and from $100,000 to $300,000 as well as the invoices that had credit amounts (i.e., negative balances) larger than $10,000.

The invoices requested in LA-EE PDR-6-1 and LA-EE PDR-7-1 resulted in the following sample summarized by selection method:

Exhibit 6-10. 2011 Summary of Stratification and Sample Selection

2011 EE/PDR Vendor Invoices
Summary of Stratification and Sample Selection

Group	Criteria for Group	Population	No of Invoices Selected for Review	Basis	Total Dollar Value	Dollar Value of Selected	Selected as a Percent of Total Dollar Amount in Group
Batch 1	Over $300,000	40	40	Select all (100% judgmental)	$ 19,348,492	$ 19,348,492	100%
Batch 2	$100,000 to $300,000	89	33	Random Sample	$ 13,567,620	$ 5,030,996	37%
Batch 3	$10,000 to $100,000	506	37	Random Sample	$ 19,821,687	$ 1,410,125	7%
Batch 4	($10,000) to $10,000 [a]	511		None (judgmental)	$ 1,519,988		0%
Batch 5	($10,000) or Less	10	10	Select all (100% judgmental)	$ (792,738)	$ (792,738)	100%
Totals		1156	120		$ 53,465,049	$ 24,996,874	47%

The invoices requested in LA-EE PDR-6-1 and LA-EE PDR-7-1 totaled $24.997 million out of a net amount of $53.465 million for 2011 that was listed in the Company-provided "2011 Match to GL (Modified)" Excel file. The total dollar amounts of the invoices selected for sampling was approximately 47 percent of the total EE/PDR vendor invoice amount for the year in the Company-provided "2011 Match to GL (Modified)" Excel file.

Larkin reviewed the 2011 vendor invoices that the Company provided in response to the data requests listed above. During our review process, we noted that many of the amounts listed on the invoices did not match to the amounts listed in the referenced responses. We set up a conference call on September 8, 2017 with the Company personnel who were responsible for keeping track of the vendor invoices to discuss these discrepancies. The Company explained that the reason the amounts did not match directly to the invoices was due to some of the amounts being allocated over multiple projects.

One such invoice discussed during the September 8, 2017 conference call was invoice number M15104 from the vendor [redacted] dated July 29, 2011. Using the Company's explanation as a guide, we verified the total invoice amount to the corresponding general ledger detail. The exhibit below shows the general ledger entries for this invoice:

Exhibit 6-11. Summary of Invoice Number M15104

Years	Periods		Project	PO ID	AP Invoice ID	Vendor Name #	Act $
2011	(08) Aug	OHDSM007B	DSM Corp Com		M15104	[redacted]	$ 41,965.12
2011	(08) Aug	OHDSM007B	DSM Corp Com		M15104		$ 41,965.13
							$ 83,930.25

The total amount in the general ledger of $83,930.25 agreed to the amount shown on the invoice. We verified the other invoices we had concerns with in a similar manner and those invoice amounts agreed to the general ledger as well. No exceptions were noted.

Review of 2011 Labor Costs Charged to the EE/PDR Programs

During the interviews conducted on October 19, 2017, the Company stated that for 2011, the labor costs charged to the EE/PDR programs were incurred by AEPSC employees as the merger between CSP and OPCo had not yet occurred. Subsequent to the merger of CSP and OPCo on

December 31, 2011, the Service Company employees associated with the EE/PDR programs were transferred to the Ohio Power distribution company.[94] The Company confirmed this in its response to LA-EE PDR-4-1, which states that the only year in the review period in which AEP Service Company labor costs were charged to the EE/PDR programs was 2011.[95]

Larkin requested that for each year in the 2011-2016 review period, that AEP Ohio identify the amounts of Company and affiliate labor costs charged to each EE/PDR program. In its response to LA-EE PDR-3-3, for 2011, the Company identified the amounts shown in the exhibit below:

Exhibit 6-12. Labor Costs Charged to EE/PDR Programs in 2011

Description	Account	2011 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 905
Undistributed Incentive Fringe Benefit Clearing	1840041	$ (12)
Supervision DSM	9070001	$ 1,241,602
Customer Assistance Expense - DSM	9080009	$ 1,329,467
Cust Serv & Info - Supv - Residential	9110001	$ 243,739
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 65,881
Total Labor Costs Charged to EE/PDR Programs		$ 2,881,581

As shown in the exhibit above, the Company and Affiliate labor costs totaling $2.882 million were charged to the EE/PDR programs during 2011. For 2011, the response to LA-EE PDR-3-3 stated that these costs include (1) affiliate employee costs; (2) employee associated labor fringes; and (3) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. Larkin traced the amounts above to the general ledger detail provided in response to LA-EE PDR-1-5.

As noted above, the labor costs charged to the EE/PDR programs in 2011 were incurred by AEP Service Company employees as the merger between CSP and OPCo had not yet occurred. In order to obtain an understanding of the level of AEP Service Company labor hours and costs that were charged to the EE/PDR programs in 2011 in proportion to the total AEP Service Company labor hours and costs incurred in 2011, Larkin requested that AEP Ohio provide: (1) total labor hours charged to the EE/PDR Rider; (2) total labor hours worked for the year; (3) total labor dollars charged to the EE/PDR Rider; (4) total labor dollars for the year; and (5) the percentage of time that each AEP Service Company employee charged to the EE/PDR Rider in proportion to the overall labor costs. In its supplemental response to LA-EE PDR-11-1[96], the Company provided the requested labor related information, which is summarized in the exhibit below:

[94] As a result of the AEPSC employees being transferred to Ohio Power following the merger, the labor costs included in the EE/PDR programs for the period 2012 through 2016 were incurred by Ohio Power employees.
[95] In contrast, the response to LA-EE PDR-4-2 identifies 2012 through 2016 as the years in which AEP Ohio distribution labor costs were charged to the EE/PDR programs.
[96] This information was originally requested in LA-EE PDR-4-3, which the Company supplemented with its response to LA-EE PDR-11-1.

Exhibit 6-13. AEP Service Company Labor Costs Charged to the EE/PDR Rider in 2011

	Year 2011				
	EE LaborHrs for the Year	Total Employee Labor Hrs for Year	EE LaborDollars for the Year	TotalLaborDollars for the Year	% of EE Hrs ChargedToRider
Employee ID	AEPSC	AEPSC	AEPSC	AEPSC	AEPSC
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	26,739.50	32,404.00	$ 1,150,535	$ 1,397,143	82.52%

As shown in Exhibit 6-13, for 2011, AEPSC employees working on the AEP Ohio EE/PDR programs charged a total of 26,740 labor hours to the EE/PDR programs out of their total labor hours of 32,404, i.e., 82.52% of the 2011 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.151 million (which are embedded in Exhibit 6-12 above), of $1.397 million of their total labor costs. As shown under the column heading "% of EE Hrs Charged to Rider", the individual AEPSC employees (identified by Employee ID) charged the majority of their time in 2011 to the EE/PDR programs. During the interviews conducted on October 19, 2017, the Company stated that the data shown for labor hours in the exhibit above are from each respective employee's timesheets.

In its response to LA-EE PDR-1-13, AEP Ohio provided a large multi-tabbed Excel file titled "Accounting Manual 2015-2016. One such tab on this Excel file was titled "Time Sheet Accounting", which listed the Company employees who work in the following areas of the EE/PDR program:

Consumer Program Manager and Coordinators

Commercial/Industrial Program Manager and Coordinators

Education/Department Management

Compliance

Finance

R&D Pilot Programs - General

R&D Pilot Programs - Commercial

R&D Pilot Programs - Residential

The Time Sheet Accounting document also included several time reporting requirements for the employee time sheets (Account Code, Project Business Unit, Project ID, etc.). Larkin inquired as to whether the time reporting requirements on the Time Sheet Accounting document were in place during the 2011-2016 review period. In response to LA-EE PDR-4-6, AEP Ohio stated that this was the case.

Review of 2011 Employee Expenses

As noted above, the general ledger detail includes the following specific cost centers, which relate to employee expenses charged to the EE/PDR programs:

Cost Center 510 - Business Exp 100% Deduct Gen

Cost Center 520 - Business Exp Part Deduct Gen

The Company's response to LA-EE PDR-18-3 provided the following breakout of employee expenses charged to the EE/PDR programs in 2011 by (1) general ledger account, and (2) by EE/PDR project ID:

Exhibit 6-14. Summary of 2011 Employee Expenses by General Ledger Account and EE/PDR Project ID

Account			Total
9070001	Supervision - DSM	$	48,182.68
9080009	Cust Assistance Expense - DSM	$	19,442.64
9100000	Misc Cust Svc&Informational Ex	$	11.66
9110001	Supervision - Residential	$	1,814.49
9110002	Supervision - Comm & Ind	$	14,206.91
9210001	Off Supl & Exp - Nonassociated	$	846.51
9230001	Outside Svcs Empl - Nonassoc	$	386.85
9301007	Special Adv Space & Prod Exp	$	719.31
Grand Total		**$**	**85,611.05**

Project			Total
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$	60,183.10
OHDSM004A	R-Efficient Products	$	1,369.97
OHDSM004B	R-Home Retrofit	$	429.87
OHDSM004D	R-Appliance Recycling	$	56.10
OHDSM004G	R-Energy Conservation Kit	$	193.23
OHDSM005B	CII-Custom	$	4,905.07
OHDSM005C	CII-Self Direct	$	226.38
OHDSM007A	DSM Education	$	15,862.02
OHDSM007B	DSM Corp Com	$	1,952.67
OHDSM008A	DSM Meas,Eval and Verification	$	432.64
Grand Total		**$**	**85,611.05**

As shown in both tables in the above exhibit, employee expenses totaling $85,611 were charged to EE/PDR programs during 2011.

In order to test the employee expenses that were charged to the EE/PDR programs in 2011, Larkin initially selected ten transactions from the general ledger detail that relate to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense reports, invoices and any other documentation which supports the amounts shown for each transaction. The ten transactions Larkin selected totaled $14,057 and was comprised of the following:

CC - 510	$	8,775
CC - 520	$	5,282
Total	$	14,057

The Company provided the requested supporting documentation for the selected transactions in response to LA-EE PDR-20-1. Specifically, for 2011, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2011 general ledger detail; (2) copies of employee expense reports, invoices and receipts; (3) a narrative summary of all of the expenses reflected on the employee expense reports (including those not specifically selected for review, but which were itemized on the same expense reports; and (4) an Excel worksheet that the Company provided to assist in tying out the transaction line amounts selected with the expense account and/or invoice. This worksheet, which imported data from the general ledger, was provided only for 2011 since this was prior to the merger of CSP and OPCo. As such, many of the transactions in 2011 were originally booked as AEP Service Company expenses and then subsequently billed to CSP and OPCo. For these transactions, it was necessary to review both companies' transactions to the see the total expense.

Larkin reviewed the referenced expense detail for each of the ten transactions that were initially selected for review and verified that the amounts were recorded to the general ledger. No exceptions were noted.

However, upon reviewing the documentation, Larkin identified some concerns with regard to certain employee expenses being charged to the EE/PDR programs for which Larkin requested additional information. These areas of concern included (1) many instances where AEP Ohio employees attended conferences or other events in states other than Ohio; (2) instances where the Company purchased gift cards [redacted] and charged the costs to the EE/PDR programs; and (3) instances where AEP Ohio employees charged the cost of annual dues to memberships in various organizations to the EE/PDR programs.

For each of these areas of costs charged to the EE/PDR programs in 2011, Larkin requested that the Company provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs.

In addition, although not specifically identified in the employee expense detail selected for review, Larkin asked AEP Ohio whether the 2011 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2011, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

As it relates to AEP Ohio's basis for including the costs of out of state travel in the EE/PDR programs, in response to LA-EE PDR-22-1, the Company stated that its EE/PDR team members attend the conferences of various organizations to:

- Improve the cost effectiveness of our programs to lower the overall cost of program delivery. AEP Ohio's programs have historically been among the lowest cost in the country and have also historically underspent the overall approved program spend by significant levels. Attendance at these conferences has contributed to keeping costs lower than they otherwise could have been.
- The out of state conferences are either regional or national conferences and best practices are most efficiently obtained by attending the conferences where they are located. Energy efficiency programs are offered throughout the country and the efficiency of learnings is concentrated at these events.
- The cost obtaining the level of knowledge, contacts and ideas from attending these conferences would be higher if obtained through consulting fees and other paid expertise.
- Network with other utilities and organizations to keep abreast of the latest in energy efficiency research, development, and programs.
- Share successes and failures with other individuals involved in running energy efficiency programs with the goal of improving the effectiveness of our EE/PDR programs.
- Continually look for new or improved EE/PDR programs to consider for our AEP Ohio customers.

The foregoing reasons for AEP Ohio including out of state travel costs in its EE/PDR programs also applied to the period 2012 through 2016.

With regard to 2011 out of state travel costs charged to the EE/PDR programs, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 6-15. Summary of 2011 Out of State Travel Expense

State	Conference	Airfare	Lodging	Transportation	Meals	Total
California	CEE Consortium for Energy Efficiency Conference	$ 420	$ 309	$ 29	$ 76	$ 834
California	CEE Consortium for Energy Efficiency Conference	$ 420	$ 318	$ 202	$ 83	$ 1,023
Massachusetts	CEE Consortium for Energy Efficiency Conference	$ 388	$ 456	$ 81	$ 54	$ 978
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 377	$ 538	$ 79	$ 21	$ 1,016
Washington DC	BECC Behavior, Energy and Climate Change	$ 245	$ 517	$ 63	$ 13	$ 838
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 501	$ 573	$ 24	$ 50	$ 1,148
Massachusetts	CEE Consortium for Energy Efficiency Conference	$ 421	$ 715	$ 44	$ 103	$ 1,283
Florida	AESP Association of Energy Service Professionals	$ 246	$ 947			$ 1,193
California	CEE Consortium for Energy Efficiency Conference	$ 440	$ 309	$ 39	$ 39	$ 827
Florida	AESP Association of Energy Service Professionals	$ 371	$ 1,584	$ 221	$ 84	$ 2,260
Florida	AESP Association of Energy Service Professionals		$ 715	$ 34	$ 18	$ 768
California	AESP Association of Energy Service Professionals	$ 296				$ 296
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 309				$ 309
California	ACI Affordable Comfort Inc. National Home Performance	$ 614	$ 1,541	$ 406	$ 191	$ 2,751
South Carolina	Energy Star Products Partners Meeting	$ 239	$ 917	$ 62	$ 92	$ 1,311
Florida	AESP Association of Energy Service Professionals	$ 50	$ 468	$ 21	$ 15	$ 554
Massachusetts	IEPEC International Energy Program Evaluation Conference	$ 254	$ 786		$ 202	$ 1,242
California	DistribuTECH Conference	$ 376	$ 2,023	$ 70	$ 37	$ 2,506
California	ACI Affordable Comfort Inc. National Home Performance	$ 444	$ 1,270	$ 6	$ 223	$ 1,942
Massachusetts	CEE Consortium for Energy Efficiency Conference	$ 439	$ 683	$ 38	$ 87	$ 1,247
Texas	AESP Association of Energy Service Professionals	$ 410	$ 746			$ 1,156
Indiana	Women's International Network of Utility Professionals		$ 343	$ 210		$ 553
Maryland	CEE Consortium for Energy Efficiency Conference	$ 269	$ 683	$ 36	$ 146	$ 1,135
Florida	AESP Association of Energy Service Professionals	$ 205	$ 945	$ 74	$ 22	$ 1,247
Illinois	MEEA Midwest Energy Efficiency Alliance Conference		$ 429	$ 27	$ 237	$ 692
Colorado	E Source	$ 306	$ 411		$ 69	$ 786
California	AESP Association of Energy Service Professionals	$ 89				$ 89
Florida	AESP Association of Energy Service Professionals	$ 159	$ 682		$ 66	$ 907
	Total 2011 Out of State Travel Costs	$8,289	$18,908	$ 1,765	$1,928	$30,890

Source: LA-EE PDR-22-1

As shown in the exhibit above, the 2011 out of state travel totaled (1) $8,289 for airfare; (2) $18,908 for lodging; (3) 1,765 for transportation; and (4) $1,928 for meals for an overall total of $30,890. Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2011 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

With regard to [redacted] or other gift cards purchased by AEP Ohio and charged to the EE/PDR program costs, in response to LA-EE PDR-22-2, the Company stated that the gift cards were purchased as incentives for AEP Ohio's customers, solution providers and conference attendees and that they are awarded based on drawings. In addition, the Company stated that gift cards are used to attract individuals to booths to hear about AEP Ohio's energy efficiency programs and that they provide an incentive for people to attend educational seminars and solution provider kickoff meetings in order to learn about the EE/PDR programs and help in marketing the programs. Moreover, AEP Ohio stated that gift cards provide the following benefits:

- They create a draw for customers to visit our booth at conferences, trade shows, and seminars so that they can be educated about AEP Ohio's energy efficiency programs
- They are appreciated by the Company's customers
- Gift cards improve customer satisfaction

- Gift cards create a mental anchor between gift cards and energy efficiency (i.e., when a customer uses a gift card they have received from AEP Ohio, they remember the energy efficiency programs)
- Gift cards increase participation in the EE/PDR programs
- The more participation there is in the EE/PDR programs, the more benefits for all of the Company's customers

The foregoing reasons for AEP Ohio including the costs associated with gift cards in its EE/PDR programs also applied to the period 2012 through 2016.

With regard to the cost of gift cards included in the 2011 EE/PDR program costs, Attachment 1 from the response to LA-EE PDR-22-1 indicated costs totaling $500 for gift cards were charged to the EE/PDR programs in 2011. In Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs. Therefore, Larkin recommends that the $500 related to gift cards be removed from 2011 EE/PDR program costs.

With regard to its basis for charging the costs of annual membership dues to the EE/PDR programs, in response to LA-EE PDR-22-3, the Company stated:

> AEP encourages the continued growth and development of all of its employees. These memberships allow our EEPDR team members to be more valuable to the EEPDR department. The growth and development achieved through the networking with other professionals in these organizations as well as participation in the organizations' meetings/training sessions is very valuable and assists our team members in making their programs more efficient and effective.

The foregoing reasons for AEP Ohio including the costs associated with annual membership dues in its EE/PDR programs also applied to the period 2012 through 2016.

With regard to the costs associated with annual membership dues being charged to the EE/PDR programs in 2011, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 6-16. Summary of Annual Membership Dues Charged to EE/PDR Programs in 2011

Description	Annual Membership Dues
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 185
Toastmasters six months membership - professional development in public speaking and leadership	$ 52
ASTD (American Society for Training & Development) annual membership -refine training performance metrics and work towards certification for credentialing training	$ 199
Toastmasters annual membership -professional development in public speaking and leadership	$ 66
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 120
Builders Industry Association for New Homes Program	$ 150
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 185
Annual dues for membership in the American Institute of Certified Public Accountants (AICPA), which as a CPA provides me with access to professional resources, learning and development tools and programs	$ 125
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) -- For employees to stay current on HVAC trends and standard changes, receive monthly newsletter, attend chapter meetings, gain insight as to new EE standards	$ 185
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 185
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 185
Total 2011 Annual Membership Dues Charged to EE/PDR Programs	$ 1,637
Source: LA-EE PDR-22-1	

As shown in the exhibit above, the Company included costs totaling $1,637 in its 2011 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and are related to energy efficiency or to the professional development of the employees working on the EE/PDR programs.

With regard to the whether the EE/PDR programs included costs for items such as sporting and/or theater events, sky boxes, concerts, festivals and fairs, in response to LA-EE PDR-22-4, the Company, referring to Attachment 1 from the response to LA-EE PDR-22-1, stated:

> These expenses for AEP Ohio's EEPDR team, whose costs are incremental to AEP Ohio base rates, are reasonable and not excessive. These activities are important to demonstrate appreciation for the team's efforts and celebrate the team's successes. These events also improve the effectiveness of the team by increasing the engagement of the team members.[97]

The foregoing reasons for AEP Ohio including the costs associated with these types of costs in its EE/PDR programs also applied to the period 2012 through 2016.

For 2011, AEP Ohio included costs associated with two events. Specifically, Attachment 1 to the response to LA-EE PDR-22-1 listed an athletic sporting event with costs totaling $836 and an entertainment event with costs totaling $384 for a total of $1,220. The Company provided the following rationale for including the costs of both of these events in the 2011 EE/PDR program costs:

[97] The response to LA-EE PDR-22-1 indicates that the only such costs were related to athletic/sporting events and entertainment events. There were no costs associated with theater tickets, sky boxes, concerts, fairs or festivals in the EE/PDR program costs in any year during the 2011-2016 review period.

> This expense was for a team building event after an all day staff meeting. Our periodic all day staff meetings are held to: provide an update on the year-to-date status and accomplishments achieved under each EEPDR program; provide a year-to-date update on the status of our total EEPDR portfolio - energy savings, demand savings, and a comparison of actual costs incurred versus our department budget; provide an update on the status of collecting customer / savings information from implementers; provide on the status of any contracts / amendments; provide an update on the status of any regulatory filings or audits in progress.

In Larkin's view, these costs are not needed for energy efficiency and should not be included in costs charged to the EE/PDR programs. Therefore, Larkin recommends that the costs totaling $1,220 be removed from the 2011 EE/PDR program costs.

Review of 2011 EE/PDR Related Revenues

During Larkin's on-site visit to AEP Ohio's offices in Gahanna, Ohio on August 1, 2017, the Company stated that it used "revenue screen shots" to tie out revenue related to the EE/PDR Rider for each year of the 2011 through 2016 review period. Larkin requested the revenue screen shots for each year of the review period, which the Company provided in response to LA-EE PDR-8-6. Specifically, AEP Ohio provided separate revenue screen shots for CSP and OPCo, which reflected the EE/PDR Rider revenues on a monthly basis. The revenue screenshots for 2011 are summarized in the exhibit below:

Exhibit 6-17. Revenue Screen Shots for CSP and OPCo for 2011

CSP	January 2011	February 2011	March 2011	April 2011	May 2011	June 2011	July 2011	August 2011	September 2011	October 2011	November 2011	December 2011	Total
Residential	$ 2,473,210	$ 2,144,095	$ 1,761,781	$ 1,472,948	$ 1,369,323	$ 1,687,326	$ 2,042,315	$ 2,333,258	$ 1,857,337	$ 1,305,351	$ 1,338,498	$ 1,786,875	$ 21,572,317
Other C&I	$ 2,196,999	$ 2,108,499	$ 2,047,314	$ 1,851,643	$ 2,012,136	$ 2,197,380	$ 2,300,160	$ 2,470,473	$ 2,322,433	$ 1,991,709	$ 1,889,418	$ 2,027,000	$ 25,415,165
GS-4	$ 142,466	$ 160,833	$ 144,226	$ 247,034	$ 162,185	$ 175,174	$ 148,080	$ 189,668	$ 174,427	$ 160,593	$ 79,988	$ 222,142	$ 2,006,815
Total	$ 4,812,675	$ 4,413,427	$ 3,953,320	$ 3,571,624	$ 3,543,644	$ 4,059,880	$ 4,490,555	$ 4,993,398	$ 4,354,197	$ 3,457,653	$ 3,307,905	$ 4,036,017	$ 48,994,296

OPCo	January 2011	February 2011	March 2011	April 2011	May 2011	June 2011	July 2011	August 2011	September 2011	October 2011	November 2011	December 2011	Total
Residential	$ 2,732,786	$ 2,424,371	$ 1,878,594	$ 1,634,872	$ 1,443,141	$ 1,604,715	$ 1,940,521	$ 2,153,140	$ 1,799,795	$ 1,270,171	$ 1,402,755	$ 1,954,962	$ 22,239,823
Other C&I	$ 2,246,384	$ 2,061,485	$ 2,155,634	$ 1,964,332	$ 2,023,179	$ 2,206,201	$ 2,263,644	$ 2,368,949	$ 2,309,505	$ 2,034,924	$ 1,982,834	$ 2,113,721	$ 25,730,789
GS-4	$ 272,374	$ 333,472	$ 311,208	$ 290,805	$ 294,615	$ 354,527	$ 192,021	$ 357,627	$ 298,623	$ 281,015	$ 221,271	$ 346,471	$ 3,554,028
Total	$ 5,251,543	$ 4,819,327	$ 4,345,435	$ 3,890,009	$ 3,760,935	$ 4,165,442	$ 4,396,186	$ 4,879,716	$ 4,407,923	$ 3,586,111	$ 3,606,859	$ 4,415,154	$ 51,524,640

CSP & OPCo	January 2011	February 2011	March 2011	April 2011	May 2011	June 2011	July 2011	August 2011	September 2011	October 2011	November 2011	December 2011	Total
Residential	$ 5,205,996	$ 4,568,465	$ 3,640,375	$ 3,107,820	$ 2,812,464	$ 3,292,041	$ 3,982,836	$ 4,486,398	$ 3,657,132	$ 2,575,523	$ 2,741,253	$ 3,741,837	$ 43,812,140
Other C&I	$ 4,443,383	$ 4,169,984	$ 4,202,947	$ 3,815,975	$ 4,035,315	$ 4,403,581	$ 4,563,804	$ 4,839,421	$ 4,631,938	$ 4,026,632	$ 3,872,252	$ 4,140,721	$ 51,145,954
GS-4	$ 414 840	$ 494 304	$ 455 433	$ 537 838	$ 456 800	$ 529 700	$ 340 101	$ 547 295	$ 473 051	$ 441 608	$ 301 259	$ 568 613	$ 5 560 842
Total	$ 10 064 219	$ 9 232 754	$ 8 298 755	$ 7 461 633	$ 7 304 579	$ 8 225 322	$ 8 886 742	$ 9 873 114	$ 8 762 120	$ 7 043 764	$ 6 914 764	$ 8 451 171	$ 100 518 936

As shown in the exhibit above, AEP Ohio recorded revenues related to the EE/PDR Rider totaling $100.52 million in 2011 with $48.99 million relating to CSP and $51.52 million relating to OPCo.

As previously discussed, Larkin had requested the Company's general ledger detail for the accounts in which EE/PDR Rider revenues were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-4. The general ledger detail for EE/PDR Rider revenue recorded in 2011 is summarized in Exhibit 6-18 below.

Exhibit 6-18. General Ledger Detail for EE/PDR Rider Revenue For 2011

Description	Account	2011
Residential Sales - With Space Heating	4400001	$ 12,973,523
Residential Sales - Without Space Heating	4400002	$ 30,838,639
Commercial Sales	4420001	$ 30,835,107
Industrial Sales (Excluding Mines)	4420002	$ 20,216,528
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$ 176,401
C&I Sales - Affiliated Companies	4420005	$ 141,170
Sales to Public Authorities - Schools	4420006	$ 2,682,852
Sales to Public Authorities - Excluding Schools	4420007	$ 2,574,527
Public Street - Highway Lighting	4440000	$ 56,394
Other Sales - Public Authorities - Excluding Schools	4450002	$ 2,319
Wholesale / Municipal / Public Authorities	4470027	$ 21,475
Total		$ 100,518,936

Upon comparing the 2011 revenues recorded in the general ledger to the monthly screenshots in Exhibit 6-10 above, Larkin noted that the total 2011 revenue of $100.52 million is reflected in both sets of data. However, as a further test of the EE/PDR revenues, Larkin requested that AEP Ohio reconcile the 2011 CSP and OPCo EE/PDR revenues reflected in the screenshots to the related general ledger accounts shown in the exhibit above. In response to LA-EE PDR-14-16, the Company stated that the general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 were provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided the following tables which reconciled the 2011 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded:

Exhibit 6-19. Reconciliation of Revenue Screenshots to General Ledger

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
10	211	GS-4	69,310.42
10	213	GS-4	278,478.38
10	216	GS-4	26,227.71
10	221	GS-4	1,632,798.31
10	010	Other C and I	20.16
10	020	Other C and I	0.53
10	211	Other C and I	16,847,739.35
10	212	Other C and I	2,233,280.71
10	213	Other C and I	1,134,496.59
10	216	Other C and I	700,913.12
10	221	Other C and I	4,311,414.82
10	222	Other C and I	50,396.51
10	240	Other C and I	101,248.81
10	400	Other C and I	35,653.91
10	010	Residential	16,146,356.89
10	020	Residential	5,425,921.69
10	211	Residential	38.07
10	212	Residential	0.00
			48,994,295.98

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	16,146,377
020	4400001	Res Sales - W/ Space Heating	5,425,922
211	4420001	Commercial Sales	16,917,088
212	4420001	Commercial Sales	2,233,281
213	4420006	Sales to Public Authorities - Schools	1 412 975
216	4420007	Sales to Public Authorities - Excl. Schools	727,141
221	4420002	Industrial Sales (Excl. Mines)	5,944,213
222	4420002	Industrial Sales (Excl. Mines)	50,397
240	4420005	C&I Sales - Affiliated Companies	101,249
400	4440000	Public Street - Hiway Lighting	35 654
	Total CSP		48,994,296

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
07	221	GS-4	3 466 687.05
07	222	GS-4	43 717.26
07	230	GS-4	43,623.21
07	010	Other C and I	23.51
07	020	Other C and I	0.00
07	211	Other C and I	9,889,837.00
07	212	Other C and I	1,794,917.67
07	213	Other C and I	1,269,877.48
07	216	Other C and I	1,847,386.60
07	221	Other C and I	10,327,019.52
07	222	Other C and I	384,494.55
07	230	Other C and I	132,777.76
07	240	Other C and I	18,447.93
07	245	Other C and I	21,473.64
07	400	Other C and I	20 740.11
07	520	Other C and I	2 319.01
07	720	Other C and I	21 474.69
07	010	Residential	14 692 238.93
07	020	Residential	7 547 600.47
07	211	Residential	0.01
07	212	Residential	-16.46
			51,524,639.94

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	14,692,262
020	4400001	Res Sales - W/ Space Heating	7,547,600
211	4420001	Commercial Sales	9,889,837
212	4420001	Commercial Sales	1,794,901
213	4420006	Sales to Public Authorities - Schools	1,269,877
216	4420007	Sales to Public Authorities - Excl. Schools	1,847,387
221	4420002	Industrial Sales (Excl. Mines)	13,793,707
222	4420002	Industrial Sales (Excl. Mines)	428 212
230	4420004	Industrial Non-Affiliated (Incl. Mines)	176 401
240	4420005	C&I Sales - Affiliated Companies	18 448
245	4420005	C&I Sales - Affiliated Companies	21 474
400	4440000	Public Street - Hiway Lighting	20 740
520	4450002	Other Sales - Public Authorities - Excl Schools	2,319
720	4470027	Wholesale/Muni/Public Authorities	21,475
	Total OP		51,524,640

	CSP	OP	Total
Residential	21,572,317	22,239,823	43,812,140
Other C and I	25,415,165	25,730,789	51,145,954
GS-4	2,006,815	3,554,028	5,560,842
Total	48,994,296	51,524,640	100,518,936

Ties to Revenue Screenshots

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	30,838,639
020	4400001	Res Sales - W/ Space Heating	12,973,523
211	4420001	Commercial Sales	26,806,925
212	4420001	Commercial Sales	4,028,182
213	4420006	Sales to Public Authorities - Schools	2,682,852
216	4420007	Sales to Public Authorities - Excl. Schools	2,574,527
221	4420002	Industrial Sales (Excl. Mines)	19,737,920
222	4420002	Industrial Sales (Excl. Mines)	478,608
230	4420004	Industrial Non-Affiliated (Incl. Mines)	176,401
240	4420005	C&I Sales - Affiliated Companies	119,697
245	4420005	C&I Sales - Affiliated Companies	21 474
400	4440000	Public Street - Hiway Lighting	56 394
520	4450002	Other Sales - Public Authorities - Excl Schools	2 319
720	4470027	Wholesale/Muni/Public Authorities	21 475
	Total OP		100,518,936

Ties to General Ledger

2011 Shared Savings

As discussed in Chapter 4, in its Opinion and Order dated May 13, 2010 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR, the Commission approved a shared savings mechanism for the period 2009-2011. In addition, in its Opinion and Order dated March 21, 2012 in Case Nos. 11-5568-EL-POR and 11-5569-EL-POR, the Commission approved a revised shared savings mechanism for the period 2012-2016. Pursuant to these Commission Orders, the Company has included shared savings in the calculation of its EE/PDR Rider rates in its filings to the Commission.

As part of its review, Larkin was tasked with verifying the shared savings reflected in the Company's regulated accounting records for each year of the 2011 through 2016 review period. Ordinarily, such verification would entail tracing the shared savings amounts to the Company's general ledger, However, as previously discussed in Chapter 4, in its supplemental response to LA-EE PDR-18-4, the Company explained that the shared savings are not separately identified in the general ledger, but rather are a component of the costs included in Supplemental Attachment 1, which is a large Excel file that was provided in the supplemental response to LA-EE PDR-18-4. Specifically, the shared savings amounts are not booked to the general ledger separately and instead are included in Supplemental Attachment 1 as ledger detail,[98] the amounts of which can be traced to the reconciliation provided in the confidential response to LA-EE PDR-12-18. Larkin reviewed the electronic version of Supplemental Attachment 1 and noted that it contained the Company's accounting for shared savings for CSP and OPCo on separate tabs in the Excel file and in total on a tab titled "Merged".

For 2011, from the "Merged" tab, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the exhibit below:

Exhibit 6-20. 2011 Shared Savings for the Residential, Commercial and Industrial Rate Classes

Description	2011
Residential Rate Class	$ 8,728,347
Commercial Rate Class	$ 3,494,587
Industrial Rate Class	$ 1,410,994
Total Shared Savings	$ 13,633,929
Source: LA-EE PDR-18-4 (Supplemental Attachment 1)	

As shown in the exhibit above, the shared savings for the residential, commercial and industrial rate classes totaled $8,728,347, $3,494,587 and $1,410,994, respectively, for a total of $13,633,929 for 2011. Larkin verified this amount to the reconciliation that was provided in the confidential response to LA-EE PDR-12-18. No exceptions were noted.

The amount of 2011 shared savings reflected in the Company's EE/PDR filing dated May 15, 2012 in Case No. 12-1557-EL-RDR was $14,017,312, or a difference of $383,383. The reconciliation provided in the confidential response to LA-EE PDR-12-18 included footnote "f", which in part addressed this difference and stated:

> The 2009-2012 differences for Shared Savings and Lost Distribution Revenues (SS and Lost D Rev) are primarily due to Reg. Acct. timing differences due to using a 2 month lag for SS and Lost D Rev Estimate and Actual Revenue cycles versus the filings using Actual revenues. The two month lag ended 12-31-2012.

[98] See the supplemental response to LA-EE PDR-18-4.

Larkin requested that AEP Ohio clarify the footnote above and in its supplemental response to LA-EE PDR-12-18, the Company stated:

> Confidential Attachment LA-EE PDR-12-18 included a list of differences between the ledger and the filing. In section f of that attachment, the Company explained that for the period 2009 through December 2012, there was a timing difference (2 month lag) between the ledger and the actual balances that were incurred for the EE/PDR program. When the filing for the EE/PDR rider was made, the Company was using the actuals for each month, recognizing that the ledger balance would be off by 2 months...The 2 month lag on the ledger originated in order to allow time to obtain an accurate lost D revenue amount each month. However, on 12/31/2012 the Company eliminated the two month lag because the Commission had previously ruled that lost D revenue was no longer recoverable after 2010.

A detailed discussion of the shared savings calculations in the Company's filings for each year of the 2011-2016 review period are discussed in Chapter 15 of this report.

7 2012 COSTS AND REVENUES

Review of 2012 EE/PDR Program Costs

As previously discussed, Larkin requested that the Company identify the amount of total expenditures recorded (by program) in each year 2011 through 2016, which was provided in response to LA-EE PDR-2-1. The 2012 EE/PDR program costs are summarized in Exhibit 7-1 below:

Exhibit 7-1. Summary of 2012 EE/PDR Program Costs

Description	2012 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 10,808,536
Appliance Recycling	$ 2,841,627
Home Retrofit + In-Home	$ 3,374,159
Low Income	$ 7,469,722
Residential New Construction	$ 2,174,609
Behavior Change	$ 1,244,977
e3smart	$ 914,636
BUSINESS	
Prescriptive	$ 17,174,822
Custom	$ 3,055,156
Self Direct	$ 2,887,520
C&I New Construction	$ 2,419,387
C&I Demand Response	$ 5,100
Express	$ 2,170,658
Retro-Commissioning	$ 200,529
Continuous Improvement	$ 234,819
Energy Efficiency Auction	
Data Center	$ 8,298
MULTI-SECTOR	
Energy Education and Training	$ 270,544
Targeted Advertising	$ 6,566,879
Research and Development	$ 293,596
Total Program Costs	**$ 64,115,574**

Source: LA-EE PDR-2-1

As shown in the exhibit, AEP Ohio recorded EE/PDR programs costs totaling $64.1 million in 2012. This is the amount of 2012 program costs reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.

As previously noted, the costs reported in AEP Ohio's EE/PDR Rider are sourced from the Company's general ledger. The Company separated its 2012 EE/PDR costs in to the following *eight cost components:*

Exhibit 7-2. 2012 AEP Ohio EE/PDR Program Costs in the General Ledger

EE/PDR Program Per G/L	2012
EE/PDR Department	$ 2,758,021
Education	$ 148,153
Evaluation	$ 2,442,041
Implementation	$13,049,511
Incentives	$38,027,446
Marketing	$ 1,181,088
Media	$ 6,559,313
R&D General	$ -
Over accrual	$ (50,000)
Grand Total	$64,115,574

The total amount of EE/PDR costs in the general ledger of $64.1 million agreed to the total amount reflected in the EE/PDR Rider as well as the annual Portfolio Status Report for EE/PDR program costs.

As noted above, the source for the EE/PDR program costs is the general ledger. Larkin requested the Company's general ledger detail for the accounts in which EE/PDR program costs were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-5. The general ledger detail for EE/PDR program costs recorded in 2012 is summarized in Exhibit 7-3 below:

Exhibit 7-3. General Ledger Detail for EE/PDR Program Costs For 2012

Description	Account	2012
Undistributed Labor Fringe Benefits Clearing	1840040	$ 697,267
Undistributed Incentive Fringe Benefits Clearing	1840041	$ 16,145
Supervision - Customer Service	**9070000**	**$ 709**
Supervision of Demand Side Management (DSM) Activities	9070001	$ 3,007,172
Customer Assistance Expenses	**9080000**	**$ 5,389**
Customer Assistance Expense - DSM	9080009	$ 52,448,765
Misc Cust Svc & Informational Expense	**9100000**	**$ 120**
Misc Cust Svc & Info Exp - RCS	**9100001**	**$ (5,482)**
Supervision - Residential Sales Activities	9110001	$ 329,649
Supervision - Commercial & Industrial Sales Activities	9110002	$ 1,048,309
Off Supl & Exp - Nonassociated	**9210001**	**$ 6,407**
Office Supplies & Expense	9210002	$ -
Admin Exp Trnsf Const-Mngerial	**9220002**	**$ 780**
Outside Services	9230001	$ 470
Newspaper Advertising Space	9301001	$ -
Special Advertising Space & Production Expenses	9301007	$ 987,660
Fairs, Shows, and Exhibits	9301009	$ 342,375
Other Corporate Communication Expenses	9301015	$ 5,230,831
Misc General Expenses	**9302000**	**$ 120**
Blank		**$ (1,110)**
Total		$ 64,115,574

Source: LA-EE PDR-1-5

As shown in the exhibit above, the total 2012 EE/PDR costs recorded in the general ledger agree with the total amount of 2012 program costs reflected in Exhibit 7-1 and in the Company's EE/PDR filing dated May 15, 2017 in Case No. 12-1266-EL-RDR. However, similar to 2011, Larkin noted that there were costs recorded in accounts not specified in the response to LA-EE PDR-1-3. The accounts in the exhibit above that are in bold print were not included in the list of accounts in which EE/PDR program costs are recorded per the response to LA-EE PDR-1-3. As previously discussed, during a conference call between Larkin and AEP Ohio on February 16, 2018 in which this issue was discussed, the Company stated that when it was preparing its initial response to LA-EE PDR-1-3, certain accounts were inadvertently omitted from the query performed in the general ledger detail. As a result, the Company supplemented its response and attachment to LA-EE PDR-1-3 in which all of the accounts highlighted in bold in the exhibit above were included in the list of accounts in which EE/PDR costs were recorded during the 2011-2016 review period.

Review of 2012 Incentive Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to incentive payments to customers. For 2012, incentive costs charged to the EE/PDR programs totaled $37,977,446. The response to LA-EE PDR-1-8 provided the following breakout of 2012 incentive costs between EE/PDR programs:

Exhibit 7-4. 2012 Incentive Payment Costs by Program

Description	2012
Consumer	
Efficient Products	$ 8,046,064
Appliance Recycling	$ 2,018,746
Home Retrofit + In-Home	$ 1,811,492
Low Income	$ 5,748,845
Residential New Construction	$ 1,395,601
Behavior Change	
e3smart	$ 571,735
Business	
Prescriptive	$ 11,914,354
Custom	$ 1,650,826
Self Direct	$ 1,657,797
C&I New Construction	$ 1,699,646
C&I Demand Response	
Express	$ 1,412,605
Retro-Commissioning	
Continuous Improvement	
Energy Efficiency Auction	
Data Center	
Multi-Sector	
Energy Education and Training	
Targeted Advertising	
Research and Development	$ 49,735
Total Incentive Costs	$ 37,977,446
Source: LA-EE PDR-1-8	

As shown in the exhibit, the 2012 incentive costs were spread among various but not all of the EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the incentive costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 7-5. General Ledger Detail for EE/PDR Incentive Costs For 2012

Description	Account	2012
Customer Assistance Expense	9080000	$ (463,052)
Customer Assistance Expense - DSM	9080009	$ 38,436,498
Supervision - Commercial & Industrial Sales Activities	9110002	$ 4,000
Total Incentive Costs		$ 37,977,446
Source: LA-EE PDR-1-5		

As shown in the exhibit, the total incentive costs recorded in the general ledger 2012 were confined to the three accounts shown and which agreed with the incentive costs by program. No exceptions were noted.

Review of 2012 Evaluation, Measurement & Verification Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to EM&V. As discussed in Chapter 3, in accordance with Ohio Administrative Code ("OAC") 4901:1-39-05 (C)(2)(b), the Company conducts EM&V on its EE/PDR programs whereby AEP Ohio's EM&V report must document energy savings and peak-demand reduction values and the cost-effectiveness of each energy efficiency and demand side management program reported in its portfolio status reports. The Company's EM&V results are discussed in further detail in Chapters 14 and 15 of this report.

In terms of the EM&V costs included in the 2012 EE/PDR program costs, as previously noted in Chapter 4, according to the response to LA-EE PDR-2 -2, the EM&V included in 2012 EE/PDR program costs totaled $2,535,036. The exhibit below provides a breakout of the 2012 EM&V costs by Project ID:

Exhibit 7-6. 2012 EM&V Costs by Project ID

Description		2012
OHDSM008A	DSM Meas,Eval and Verification	$ 2,395,481
OHDSM008Z	Evaluation General	$ 121,443
OHDSM009P	Pilot Screening	$ 18,111
Total 2012 EM&V Costs		$ 2,535,036

Larkin verified the 2012 EM&V costs in the exhibit above to the general ledger and to the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

Similar to 2011, the majority of the EM&V costs in 2012 (i.e., $2,395,481) were incurred pursuant to EM&V procedures conducted by [redacted] As part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected six [redacted] invoices as part of its sample for 2012. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted], to the general ledger. No exceptions were noted.

Review of 2012 Administrative Costs

As previously discussed in Chapter 4, the 2012 EE/PDR program costs included administrative costs totaling $2,665,027. In response to LA-EE PDR-3-8 (Attachment 2) and as shown in the exhibit below, the Company provided a breakout of administrative costs between (1) costs that were directly charged to the EE/PDR programs, and (2) overhead administrative costs that were allocated to the EE/PDR programs in 2012.

Exhibit 7-7. Breakout of 2012 Administrative Costs Between Direct Charged and Allocated to EE/PDR Programs

Description	2012 Administrative Costs
Direct Charged Administrative Costs	$ 1,290,662
Allocated Overhead Administrative Costs	$ 1,374,365
Total Administrative Costs	$ 2,665,027
Source: LA-EE PDR-3-8 (Attachment 2)	

As shown in the exhibit above, administrative costs totaling $1,290,662 were directly charged to the EE/PDR programs in 2012 while $1,374,365 was overhead allocated to the EE/PDR programs. In addition, the response to LA-EE PDR-3-8 provided the following breakout of 2012 administrative costs between EE/PDR programs:

Exhibit 7-8. 2012 Administrative Costs by EE/PDR Program

EE/PDR Program	2012
OHDSM0001 DSM NonAssign Pgm Adm&Corp Spt	$ 1,192,878
OHDSM004A R-Efficient Products	$ 46,191
OHDSM004B R-Home Retrofit	$ 82,493
OHDSM004C R-New Construction	$ 56,002
OHDSM004D R-Appliance Recycling	$ 44,659
OHDSM004E R-Low Income	$ 57,298
OHDSM004G R-Energy Conservation Kit	$ 5,258
OHDSM004H R-Behavioral	$ 59,040
OHDSM004Z Residential General	$ 3,387
OHDSM005A CII-Prescriptive Incentives	$ 114,268
OHDSM005B CII-Custom	$ 204,442
OHDSM005C CII-Self Direct	$ 64,928
OHDSM005D CII-New Construction	$ 71,047
OHDSM005E CII-Custom Direct Install	$ 77,366
OHDSM005F CII-Demand Response Pgm	$ 4,613
OHDSM005G CII-Retro-Commissioning	$ 35,670
OHDSM005H CII-Continuous Improvement	$ 21,196
OHDSM005K CII - Data Center	$ 7,792
OHDSM005Z CII General	$ 3,099
OHDSM007A DSM Education	$ 122,566
OHDSM007B DSM Corp Com	$ 7,566
OHDSM009B Hospital Energy Audit Pilot	$ 11,422
OHDSM009C E3 Audits	$ 3,800
OHDSM009D Community Light Bulbs	$ 5,443
OHDSM009E Ohio Manufacturing Audits	$ 14,912
OHDSM009F C&I Energy Audits	$ 15,564
OHDSM009G Energy Check Toolkit Library	$ 191
OHDSM009J OH DSM Smart Strips	$ 2,363
OHDSM009N Codes and Standards	$ 2,640
OHDSM009P Pilot Screening	$ 151,933
OHDSM010Z R&D General	$ 175,000
Grand Total	$ 2,665,027

Source: LA-EE PDR-3-8 (Attachment 1)

As shown in the exhibit, the 2012 administrative costs were spread among the various EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 7-9. General Ledger Detail for EE/PDR Administrative Costs For 2012

Description	Account	2012
Undist Labor Fringe Benfit Clr	1840040	$ 663,629
Undist Incentive Frg Ben Clr	1840041	$ 15,352
Supervision - Customer Service	9070000	$ 709
Supervision - DSM	9070001	$ 805,690
Customer Assistance Expenses	9080000	$ 400
Cust Assistance Expense - DSM	9080009	$ 34,769
Misc Cust Svc&Informational Ex	9100000	$ 120
Misc Cust Svc & Info Exp - RCS	9100001	$ (5,482)
Supervision - Residential	9110001	$ 329,643
Supervision - Comm & Ind	9110002	$ 811,883
Off Supl & Exp - Nonassociated	9210001	$ 5,904
Admin Exp Trnsf Const-Mngerial	9220002	$ 780
Outside Svcs Empl - Nonassoc	9230001	$ 470
Other Corporate Comm Exp	9301015	$ 2,149
Misc General Expenses	9302000	$ 120
(blank)	(blank)	$ (1,110)
Grand Total		$ 2,665,027

Source: LA-EE PDR-3-8

As shown in the exhibit, the total administrative costs recorded in the general ledger agree with the administrative costs by program. No exceptions were noted.

Review of 2012 Vendor Invoices

The file provided by AEP Ohio entitled "2012 Match to GL (Modified)" contained EE/PDR vendor invoices totaling to $60.288 million. In data request LA-EE PDR-6-2, all invoices above $300,000 were selected for review. Those invoices totaled approximately $29.8 million.

In data request LA-EE PDR-7-2, AEP Ohio was asked to provide invoices that were randomly selected from the "2012 Match to GL (Modified)" listing that had amounts ranging from $10,000 to $100,000 and from $100,000 to $300,000.

The invoices requested in LA-EE PDR-6-2 and LA-EE PDR-7-2 resulted in the following samples summarized by selection method:

Exhibit 7-10. 2012 Summary of Stratification and Sample Selection

2012 EE/PDR Vendor Invoices
Summary of Stratification and Sample Selection

Group	Criteria for Group	Population	No of Invoices Selected for Review	Basis	Total Dollar Value	Dollar Value of Selected	Selected as a Percent of Total Dollar Amount in Group
Batch 1	Over $300,000	53	53	Select all (100% judgmental)	$ 29,803,950	$ 29,803,950	100%
Batch 2	$100,000 to $300,000	101	33	Random Sample	$ 17,342,586	$ 5,835,881	34%
Batch 3	$10,000 to $100,000	315	37	Random Sample	$ 12,337,886	$ 1,328,269	11%
Batch 4	($10,000) to $10,000 [a]	285	0	None (judgmental)	$ 803,633		0%
Batch 5	($10,000) or Less	none		Select all (100% judgmental)			
Totals		754	123		$ 60,288,055	$ 36,968,101	61%

Notes:
[a] Note: the 2012 EE/PDR vendor invoice listing had no amounts less than zero

The invoices requested in LA-EE PDR-6-2 and LA-EE PDR-7-2 provided coverage of $36.97 million of EE/PDR vendor invoices, out of a net amount of $60.288 million for 2012 that was listed in the Company-provided "2012 Match to GL (Modified)" Excel file. The combined dollar coverage was approximately 61 percent of the total EE/PDR vendor invoice amounts for the year in the Company-provided "2012 Match to GL (Modified)" Excel file.

Larkin reviewed the 2012 vendor invoices that the Company provided in response to the data requests listed above. During our review process, we noted that many of the amounts listed on the invoices did not match to the amounts listed in the referenced responses. We set up a conference call on September 8, 2017 with the Company personnel who were responsible for keeping track of the vendor invoices to discuss these discrepancies. The Company explained that the reason the amounts did not match directly to the invoices was due to some of the amounts being allocated over multiple projects.

One such invoice discussed during the September 8, 2017 conference call was invoice number 18795 from the vendor [redacted], dated January 31, 2012. Using the Company's explanation as a guide, we verified the total invoice amount to the corresponding general ledger detail. The exhibit below shows the general ledger entries for this invoice:

Exhibit 7-11. Summary of Invoice Number 18795

Years	Periods		Project	PO ID	AP Invoice ID	Vendor Name #	Act $
2012	(03) Mar	OHDSM004C	R-New Construction	3368290002	18795	[redacted]	$ 8,913 38
2012	(03) Mar	OHDSM004C	R-New Construction	3368290002	18795		$36,835 50
							$45,748 88

The total amount in the general ledger of $45,748.88 agreed to the amount shown on the invoice. We verified the other invoices we had concerns with in a similar manner and those invoice amounts agreed to the general ledger as well. No exceptions were noted.

Review of 2012 Labor Costs Charged to the EE/PDR Programs

As previously discussed above, during the interviews conducted on October 19, 2017, the Company stated that for the period 2012 through 2016, the labor costs charged to the EE/PDR programs were incurred by Ohio Power employees as it was subsequent to the merger between CSP and OPCo.

Larkin requested that for each year in the 2011-2016 review period, that AEP Ohio identify the amounts of Company and affiliate labor costs charged to each EE/PDR program. In its response to LA-EE PDR-3-3, for 2012, the Company identified the amounts shown in the exhibit below:

Exhibit 7-12. Labor Costs Charged to EE/PDR Programs in 2012

Description	Account	2012 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 697,267
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 16,145
Supervision DSM	9070001	$ 629,398
Customer Assistance Expense - DSM	9080009	$ 822
Cust Serv & Info - Supv - Residential	9110001	$ 302,059
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 568,718
Total Labor Costs Charged to EE/PDR Programs		$ 2,214,408

As shown in the exhibit above, the Company and Affiliate labor costs totaling $2.214 million were charged to the EE/PDR programs during 2012. For 2012, as noted above, these costs include (1) AEP Ohio employee labor costs; (2) employee associated labor fringes; and (3) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. Larkin traced the amounts above to the general ledger detail provided in response to LA-EE PDR-1-5.

In its response to LA-EE PDR-16-2, the Company stated that the 2012 labor costs charged to the EE/PDR programs included $925.02 plus applicable overheads for employees who were not members of Department 12949 (EE and Consumer Programs). In addition, AEP Ohio stated that it will record a credit to address this issue in 2018 with which Larkin concurs.

As noted above, the labor costs charged to the EE/PDR programs in 2012 were incurred by Ohio Power employees. In order to obtain an understanding of the level of the Company's distribution labor hours and costs that were charged to the EE/PDR program costs for 2012 in proportion to the total distribution labor hours and costs, Larkin requested that AEP Ohio provide: (1) total labor hours charged to the EE/PDR Rider; (2) total labor hours worked for the year; (3) total labor dollars charged to the EE/PDR Rider; (4) total labor dollars for the year; and (5) the percentage of time that each Ohio Power Company employee charged to the EE/PDR Rider. In its supplemental response to LA-EE PDR-11-1, the Company provided the requested labor related information, which is summarized in the exhibit below:

Exhibit 7-13. Ohio Power Distribution Labor Costs Charged to the EE/PDR Rider in 2012

	Year 2012				
	EE LaborHrs for the Year	Total Employee Labor Hrs for Year	EE LaborDollars for the Year	TotalLaborDollars for the Year	% of EE Hrs ChargedToRider
Employee ID	Ohio Power	Ohio Power	Ohio Power	Ohio Power	Ohio Power
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	25,739.50	29,957.25	$ 1,174,848	$ 1,364,152	85.92%

As shown in Exhibit 7-13, for 2012, Ohio Power employees working on the AEP Ohio EE/PDR programs charged 25,740 labor hours to the EE/PDR programs out of their total labor hours of 29,957, i.e., 85.92% of their 2012 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.175 million (which are embedded in Exhibit 7-12 above) of $1.364 million of their total labor costs. Similar to 2011, as shown under the column heading "% of EE Hrs Charged to Rider", the individual Company employees (identified by Employee ID) charged the majority of their time in 2012 to the EE/PDR programs. As previously noted in Chapter 6, the data shown for labor hours in the exhibit above are from each respective employee's timesheets.

Review of 2012 Employee Expenses

As noted above, the general ledger detail includes the following specific cost centers, which relate to employee expenses charged to the EE/PDR programs:

Cost Center 510 - Busin Exp 100% Deduct Gen

Cost Center 520 - Business Exp Part Deduct Gen

The Company's response to LA-EE PDR-18-3 provided the following breakout of employee expenses charged to the EE/PDR programs in 2012 by (1) general ledger account, and (2) by EE/PDR project ID:

Exhibit 7-14. Summary of 2012 Employee Expenses by General Ledger Account and EE/PDR Project ID

Account		Total
9070001	Supervision - DSM	$ 33,446.46
9080000	Customer Assistance Expenses	$ 939.77
9080009	Cust Assistance Expense - DSM	$ 30,888.02
9110001	Supervision - Residential	$ 13,487.38
9110002	Supervision - Comm & Ind	$ 28,331.57
9210001	Off Supl & Exp - Nonassociated	$ 5,982.45
9230001	Outside Svcs Empl - Nonassoc	$ 436.33
9301015	Other Corporate Comm Exp	$ 3,543.75
Grand Total		**$ 117,055.73**

Project		Total
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 54,115.69
OHDSM004A	R-Efficient Products	$ 53.01
OHDSM004B	R-Home Retrofit	$ 3,088.27
OHDSM004C	R-New Construction	$ 3,346.26
OHDSM004D	R-Appliance Recycling	$ 50.78
OHDSM004E	R-Low Income	$ 510.10
OHDSM004G	R-Energy Conservation Kit	$ -
OHDSM004H	R-Behavioral	$ 201.25
OHDSM004Z	Residential General	$ 629.82
OHDSM005A	CII-Prescriptive Incentives	$ 478.97
OHDSM005B	CII-Custom	$ 8,687.38
OHDSM005C	CII-Self Direct	$ 324.45
OHDSM005G	CII-Retro-Commissioning	$ 252.13
OHDSM005Z	CII General	$ 77.92
OHDSM007A	DSM Education	$ 30,602.75
OHDSM007B	DSM Corp Com	$ 9,481.60
OHDSM008A	DSM Meas,Eval and Verification	$ 5,012.28
OHDSM009C	E3 Audits	$ 15.54
OHDSM009N	Codes and Standards	$ 127.53
Grand Total		**$ 117,055.73**

As shown in both tables in the above exhibit, employee expenses totaling $117,056 were charged to EE/PDR programs during 2012.

In order to test the employee expenses that were charged to the EE/PDR programs in 2012, Larkin initially selected ten transactions from the general ledger detail that relate to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense report, invoices and any other documentation which supports the amounts shown for each transaction. The ten transactions Larkin selected totaled $12,553 and was comprised of the following:

CC - 510	$	4,279
CC - 520	$	8,274
Total	$	12,553

The Company provided the requested supporting documentation for the selected transactions in response to LA-EE PDR-20-1. Specifically, for 2012, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2012 general ledger detail; (2) copies of employee expense reports, invoices and receipts; and (3) a narrative summary of all of the expenses reflected on the employee expense reports (including expenses not specifically selected for review, but which were itemized on the same expense reports).

Larkin reviewed the referenced expense detail for each of the ten transactions that were initially selected for review and verified the amounts that were recorded to the general ledger. No exceptions were noted.

Upon reviewing the documentation, Larkin identified the same areas of concerns noted for 2011 with regard to certain employee expenses being charged to the EE/PDR programs, including (1) AEP Ohio employee charging out of state travel costs to the EE/PDR programs; (2) the Company purchasing gift cards and charging the cost to the EE/PDR programs; and (3) AEP Ohio employees charging the cost of annual dues to memberships to the EE/PDR programs.

Similar to 2011, for each of these areas of costs charged to the EE/PDR programs in 2012, Larkin requested that the Company to provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose of the Company purchasing [redacted] gift cards, and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs.

In addition, similar to 2011, Larkin asked AEP Ohio whether the 2012 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2012, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

As it relates to out of state travel, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to out of state travel costs charged to the EE/PDR programs in 2012, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 7-15. Summary of 2012 Out of State Travel Expense

State	Conference	Airfare	Lodging	Transportation	Meals	Total
California	CEE Consortium for Energy Efficiency Conference	$ 402	$ 742	$ 36	$ 185	$ 1,366
Nevada	DNV GL Client Forum	$ 454	$ 652	$ 61	$ 39	$ 1,206
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 243	$ 499	$ 122	$ 37	$ 902
Minnesota	Energy Star Products Partners Meeting	$ 554				$ 554
Georgia	WEEC World Energy Engineering Conference-AEE	$ 434	$ 743	$ 131	$ 78	$ 1,386
California	ACEEE American Council for Energy Efficient Economy	$1,003	$ 1,237	$ 76	$ 28	$ 2,345
California	AESP Association of Energy Service Professionals	$ 371	$ 1,241	$ 105	$ 104	$ 1,821
California	CEE Consortium for Energy Efficiency Conference	$ 329	$ 672	$ 164	$ 150	$ 1,315
California	ACEEE American Council for Energy Efficient Economy	$ 754	$ 1,237	$ 86	$ 41	$ 2,118
California	AESP Association of Energy Service Professionals	$ 228				$ 228
Illinois	MEEA Midwest Energy Efficiency Alliance Conference		$ 505	$ 24	$ 6	$ 535
California	AESP Association of Energy Service Professionals	$ 50	$ 1,108	$ 36	$ 24	$ 1,218
California	ACEEE American Council for Energy Efficient Economy	$ 754	$ 1,232	$ 49	$ 36	$ 2,072
Nevada	Kema Client Conference	$ 436	$ 652	$ 25	$ 6	$ 1,118
Florida	AESP Association of Energy Service Professionals	$ 260				$ 260
California	Energy Star New Homes	$ 429	$ 663	$ 75	$ 26	$ 1,194
Minnesota	Energy Star Products Partners Meeting	$ 654	$ 469	$ 231	$ 66	$ 1,421
California	AESP Association of Energy Service Professionals	$ 398	$ 1,064		$ 204	$ 1,666
California	CEE Consortium for Energy Efficiency Conference	$ 390	$ 672	$ 16	$ 140	$ 1,218
California	DistribuTECH Conference	$ 420	$ 1,025	$ 24	$ 167	$ 1,636
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 225				$ 225
Florida	AESP Association of Energy Service Professionals	$ 260				$ 260
California	AESP Association of Energy Service Professionals		$ 1,064	$ 18	$ 209	$ 1,291
Missouri	MEEA Midwest Energy Efficiency Alliance Conference	$ 589	$ 262	$ 150	$ 16	$ 1,017
California	ACEEE American Council for Energy Efficient Economy		$ 1,451	$ 202	$ 253	$ 1,906
Colorado	E Source	$ 152	$ 1,106	$ 314	$ 53	$ 1,625
	Total 2012 Out of State Travel Costs	$9,786	$18,298	$ 1,947	$1,868	$31,899

Source: LA-EE PDR-22-1

As shown in the exhibit above, the 2012 out of state travel totaled $9,786 for airfare; (2) $18,298 for lodging; (3) $1,947 for transportation; and (4) $1,868 for meals for an overall total of $31,899. Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2012 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

As it relates to the cost of gift cards included in 2012 EE/PDR program costs, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to the cost of gift cards charged to the EE/PDR programs in 2012, the response to LA-EE PDR-22-1 indicated costs totaling $156 were charged to the EE/PDR programs in 2012, and which relate to two separate transactions.

As discussed in Chapter 6, in Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs. Therefore, Larkin recommends that the $156 related to gift cards be removed from 2012 EE/PDR program costs.

The Company's basis for including the cost of membership dues in the EE/PDR program costs is discussed in Chapter 6. With regard to annual membership dues charged to the EE/PDR programs in 2012, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 7-16. Summary of Annual Membership Dues Charged to EE/PDR Programs in 2012

Description	Annual Membership Dues
Project Management Institute Membership Renewal Fee	$ 164
ASTD (American Society for Training & Development) annual membership -refine training performance metrics and work towards certification for credentialing training	$ 199
Ohio Grocers Association Membership for Small Food Markets Education effort	$ 2,050
IACET (International Association of Continuing Education Training) - to review ANSI/IACET standards and obtain application to grant CEUS	$ 450
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 1,295
ASTD (American Society for Training & Development) annual membership -refine training performance metrics and work towards certification for creden	$ 199
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 120
Project Management Institute Membership Renewal Fee	$ 144
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 120
Annual dues for membership in the American Institute of Certified Public Accountants (AICPA), which as a CPA provides me with access to professional resources, learning and development tools and programs	$ 220
Annual due for membership in the Association of Certified Fraud Examiners (ACFE) - provides access to professional resources, learning and development tools and programs	$ 150
Toastmasters annual membership -professional development in public speaking and leadership	$ 85
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 225
Project Management Institute Membership Renewal Fee - Aids in staying current with project management skills This aids in running more effective EEPDR programs	$ 164
Women's International Network of Utility Professionals Membership - for networking with other women in the utility industry Aids in staying current with	$ 76
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) -- For employees to stay current on HVAC trends and standard changes, receive monthly newsletter, attend chapter meetings, gain insight as to new EE standards	$ 190
AEE Certified Energy Procurement Professional (CEP) Three-Year Renewal Fee necessary expense to maintain certification	$ 300
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 120
Total 2012 Annual Membership Dues Charged to EE/PDR Programs	$ 6,271
Source: LA-EE PDR-22-1	

As shown in the exhibit above, the Company included costs totaling $6,271 in its 2012 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and are related to energy efficiency or to the professional development of the employees working on the EE/PDR programs.

The Company's rationale for including the costs associated with athletic sporting events or entertainment events in its EE/PDR programs were discussed in Chapter 6.

For 2012, AEP Ohio included these types of costs for one event. Specifically, Attachment 1 to the response to LA-EE PDR-22-1 listed an entertainment event with costs totaling $78. The Company provided the following rationale for including the cost of this event, which relates to an ACEEE conference, in the 2012 EE/PDR program costs:

> Renting of bicycles for EEPDR team members as a team building experience at the end of a full day of conference activities.

In Larkin's view, this cost is not needed for energy efficiency and should not be included in costs charged to the EE/PDR programs. Therefore, Larkin recommends that the $78 bike rental costs be removed from the 2012 EE/PDR program costs.

Review of 2012 EE/PDR Related Revenues

As previously discussed, during Larkin's on-site visit to AEP Ohio's offices in Gahanna, Ohio on August 1, 2017, the Company stated that it used revenue screen shots to tie out revenue related to the EE/PDR Rider for each year of the 2011 through 2016 review period. Larkin requested the revenue screen shots for each year of the review period, which the Company provided in response to LA-EE PDR-8-6. Specifically, AEP Ohio provided separate revenue screen shots for CSP and OPCo, which reflected the EE/PDR Rider revenues on a monthly basis. The revenue screenshots for 2012 are summarized in the exhibit below:

Exhibit 7-17. Revenue Screen Shots for CSP and OPCo for 2012

CSP	January 2012	February 2012	March 2012	April 2012	May 2012	June 2012	July 2012	August 2012	September 2012	October 2012	November 2012	December 2012	Total
Residential	$ 2,160,729	$ 1,901,369	$ 1,624,882	$ 1,320,247	$ 1,347,655	$ 1,714,187	$ 2,147,172	$ 2,270,694	$ 1,903,227	$ 1,294,638	$ 1,420,715	$ 1,811,504	$ 20,917,018
Other C&I	$ 2,158,872	$ 2,015,624	$ 1,924,082	$ 1,963,723	$ 1,988,846	$ 2,244,243	$ 2,357,029	$ 2,443,779	$ 2,232,842	$ 1,922,407	$ 1,756,203	$ 2,080,701	$ 25,088,352
GS-4	$ 120,407	$ 147,455	$ 186,908	$ 160,384	$ 187,400	$ 91,851	$ 245,872	$ 152,723	$ 139,839	$ 115,266	$ 73,420	$ 177,889	$ 1,799,414
Total	$ 4 440 008	$ 4 064 448	$ 3 735 872	$ 3 444 355	$ 3 523 901	$ 4 050 280	$ 4 750 072	$ 4 867 195	$ 4 275 908	$ 3 332 311	$ 3 250 339	$ 4 070 095	$ 47 804 783
OPCo	**January 2012**	**February 2012**	**March 2012**	**April 2012**	**May 2012**	**June 2012**	**July 2012**	**August 2012**	**September 2012**	**October 2012**	**November 2012**	**December 2012**	**Total**
Residential	$ 2,382,081	$ 2,051,975	$ 1,721,888	$ 1,411,142	$ 1,325,627	$ 1,573,027	$ 1,955,094	$ 2,170,351	$ 1,697,976	$ 1,256,205	$ 1,453,675	$ 1,887,184	$ 20,886,225
Other C&I	$ 2,211,062	$ 2,065,623	$ 2,043,383	$ 2,040,244	$ 2,044,874	$ 2,249,163	$ 2,238,758	$ 2,357,736	$ 2,304,678	$ 2,088,756	$ 1,879,672	$ 2,303,701	$ 25,827,651
GS-4	$ 214,337	$ 299,230	$ 287,454	$ 339,821	$ 295,274	$ 206,566	$ 365,946	$ 188,163	$ 213,195	$ 282,841	$ 139,303	$ 327,185	$ 3,159,315
Total	$ 4,807,481	$ 4,416,828	$ 4,052,725	$ 3,791,207	$ 3,665,775	$ 4,028,756	$ 4,559,798	$ 4,716,250	$ 4,215,849	$ 3,627,802	$ 3,472,650	$ 4,518,070	$ 49,873,191
CSP & OPCo	**January 2012**	**February 2012**	**March 2012**	**April 2012**	**May 2012**	**June 2012**	**July 2012**	**August 2012**	**September 2012**	**October 2012**	**November 2012**	**December 2012**	**Total**
Residential	$ 4,542,810	$ 3,953,344	$ 3,346,770	$ 2,731,389	$ 2,673,283	$ 3,287,213	$ 4,102,266	$ 4,441,045	$ 3,601,203	$ 2,550,842	$ 2,874,391	$ 3,698,687	$ 41,803,243
Other C&I	$ 4,369,935	$ 4,081,247	$ 3,967,465	$ 4,003,967	$ 4,033,719	$ 4,493,406	$ 4,595,787	$ 4,801,516	$ 4,537,521	$ 4,011,163	$ 3,635,875	$ 4,384,402	$ 50,916,003
GS-4	$ 334 744	$ 446 685	$ 474 361	$ 500 205	$ 482 674	$ 298 417	$ 611 818	$ 340 885	$ 353 034	$ 398 107	$ 212 723	$ 505 075	$ 4 958 729
Total	$ 9,247,489	$ 8,481,276	$ 7,788,596	$ 7,235,561	$ 7,189,676	$ 8,079,036	$ 9,309,870	$ 9,583,446	$ 8,491,758	$ 6,960,113	$ 6,722,989	$ 8,588,165	$ 97,677,974

As shown in the table above, AEP Ohio recorded revenues related to the EE/PDR Rider totaling $97.68 million in 2012 with $47.80 million relating to CSP and $49.87 million relating to OPCo.

As previously discussed, Larkin had requested the Company's general ledger detail for the accounts in which EE/PDR Rider revenues were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-4. The general ledger detail for EE/PDR Rider revenue recorded in 2012 is summarized in Exhibit 7-18 below.

Exhibit 7-18. General Ledger Detail for EE/PDR Rider Revenue For 2012

Description	Account	2012
Residential Sales - With Space Heating	4400001	$ 11,795,278
Residential Sales - Without Space Heating	4400002	$ 30,008,068
Commercial Sales	4420001	$ 30,116,815
Industrial Sales (Excluding Mines)	4420002	$ 19,956,868
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$ 181,629
C&I Sales - Affiliated Companies	4420005	$ 100,264
Sales to Public Authorities - Schools	4420006	$ 2,592,428
Sales to Public Authorities - Excluding Schools	4420007	$ 2,850,601
Public Street - Highway Lighting	4440000	$ 53,785
Other Sales - Public Authorities - Excluding Schools	4450002	$ 1,117
Wholesale / Municipal / Public Authorities	4470027	$ 21,121
Total		$ 97,677,974

Upon comparing the 2012 revenues recorded in the general ledger to the monthly screenshots in Exhibit 7-4 above, Larkin noted that the total 2012 revenue of $97.68 million is reflected in both sets of data. However, as a further test of the EE/PDR revenues, Larkin requested that AEP Ohio reconcile the 2012 CSP and OPCo EE/PDR revenues reflected in the screenshots to the related general ledger accounts shown in the exhibit above. In response to LA-EE PDR-14-17, the Company stated that the general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 were provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided the following tables which reconciled the 2012 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded:

Exhibit 7-19. Reconciliation of 2012 Revenue Screenshots to General Ledger

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
10	211	GS-4	66,041.01
10	213	GS-4	267,663.56
10	216	GS-4	25,043.17
10	221	GS-4	1,440,666.22
10	010	Other C and I	24.99
10	020	Other C and I	0.00
10	211	Other C and I	16,311,099.08
10	212	Other C and I	2,140,289.86
10	213	Other C and I	1,081,722.21
10	216	Other C and I	1,030,216.54
10	221	Other C and I	4,353,178.62
10	222	Other C and I	51,032.13
10	240	Other C and I	87,211.96
10	400	Other C and I	33,576.28
10	010	Residential	15,939,912.95
10	020	Residential	4,977,109.65
10	211	Residential	-5.00
			47,804,783.23

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	15,939,938
020	4400001	Res Sales - W/ Space Heating	4,977,110
211	4420001	Commercial Sales	16,377,135
212	4420001	Commercial Sales	2 140 290
213	4420006	Sales to Public Authorities - Schools	1,349,386
216	4420007	Sales to Public Authorities - Excl. Schools	1,055,260
221	4420002	Industrial Sales (Excl. Mines)	5 793 845
222	4420002	Industrial Sales (Excl. Mines)	51,032
240	4420005	C&I Sales - Affiliated Companies	87,212
400	4440000	Public Street - Hiway Lighting	33,576
	Total CSP		47,804,783

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
07	221	GS-4	3,069,008.16
07	222	GS-4	44,783.93
07	230	GS-4	45,522.72
07	010	Other C and I	0.00
07	020	Other C and I	67.17
07	211	Other C and I	9,862,195.55
07	212	Other C and I	1,737,201.64
07	213	Other C and I	1 243 042.24
07	216	Other C and I	1 795 340.92
07	221	Other C and I	10 607 718.73
07	222	Other C and I	390 479.95
07	230	Other C and I	136 106.13
07	240	Other C and I	6,439.02
07	245	Other C and I	6,613.00
07	400	Other C and I	20,208.71
07	520	Other C and I	1,116.93
07	720	Other C and I	21,120.94
07	010	Residential	14,068,130.52
07	020	Residential	6,818,101.49
07	211	Residential	-8.74
			49,873,191.01

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	14,068,131
020	4400001	Res Sales - W/ Space Heating	6,818,169
211	4420001	Commercial Sales	9,862,189
212	4420001	Commercial Sales	1 737 202
213	4420006	Sales to Public Authorities - Schools	1 243 042
216	4420007	Sales to Public Authorities - Excl. Schools	1 795 341
221	4420002	Industrial Sales (Excl. Mines)	13,676,727
222	4420002	Industrial Sales (Excl. Mines)	435,264
230	4420004	Industrial Non-Affiliated (Incl. Mines)	181,629
240	4420005	C&I Sales - Affiliated Companies	6,439
245	4420005	C&I Sales - Affiliated Companies	6,613
400	4440000	Public Street - Hiway Lighting	20,209
520	4450002	Other Sales - Public Authorities - Excl Schools	1,117
720	4470027	Wholesale/Muni/Public Authorities	21,121
	Total OP		49,873,191

	CSP	OP	Total
Residential	20 917 018	20 886 225	41 803 243
Other C and I	25 088 352	25 827 651	50 916 003
GS-4	1,799,414	3,159,315	4,958,729
Total	47,804,783	49,873,191	97,677,974

Ties to Revenue Screenshots

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	30,008,068
020	4400001	Res Sales - W/ Space Heating	11 795 278
211	4420001	Commercial Sales	26 239 324
212	4420001	Commercial Sales	3,877,492
213	4420006	Sales to Public Authorities - Schools	2,592,428
216	4420007	Sales to Public Authorities - Excl. Schools	2,850,601
221	4420002	Industrial Sales (Excl. Mines)	19,470,572
222	4420002	Industrial Sales (Excl. Mines)	486,296
230	4420004	Industrial Non-Affiliated (Incl. Mines)	181,629
240	4420005	C&I Sales - Affiliated Companies	93,651
245	4420005	C&I Sales - Affiliated Companies	6,613
400	4440000	Public Street - Hiway Lighting	53,785
520	4450002	Other Sales - Public Authorities - Excl Schools	1,117
720	4470027	Wholesale/Muni/Public Authorities	21,121
	Total OP		97,677,974

Ties to General Ledger

In addition, Larkin verified that the 2012 revenues are embedded in Schedule 1 from the Company's Application dated May 15, 2017 in Case No. 17-1266-EL-RDR in which revenues totaling $588.067 million are reflected under the column heading "Actual 2012-2016 Rider Revenue." The exhibit below summarizes EE/PDR Rider revenues that were recorded in each year 2012 through 2016 which totals the $588.067 million in the Company's filing.

Exhibit 7-20. Actual EE/PDR Revenue Recorded From 2012 Through 2016

Description	Account	2012	2013	2014	2015	2016	Grand Total
Residential Sales - With Space Heating	4400001	$ **11,795,278**	$ 12,506,888	$ 15,578,617	$ 19,357,867	$ 18,300,920	$ 77,539,570
Residential Sales - Without Space Heating	4400002	$ **30,008,068**	$ 29,426,565	$ 36,157,968	$ 45,845,375	$ 46,587,700	$ 188,025,677
Commercial Sales	4420001	$ **30,116,815**	$ 29,748,949	$ 33,183,722	$ 37,787,767	$ 38,138,607	$ 168,975,860
Industrial Sales (Excluding Mines)	4420002	$ **19,956,868**	$ 19,637,024	$ 22,836,019	$ 28,112,420	$ 27,447,172	$ 117,989,503
Industrial Sales - Nonaffiliated (Including Mines)	*4420004*	*$* ***181,629***	*$ 189,589*	*$ 205,050*	*$ 231,747*	*$ 159,802*	*$ 967,816*
C&I Sales - Affiliated Companies	4420005	$ **100,264**	$ 73,872	$ 104,727	$ 108,934	$ 112,360	$ 500,157
Sales to Public Authorities - Schools	4420006	$ **2,592,428**	$ 2,588,907	$ 2,994,800	$ 3,456,938	$ 3,519,294	$ 15,152,367
Sales to Public Authorities - Excluding Schools	4420007	$ **2,850,601**	$ 3,238,573	$ 3,748,184	$ 4,335,800	$ 4,339,573	$ 18,512,730
Public Street - Highway Lighting	4440000	$ **53,785**	$ 54,421	$ 53,591	$ 55,603	$ 55,698	$ 273,098
Other Sales - Public Authorities - Excluding Schools	4450002	$ **1,117**	$ 1,382	$ 1,474	$ 2,367	$ 1,686	$ 8,027
Wholesale / Municipal / Public Authorities	4470027	$ **21,121**	$ 21,720	$ 24,661	$ 27,950	$ 27,212	$ 122,664
Total		$ 97,677,974	$ 97,487,889	$ 114,888,815	$ 139,322,767	$ 138,690,023	$ 588,067,468

As shown in bold in the exhibit above, the 2012 EE/PDR Rider revenues of $97.68 million agree with what was recorded in the general ledger as well as the Company's screenshots. No exceptions were noted.

2012 Shared Savings

As discussed in Chapter 4, in its Opinion and Order dated May 13, 2010 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR, the Commission approved a shared savings mechanism for the period 2009-2011. In addition, in its Opinion and Order dated March 21, 2012 in Case Nos. 11-5568-EL-POR and 11-5569-EL-POR, the Commission approved a revised shared savings mechanism for the period 2012-2016. Pursuant to these Commission Orders, the Company has included shared savings in the calculation of its EE/PDR Rider rates in its filings to the Commission.

As part of its review, Larkin was tasked with verifying the shared savings reflected in the Company's regulated accounting records for each year of the 2011 through 2016 review period. Ordinarily, such verification would entail tracing the shared savings amounts to the Company's general ledger, However, as previously discussed in Chapter 4, in its supplemental response to LA-EE PDR-18-4, *the Company explained that the shared savings are not separately identified in* the general ledger, but rather are a component of the costs included in Supplemental Attachment 1, which is a large Excel file that was provided in that supplemental response. Specifically, the *shared savings amounts are not booked to the general ledger separately and instead are included* in Supplemental Attachment 1 as ledger detail,[99] the amounts of which can be traced to the reconciliation provided in the confidential response to LA-EE PDR-12-18. Larkin reviewed the electronic version of Supplemental Attachment 1 and noted that it contained the Company's accounting for shared savings for CSP and OPCo on separate tabs in the Excel file and in total on a tab titled "Merged".

[99] See the supplemental response to LA-EE PDR-18-4.

For 2012, from the "Merged" tab, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the exhibit below:

Exhibit 7-21. 2012 Shared Savings for the Residential, Commercial and Industrial Rate Classes

Description		2012
Residential Rate Class	$	13,856,044
Commercial Rate Class	$	11,236,812
Industrial Rate Class	$	7,478,578
Total Shared Savings	$	32,571,434
Source: LA-EE PDR-18-4 (Supplemental Attachment 1)		

As shown in the exhibit above, the shared savings for the residential, commercial and industrial rate classes totaled $13,856,044, $11,236,812 and $7,478,578, respectively, for a total of $32,571,434 for 2012. Larkin verified this amount to the reconciliation that was provided in the confidential response to LA-EE PDR-12-18. No exceptions were noted.

The amount of 2012 shared savings reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR was $31,225,995 or a difference of $1,345,439. The reconciliation provided in the confidential response to LA-EE PDR-12-18 included footnote "f", which in part addressed this difference and stated:

> The 2009-2012 differences for Shared Savings and Lost Distribution Revenues (SS and Lost D Rev) are primarily due to Reg. Acct. timing differences due to using a 2 month lag for SS and Lost D Rev Estimate and Actual Revenue cycles versus the filings using Actual revenues. The two month lag ended 12-31-2012.

As discussed in Chapter 6, Larkin requested that AEP Ohio clarify the footnote above and in its supplemental response to LA-EE PDR-12-18, the Company stated:

> Confidential Attachment LA-EE PDR-12-18 included a list of differences between the ledger and the filing. In section f of that attachment, the Company explained that for the period 2009 through December 2012, there was a timing difference (2 month lag) between the ledger and the actual balances that were incurred for the EE/PDR program. When the filing for the EE/PDR rider was made, the Company was using the actuals for each month, recognizing that the ledger balance would be off by 2 months...The 2 month lag on the ledger originated in order to allow time to obtain an accurate lost D revenue amount each month. However, on 12/31/2012 the Company eliminated the two month lag because the Commission had previously ruled that lost D revenue was no longer recoverable after 2010.

A detailed discussion of the shared savings calculations in the Company's filings for each year of the 2011-2016 review period are discussed in Chapter 15 of this report.

IRP-D Credits - 2012

As discussed in Chapter 4, in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO, the Commission approved the IRP-D credit at $8.21/kW-month and ruled that since the IRP-D credit promotes energy efficiency, it is appropriate for AEP Ohio to recover any costs associated with the IRP-D through the EE/PDR Rider. As shown on Schedule 4 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR, the actual IRP-D credits for 2012 totaled $6,865,723. Larkin requested that AEP Ohio provide documentation that supports this amount, which the Company provided in its confidential response to LA-EE PDR-18-5 and which has been replicated in the exhibit below:

Exhibit 7-22. Actual IRP-D Credit for 2012

Account Number	Sep	Oct	Nov	Dec	Total
[redacted]	[redacted]				
Total IRP KW	250,415.8	253,410.1	198,544.0	133,893.6	836,263.50
PUCO Ordered Credit	$ 8.21	$ 8.21	$ 8.21	$ 8.21	
Monthly Charge to EE/PDR rider	$ 2,055,914	$ 2,080,497	$ 1,630,046	$ 1,099,266	$ 6,865,723
Cumulative 2012 Charge to EE/PDR rider	$ 2,055,914	$ 4,136,411	$ 5,766,457	$ 6,865,723	$ 6,865,723

As shown in the exhibit, the 2012 IRP-D credit was calculated using the $8.21/kW-month rate that was authorized by the Commission in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO.

8 2013 COSTS AND REVENUES

Review of 2013 EE/PDR Program Costs

As previously discussed, Larkin requested that the Company identify the amount of total expenditures recorded (by program) in each year 2011 through 2016, which was provided in response to LA-EE PDR-2-1. The 2013 EE/PDR program costs are summarized in Exhibit 8-1 below:

Exhibit 8-1. Summary of 2013 EE/PDR Program Costs

Description	2013 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 12,078,924
Appliance Recycling	$ 3,615,443
Home Retrofit + In-Home	$ 5,051,382
Low Income	$ 12,739,555
Residential New Construction	$ 2,748,346
Behavior Change	$ 2,393,710
e3smart	$ 697,447
BUSINESS	
Prescriptive	$ 14,532,913
Custom	$ 4,734,052
Self Direct	$ 2,007,237
C&I New Construction	$ 4,401,470
C&I Demand Response	$ 336
Express	$ 3,136,790
Retro-Commissioning	$ 813,453
Continuous Improvement	$ 1,541,726
Energy Efficiency Auction	$ 386,230
Data Center	$ 1,832,821
MULTI-SECTOR	
Energy Education and Training	$ 296,159
Targeted Advertising	$ 4,415,905
Research and Development	$ 852,109
Total Program Costs	**$ 78,276,008**
Source: LA-EE PDR-2-1	

As shown in the exhibit, AEP Ohio recorded EE/PDR programs costs totaling $78.3 million in 2013. This is the amount of 2013 program costs reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.

As previously noted, the costs reported in AEP Ohio's EE/PDR Rider are sourced from the Company's general ledger. The Company separated its 2012 EE/PDR costs in to the following eight cost components:

Exhibit 8-2. 2013 AEP Ohio EE/PDR Program Costs in the General Ledger

EE/PDR Program Per G/L	2013
EE/PDR Department	$ 3,916,416
Education	$ 135,212
Evaluation	$ 3,619,952
Implementation	$19,232,371
Incentives	$45,245,760
Marketing	$ 1,535,392
Media	$ 4,415,905
R&D General	$ 175,000
Grand Total	$78,276,008

The total amount of EE/PDR 2013 costs in the general ledger of $78.3 million agreed to the total amount reflected in the EE/PDR Rider as well as the annual Portfolio Status Report for EE/PDR program costs.

Larkin requested the Company's general ledger detail for the accounts in which EE/PDR program costs were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-5. The general ledger detail for EE/PDR program costs recorded in 2013 is summarized in Exhibit 8-3 below:

Exhibit 8-3. General Ledger Detail for EE/PDR Program Costs For 2013

Description	Account	2013
Undistributed Labor Fringe Benefits Clearing	1840040	$ 850,046
Undistributed Incentive Fringe Benefits Clearing	1840041	$ 25,783
Supervision - Customer Service	**9070000**	**$ 208**
Supervision of Demand Side Management (DSM) Activities	9070001	$ 5,171,558
Customer Assistance Expense - DSM	9080009	$ 66,276,991
Supervision - Residential Sales Activities	9110001	$ 548,721
Supervision - Commercial & Industrial Sales Activities	9110002	$ 963,563
Off Supl & Exp - Nonassociated	**9210001**	**$ 10,571**
Special Advertising Space & Production Expenses	9301007	$ 32,619
Fairs, Shows, and Exhibits	9301009	$ (94,982)
Other Corporate Communication Expenses	9301015	$ 4,477,884
Misc General Expenses	**9302000**	**$ 120**
Maint of Office Furniture & Eq	**9350015**	**$ 12,926**
Total		$ 78,276,008
Source: LA-EE PDR-1-5		

As shown in the exhibit above, the total 2013 EE/PDR costs recorded in the general ledger agree with the total amount of 2013 program costs reflected in Exhibit 8-1 and in the Company's EE/PDR filing dated May 15, 2017 in Case No. 12-1266-EL-RDR. However, similar to previous years, Larkin noted that there were costs recorded in accounts not specified in the response to LA-EE PDR-1-3. The accounts in the exhibit above that are in bold print were not included in the list of accounts in which EE/PDR program costs are recorded per the response to LA-EE PDR-1-3. As previously discussed, during a conference call between Larkin and AEP Ohio on February 16, 2018 in which this issue was discussed, the Company stated that when it was preparing its initial response to LA-EE PDR-1-3, certain accounts were inadvertently omitted from the query performed in the general ledger detail. As a result, the Company supplemented its response and attachment to LA-EE PDR-1-3 in which all of the accounts highlighted in bold in the exhibit above were included in the list of accounts in which EE/PDR costs were recorded during the 2011-2016 review period.

Review of 2013 Incentive Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to incentive payments to customers. For 2013, incentive costs charged to the EE/PDR programs totaled $45,245,760. The response to LA-EE PDR-1-8 provided the following breakout of 2013 incentive costs between EE/PDR programs:

Exhibit 8-4. 2013 Incentive Payment Costs by Program

Description	2013
Consumer	
Efficient Products	$ 8,911,736
Appliance Recycling	$ 2,308,964
Home Retrofit + In-Home	$ 2,218,879
Low Income	$ 9,671,593
Residential New Construction	$ 1,561,650
Behavior Change	
e3smart	$ 366,711
Business	
Prescriptive	$ 9,045,757
Custom	$ 2,817,886
Self Direct	$ 1,220,192
C&I New Construction	$ 2,981,225
C&I Demand Response	
Express	$ 2,791,425
Retro-Commissioning	$ 187,838
Continuous Improvement	
Energy Efficiency Auction	
Data Center	$ 864,230
Multi-Sector	
Energy Education and Training	
Targeted Advertising	
Research and Development	$ 297,674
Total Incentive Costs	$ 45,245,760
Source: LA-EE PDR-1-8	

As shown in the exhibit, the 2013 incentive costs were spread among various but not all of the EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the incentive costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 8-5. General Ledger Detail for EE/PDR Incentive Costs For 2013

Description	Account	2013
Customer Assistance Expense - DSM	9080009	$ 45,245,760
Total Incentive Costs		$ 45,245,760
Source: LA-EE PDR-1-5		

As shown in the exhibit, the total incentive costs recorded in the general ledger 2013 was confined to the one account shown and which agreed with the incentive costs by program. No exceptions were noted.

Review of 2013 Evaluation, Measurement & Verification Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to EM&V. As discussed in Chapter 3, in accordance with Ohio Administrative Code ("OAC") 4901:1-39-05 (C)(2)(b), the Company conducts EM&V on its EE/PDR programs whereby AEP Ohio's EM&V report must document energy savings and peak-demand reduction values and the cost-effectiveness of each energy efficiency and demand side management program reported in its portfolio status reports. The Company's EM&V results are discussed in further detail in Chapters 14 and 15 of this report.

In terms of the EM&V costs included in the 2013 EE/PDR program costs, as previously noted in Chapter 4, according to the response to LA-EE PDR-2 -2, the EM&V included in 2013 EE/PDR program costs totaled $3,986,607. The exhibit below provides a breakout of the 2013 EM&V costs by Project ID:

Exhibit 8-6. 2013 EM&V Costs by Project ID

Description		2013
OHDSM008A	DSM Meas,Eval and Verification	$ 3,724,199
OHDSM008C	Evaluation - PUCO	$ 182,061
OHDSM008Z	Evaluation General	$ 80,347
Total EM&V Costs		$ 3,986,607

Larkin verified the 2013 EM&V costs in the exhibit above to the general ledger and to the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

Similar to prior years, the majority of the EM&V costs in 2013 (i.e., $3,724,199) were incurred pursuant to EM&V procedures conducted by [redacted] As discussed below, as part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected four [redacted] invoices as part of its sample for 2013. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted] to the general ledger. No exceptions were noted.

Review of 2013 Administrative Costs

As previously discussed in Chapter 4, the 2013 EE/PDR program costs included administrative costs totaling $3,549,760. In response to LA-EE PDR-3-8 (Attachment 2) and as shown in the exhibit below, the Company provided a breakout of administrative costs between (1) costs that were directly charged to the EE/PDR programs, and (2) overhead administrative costs that were allocated to the EE/PDR programs in 2013.

Exhibit 8-7. Breakout of 2013 Administrative Costs Between Direct Charged and Allocated to EE/PDR Programs

Description	2013 Administrative Costs
Direct Charged Administrative Costs	$ 1,273,220
Allocated Overhead Administrative Costs	$ 2,276,540
Total Administrative Costs	$ 3,549,760
Source: LA-EE PDR-3-8 (Attachment 2)	

As shown in the exhibit above, administrative costs totaling $1,273,220 were directly charged to the EE/PDR programs in 2013 while $2,276,540 was overhead allocated to the EE/PDR programs. In addition, the response to LA-EE PDR-3-8 provided the following breakout of 2013 administrative costs between EE/PDR programs:

Exhibit 8-8. 2013 Administrative Costs by EE/PDR Program

EE/PDR Program		2013
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 1,627,052
OHDSM004A	R-Efficient Products	$ 50,173
OHDSM004B	R-Home Retrofit	$ 75,430
OHDSM004C	R-New Construction	$ 51,767
OHDSM004D	R-Appliance Recycling	$ 49,722
OHDSM004E	R-Low Income	$ 66,101
OHDSM004G	R-Energy Conservation Kit	$ 1,810
OHDSM004H	R-Behavioral	$ 49,216
OHDSM004Z	Residential General	$ 385,125
OHDSM005A	CII-Prescriptive Incentives	$ 112,163
OHDSM005B	CII-Custom	$ 185,033
OHDSM005C	CII-Self Direct	$ 66,168
OHDSM005D	CII-New Construction	$ 76,402
OHDSM005E	CII-Custom Direct Install	$ 72,129
OHDSM005F	CII-Demand Response Pgm	$ 311
OHDSM005G	Retro-Commissioning	$ 67,437
OHDSM005H	CII-Continuous Improvement	$ 53,508
OHDSM005J	CII-Energy Efficiency Auction	$ 26,406
OHDSM005K	CII - Data Center	$ 43,563
OHDSM005Z	CII General	$ 25,958
OHDSM007A	DSM Education	$ 160,946
OHDSM009A	EPRI LED Pilot Program	$ 38
OHDSM009B	Hospital Energy Audit Pilot	$ 6,736
OHDSM009C	E3 Audits	$ 401
OHDSM009E	Ohio Manufacturing Audits	$ 1,692
OHDSM009F	C&I Energy Audits	$ 8,303
OHDSM009N	Codes and Standards	$ 23,213
OHDSM009P	Pilot Screening	$ 21,201
OHDSM009X	Government/Community Pilots	$ 3,350
OHDSM010Z	R&D General	$ 238,406
Grand Total		$ 3,549,760

Source: LA-EE PDR-3-8 (Attachment 1)

As shown in the exhibit, the 2013 administrative costs were spread among the various EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 8-9. General Ledger Detail for EE/PDR Administrative Costs For 2013

Description	Account	2013
Undist Labor Fringe Benfit Clr	1840040	$ 760,112
Undist Incentive Frg Ben Clr	1840041	$ 23,111
Supervision - Customer Service	9070000	$ 208
Supervision - DSM	9070001	$ 1,445,629
Cust Assistance Expense - DSM	9080009	$ 68,889
Supervision - Residential	9110001	$ 545,488
Supervision - Comm & Ind	9110002	$ 702,038
Off Supl & Exp - Nonassociated	9210001	$ 4,165
Misc General Expenses	9302000	$ 120
Grand Total		$ 3,549,760
Source: LA-EE PDR-3-8 (Supplemental)		

As shown in the exhibit, the total administrative costs recorded in the general ledger agree with the administrative costs by program. No exceptions were noted.

Review of 2013 Vendor Invoices

The file provided by AEP Ohio entitled "2013 Match to GL (Modified)" contained EE/PDR vendor invoices totaling to $67,468,103. In LA-EE PDR-6-3, all invoices above $300,000 were selected for review. Those invoices totaled to $31,619,705.

In data request LA-EE PDR-7-3 AEP Ohio was asked to provide a listing of invoices that were randomly selected from the "2013 Match to GL (Modified)" listings that had amounts ranging from $10,000 to $100,000 and $100,000 to $300,000.

The invoices requested in LA-EE PDR-6-3 and LA-EE PDR-7-3 resulted in the following sample, summarized by selection method:

Exhibit 8-10. 2013 Summary of Stratification and Sample Selection

2013 EE/PDR Vendor Invoices
Summary of Stratification and Sample Selection

Group	Criteria for Group	Population	No of Invoices Selected for Review	Basis	Total Dollar Value	Dollar Value of Selected	Selected as a Percent of Total Dollar Amount in Group
Batch 1	Over $300,000	51	51	Select all (100% judgmental)	$ 31,619,705	$ 31,619,705	100%
Batch 2	$100,000 to $300,000	154	34	Random Sample	$ 24,674,356	$ 5,609,740	23%
Batch 3	$10,000 to $100,000	257	36	Random Sample	$ 10,784,076	$ 1,554,714	14%
Batch 4	($10,000) to $10,000 [a]	221	35	None (judgmental)	$ 544,976		0%
Batch 5	($10,000) or Less	2	2	Select all (100% judgmental)	$ (155,009)	$ (155,009)	100%
Totals		685	158		$ 67,468,103	$ 38,629,150	57%

Notes:
[a] Note: the 2013 EE/PDR vendor invoice listing had two amounts less than zero, which were selected judgmentally for review

The invoices requested in LA-EE PDR-6-3 and LA-EE PDR-7-3 totaled $38,629,150 out of a net amount of $67,468,103 for 2013 that was listed in the Company-provided "2013 Match to GL (Modified)" Excel file. The total dollar amounts of the invoices selected for sampling was approximately 57 percent of the total EE/PDR vendor invoice amount for the year in the Company-provided "2013 Match to GL (Modified)" Excel file.

Larkin reviewed the 2013 vendor invoices that the Company provided in response to the data requests listed above. During our review process, we noted that many of the amounts listed on the invoices did not match to the amounts listed in the referenced responses. We set up a conference call on September 8, 2017 with the Company personnel who were responsible for keeping track of the vendor invoices to discuss these discrepancies. The Company explained that the reason the amounts did not match directly to the invoices was due to some of the amounts being allocated over multiple projects.

One such invoice discussed during the September 8, 2017 conference call was invoice number 45094 from the vendor [redacted] dated November 4, 2013. Using the Company's explanation as a guide, we verified the total invoice amount to the corresponding general ledger detail. The exhibit below shows the general ledger entries for this invoice:

Exhibit 8-11. Summary of Invoice Number 45094

Years	Periods		Project	PO ID	AP Invoice ID	Vendor Name #	Act $
2013	(11) Nov	OHDSM004D	R-Appliance Recycling	2559295	45094	[redacted]	$ 174,986.20
2013	(11) Nov	OHDSM004D	R-Appliance Recycling	2559295	45094		$ 66,570.00
2013	(11) Nov	OHDSM004D	R-Appliance Recycling	2559295	45094		$ 110,950.00
							$ 352,506.20

The total amount in the general ledger of $352,506.20 agreed to the amount shown on the invoice. We verified the other invoices we had concerns with in a similar manner and those invoices agreed to the general ledger as well. No exceptions were noted.

Review of 2013 Labor Costs Charged to the EE/PDR Programs

As previously noted, the Company's the labor costs charged to the EE/PDR programs for the period 2012 through 2016 were incurred by Ohio Power employees as it was subsequent to the merger between CSP and OPCo.

Larkin requested that for each year in the 2011-2016 review period, that AEP Ohio identify the amounts of Company and affiliate labor costs charged to each EE/PDR program. In response to LA-EE PDR-3-3, for 2013, the Company identified the amounts shown in the exhibit below:

Exhibit 8-12. Labor Costs Charged to EE/PDR Programs in 2013

Description	Account	2013 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 850,046
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 25,783
Supervision DSM	9070001	$ 1,025,916
Customer Assistance Expense - DSM	9080009	
Cust Serv & Info - Supv - Residential	9110001	$ 510,282
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 665,069
Total Labor Costs Charged to EE/PDR Programs		$ 3,077,096

As shown in the exhibit above, the Company and Affiliate labor costs totaling $3.077 million were charged to the EE/PDR programs during 2013. For 2013, as noted above, these costs include (1) AEP Ohio employee labor costs; (2) employee associated labor fringes; and (3) *outside contractor labor costs for individuals who report directly to EE/PDR management and* who work full time as members of the EE/PDR team. Larkin traced the amounts above to the general ledger detail provided in response to LA-EE PDR-1-5.

As noted above, the labor costs charged to the EE/PDR programs in 2013 were incurred by Ohio Power employees. In order to obtain an understanding of the level of the Company's distribution labor hours and costs that were charged to the EE/PDR program costs for 2013 in proportion to the total distribution labor hours and costs, Larkin requested that AEP Ohio provide: (1) total labor hours charged to the EE/PDR Rider; (2) total labor hours worked for the year; (3) total labor dollars charged to the EE/PDR Rider; (4) total labor dollars for the year; and (5) the percentage of time that each OPCo employee charged to the EE/PDR Rider. In its supplemental response to LA-EE PDR-11-1, the Company provided the requested labor related information, which is summarized in the exhibit below:

Exhibit 8-13. Ohio Power Distribution Labor Costs Charged to the EE/PDR Rider in 2013

	Year 2013				
	EE Labor Hrs for the Year	Total Employee Labor Hrs for Year	EE Labor Dollars for the Year	Total Labor Dollars for the Year	% of EE Hrs Charged To Rider
Employee ID	*Ohio Power*	*Ohio Power*	*Ohio Power*	*Ohio Power*	*Ohio Power*
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	36,451.50	42,871.00	$ 1,659,440	$ 1,950,064	85.03%

As shown in Exhibit 8-13, for 2013, Ohio Power employees working on the AEP Ohio EE/PDR programs charged 36,452 labor hours to the EE/PDR programs out of their total labor hours of 42,871, i.e., 85.03% of their 2013 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.659 million (which are embedded in Exhibit 8-12 above) of *$1.950 million of their total labor costs. Similar to prior years, as shown under the column* heading "% of EE Hrs Charged to Rider", the individual Company employees (identified by

Employee ID) charged the majority of their time in 2013 to the EE/PDR programs. As previously noted in Chapter 6, the data shown for labor hours in the exhibit above are from each respective employee's timesheets.

Review of 2013 Employee Expenses

As noted above, the general ledger detail includes the following specific cost centers, which relate to employee expenses charged to the EE/PDR programs:

Cost Center 510 - Busin Exp 100% Deduct Gen

Cost Center 520 - Business Exp Part Deduct Gen

The Company's response to LA-EE PDR-18-3 provided the following breakout of employee expenses charged to the EE/PDR programs in 2013 by (1) general ledger account, and (2) by EE/PDR project ID:

Exhibit 8-14. Summary of 2013 Employee Expenses by General Ledger Account and EE/PDR Project ID

Account		Total
9070001	Supervision - DSM	$ 58,778.45
9080009	Cust Assistance Expense - DSM	$ 26,162.82
9110001	Supervision - Residential	$ 27,519.93
9110002	Supervision - Comm & Ind	$ 41,064.22
9210001	Off Supl & Exp - Nonassociated	$ 8,817.46
9301015	Other Corporate Comm Exp	$ 203.40
Grand Total		**$ 162,546.28**

Project		Total
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 64,385.17
OHDSM004A	R-Efficient Products	$ 1,735.72
OHDSM004B	R-Home Retrofit	$ 3,117.67
OHDSM004C	R-New Construction	$ 5,106.03
OHDSM004D	R-Appliance Recycling	$ 1,430.89
OHDSM004E	R-Low Income	$ 3,117.41
OHDSM004G	R-Energy Conservation Kit	$ 1,326.98
OHDSM004H	R-Behavioral	$ 384.11
OHDSM004Z	Residential General	$ 2,934.76
OHDSM005B	CII-Custom	$ 5,838.52
OHDSM005C	CII-Self Direct	$ 13.56
OHDSM005G	Retro-Commissioning	$ 1,953.28
OHDSM005H	CII-Continuous Improvement	$ 577.71
OHDSM005J	CII-Energy Efficiency Auction	$ 266.87
OHDSM005K	CII - Data Center	$ 249.76
OHDSM005Z	CII General	$ 2,682.74
OHDSM007A	DSM Education	$ 38,617.59
OHDSM007B	DSM Corp Com	$ 203.40
OHDSM008A	DSM Meas,Eval and Verification	$ 18,827.67
OHDSM008Z	Evaluation General	$ 1,246.35
OHDSM009N	Codes and Standards	$ 3,205.99
OHDSM010Z	R&D General	$ 5,324.10
Grand Total		**$ 162,546.28**

As shown in both tables in the above exhibit, employee expenses totaling $162,546 were charged to EE/PDR programs during 2013.

In order to test the employee expenses that were charged to the EE/PDR programs in 2013, Larkin initially selected ten transactions from the general ledger detail that relate to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense report, invoices and any other documentation which supports the amounts shown for each transaction. The ten transactions Larkin selected totaled $14,108 and was comprised of the following:

CC - 510	$	5,632
CC - 520	$	8,476
Total	$	14,108

The Company provided the requested supporting documentation for the selected transactions in response to LA-EE PDR-20-1. Specifically, for 2013, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2013 general ledger detail; (2) copies of employee expense reports, invoices and receipts; and (3) a narrative summary of all of the expenses reflected on the employee expense reports (including expenses not specifically selected for review, but which were itemized on the same expense reports).

Larkin reviewed the referenced expense detail for each of the ten transactions that were initially selected for review and verified the amounts that were recorded to the general ledger. No exceptions were noted.

Upon reviewing the documentation, Larkin identified the same areas of concerns noted for the prior years with regard to certain employee expenses being charged to the EE/PDR programs, including (1) AEP Ohio employee charging out of state travel costs to the EE/PDR programs; (2) the Company purchasing gift cards and charging the cost to the EE/PDR programs; and (3) AEP Ohio employees charging the cost of annual dues to memberships to the EE/PDR programs.

Similar to prior years, for each of these areas of costs charged to the EE/PDR programs in 2013, Larkin requested that the Company to provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose of the Company purchasing [redacted] gift cards, and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs.

In addition and similar to prior years, Larkin asked AEP Ohio whether the 2013 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2013, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

As it relates to out of state travel, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to out of state travel costs charged to the EE/PDR programs in 2013, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 8-15. Summary of 2013 Out of State Travel Expense

State	Conference	Airfare	Lodging	Transportation	Meals	Total
Illinois	IEPEC International Energy Program Evaluation Conference	$ 337	$ 881	$ 69	$ 31	$ 1,317
Illinois	IEPEC International Energy Program Evaluation Conference	$ 362	$ 881	$ 92	$ 70	$ 1,405
Washington	AESP Association of Energy Service Professionals	$ 477	$ 592	$ 59	$ 33	$ 1,161
Illinois	IEPEC International Energy Program Evaluation Conference	$ 234	$ 689	$ 59	$ 66	$ 1,047
Massachusetts	CEE Consortium for Energy Efficiency Conference	$ 277	$ 456	$ 103	$ 152	$ 987
Washington	AESP Association of Energy Service Professionals	$ 477	$ 946	$ 332	$ 208	$ 1,963
Louisanna	Energy Star Products Partners Meeting	$ 316				$ 316
Washington DC	US Dept of Energy Better Buildings Challenge	$ 158		$ 59	$ 40	$ 257
Kentucky	MEEA Midwest Energy Efficiency Alliance Conference	$ 570	$ 593	$ 67	$ 122	$ 1,352
Arizona	Chartwell Conference	$ 394	$ 317	$ 64	$ 48	$ 823
Massachusetts	CEE Consortium for Energy Efficiency Conference	$ 510	$ 498	$ 73	$ 118	$ 1,199
Washington DC	US Dept of Energy Codes Compliance Technical Meeting	$ 640		$ 59	$ 21	$ 720
Georgia	Chartwell Conference	$ 777	$ 612	$ 67	$ 25	$ 1,482
Florida	AESP Association of Energy Service Professionals	$ 25	$ 424	$ 51	$ 146	$ 647
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 582	$ 531	$ 33	$ 49	$ 1,195
Pennsylvania	Building Operator Certification at US DOE Hub	$ 353	$ 118		$ 5	$ 476
Texas	AESP Association of Energy Service Professionals	$ 427	$ 403	$ 150	$ 12	$ 992
Colorado	E Source	$ 361	$ 671	$ 54	$ 103	$ 1,190
Florida	AESP Association of Energy Service Professionals		$ 638	$ 60		$ 698
Texas	E Source	$ 361	$ 172	$ 109	$ 3	$ 644
Georgia	AESP Association of Energy Service Professionals	$ 212	$ 587	$ 67		$ 865
Arizona	Kema Client Conference	$ 408	$ 457	$ 120		$ 985
California	AESP Association of Energy Service Professionals	$ 350				$ 350
Colorado	ACI Affordable Comfort Inc. National Home Performance	$ 374	$ 1,274	$ 585	$ 170	$ 2,403
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 178	$ 243	$ 65	$ 101	$ 587
Florida	AESP Association of Energy Service Professionals	$ 314	$ 638	$ 102	$ 39	$ 1,092
Colorado	ACI Affordable Comfort Inc. National Home Performance	$ 419	$ 1,119	$ 25	$ 158	$ 1,721
Massachusetts	MIT and DOE Clean Energy Symposium	$ 202	$ 602	$ 50	$ 58	$ 912
Washington	AESP Association of Energy Service Professionals	$ 477	$ 789		$ 204	$ 1,470
Indiana	Women's International Network of Utility Professionals		$ 492	$ 15	$ 77	$ 584
California	CEE Consortium for Energy Efficiency Conference	$ 790	$ 820	$ 275	$ 114	$ 1,999
Arizona	KSI Client Forum	$ 477				$ 477
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 357	$ 733	$ 149	$ 34	$ 1,274
Illinois	MEEA Midwest Energy Efficiency Alliance Conference		$ 333	$ 70	$ 8	$ 410
Florida	AESP Association of Energy Service Professionals	$ 20	$ 683	$ 70	$ 258	$ 1,031
Georgia	Chartwell Conference	$ 334	$ 623	$ 7	$ 186	$ 1,151
California	AESP Association of Energy Service Professionals	$ 385				$ 385
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 176				$ 176
Colorado	E Source	$ 368	$ 895	$ 123	$ 135	$ 1,521
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 589	$ 499	$ 37	$ 18	$ 1,144
Florida	AESP Association of Energy Service Professionals	$ 310				$ 310
Colorado	E Source		$ 671	$ 299		$ 970
Tennessee	ACEEE American Council for Energy Efficient Economy		$ 374			$ 374
	Total 2013 Out of State Travel Costs	$14,372	$21,255	$ 3,619	$2,815	$42,060

Source: LA-EE PDR-22-1

As shown in the exhibit above, the 2013 out of state travel totaled $14,372 for airfare; (2) $21,255 for lodging; (3) $3,619 for transportation; and (4) $2,815 for meals for an overall total of $42,060. Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2013 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

As it relates to the cost of gift cards included in 2013 EE/PDR program costs, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to the cost of gift cards charged to the EE/PDR programs in 2013, the response to LA-EE

PDR-22-1 indicated costs totaling $375 were charged to the EE/PDR programs in 2013, and which relate to two separate transactions.

As discussed in Chapter 6, in Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs. Therefore, Larkin recommends that the $375 related to gift cards be removed from 2013 EE/PDR program costs.

The Company's basis for including the cost of membership dues in the EE/PDR program costs is discussed in Chapter 6. With regard to annual membership dues charged to the EE/PDR programs in 2013, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 8-16. Summary of Annual Membership Dues Charged to EE/PDR Programs in 2013

Description	Annual Membership Dues
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) -- For employees to stay current on HVAC trends and standard changes, receive monthly newsletter, attend chapter meetings, gain insight as to new EE standards	$ 190
Project Management Institute Membership Renewal Fee	$ 154
Project Management Professional membership (for continuing education)	$ 279
Project Management Institute Membership Renewal Fee	$ 150
Project Management Professional membership (for continuing education)	$ 150
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 300
Toastmaster annual membership - professional development in public speaking and leadership	$ 84
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for *sound decision-making in program design, implementation and customer education*	$ 140
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 120
Annual dues for membership in the Ohio Society of CPAs (OSCPA), which as a CPA provides me with access to professional resources, learning and development tools and programs	$ 315
Annual dues for membership in the American Institute of Certified Public Accountants (AICPA), which as a CPA provides me with access to professional resources, learning and development toool and programs	$ 225
Annual due for membership in the Association of Certified Fraud Examiners (ACFE) - provides access to professional resources, learning and development tools and programs	$ 150
AEE Certified Energy Manager (CEM) Three-Year Renewal Fee - necessary expense to maintain certification	$ 300
Toastmasters annual membership -professional development in public speaking and leadership	$ 84
Project Management Professional membership (for continuing education) Aids in staying current with project management skills This aids in running more effective EEPDR programs	$ 154
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 160
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) -- For employees to stay current on HVAC trends and standard changes, receive monthly newsletter, attend chapter meetings, gain insight as to new EE standards	$ 196
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 140
Builders Industry Association for New Homes Program - allows access to resources valuable to running the New Homes program	$ 625
Total 2013 Annual Membership Dues Charged to EE/PDR Programs	$ 3,916

Source: LA-EE PDR-22-1

As shown in the exhibit above, the Company included costs totaling $3,916 in its 2013 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and are related to energy efficiency or to the professional development of the employees working on the EE/PDR programs. However, Attachment 1 to the response to LA-EE PDR-22-1 included membership dues described as "AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education". Attachment 1 reflected this three-year membership for employees that had similar three-year renewals for the same membership in

2012. In response to Larkin's informal inquiry, the Company explained that Attachment 1 to the response to LA-EE PDR-22-1 contained incorrect descriptions for those employees and that the amounts reflected in Attachment 1 were actually for annual AEE membership dues as opposed to three-year renewals.

The Company's rationale for including the costs associated with athletic sporting events or entertainment events in its EE/PDR programs were discussed in Chapter 6.

For 2013, AEP Ohio included these types of costs for one event. Specifically, Attachment 1 to the response to LA-EE PDR-22-1 listed an entertainment event with costs totaling $1,782. This cost was related to an OSU basketball game and the Company provided the following rationale for including the cost of this sporting event in the 2013 EE/PDR program costs:

> This expense was for a team building event after an all day staff meeting. This event was attended by EEPDR team members and 3 representatives of our implementation contractors. Our periodic all day staff meetings are held to: provide an update on the year-to-date status and accomplishments achieved under each EEPDR program; provide a year-to-date update on the status of our total EEPDR portfolio - energy savings, demand savings, and a comparison of actual costs incurred versus our department budget; provide an update on the status of collecting customer / savings information from implementers; provide on the status of any contracts / amendments; provide an update on the status of any regulatory filings or audits in progress.

In Larkin's view, this cost is not needed for energy efficiency and should not be included in costs charged to the EE/PDR programs. Therefore, Larkin recommends that the $1,782 of costs be removed from the 2013 EE/PDR program costs.

Review of 2013 EE/PDR Related Revenues

As previously discussed, during Larkin's on-site visit to AEP Ohio's offices in Gahanna, Ohio on August 1, 2017, the Company stated that it used revenue screen shots to tie out revenue related to the EE/PDR Rider for each year of the 2011 through 2016 review period. Larkin requested the revenue screen shots for each year of the review period, which the Company provided in response to LA-EE PDR-8-6. Specifically, AEP Ohio provided separate revenue screen shots for CSP and OPCo, which reflected the EE/PDR Rider revenues on a monthly basis. The revenue screenshots for 2013 are summarized in the exhibit below:

Exhibit 8-17. Revenue Screen Shots for CSP and OPCo for 2013

CSP	January 2013	February 2013	March 2013	April 2013	May 2013	June 2013	July 2013	August 2013	September 2013	October 2013	November 2013	December 2013	Total
Residential	$ 2,237,751	$ 2,017,303	$ 1,924,761	$ 1,650,662	$ 1,305,508	$ 1,569,692	$ 1,974,836	$ 1,866,749	$ 1,835,090	$ 1,391,123	$ 1,397,786	$ 1,964,671	$ 21,135,933
Other C&I	$ 2,205,125	$ 2,069,072	$ 1,947,172	$ 2,008,400	$ 1,944,408	$ 2,098,351	$ 2,058,275	$ 2,257,659	$ 2,269,691	$ 2,032,201	$ 1,849,546	$ 2,093,791	$ 24,833,689
GS-4	$ 123 923	$ 119 466	$ 119 183	$ 116 844	$ 116 720	$ 145 315	$ 132 462	$ 118 013	$ 85 789	$ 113 993	$ 79 888	$ 76 615	$ 1 348 211
Total	$ 4,566,799	$ 4,205,841	$ 3,991,116	$ 3,775,906	$ 3,366,636	$ 3,813,358	$ 4,165,573	$ 4,242,422	$ 4,190,571	$ 3,537,316	$ 3,327,220	$ 4,135,076	$ 47,317,833

OPCo	January 2013	February 2013	March 2013	April 2013	May 2013	June 2013	July 2013	August 2013	September 2013	October 2013	November 2013	December 2013	Total
Residential	$ 2,301,009	$ 2,119,305	$ 1,954,321	$ 1,757,768	$ 1,292,188	$ 1,479,049	$ 1,840,841	$ 1,640,875	$ 1,627,031	$ 1,303,722	$ 1,420,120	$ 2,061,279	$ 20,797,508
Other C&I	$ 2,293,256	$ 2,244,062	$ 2,103,193	$ 2,183,242	$ 2,076,389	$ 2,208,380	$ 2,340,440	$ 2,265,129	$ 2,317,197	$ 2,166,675	$ 2,061,033	$ 2,300,441	$ 26,559,436
GS-4	$ 256,244	$ 214,381	$ 265,852	$ 277,199	$ 175,309	$ 251,068	$ 301,443	$ 170,381	$ 204,851	$ 277,863	$ 187,398	$ 231,123	$ 2,813,112
Total	$ 4,850,510	$ 4,577,747	$ 4,323,366	$ 4,218,209	$ 3,543,886	$ 3,938,497	$ 4,482,724	$ 4,076,386	$ 4,149,078	$ 3,748,259	$ 3,668,550	$ 4,592,843	$ 50,170,056

CSP & OPCo	January 2013	February 2013	March 2013	April 2013	May 2013	June 2013	July 2013	August 2013	September 2013	October 2013	November 2013	December 2013	Total
Residential	$ 4,538,760	$ 4,136,608	$ 3,879,082	$ 3,408,431	$ 2,597,696	$ 3,048,741	$ 3,815,677	$ 3,507,625	$ 3,462,121	$ 2,694,844	$ 2,817,906	$ 4,025,950	$ 41,933,441
Other C&I	$ 4,498,381	$ 4,313,134	$ 4,050,365	$ 4,191,641	$ 4,020,797	$ 4,306,730	$ 4,398,715	$ 4,522,789	$ 4,586,888	$ 4,198,875	$ 3,910,578	$ 4,394,231	$ 51,393,126
GS-4	$ 380,168	$ 333,847	$ 385,035	$ 394,043	$ 292,029	$ 396,383	$ 433,904	$ 288,394	$ 290,640	$ 391,856	$ 267,286	$ 307,738	$ 4,161,323
Total	$ 9 417 309	$ 8 783 588	$ 8 314 482	$ 7 994 115	$ 6 910 522	$ 7 751 855	$ 8 648 297	$ 8 318 808	$ 8 339 649	$ 7 285 576	$ 6 995 771	$ 8 727 919	$ 97 487 889

Larkin also requested the Company's general ledger detail for the accounts in which EE/PDR Rider revenues were recorded in each year of the 2011-2016 review period, which the Company provided in response to LA-EE PDR-1-4. The general ledger detail for EE/PDR Rider revenue recorded in 2013 is summarized in Exhibit 8-18 below:

Exhibit 8-18. General Ledger Detail for EE/PDR Rider Revenue For 2013

Description	Account	2013
Residential Sales - With Space Heating	4400001	$ 12,506,888
Residential Sales - Without Space Heating	4400002	$ 29,426,565
Commercial Sales	4420001	$ 29,748,949
Industrial Sales (Excluding Mines)	4420002	$ 19,637,024
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$ 189,589
C&I Sales - Affiliated Companies	4420005	$ 73,872
Sales to Public Authorities - Schools	4420006	$ 2,588,907
Sales to Public Authorities - Excluding Schools	4420007	$ 3,238,573
Public Street - Highway Lighting	4440000	$ 54,421
Other Sales - Public Authorities - Excluding Schools	4450002	$ 1,382
Wholesale / Municipal / Public Authorities	4470027	$ 21,720
Total		$ 97,487,889

Upon comparing the 2013 revenues recorded in the general ledger to the monthly screenshots in Exhibit 8-17 above, Larkin noted that the total 2013 revenue of $97.49 million is reflected in both sets of data. However, as a further test of the EE/PDR revenues, Larkin requested that AEP Ohio reconcile the 2013 CSP and OPCo EE/PDR revenues reflected in the screenshots to the related revenue general ledger accounts shown in the exhibit above. In response to LA-EE PDR-14-18, the Company stated that the general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 was provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided the following tables which reconciled the 2013 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded:

Exhibit 8-19. Reconciliation of 2013 Revenue Screenshots to General Ledger Accounts

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
10	211	GS-4	58,173 25
10	213	GS-4	261,133 73
10	216	GS-4	23,114 88
10	221	GS-4	1,005,789 08
10	010	Other C and I	0 00
10	020	Other C and I	0 00
10	211	Other C and I	15,711,655 67
10	212	Other C and I	2,167,424 67
10	213	Other C and I	1,053,103 37
10	216	Other C and I	1,379,791 63
10	221	Other C and I	4,366,586 36
10	222	Other C and I	50,278 96
10	240	Other C and I	70,357 33
10	400	Other C and I	34,491 20
10	*010*	*Residential*	*15,757,592 71*
10	020	Residential	5,378,340 12
10	211	Residential	0 25
			47,317,833.21

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	15,757,593
020	4400001	Res Sales - W/ Space Heating	5,378,340
211	4420001	Commercial Sales	15,769,829
212	4420001	Commercial Sales	2,167,425
213	4420006	Sales to Public Authorities - Schools	1,314,237
216	4420007	Sales to Public Authorities - Excl Schools	1,402,907
221	4420002	Industrial Sales (Excl Mines)	5,372,375
222	*4420002*	*Industrial Sales (Excl Mines)*	*50,279*
240	4420005	C&I Sales - Affiliated Companies	70,357
400	4440000	Public Street - Hiway Lighting	34,491
	Total CSP		47,317,833

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
07	221	GS-4	2,729,119 36
07	222	GS-4	40,551 52
07	230	GS-4	43,440 81
07	010	Other C and I	12 14
07	020	Other C and I	0 00
07	211	Other C and I	10,001,818 96
07	212	Other C and I	1,809,875 80
07	213	Other C and I	1,274,669 74
07	216	Other C and I	1,835,666 02
07	221	Other C and I	10,995,444 44
07	222	Other C and I	449,254 64
07	230	Other C and I	146,148 42
07	240	Other C and I	1,894 85
07	245	Other C and I	1,619 84
07	400	Other C and I	19,929 72
07	520	Other C and I	1,382 37
07	720	Other C and I	21,719 54
07	010	Residential	13,668,960 34
07	020	Residential	7,128,547 46
			50,170,055.97

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	13,668,972
020	4400001	Res Sales - W/ Space Heating	7,128,547
211	4420001	Commercial Sales	10,001,819
212	4420001	Commercial Sales	1,809,876
213	4420006	Sales to Public Authorities - Schools	1,274,670
216	4420007	Sales to Public Authorities - Excl Schools	1,835,666
221	4420002	Industrial Sales (Excl Mines)	13,724,564
222	4420002	Industrial Sales (Excl Mines)	489,806
230	4420004	Industrial Non-Affiliated (Incl Mines)	189,589
240	4420005	C&I Sales - Affiliated Companies	1,895
245	4420005	C&I Sales - Affiliated Companies	1,620
400	4440000	Public Street - Hiway Lighting	19,930
520	4450002	Other Sales - Public Authorities - Excl Schools	1,382
720	4470027	Wholesale/Muni/Public Authorities	21,720
	Total OP		50,170,056

	CSP	OP	Total
Residential	21,135,933	20,797,508	41,933,441
Other C and I	24,833,689	26,559,436	51,393,126
GS-4	1,348,211	2,813,112	4,161,323
Total	47,317,833	50,170,056	97,487,889

Ties to Revenue Screenshots

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	29,426,565
020	4400001	Res Sales - W/ Space Heating	12,506,888
211	4420001	Commercial Sales	25,771,648
212	4420001	Commercial Sales	3,977,300
213	4420006	Sales to Public Authorities - Schools	2,588,907
216	4420007	Sales to Public Authorities - Excl Schools	3,238,573
221	4420002	Industrial Sales (Excl Mines)	19,096,939
222	4420002	Industrial Sales (Excl Mines)	540,085
230	4420004	Industrial Non-Affiliated (Incl Mines)	189,589
240	4420005	C&I Sales - Affiliated Companies	72,252
245	4420005	C&I Sales - Affiliated Companies	1,620
400	4440000	Public Street - Hiway Lighting	54,421
520	4450002	Other Sales - Public Authorities - Excl Schools	1,382
720	4470027	Wholesale/Muni/Public Authorities	21,720
	Grand Total		97,487,889

Ties to General Ledger

In addition, Larkin verified that the 2013 revenues were embedded in Schedule 1 from the Company's Application dated May 15, 2017 in Case No. 17-1266-EL-RDR in which revenues totaling $588.067 million are reflected under the column heading "Actual 2012-2016 Rider Revenue." The exhibit below summarizes EE/PDR Rider revenues that were recorded in each year 2012 through 2016 which totals the $588.067 million in the Company's filing.

Exhibit 8-20. Actual EE/PDR Revenue Recorded From 2012 Through 2016

Description	Account	2012	2013	2014	2015	2016	Grand Total
Residential Sales - With Space Heating	4400001	$ 11,795,278	**$ 12,506,888**	$ 15,578,617	$ 19,357,867	$ 18,300,920	$ 77,539,570
Residential Sales - Without Space Heating	4400002	$ 30,008,068	**$ 29,426,565**	$ 36,157,968	$ 45,845,375	$ 46,587,700	$ 188,025,677
Commercial Sales	4420001	$ 30,116,815	**$ 29,748,949**	$ 33,183,722	$ 37,787,767	$ 38,138,607	$ 168,975,860
Industrial Sales (Excluding Mines)	4420002	$ 19,956,868	**$ 19,637,024**	$ 22,836,019	$ 28,112,420	$ 27,447,172	$ 117,989,503
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$ 181,629	**$ 189,589**	$ 205,050	$ 231,747	$ 159,802	$ 967,816
C&I Sales - Affiliated Companies	4420005	$ 100,264	**$ 73,872**	$ 104,727	$ 108,934	$ 112,360	$ 500,157
Sales to Public Authorities - Schools	4420006	$ 2,592,428	**$ 2,588,907**	$ 2,994,800	$ 3,456,938	$ 3,519,294	$ 15,152,367
Sales to Public Authorities - Excluding Schools	4420007	$ 2,850,601	**$ 3,238,573**	$ 3,748,184	$ 4,335,800	$ 4,339,573	$ 18,512,730
Public Street - Highway Lighting	4440000	$ 53,785	**$ 54,421**	$ 53,591	$ 55,603	$ 55,698	$ 273,098
Other Sales - Public Authorities - Excluding Schools	4450002	$ 1,117	**$ 1,382**	$ 1,474	$ 2,367	$ 1,686	$ 8,027
Wholesale / Municipal / Public Authorities	4470027	$ 21,121	**$ 21,720**	$ 24,661	$ 27,950	$ 27,212	$ 122,664
Total		$ 97,677,974	**$ 97,487,889**	$ 114,888,815	$ 139,322,767	$ 138,690,023	$ 588,067,468

As shown in bold in the exhibit above, the 2013 EE/PDR Rider revenues of $97.49 million agree with what was recorded in the general ledger as well as the Company's screenshots. No exceptions were noted.

2013 Shared Savings

As discussed in Chapter 4, in its Opinion and Order dated May 13, 2010 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR, the Commission approved a shared savings mechanism for the period 2009-2011. In addition, in its Opinion and Order dated March 21, 2012 in Case Nos. 11-5568-EL-POR and 11-5569-EL-POR, the Commission approved a revised shared savings mechanism for the period 2012-2016. Pursuant to these Commission Orders, the Company has included shared savings in the calculation of its EE/PDR Rider rates in its filings to the Commission.

As part of its review, Larkin was tasked with verifying the shared savings reflected in the Company's regulated accounting records for each year of the 2011 through 2016 review period. Ordinarily, such verification would entail tracing the shared savings amounts to the Company's general ledger, However, as previously discussed in Chapter 4, in its supplemental response to LA-EE PDR-18-4, the Company explained that the shared savings are not separately identified in the general ledger, but rather are a component of the costs included in Supplemental Attachment 1, which is a large Excel file that was provided in that supplemental response. Specifically, the shared savings amounts are not booked to the general ledger separately and instead are included in Supplemental Attachment 1 as ledger detail,[100] the amounts of which can be traced to the reconciliation provided in the confidential response to LA-EE PDR-12-18. Larkin reviewed the electronic version of Supplemental Attachment 1 and noted that it contained the Company's accounting for shared savings for CSP and OPCo on separate tabs in the Excel file and in total on a tab titled "Merged".

For 2013, from the "Merged" tab, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the exhibit below:

[100] See the supplemental response to LA-EE PDR-18-4.

Exhibit 8-21. 2013 Shared Savings for the Residential, Commercial and Industrial Rate Classes

Description	2013
Residential Rate Class	$ 18,766,655
Commercial Rate Class	$ 7,381,551
Industrial Rate Class	$ 5,129,552
Total Shared Savings	$ 31,277,759
Source: LA-EE PDR-18-4 (Supplemental Attachment 1)	

As shown in the exhibit above, the shared savings for the residential, commercial and industrial rate classes totaled $18,766,655, $7,381,551 and $5,129,552, respectively, for a total of $31,277,759 for 2013. Larkin verified this amount to the reconciliation that was provided in the confidential response to LA-EE PDR-12-18. No exceptions were noted.

The amount of 2013 shared savings reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR was also $31,277,759. No exceptions were noted.

A detailed discussion of the shared savings calculations in the Company's filings for each year of the 2011-2016 review period are discussed in Chapter 15 of this report.

IRP-D Credits - 2013

As discussed in Chapter 4, in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO, the Commission approved the IRP-D credit at $8.21/kW-month and ruled that since the IRP-D credit promotes energy efficiency, it is appropriate for AEP Ohio to recover any costs associated with the IRP-D through the EE/PDR Rider. As shown on Schedule 4 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR, the actual IRP-D credits for 2013 totaled $18,889,240. Larkin requested that AEP Ohio provide documentation that supports this amount, which the Company provided in its confidential response to LA-EE PDR-18-5 and which has been replicated in the exhibit below:

Exhibit 8-22. Actual IRP-D Credit for 2013

Account Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
[redacted]	[redacted]												
Total IRP KW	185,831.8	187,178.6	212,994.6	183,225.0	194,174.0	172,124.0	171,841.0	181,712.0	203,614.0	203,113.0	203,846.0	201,104.0	2,300,760.00
PUCO Ordered Credit	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	
Monthly Charge to EE/PDR rider	$ 1,525,679	$ 1,536,736	$ 1,748,686	$ 1,504,277	$ 1,594,169	$ 1,413,138	$ 1,410,815	$ 1,491,856	$ 1,671,671	$ 1,667,558	$ 1,673,592	$ 1,651,064	$ 18,889,240
Cumulative 2013 Charge	$ 1,525,679	$ 3,062,415	$ 4,811,101	$ 6,315,378	$ 7,909,547	$ 9,322,685	$ 10,733,499	$ 12,225,355	$ 13,897,026	$ 15,564,584	$ 17,238,176	$ 18,889,240	$ 18,889,240

As shown in the exhibit, the 2013 IRP-D credit was calculated using the $8.21/kW-month rate that was authorized by the Commission in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO.

9 2014 COSTS AND REVENUES

Review of 2014 EE/PDR Program Costs

As previously discussed, Larkin requested that the Company identify the amount of total expenditures recorded (by program) in each year 2011 through 2016, which was provided in response to LA-EE PDR-2-1. The 2014 EE/PDR program costs are summarized in Exhibit 9-1 below:

Exhibit 9-1. Summary of 2014 EE/PDR Program Costs

Description	2014 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 15,175,590
Appliance Recycling	$ 3,262,502
Home Retrofit + In-Home	$ 5,064,289
Low Income	$ 11,709,065
Residential New Construction	$ 1,473,375
Behavior Change	$ 1,564,115
e3smart	$ 968,677
BUSINESS	
Prescriptive	$ 13,294,968
Custom	$ 5,932,752
Self Direct	$ 726,127
C&I New Construction	$ 4,075,062
C&I Demand Response	
Express	$ 1,955,901
Retro-Commissioning	$ 742,119
Continuous Improvement	$ 4,348,618
Energy Efficiency Auction	$ 653,899
Data Center	$ 1,995,630
MULTI-SECTOR	
Energy Education and Training	$ 253,051
Targeted Advertising	$ 1,368,846
Research and Development	$ 2,011,791
Total Program Costs	**$ 76,576,377**

Source: LA-EE PDR-2-1

As shown in the exhibit, AEP Ohio recorded EE/PDR programs costs totaling $76.6 million in 2014. This is the amount of 2014 program costs reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.

As previously noted, the costs reported in AEP Ohio's EE/PDR Rider are sourced from the Company's general ledger. The Company separated its 2014 EE/PDR costs in to the following eight cost components:

Exhibit 9-2. 2014 AEP Ohio EE/PDR Program Costs in the General Ledger

EE/PDR Program Per G/L	2014
EE/PDR Department	$ 4,585,477
Education	$ 103,132
Evaluation	$ 2,436,843
Implementation	$18,906,714
Incentives	$46,529,847
Marketing	$ 2,367,571
Media	$ 1,369,742
R&D General	$ 277,053
Grand Total	$76,576,377

The total amount of EE/PDR 2014 costs in the general ledger of $76.6 million agreed to the total amount reflected in the EE/PDR Rider as well as the annual Portfolio Status Report for EE/PDR program costs.

As noted above, the source for the EE/PDR program costs is the general ledger. Larkin requested the Company's general ledger detail for the accounts in which EE/PDR program costs were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-5. The general ledger detail for EE/PDR program costs recorded in 2014 is summarized in Exhibit 9-2 below:

Exhibit 9-3. General Ledger Detail for EE/PDR Program Costs For 2014

Description	Account	2014
Undistributed Labor Fringe Benefits Clearing	1840040	$ 733,673
Undistributed Incentive Fringe Benefits Clearing	1840041	$ 28,055
Supervision of Demand Side Management (DSM) Activities	9070001	$ 4,850,086
Customer Assistance Expenses	**9080000**	**$ 125**
Customer Assistance Expense - DSM	9080009	$ 67,929,202
Supervision - Residential Sales Activities	9110001	$ 601,236
Supervision - Commercial & Industrial Sales Activities	9110002	$ 1,051,257
Off Supl & Exp - Nonassociated	**9210001**	**$ 14,024**
Outside Svcs Empl - Nonassoc	9230001	$ 125
Other Corporate Communication Expenses	9301015	$ 1,368,198
Maint of Office Furniture & Eq	**9350015**	**$ 397**
Total		$ 76,576,377
Source: LA-EE PDR-1-5		

As shown in the exhibit above, the total 2014 EE/PDR costs recorded in the general ledger agree with the total amount of 2014 program costs reflected in Exhibit 9-1 and in the Company's

EE/PDR filing dated May 15, 2017 in Case No. 12-1266-EL-RDR. However, similar to previous years, Larkin noted that there were costs recorded in accounts not specified in the response to LA-EE PDR-1-3. The accounts in the exhibit above that are in bold print were not included in the list of accounts in which EE/PDR program costs are recorded per the response to LA-EE PDR-1-3. As previously discussed, during a conference call between Larkin and AEP Ohio on February 16, 2018 in which this issue was discussed, the Company stated that when it was preparing its initial response to LA-EE PDR-1-3, certain accounts were inadvertently omitted from the query performed in the general ledger detail. As a result, the Company supplemented its response and attachment to LA-EE PDR-1-3 in which all of the accounts highlighted in bold in the exhibit above were included in the list of accounts in which EE/PDR costs were recorded during the 2011-2016 review period.

Review of 2014 Incentive Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to incentive payments to customers. For 2014, incentive costs charged to the EE/PDR programs totaled $46,529,847. The response to LA-EE PDR-1-8 provided the following breakout of 2014 incentive costs between EE/PDR programs:

Exhibit 9-4. 2014 Incentive Payment Costs by Program

Description	2014
Consumer	
Efficient Products	$ 11,840,031
Appliance Recycling	$ 2,135,963
Home Retrofit + In-Home	$ 2,190,443
Low Income	$ 8,971,800
Residential New Construction	$ 486,740
Behavior Change	
e3smart	$ 650,250
Business	
Prescriptive	$ 9,117,021
Custom	$ 3,307,075
Self Direct	$ 231,359
C&I New Construction	$ 2,626,563
C&I Demand Response	
Express	$ 1,755,650
Retro-Commissioning	$ 353,951
Continuous Improvement	$ 849,768
Energy Efficiency Auction	$ 180,949
Data Center	$ 1,083,131
Multi-Sector	
Energy Education and Training	
Targeted Advertising	
Research and Development	$ 749,153
Total Incentive Costs	$ 46,529,847
Source: LA-EE PDR-1-8	

As shown in the exhibit, the 2014 incentive costs were spread among various but not all of the EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the incentive costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 9-5. General Ledger Detail for EE/PDR Incentive Costs For 2014

Description	*Account*	*2014*
Customer Assistance Expense - DSM	9080000	$ 46,529,847
Total Incentive Costs		$ 46,529,847
Source: LA-EE PDR-1-5		

As shown in the exhibit, the total incentive costs recorded in the general ledger 2014 was confined to the one account shown and which agreed with the incentive costs by program. No exceptions were noted.

Review of 2014 Evaluation, Measurement & Verification Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to EM&V. As discussed in Chapter 3, in accordance with Ohio Administrative Code ("OAC") 4901:1-39-05 (C)(2)(b), the Company conducts EM&V on its EE/PDR programs whereby AEP Ohio's EM&V report must document energy savings and peak-demand reduction values and the cost-effectiveness of each energy efficiency and demand side management program reported in its portfolio status reports. The Company's EM&V results are discussed in further detail in Chapters 14 and 15 of this report.

In terms of the EM&V costs included in the 2014 EE/PDR program costs, as previously noted in Chapter 4, according to the response to LA-EE PDR-2-2, the EM&V included in 2014 EE/PDR program costs totaled $2,616,030. The exhibit below provides a breakout of the 2014 EM&V costs by Project ID:

Exhibit 9-6. 2014 EM&V Costs by Project ID

Description		2014
OHDSM008A	DSM Meas,Eval and Verification	$ 2,448,412
OHDSM008C	Evaluation - PUCO	$ 79,992
OHDSM008Z	Evaluation General	$ 87,626
Total EM&V Costs		$ 2,616,030

Larkin verified the 2014 EM&V costs in the exhibit above to the general ledger and to the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

Similar to prior years, the majority of the EM&V costs in 2014 (i.e., $2,448,412) were incurred pursuant to EM&V procedures conducted by [redacted] As part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected five [redacted] invoices as part of its sample for 2014. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted], to the general ledger. No exceptions were noted.

Review of 2014 Administrative Costs

As previously discussed in Chapter 4, the 2014 EE/PDR program costs included administrative costs totaling $4,406,290. In response to LA-EE PDR-3-8 (Attachment 2) and as shown in the exhibit below, the Company provided a breakout of administrative costs between (1) costs that were directly charged to the EE/PDR programs, and (2) overhead administrative costs that were allocated to the EE/PDR programs in 2014.

Exhibit 9-7. Breakout of 2014 Administrative Costs Between Direct Charged and Allocated to EE/PDR Programs

Description	2014 Administrative Costs
Direct Charged Administrative Costs	$ 1,193,232
Allocated Overhead Administrative Costs	$ 3,213,059
Total Administrative Costs	$ 4,406,290

Source: LA-EE PDR-3-8 (Attachment 2)

As shown in the exhibit above, administrative costs totaling $1,193,232 were directly charged to the EE/PDR programs in 2014 while $3,213,059 was overhead allocated to the EE/PDR programs. In addition, the response to LA-EE PDR-3-8 provided the following breakout of 2014 administrative costs between EE/PDR programs:

Exhibit 9-8. 2014 Administrative Costs by EE/PDR Program

EE/PDR Program		2014
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 2,396,563
OHDSM004A	R-Efficient Products	$ 60,228
OHDSM004B	R-Home Retrofit	$ 61,638
OHDSM004C	R-New Construction	$ 52,956
OHDSM004D	R-Appliance Recycling	$ 59,059
OHDSM004E	R-Low Income	$ 58,271
OHDSM004H	R-Behavioral	$ 56,898
OHDSM004Z	Residential General	$ 373,350
OHDSM005A	CII-Prescriptive Incentives	$ 106,921
OHDSM005B	CII-Custom	$ 153,075
OHDSM005C	CII-Self Direct	$ 39,300
OHDSM005D	CII-New Construction	$ 67,991
OHDSM005E	CII-Custom Direct Install	$ 60,336
OHDSM005G	Retro-Commissioning	$ 83,605
OHDSM005H	CII-Continuous Improvement	$ 69,752
OHDSM005J	CII-Energy Efficiency Auction	$ 6,026
OHDSM005K	CII - Data Center	$ 45,362
OHDSM005Z	CII General	$ 152,978
OHDSM007A	DSM Education	$ 147,999
OHDSM007B	DSM Corp Com	$ 1,025
OHDSM009B	Hospital Energy Audit Pilot	$ 6,007
OHDSM009E	Ohio Manufacturing Audits	$ 337
OHDSM009F	C&I Energy Audits	$ 8,522
OHDSM009M	Business Behavior Change	$ 614
OHDSM009N	Codes and Standards	$ 7,515
OHDSM009U	Agricultural (Commercial)	$ 738
OHDSM009V	Agricultural (Residential)	$ 8
OHDSM009X	Government/Community Pilots	$ 39,051
OHDSM010Z	R&D General	$ 290,168
Grand Total		$ 4,406,290

Source: LA-EE PDR-3-8 (Attachment 1)

As shown in the exhibit, the 2014 administrative costs were spread among the various EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 9-9. General Ledger Detail for EE/PDR Administrative Costs For 2014

Description	Account	2015
Undist Labor Fringe Benfit Clr	1840040	$ 653,555
Undist Incentive Frg Ben Clr	1840041	$ 24,999
Supervision - DSM	9070001	$ 2,314,840
Cust Assistance Expense - DSM	9080009	$ 110,250
Supervision - Residential	9110001	$ 568,235
Supervision - Comm & Ind	9110002	$ 727,674
Off Supl & Exp - Nonassociated	9210001	$ 5,224
Outside Svcs Empl - Nonassoc	9230001	$ 125
Other Corporate Comm Exp	9301015	$ 1,388
Grand Total		$ 4,406,290
Source: LA-EE PDR-3-8 (Supplemental)		

As shown in the exhibit, the total administrative costs recorded in the general ledger agree with the administrative costs by program. No exceptions were noted.

Review of 2014 Vendor Invoices

The file provided by AEP Ohio entitled "2014 Match to GL (Modified)" contained EE/PDR vendor invoices totaling to $70,009,328. In data request LA-EE PDR-6-4, all invoices above $300,000 were selected for review. Those invoices totaled $32,376,542.

In data request LA-EE PDR-7-4 AEP Ohio was asked to provide a listing of invoices that were randomly selected from the "2014 Match to GL (Modified)" listing that had amounts ranging $10,000 to $100,000 and $100,000 to $300,000 as well as the invoices with credit amounts (i.e., negative balances) larger than $10,000.

The invoices requested in LA-EE PDR-6-4 and LA-EE PDR-7-4 resulted in the following sample, summarized by selection method:

Exhibit 9-10. 2014 Summary of Stratification and Sample Selection

2014 EE/PDR Vendor Invoices Summary of Stratification and Sample Selection							
Group	Criteria for Group	Population	No of Invoices Selected for Review	Basis	Total Dollar Value	Dollar Value of Selected	Selected as a Percent of Total Dollar Amount in Group
Batch 1	Over $300,000	57	57	Select all (100% judgmental)	$ 32,376,542	$ 32,376,542	100%
Batch 2	$100,000 to $300,000	148	34	Random Sample	$ 23,693,663	$ 5,686,550	24%
Batch 3	$10,000 to $100,000	317	37	Random Sample	$ 13,666,026	$ 1,800,328	13%
Batch 4	($10,000) to $10,000 [a]	310		None (judgmental)	$ 726,848		0%
Batch 5	($10,000) or Less	9	9	Select all (100% judgmental)	$ (453,750)	$ (453,750)	100%
Totals		841	137		$ 70,009,328	$ 39,409,670	56%
Notes:							
[a]	Note: the 2014 EE/PDR vendor invoice listing had two amounts less than zero, which were selected judgmentally for review						

The invoices requested in LA-EE PDR-6-4 and LA-EE PDR-7-4 totaled $39,409,670 out of a net amount of $70,009,328 for 2014 that was listed in the Company-provided "2014 Match to GL (Modified)" Excel file. The total dollar amounts of the invoices selected for sampling was approximately 56 percent of the total EE/PDR vendor invoice amounts for the year in the Company-provided "2014 Match to GL (Modified)" Excel file.

Larkin reviewed the 2014 vendor invoices that the Company provided in response to the data requests listed above. During our review process, we noted that many of the amounts listed on the invoices did not match to the amounts listed in the referenced responses. We set up a conference call on September 8, 2017 with the Company personnel who were responsible for keeping track of the vendor invoices to discuss these discrepancies. The Company explained that the reason the amounts did not match directly to the invoices was due to some of the amounts being allocated over multiple projects.

One such invoice discussed during the September 8, 2017 conference call was invoice number 608 from the vendor [redacted] dated July 14, 2014. Using the Company's explanation as a guide, we verified the total invoice amount to the corresponding general ledger detail. The exhibit below shows the general ledger entries for this invoice:

Exhibit 9-11. Summary of Invoice Number 608

Years	Periods		Project	PO ID	AP Invoice ID	Vendor Name #	Act $
2014	(07) Jul	OHDSM004G	R-Energy Conservation Kit	02578955	608	[redacted]	$ 69,698.21
2014	(07) Jul	OHDSM004G	R-Energy Conservation Kit	02578955	608		$ 25,184.01
2014	(07) Jul	OHDSM004G	R-Energy Conservation Kit	02578955	608		$ 303,530.38
2014	(07) Jul	OHDSM004G	R-Energy Conservation Kit	02578955	608		$ 60,668.40
							$ 459,081.00

The total amount in the general ledger of $459,081 agreed to the amount shown on the invoice. We verified the other invoices we had concerns with in a similar manner and those invoices agreed to the general ledger as well. No exceptions were noted.

Review of 2014 Labor Costs Charged to the EE/PDR Programs

As previously noted, the Company's the labor costs charged to the EE/PDR programs for the period 2012 through 2016 were incurred by Ohio Power employees as it was subsequent to the merger between CSP and OPCo.

Larkin requested that for each year in the 2011-2016 review period, that AEP Ohio identify the amounts of Company and affiliate labor costs charged to each EE/PDR program. In response to LA-EE PDR-3-3, for 2014, the Company identified the amounts shown in the exhibit below:

Exhibit 9-12. Labor Costs Charged to EE/PDR Programs in 2014

Description	Account	2014 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 733,673
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 28,055
Supervision DSM	9070001	$ 1,112,122
Customer Assistance Expense - DSM	9080009	$ 1,805
Cust Serv & Info - Supv - Residential	9110001	$ 540,006
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 705,347
Total Labor Costs Charged to EE/PDR Programs		$ 3,121,008

As shown in the exhibit above, the Company and Affiliate labor costs totaling $3.121 million were charged to the EE/PDR programs during 2014. For 2014, as noted above, these costs include (1) AEP Ohio employee labor costs; (2) employee associated labor fringes; and (3) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. Larkin traced the amounts above to the general ledger detail provided in response to LA-EE PDR-1-5.

In its response to LA-EE PDR-16-2, the Company stated that the 2014 labor costs charged to the EE/PDR programs included $1,432.87 plus applicable overheads for employees who were not members of Department 12949 (EE and Consumer Programs). In addition, AEP Ohio stated that it will record a credit to address this issue in 2018 with which Larkin concurs.

As noted above, the labor costs charged to the EE/PDR programs in 2014 were incurred by Ohio Power employees. In order to obtain an understanding of the level of the Company's distribution labor hours and costs that were charged to the EE/PDR program costs for 2014 in proportion to the total distribution labor hours and costs, Larkin requested that AEP Ohio provide: (1) total labor hours charged to the EE/PDR Rider; (2) total labor hours worked for the year; (3) total labor dollars charged to the EE/PDR Rider; (4) total labor dollars for the year; and (5) the percentage of time that each Ohio Power Company employee charged to the EE/PDR Rider. In its supplemental response to LA-EE PDR-11-1, the Company provided the requested labor related information, which is summarized in the exhibit below:

Exhibit 9-13. Ohio Power Distribution Labor Costs Charged to the EE/PDR Rider in 2014

	Year 2014				
	EE LaborHrs for the Year	Total Employee Labor Hrs for Year	EE LaborDollars for the Year	TotalLaborDollars for the Year	% of EE Hrs ChargedToRider
Employee ID	Ohio Power	Ohio Power	Ohio Power	Ohio Power	Ohio Power
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	38,913.78	44,782.28	$ 1,806,108	$ 2,085,765	86.90%

As shown in Exhibit 9-13, for 2014, Ohio Power employees working on the AEP Ohio EE/PDR programs charged 38,914 labor hours to the EE/PDR programs out of their total labor hours of 44,782, i.e., 86.90% of their 2014 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.806 million (which are embedded in Exhibit 9-12 above) of $2.086 million of their total labor costs. Similar to prior years, as shown under the column heading "% of EE Hrs Charged to Rider", the individual Company employees (identified by Employee ID) charged the majority of their time in 2014 to the EE/PDR programs. As previously noted in Chapter 6, the data shown for labor hours in the exhibit above are from each respective employee's timesheets.

Review of 2014 Employee Expenses

As noted above, the general ledger detail includes the following specific cost centers, which relate to employee expenses charged to the EE/PDR programs:

Cost Center 510 - Busin Exp 100% Deduct Gen

Cost Center 520 - Business Exp Part Deduct Gen

The Company's response to LA-EE PDR-18-3 provided the following breakout of employee expenses charged to the EE/PDR programs in 2014 by (1) general ledger account, and (2) by EE/PDR project ID:

Exhibit 9-14. Summary of 2014 Employee Expenses by General Ledger Account and EE/PDR Project ID

Account		Total
9070001	Supervision - DSM	$ 91,952.97
9080000	Customer Assistance Expenses	$ 125.00
9080009	Cust Assistance Expense - DSM	$ 18,156.10
9110001	Supervision - Residential	$ 23,674.12
9110002	Supervision - Comm & Ind	$ 21,129.72
9210001	Off Supl & Exp - Nonassociated	$ 12,189.79
9301015	Other Corporate Comm Exp	$ 2,618.62
Grand Total		**$ 169,846.32**

Project		Total
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 69,374.42
OHDSM004A	R-Efficient Products	$ 1,968.23
OHDSM004B	R-Home Retrofit	$ 2,459.51
OHDSM004C	R-New Construction	$ 5,096.91
OHDSM004D	R-Appliance Recycling	$ 800.73
OHDSM004E	R-Low Income	$ 4,198.90
OHDSM004H	R-Behavioral	$ 3,631.56
OHDSM004Z	Residential General	$ 3,540.48
OHDSM005A	CII-Prescriptive Incentives	$ 4,604.86
OHDSM005B	CII-Custom	$ 3,702.12
OHDSM005D	CII-New Construction	$ 508.69
OHDSM005E	CII-Custom Direct Install	$ 606.94
OHDSM005G	Retro-Commissioning	$ 141.46
OHDSM005H	CII-Continuous Improvement	$ 1,511.80
OHDSM005J	CII-Energy Efficiency Auction	$ 73.21
OHDSM005K	CII - Data Center	$ 992.04
OHDSM005Z	CII General	$ 11,072.10
OHDSM007A	DSM Education	$ 5,544.42
OHDSM007B	DSM Corp Com	$ 2,630.70
OHDSM008A	DSM Meas,Eval and Verification	$ 11,396.63
OHDSM008Z	Evaluation General	$ 11,651.68
OHDSM009N	Codes and Standards	$ 213.36
OHDSM009X	Government/Community Pilots	$ 1,412.59
OHDSM010Z	R&D General	$ 22,712.98
Grand Total		**$ 169,846.32**

As shown in both tables in the above exhibit, employee expenses totaling $169,846 were charged to EE/PDR programs during 2014.

In order to test the employee expenses that were charged to the EE/PDR programs in 2014, Larkin initially selected ten transactions from the general ledger detail that relate to Cost Centers

510 and 520 for which Larkin requested that the Company provide copies of employee expense reports, invoices and any other documentation which supports the amounts shown for each transaction. The ten transactions Larkin selected totaled $19,981 and was comprised of the following:

CC - 510	$	5,808
CC - 520	$	14,173
Total	$	19,981

The Company provided the requested supporting documentation for the selected transactions in response to LA-EE PDR-20-1. Specifically, for 2014, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2014 general ledger detail; (2) copies of employee expense reports, invoices and receipts; and (3) a narrative summary of all of the expenses reflected on the employee expense reports (including expenses not specifically selected for review, but which were itemized on the same expense reports).

Larkin reviewed the referenced expense detail for each of the ten transactions that were initially selected for review and verified the amounts that were recorded to the general ledger. No exceptions were noted.

Upon reviewing the documentation, Larkin identified the same areas of concerns noted for the prior years with regard to certain employee expenses being charged to the EE/PDR programs, including (1) AEP Ohio employee charging out of state travel costs to the EE/PDR programs; (2) the Company purchasing gift cards and charging the cost to the EE/PDR programs; and (3) AEP Ohio employees charging the cost of annual dues to memberships to the EE/PDR programs.

Similar to prior years, for each of these areas of costs charged to the EE/PDR programs in 2014, Larkin requested that the Company to provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose of the Company purchasing [redacted] gift cards, and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs.

In addition and again similar to prior years, Larkin asked AEP Ohio whether the 2014 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2014, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

As it relates to out of state travel, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to out of state travel costs charged to the EE/PDR programs in 2014, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 9-15. Summary of 2014 Out of State Travel Expense

State	Conference	Airfare	Lodging	Transportation	Meals	Total
Florida	AEIC Load Research and Analytics Workshop	$ 290	$ 168	$ 28	$ 35	$ 521
Georgia	Chartwell Conference	$ 206	$ 392	$ 20	$ 15	$ 633
California	ACEEE American Council for Energy Efficient Economy	$ 903	$ 1,865	$ 49	$ 99	$ 2,916
Illinois	MEEA Midwest Energy Efficiency Alliance Conference		$ 523	$ 264	$ 78	$ 864
Massachusetts	MEEA Midwest Energy Efficiency Alliance Conference	$ 221	$ 528	$ 117	$ 203	$ 1,070
Florida	Walmart YBM	$ 342	$ 600	$ 301	$ 97	$ 1,340
California	EPRI Electric Power Research Institute	$ 789	$ 352	$ 231	$ 31	$ 1,403
California	ACEEE American Council for Energy Efficient Economy	$ 60	$ 999	$ 724	$ 275	$ 2,057
Washington DC	US Dept of Energy Data Accelerator Partners Meeting	$ 640		$ 28	$ 49	$ 717
Maryland	ACEEE American Council for Energy Efficient Economy	$ 347	$ 486	$ 189	$ 65	$ 1,087
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 252	$ 342	$ 78	$ 29	$ 701
California	DNV GL Client Forum	$ 351	$ 999	$ 271		$ 1,622
California	AESP Association of Energy Service Professionals	$ 350	$ 672	$ 82	$ 84	$ 1,188
Arizona	E Source	$ 802	$ 567	$ 160	$ 11	$ 1,540
California	AESP Association of Energy Service Professionals	$ 524	$ 740	$ 79	$ 149	$ 1,491
California	AESP Association of Energy Service Professionals	$ 655	$ 922	$ 96	$ 99	$ 1,771
California	ACEEE American Council for Energy Efficient Economy	$ 905	$ 1,305	$ 612	$ 976	$ 3,798
California	DNV GL Client Forum	$ 483	$ 750			$ 1,234
California	ACEEE American Council for Energy Efficient Economy	$ 1,013	$ 1,401		$ 73	$ 2,487
Florida	PowerUp Conference	$ 626	$ 1,203	$ 122	$ 115	$ 2,066
Indiana	Women's International Network of Utility Professionals	$ 280				$ 280
California	AESP Association of Energy Service Professionals	$ 358	$ 709			$ 1,067
Washington DC	BECC Behavior, Energy and Climate Change	$ 158		$ 65	$ 39	$ 262
Illinois	MEEA Midwest Energy Efficiency Alliance Conference		$ 457	$ 36		$ 493
California	AESP Association of Energy Service Professionals	$ 50	$ 786	$ 48	$ 10	$ 894
California	ACEEE American Council for Energy Efficient Economy	$ 740	$ 1,088	$ 417	$ 102	$ 2,346
Illinois	MEEA Midwest Energy Efficiency Alliance Conference		$ 150			$ 150
California	AESP Association of Energy Service Professionals	$ 729	$ 672	$ 70	$ 7	$ 1,478
Washington DC	ACEEE American Council for Energy Efficient Economy	$ 661	$ 262	$ 37	$ 67	$ 1,027
California	ACEEE American Council for Energy Efficient Economy	$ 739	$ 1,222	$ 56	$ 28	$ 2,045
Colorado	E Source	$ 433	$ 1,005	$ 186	$ 13	$ 1,637
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 533	$ 513	$ 92	$ 149	$ 1,287
Arizona	E Source	$ 383				$ 383
California	ACEEE American Council for Energy Efficient Economy	$ 813	$ 1,238	$ 125	$ 12	$ 2,188
Colorado	E Source	$ 254	$ 959	$ 359	$ 38	$ 1,610
	Total 2014 Out of State Travel Costs	$15,887	$23,875	$ 4,942	$2,949	$47,653

Source: LA-EE PDR-22-1

As shown in the exhibit above, the 2014 out of state travel totaled $15,887 for airfare; (2) $23,875 for lodging; (3) $4,942 for transportation; and (4) $2,949 for meals for an overall total of $47,653. Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2014 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

As it relates to the cost of gift cards included in 2014 EE/PDR program costs, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to the cost of gift cards charged to the EE/PDR programs in 2014, the response to LA-EE PDR-22-1 indicated costs totaling $2,075 were charged to the EE/PDR programs in 2014, and which relate to three separate transactions.

As discussed in Chapter 6, in Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the

EE/PDR programs. Therefore, Larkin recommends that the $2,075 related to gift cards be removed from 2014 EE/PDR program costs.

The Company's basis for including the cost of membership dues in the EE/PDR program costs is discussed in Chapter 6. With regard to annual membership dues charged to the EE/PDR programs in 2014, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 9-16. Summary of Annual Membership Dues Charged to EE/PDR Programs in 2014

Description	Annual Membership Dues
Association of Energy Engineers Membership	$ 140
Project Management Institute Membership Renewal Fee	$ 129
Project Management Professional membership (for continuing education)	$ 60
Toastmasters annual membership -professional development in public speaking and leadership	$ 77
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 140
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 140
Annual dues for membership in the American Institute of Certified Public Accountants (AICPA), which as a CPA provides me with access to professional resources, learning and development toool and programs	$ 265
Annual due for membership in the Association of Certified Fraud Examiners (ACFE) - provides access to professional resources, learning and development tools and programs	$ 150
Toastmasters annual membership -professional development in public speaking and leadership	$ 85
Project Management Professional membership (for continuing education) Aids in staying current with project management skills This aids in running more effective EEPDR programs	$ 154
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 180
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) -- For employees to stay current on HVAC trends and standard changes, receive monthly newsletter, attend chapter meetings, gain insight as to new EE standards	$ 199
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 140
Total 2014 Annual Membership Dues Charged to EE/PDR Programs	$ 1,859

Source: LA-EE PDR-22-1

As shown in the exhibit above, the Company included costs totaling $1,859 in its 2014 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and are related to energy efficiency or to the professional development of the employees working on the EE/PDR programs. However, Attachment 1 to the response to LA-EE PDR-22-1 included membership dues described as "AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education". Attachment 1 reflected this three-year membership for employees that had similar three-year renewals for the same membership in 2012 and 2013. In response to Larkin's informal inquiry, the Company explained that Attachment 1 to the response to LA-EE PDR-22-1 contained incorrect descriptions for those employees and that the amounts reflected in Attachment 1 were actually for annual AEE membership dues as opposed to three-year renewals.

The Company's rationale for including the costs associated with athletic sporting events or entertainment events in its EE/PDR programs were discussed in Chapter 6. However, according to the response to LA-EE PDR-22-1, the 2014 EE/PDR program costs did not include any of these types of costs.

Review of 2014 EE/PDR Related Revenues

As previously discussed, during Larkin's on-site visit to AEP Ohio's offices in Gahanna, Ohio on August 1, 2017, the Company stated that it used revenue screen shots to tie out revenue related to the EE/PDR Rider for each year of the 2011 through 2016 review period. Larkin requested the revenue screen shots for each year of the review period, which the Company provided in response to LA-EE PDR-8-6. Specifically, AEP Ohio provided separate revenue screen shots for CSP and OPCo, which reflected the EE/PDR Rider revenues on a monthly basis. The revenue screenshots for 2014 are summarized in the exhibit below:

Exhibit 9-17. Revenue Screen Shots for CSP and OPCo for 2014

CSP	January 2014	February 2014	March 2014	April 2014	May 2014	June 2014	July 2014	August 2014	September 2014	October 2014	November 2014	December 2014	Total
Residential	$ 2,401,680	$ 2,368,372	$ 2,005,110	$ 1,549,048	$ 1,288,877	$ 1,618,042	$ 1,920,789	$ 2,760,175	$ 2,935,878	$ 2,074,448	$ 2,157,903	$ 3,114,885	$ 26,195,206
Other C&I	$ 2,233,724	$ 2,122,083	$ 2,025,001	$ 1,919,939	$ 1,904,401	$ 2,143,373	$ 2,299,348	$ 2,684,259	$ 2,862,416	$ 2,460,200	$ 2,278,564	$ 2,683,088	$ 27,616,397
GS-4	$ 84,271	$ 74,131	$ 80,750	$ 75,752	$ 82,974	$ 80,449	$ 90,163	$ 181,196	$ 205,359	$ 220,879	$ 159,642	$ 257,916	$ 1,593,483
Total	$ 4 719 675	$ 4 564 586	$ 4 110 861	$ 3 544 740	$ 3 276 252	$ 3 841 863	$ 4 310 300	$ 5 625 630	$ 6 003 653	$ 4 755 527	$ 4 596 108	$ 6 055 889	$ 55 405 086

OPCo	January 2014	February 2014	March 2014	April 2014	May 2014	June 2014	July 2014	August 2014	September 2014	October 2014	November 2014	December 2014	Total
Residential	$ 2,471,645	$ 2,466,708	$ 2,120,856	$ 1,628,935	$ 1,303,708	$ 1,425,190	$ 1,746,520	$ 2,474,340	$ 2,566,656	$ 1,994,609	$ 2,170,524	$ 3,171,642	$ 25,541,334
Other C&I	$ 2,356,698	$ 2,262,959	$ 2,262,790	$ 2,130,933	$ 2,120,130	$ 2,251,095	$ 2,356,403	$ 2,850,331	$ 2,977,796	$ 2,733,353	$ 2,597,602	$ 2,947,321	$ 29,847,410
GS-4	$ 217,080	$ 215,757	$ 174,869	$ 209,039	$ 267,169	$ 219,854	$ 203,691	$ 429,872	$ 539,785	$ 643,898	$ 399,049	$ 574,923	$ 4,094,986
Total	$ 5,045,422	$ 4,945,424	$ 4,558,516	$ 3,968,907	$ 3,691,007	$ 3,896,138	$ 4,306,614	$ 5,754,543	$ 6,084,236	$ 5,371,861	$ 5,167,175	$ 6,693,886	$ 59,483,729

CSP & OPCo	January 2014	February 2014	March 2014	April 2014	May 2014	June 2014	July 2014	August 2014	September 2014	October 2014	November 2014	December 2014	Total
Residential	$ 4,873,325	$ 4,835,080	$ 4,125,966	$ 3,177,983	$ 2,592,585	$ 3,043,232	$ 3,667,309	$ 5,234,515	$ 5,502,534	$ 4,069,058	$ 4,328,427	$ 6,286,527	$ 51,736,539
Other C&I	$ 4,590,422	$ 4,385,043	$ 4,287,791	$ 4,050,872	$ 4,024,531	$ 4,394,468	$ 4,655,751	$ 5,534,590	$ 5,840,212	$ 5,193,553	$ 4,876,165	$ 5,630,409	$ 57,463,807
GS-4	$ 301 351	$ 289 888	$ 255 620	$ 284 791	$ 350 144	$ 300 302	$ 293 854	$ 611 068	$ 745 144	$ 864 777	$ 558 691	$ 832 839	$ 5 688 468
Total	$ 9,765,097	$ 9,510,010	$ 8,669,377	$ 7,513,646	$ 6,967,259	$ 7,738,001	$ 8,616,914	$ 11,380,173	$ 12,087,890	$ 10,127,388	$ 9,763,283	$ 12,749,775	$ 114,888,815

As previously discussed in the context of prior years of the review period, Larkin had requested the Company's 2014 general ledger detail for the accounts in which EE/PDR Rider revenues are recorded.

Larkin had requested the Company's general ledger detail for the accounts in which EE/PDR Rider revenues were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-4. The general ledger detail for EE/PDR Rider revenue recorded in 2014 is summarized in Exhibit 9-18 below:

Exhibit 9-18. General Ledger Detail for EE/PDR Rider Revenue For 2014

Description	Account		2014
Residential Sales - With Space Heating	4400001	$	15,578,617
Residential Sales - Without Space Heating	4400002	$	36,157,968
Commercial Sales	4420001	$	33,183,722
Industrial Sales (Excluding Mines)	4420002	$	22,836,019
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$	205,050
C&I Sales - Affiliated Companies	4420005	$	104,727
Sales to Public Authorities - Schools	4420006	$	2,994,800
Sales to Public Authorities - Excluding Schools	4420007	$	3,748,184
Public Street - Highway Lighting	4440000	$	53,591
Other Sales - Public Authorities - Excluding Schools	4450002	$	1,474
Wholesale / Municipal / Public Authorities	4470027	$	24,661
Total		$	114,888,815

Upon comparing the 2014 revenues recorded in the general ledger to the monthly screenshots in Exhibit 9-17 above, Larkin noted that the total 2014 revenue of $114.88 million is reflected in both sets of data. However, as a further test of the EE/PDR revenues, Larkin requested that AEP

Ohio reconcile the 2014 CSP and OPCo EE/PDR revenues reflected in the screenshots to the related revenue general ledger accounts shown in the exhibit above. In response to LA-EE PDR-14-19, the Company stated that the general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 was provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided the following tables which reconciled the 2014 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded:

Exhibit 9-19. Reconciliation of 2014 Revenue Screenshots to General Ledger

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
10	211	GS-4	94,295.32
10	213	GS-4	447,249.81
10	216	GS-4	36,441.55
10	221	GS-4	1,015,496.11
10	010	Other C and I	41.67
10	020	Other C and I	10.53
10	211	Other C and I	17,228,594.84
10	212	Other C and I	2,470,380.83
10	213	Other C and I	1,152,295.62
10	216	Other C and I	1,700,519.28
10	221	Other C and I	4,884,317.23
10	222	Other C and I	55,876.32
10	240	Other C and I	91,429.43
10	400	Other C and I	32,931.24
10	010	Residential	19,459,479.34
10	020	Residential	6,735,717.60
10	211	Residential	8.98
			55,405,085.70

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	19,459,521
020	4400001	Res Sales - W/ Space Heating	6,735,728
211	4420001	Commercial Sales	17,322,899
212	4420001	Commercial Sales	2,470,381
213	4420006	Sales to Public Authorities - Schools	1,599,545
216	4420007	Sales to Public Authorities - Excl. Schools	1,736,961
221	4420002	Industrial Sales (Excl. Mines)	5,899,813
222	4420002	Industrial Sales (Excl. Mines)	55,876
240	4420005	C&I Sales - Affiliated Companies	91,429
400	4440000	Public Street - Hiway Lighting	32 931
	Total CSP		55,405,086

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
07	221	GS-4	3,968,182.30
07	222	GS-4	68,934.43
07	230	GS-4	57,868.97
07	010	Other C and I	10.78
07	020	Other C and I	0.00
07	211	Other C and I	11,391,134.43
07	212	Other C and I	1,999,299.26
07	213	Other C and I	1,395,254.75
07	216	Other C and I	2,011,223.48
07	221	Other C and I	12,335,190.52
07	222	Other C and I	508,021.89
07	230	Other C and I	147,180.79
07	240	Other C and I	11,750.61
07	245	Other C and I	1,547.26
07	400	Other C and I	20,660.12
07	520	Other C and I	1 474.48
07	720	Other C and I	24 661.38
07	010	Residential	16 698 436.58
07	020	Residential	8 842 888.67
07	211	Residential	10.77
07	212	Residential	-2.51
			59,483,728.96

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	16,698,447
020	4400001	Res Sales - W/ Space Heating	8,842,889
211	4420001	Commercial Sales	11,391,145
212	4420001	Commercial Sales	1,999,297
213	4420006	Sales to Public Authorities - Schools	1,395,255
216	4420007	Sales to Public Authorities - Excl. Schools	2,011,223
221	4420002	Industrial Sales (Excl. Mines)	16,303,373
222	4420002	Industrial Sales (Excl. Mines)	576,956
230	4420004	Industrial Non-Affiliated (Incl. Mines)	205,050
240	4420005	C&I Sales - Affiliated Companies	11,751
245	4420005	C&I Sales - Affiliated Companies	1,547
400	4440000	Public Street - Hiway Lighting	20 660
520	4450002	Other Sales - Public Authorities - Excl Schools	1 474
720	4470027	Wholesale/Muni/Public Authorities	24 661
	Total OP		59,483,729

	CSP	OP	Total
Residential	26,195,206	25,541,334	51,736,539
Other C and I	27,616,397	29,847,410	57,463,807
GS-4	1,593,483	4,094,986	5,688,468
Total	55,405,086	59,483,729	114,888,815

Ties to Revenue Screenshots

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	36,157,968
020	4400001	Res Sales - W/ Space Heating	15,578,617
211	4420001	Commercial Sales	28,714,044
212	4420001	Commercial Sales	4,469,678
213	4420006	Sales to Public Authorities - Schools	2,994,800
216	4420007	Sales to Public Authorities - Excl. Schools	3,748,184
221	4420002	Industrial Sales (Excl. Mines)	22,203,186
222	4420002	Industrial Sales (Excl. Mines)	632,833
230	4420004	Industrial Non-Affiliated (Incl. Mines)	205,050
240	4420005	C&I Sales - Affiliated Companies	103,180
245	4420005	C&I Sales - Affiliated Companies	1,547
400	4440000	Public Street - Hiway Lighting	53,591
520	4450002	Other Sales - Public Authorities - Excl Schools	1,474
720	4470027	Wholesale/Muni/Public Authorities	24,661
	Total OP		114,888,815

Ties to General Ledger

In addition, Larkin verified that the 2014 revenues are embedded in Schedule 1 from the Company's Application dated May 15, 2017 in Case No. 17-1266-EL-RDR in which revenues totaling $588.067 million are reflected under the column heading "Actual 2012-2016 Rider Revenue." The exhibit below summarizes EE/PDR Rider revenues that were recorded in each year 2012 through 2016 which totals the $588.067 million in the Company's filing.

Exhibit 9-20. Actual EE/PDR Revenue Recorded From 2012 Through 2016

Description	Account	2012	2013	2014	2015	2016	Grand Total
Residential Sales - With Space Heating	4400001	$ 11,795,278	$ 12,506,888	**$ 15,578,617**	$ 19,357,867	$ 18,300,920	$ 77,539,570
Residential Sales - Without Space Heating	4400002	$ 30,008,068	$ 29,426,565	**$ 36,157,968**	$ 45,845,375	$ 46,587,700	$ 188,025,677
Commercial Sales	4420001	$ 30,116,815	$ 29,748,949	**$ 33,183,722**	$ 37,787,767	$ 38,138,607	$ 168,975,860
Industrial Sales (Excluding Mines)	4420002	$ 19,956,868	$ 19,637,024	**$ 22,836,019**	$ 28,112,420	$ 27,447,172	$ 117,989,503
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$ 181,629	$ 189,589	**$ 205,050**	$ 231,747	$ 159,802	$ 967,816
C&I Sales - Affiliated Companies	4420005	$ 100,264	$ 73,872	**$ 104,727**	$ 108,934	$ 112,360	$ 500,157
Sales to Public Authorities - Schools	4420006	$ 2,592,428	$ 2,588,907	**$ 2,994,800**	$ 3,456,938	$ 3,519,294	$ 15,152,367
Sales to Public Authorities - Excluding Schools	4420007	$ 2,850,601	$ 3,238,573	**$ 3,748,184**	$ 4,335,800	$ 4,339,573	$ 18,512,730
Public Street - Highway Lighting	4440000	$ 53,785	$ 54,421	**$ 53,591**	$ 55,603	$ 55,698	$ 273,098
Other Sales - Public Authorities - Excluding Schools	4450002	$ 1,117	$ 1,382	**$ 1,474**	$ 2,367	$ 1,686	$ 8,027
Wholesale / Municipal / Public Authorities	4470027	$ 21,121	$ 21,720	**$ 24,661**	$ 27,950	$ 27,212	$ 122,664
Total		$ 97,677,974	$ 97,487,889	**$ 114,888,815**	$ 139,322,767	$ 138,690,023	$ 588,067,468

As shown in bold in the exhibit above, the 2014 EE/PDR Rider revenues of $114.88 million agree with what was recorded in the general ledger as well as the Company's screenshots. No exceptions were noted.

2014 Shared Savings

As discussed in Chapter 4, in its Opinion and Order dated May 13, 2010 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR, the Commission approved a shared savings mechanism for the period 2009-2011. In addition, in its Opinion and Order dated March 21, 2012 in Case Nos. 11-5568-EL-POR and 11-5569-EL-POR, the Commission approved a revised shared savings mechanism for the period 2012-2016. Pursuant to these Commission Orders, the Company has included shared savings in the calculation of its EE/PDR Rider rates in its filings to the Commission.

As part of its review, Larkin was tasked with verifying the shared savings reflected in the Company's regulated accounting records for each year of the 2011 through 2016 review period. Ordinarily, such verification would entail tracing the shared savings amounts to the Company's general ledger, However, as previously discussed in Chapter 4, in its supplemental response to LA-EE PDR-18-4, the Company explained that the shared savings are not separately identified in the general ledger, but rather are a component of the costs included in Supplemental Attachment 1, which is a large Excel file that was provided in that supplemental response. Specifically, the shared savings amounts are not booked to the general ledger separately and instead are included in Supplemental Attachment 1 as ledger detail,[101] the amounts of which can be traced to the reconciliation provided in the confidential response to LA-EE PDR-12-18. Larkin reviewed the electronic version of Supplemental Attachment 1 and noted that it contained the Company's accounting for shared savings for CSP and OPCo on separate tabs in the Excel file and in total on a tab titled "Merged".

[101] See the supplemental response to LA-EE PDR-18-4.

For 2014, from the "Merged" tab, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the exhibit below:

Exhibit 9-21. 2014 Shared Savings for the Residential, Commercial and Industrial Rate Classes

Description	2014
Residential Rate Class	$ 18,665,115
Commercial Rate Class	$ 7,367,530
Industrial Rate Class	$ 5,119,809
Total Shared Savings	$ 31,152,454
Source: LA-EE PDR-18-4 (Supplemental Attachment 1)	

As shown in the exhibit above, the shared savings for the residential, commercial and industrial rate classes totaled $18,665,115, $7,367,530, and $5,119,809, respectively, for a total of $31,152,454 for 2014. Larkin verified this amount to the reconciliation that was provided in the confidential response to LA-EE PDR-12-18. No exceptions were noted.

The amount of 2014 shared savings reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR was also $31,152,454. No exceptions were noted.

A detailed discussion of the shared savings calculations in the Company's filings for each year of the 2011-2016 review period is included in Chapter 15 of this report.

IRP-D Credits - 2014

As discussed in Chapter 4, in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO, the Commission approved the IRP-D credit at $8.21/kW-month and ruled that since the IRP-D credit promotes energy efficiency, it is appropriate for AEP Ohio to recover any costs associated with the IRP-D through the EE/PDR Rider. As shown on Schedule 4 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR, the actual IRP-D credits for 2014 totaled $19,941,934. Larkin requested that AEP Ohio provide documentation that supports this amount, which the Company provided in its confidential response to LA-EE PDR-18-5 and which has been replicated in the exhibit below:

Exhibit 9-22. Actual IRP-D Credit for 2014

Account Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
[redacted]	[redacted]												
Total IRP KW	202,917.0	203,594.0	202,844.0	202,014.0	202,884.0	201,600 0	201,031.0	201,158.0	201,542.0	202,834.0	202,232.0	204,331.0	2,428,981.00
PUCO Ordered Credit	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8 21	$ 8 21	$ 8.21	$ 8 21	$ 8 21	$ 8.21	$ 8.21	$ 8.21	
Monthly Charge to EE/PDR rider	$ 1,665,949	$ 1,671,507	$ 1,665,349	$ 1,658,535	$ 1,665,678	$ 1,655,136	$ 1,650,465	$ 1,651,507	$ 1,654,660	$ 1,665,267	$ 1,660,325	$ 1,677,558	$ 19,941,934
Cumulative 2014 Charge	$ 1,665,949	$ 3,337,455	$ 5,002,805	$ 6,661,339	$ 8,327,017	$ 9,982,153	$ 11,632,618	$ 13,284,125	$ 14,938,785	$ 16,604,052	$ 18,264,377	$ 19,941,934	$ 19,941,934

As shown in the exhibit, the 2014 IRP-D credit was calculated using the $8.21/kW-month rate that was authorized by the Commission in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO.

10 2015 COSTS AND REVENUES

Review of 2015 EE/PDR Program Costs

As previously discussed, Larkin requested that the Company identify the amount of total expenditures recorded (by program) in each year 2011 through 2016, which was provided in response to LA-EE PDR-2-1. The 2015 EE/PDR program costs are summarized in Exhibit 10-1 below:

Exhibit 10-1. Summary of 2015 EE/PDR Program Costs

Description	2015 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 10,344,878
Appliance Recycling	$ 2,166,604
Home Retrofit + In-Home	$ 4,663,660
Low Income	$ 6,651,548
Residential New Construction	$ 1,757,700
Behavior Change	$ 707,748
e3smart	$ 953,003
BUSINESS	
Prescriptive	$ 15,885,602
Custom	$ 4,587,041
Self Direct	$ 949,885
C&I New Construction	$ 3,873,849
C&I Demand Response	
Express	$ 3,122,617
Retro-Commissioning	$ 1,037,047
Continuous Improvement	$ 2,664,144
Energy Efficiency Auction	$ 385,819
Data Center	$ 1,663,575
MULTI-SECTOR	
Energy Education and Training	$ 330,376
Targeted Advertising	$ 2,279,806
Research and Development	$ 1,122,647
Total Program Costs	$ **65,147,549**

Source: LA-EE PDR-2-1

As shown in the exhibit, AEP Ohio recorded EE/PDR programs costs totaling $65.1 million in 2015. Other than minor rounding, this is the amount of 2015 program costs reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.

As previously noted, the costs reported in AEP Ohio's EE/PDR Rider are sourced from the Company's general ledger. The Company separated its 2015 EE/PDR costs in to the following eight cost components:

Exhibit 10-2. 2015 AEP Ohio EE/PDR Program Costs in the General Ledger

EE/PDR Program Per G/L	2015
EE/PDR Department	$ 4,051,589
Education	$ 127,037
Evaluation	$ 2,363,387
Implementation	$15,012,223
Incentives	$40,033,878
Marketing	$ 1,207,941
Media	$ 2,276,492
R&D General	$ 75,000
Grand Total	$65,147,549

The total amount of EE/PDR 2015 costs in the general ledger of $65.1 million agreed to the total amount reflected in the EE/PDR Rider as well as the annual Portfolio Status Report for EE/PDR program costs.

Larkin requested the Company's general ledger detail for the accounts in which EE/PDR program costs were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-5. The general ledger detail for EE/PDR program costs recorded in 2015 is summarized in Exhibit 10-3 below:

Exhibit 10-3. General Ledger Detail for EE/PDR Program Costs For 2015

Description	Account	2015
Undistributed Labor Fringe Benefits Clearing	1840040	$ 684,936
Undistributed Incentive Fringe Benefits Clearing	1840041	$ 31,916
Corporate Charge Card Clearing	**1840063**	**$ 97**
Supervision of Demand Side Management (DSM) Activities	9070001	$ 4,058,844
Customer Assistance Expense - DSM	9080009	$ 56,492,572
Misc Cust Svc&Informational Ex	**9100000**	**$ 139**
Supervision - Residential Sales Activities	9110001	$ 504,821
Supervision - Commercial & Industrial Sales Activities	9110002	$ 1,085,331
Off Supl & Exp - Nonassociated	**9210001**	**$ 6,821**
Outside Svcs Empl - Nonassoc	9230001	$ 429
Other Corporate Communication Expenses	9301015	$ 2,278,410
Maint of Office Furniture & Eq	**9350015**	**$ 3,229**
Total		$ 65,147,546
Source: LA-EE PDR-1-5		

As shown in the exhibit above, the total 2015 EE/PDR costs recorded in the general ledger agree with the total amount of 2015 program costs reflected in Exhibit 10-1 and in the Company's

EE/PDR filing dated May 15, 2017 in Case No. 12-1266-EL-RDR. However, similar to previous years, Larkin noted that there were costs recorded in accounts not specified in the response to LA-EE PDR-1-3. The accounts in the exhibit above that are in bold print were not included in the list of accounts in which EE/PDR program costs are recorded per the response to LA-EE PDR-1-3. As previously discussed, during a conference call between Larkin and AEP Ohio on February 16, 2018 in which this issue was discussed, the Company stated that when it was preparing its initial response to LA-EE PDR-1-3, certain accounts were inadvertently omitted from the query performed in the general ledger detail. As a result, the Company supplemented its response and attachment to LA-EE PDR-1-3 in which all of the accounts highlighted in bold in the exhibit above were included in the list of accounts in which EE/PDR costs were recorded during the 2011-2016 review period.

Review of 2015 Incentive Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to incentive payments to customers. For 2015, incentive costs charged to the EE/PDR programs totaled $40,033,877. The response to LA-EE PDR-1-8 provided the following breakout of 2015 incentive costs between EE/PDR programs:

Exhibit 10-4. 2015 Incentive Payment Costs by Program

Description	2015
Consumer	
Efficient Products	$ 7,126,942
Appliance Recycling	$ 1,264,440
Home Retrofit + In-Home	$ 2,502,328
Low Income	$ 5,056,724
Residential New Construction	$ 662,188
Behavior Change	
e3smart	$ 611,588
Business	
Prescriptive	$ 11,758,577
Custom	$ 2,176,559
Self Direct	$ 500,829
C&I New Construction	$ 2,302,725
C&I Demand Response	
Express	$ 2,772,708
Retro-Commissioning	$ 431,001
Continuous Improvement	$ 1,091,106
Energy Efficiency Auction	$ 875,615
Data Center	$ 866,480
Multi-Sector	
Energy Education and Training	
Targeted Advertising	$ 3,167
Research and Development	$ 30,900
Total Incentive Costs	$ 40,033,877
Source: LA-EE PDR-1-8	

As shown in the exhibit, the 2015 incentive costs were spread among various but not all of the EE/PDR programs. In addition, as shown under the Multi-Sector costs, the Company included the amount of $3,167 as a Targeted Advertising cost. Larkin inquired as to whom this payment was made and why it was considered to be an incentive payment versus a marketing or administrative cost. In response to LA-EE PDR-2-5, the Company stated:

> A payment of $3,167.45 was made to [redacted] for energy efficient light bulbs. These light bulbs were given to AEP Ohio customers who were participating in a market research study for AEP Ohio. This cost was considered an incentive because our customers were receiving something of value for assisting us in managing our EE/PDR programs effectively.

As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the incentive costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 10-5. General Ledger Detail for EE/PDR Incentive Costs For 2015

Description	Account	2015
Customer Assistance Expense - DSM	9080009	$ 40,033,877
Total Incentive Costs		$ 40,033,877
Source: LA-EE PDR-1-5		

As shown in the exhibit, the total incentive costs recorded in the general ledger 2015 was confined to the one account shown and which agreed with the incentive costs by program. No exceptions were noted.

Review of 2015 Evaluation, Measurement & Verification Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to EM&V. As discussed in Chapter 3, in accordance with Ohio Administrative Code ("OAC") 4901:1-39-05 (C)(2)(b), the Company conducts EM&V on its EE/PDR programs whereby AEP Ohio's EM&V report must document energy savings and peak-demand reduction values and the cost-effectiveness of each energy efficiency and demand side management program reported in its portfolio status reports. The Company's EM&V results are discussed in further detail in Chapters 14 and 15 of this report.

In terms of the EM&V costs included in the 2015 EE/PDR program costs, as previously noted in Chapter 4, according to the response to LA-EE PDR-2 -2, the EM&V included in 2015 EE/PDR program costs totaled $2,688,225. The exhibit below provides a breakout of the 2015 EM&V costs by Project ID:

Exhibit 10-6. 2015 EM&V Costs by Project ID

Description		2015
OHDSM008A	DSM Meas,Eval and Verification	$ 2,593,473
OHDSM008C	Evaluation - PUCO	$ 4,051
OHDSM008Z	Evaluation General	$ 50,610
OHDSM009W	Commercial Upstream Lighting	$ 10,278
OHDSM09AA	DSM-Cogged V-Belt Pilot	$ 24,973
OHDSM09AB	Advanced Lighting Controls	$ 4,840
Total EM&V Costs		$ 2,688,225

Larkin verified the 2015 EM&V costs in the exhibit above to the general ledger and to the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

Similar to prior years, the majority of the EM&V costs in 2015 (i.e., $2,593,473) were incurred pursuant to EM&V procedures conducted by [redacted] As discussed below, as part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected four [redacted] invoices as part of its sample for 2015. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with

AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted] to the general ledger. No exceptions were noted.

Review of 2015 Administrative Costs

As previously discussed in Chapter 4, the 2015 EE/PDR program costs included administrative costs totaling $3,729,918. In response to LA-EE PDR-3-8 (Attachment 2) and as shown in the exhibit below, the Company provided a breakout of administrative costs between (1) costs that were directly charged to the EE/PDR programs, and (2) overhead administrative costs that were allocated to the EE/PDR programs in 2015.

Exhibit 10-7. Breakout of 2015 Administrative Costs Between Direct Charged and Allocated to EE/PDR Programs

Description	2015 Administrative Costs
Direct Charged Administrative Costs	$ 1,257,632
Allocated Overhead Administrative Costs	$ 2,472,286
Total Administrative Costs	$ 3,729,918
Source: LA-EE PDR-3-8 (Attachment 2)	

As shown in the exhibit above, administrative costs totaling $1,257,632 were directly charged to the EE/PDR programs in 2015 while $2,472,286 was overhead allocated to the EE/PDR programs. In addition, the response to LA-EE PDR-3-8 provided the following breakout of 2015 administrative costs between EE/PDR programs:

Exhibit 10-8. 2015 Administrative Costs by EE/PDR Program

EE/PDR Program		2015
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 1,496,126
OHDSM004A	R-Efficient Products	$ 46,846
OHDSM004B	R-Home Retrofit	$ 68,687
OHDSM004C	R-New Construction	$ 53,194
OHDSM004D	R-Appliance Recycling	$ 43,532
OHDSM004E	R-Low Income	$ 90,220
OHDSM004G	R-Energy Conservation Kit	$ 3,611
OHDSM004H	R-Behavioral	$ 35,930
OHDSM004Z	Residential General	$ 311,877
OHDSM005A	CII-Prescriptive Incentives	$ 83,490
OHDSM005B	CII-Custom	$ 161,223
OHDSM005C	CII-Self Direct	$ 33,585
OHDSM005D	CII-New Construction	$ 61,792
OHDSM005E	CII-Custom Direct Install	$ 50,880
OHDSM005G	Retro-Commissioning	$ 52,042
OHDSM005H	CII-Continuous Improvement	$ 49,047
OHDSM005J	CII-Energy Efficiency Auction	$ 519
OHDSM005K	CII - Data Center	$ 45,522
OHDSM005Y	C&I Outreach	$ 103,217
OHDSM005Z	CII General	$ 354,390
OHDSM007A	DSM Education	$ 203,339
OHDSM007B	DSM Corp Com	$ 3,313
OHDSM009B	Hospital Energy Audit Pilot	$ 10,227
OHDSM009F	C&I Energy Audits	$ 10,327
OHDSM009M	Business Behavior Change	$ 359
OHDSM009N	Codes and Standards	$ 706
OHDSM009S	EE Financing Fund	$ 10,028
OHDSM009U	Agricultural (Commercial)	$ 2
OHDSM009X	Government/Community Pilots	$ 29,730
OHDSM009Z	Intelligent Prospecting Pilot	$ 473
OHDSM010Z	R&D General	$ 309,893
OHDSM09AA	DSM-Cogged V-Belt Pilot	$ 5,791
Grand Total		$ 3,729,918

Source: LA-EE PDR-3-8 (Attachment 1)

As shown in the exhibit, the 2015 administrative costs were spread among the various EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 10-9. General Ledger Detail for EE/PDR Administrative Costs For 2015

Description	Account	2015
Undist Labor Fringe Benfit Clr	1840040	$ 618,325
Undist Incentive Frg Ben Clr	1840041	$ 28,922
Corporate Charge Card Clearing	1840063	$ 8
Supervision - DSM	9070001	$ 1,445,853
Cust Assistance Expense - DSM	9080009	$ 135,685
Supervision - Residential	9110001	$ 497,949
Supervision - Comm & Ind	9110002	$ 990,480
Off Supl & Exp - Nonassociated	9210001	$ 6,630
Outside Svcs Empl - Nonassoc	9230001	$ 429
Other Corporate Comm Exp	9301015	$ 2,884
Maint of Office Furniture & Eq	9350015	$ 2,753
Grand Total		$ 3,729,918
Source: LA-EE PDR-3-8		

As shown in the exhibit, the total administrative costs recorded in the general ledger agree with the administrative costs by program. No exceptions were noted.

Review of 2015 Vendor Invoices

The file provided by AEP Ohio entitled "2015 Match to GL (Modified)" contained EE/PDR vendor invoices totaling to $53,363,028. In data request LA-EE PDR-6-5, all invoices above $273,429.86 were selected for review.[102] Those invoices totaled to $21,377,756.

In data request LA-EE PDR-7-5 AEP Ohio was asked to provide a listing of invoices that were randomly selected from the "2015 Match to GL (Modified)" listing that had amounts ranging from $10,000 $100,000 and from $100,000 to $271,675.00.

The invoices requested in LA-EE PDR-6-5 and LA-EE PDR-7-5 resulted in the following sample, summarized by selection method:

[102] As noted above, the $273,429.86 was an invoice from vendor [redacted] which was the next highest EE/PDR vendor invoice for 2015 and was selected because it was for a vendor that had not already been selected as part of the "big dollar" selection of invoices above $300,000.

Exhibit 10-10. 2015 Summary of Stratification and Sample Selection

2015 EE/PDR Vendor Invoices
Summary of Stratification and Sample Selection

Group	Criteria for Group	Population	No of Invoices Selected for Review	Basis	Total Dollar Value	Dollar Value of Selected	Selected as a Percent of Total Dollar Amount in Group
Batch 1	Over $273,429	32	32	Select all (100% judgmental)	$ 21,377,756	$ 21,377,756	100%
Batch 2	$100,000 to $273,429	89	33	Random Sample	$ 14,512,412	$ 5,246,389	36%
Batch 3	$10,000 to $100,000	398	37	Random Sample	$ 15,778,963	$ 1,427,059	9%
Batch 4	($10,000) to $10,000	717		None (judgmental)	$ 1,693,897		0%
Batch 5	($10,000) or Less	0		Select all (100% judgmental)			
Totals		1236	102		$ 53,363,028	$ 28,051,204	53%

The invoices requested in LA-EE PDR-6-5 and LA-EE PDR-7-5 totaled $28.051 million out of a net amount of $53.363 million for 2015 that was listed in the Company-provided "2015 Match to GL (Modified)" Excel file. The total dollar amounts of the invoices selected for sampling was approximately 53 percent of the total EE/PDR vendor invoice amounts for the year in the Company-provided "2015 Match to GL (Modified)" Excel file.

Larkin reviewed the 2015 vendor invoices that the Company provided in response to the data requests listed above. During our review process, we noted that many of the amounts listed on the invoices did not match to the amounts listed in the referenced responses. We set up a conference call on September 8, 2017 with the Company personnel who were responsible for keeping track of the vendor invoices to discuss these discrepancies. The Company explained that the reason the amounts did not match directly to the invoices was due to some of the amounts being allocated over multiple projects.

One such invoice discussed during the September 8, 2017 conference call was invoice number 09864 from the vendor [redacted] dated September 18, 2015. Using the Company's explanation as a guide, we verified the total invoice amount to the corresponding general ledger detail. The exhibit below shows the general ledger entries for this invoice:

Exhibit 10-11. Summary of Invoice Number 09864

Years	Project		PO ID	AP Invoice ID	Vendor Name #	Act $
2015	OHDSM007B	DSM Corp Com	02757369	09864	[redacted]	$ 14,305.00
2015	OHDSM007B	DSM Corp Com	02757369	09864		$ 20,338.10
						$ 34,643.10

The total amount in the general ledger of $34,643.10 agreed to the amount shown on the invoice. We verified the other invoices we had concerns with in a similar manner and those invoices agreed to the general ledger as well. No exceptions were noted.

Review of 2015 Labor Costs Charged to the EE/PDR Programs

As previously noted, the Company's the labor costs charged to the EE/PDR programs for the period 2012 through 2016 were incurred by Ohio Power employees as it was subsequent to the merger between CSP and OPCo.

Larkin requested that for each year in the 2011-2016 review period, that AEP Ohio identify the amounts of Company and affiliate labor costs charged to each EE/PDR program. In response to LA-EE PDR-3-3, for 2015, the Company identified the amounts shown in the exhibit below:

Exhibit 10-12. Labor Costs Charged to EE/PDR Programs in 2015

Description	Account	2015 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 684,936
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 31,916
Supervision DSM	9070001	$ 1,288,508
Customer Assistance Expense - DSM	9080009	$ 19,663
Cust Serv & Info - Supv - Residential	9110001	$ 454,599
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 796,827
Total Labor Costs Charged to EE/PDR Programs		$ 3,276,450

As shown in the exhibit above, the Company and Affiliate labor costs totaling $3.276 million were charged to the EE/PDR programs during 2015. For 2015, as noted above, these costs include (1) AEP Ohio employee labor costs; (2) employee associated labor fringes; and (3) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. Larkin traced the amounts above to the general ledger detail provided in response to LA-EE PDR-1-5.

Upon tracing the labor costs to the general ledger, Larkin noted such costs included the amount of $231,688 in Cost Center 210 - Contract Labor (General). Larkin inquired as to why the Company included outside contract labor as part of its 2015 EE/PDR related labor costs. In response to LA-EE PDR-16-4, the Company stated that the amount for outside contract labor was included in EE/PDR labor costs because it reflected charges related to three contract employees who work directly for managers in the EE/PDR department. Specifically, two contract employees worked for the Compliance team and reported directly to Linda Ecker while Glenn Gaffney worked as a member of the Finance team and reported directly to Jon Williams.

As noted above, the labor costs charged to the EE/PDR programs in 2015 were incurred by Ohio Power employees. In order to obtain an understanding of the level of the Company's distribution labor hours and costs that were charged to the EE/PDR program costs for 2015 in proportion to the total distribution labor hours and costs, Larkin requested that AEP Ohio provide: (1) total labor hours charged to the EE/PDR Rider; (2) total labor hours worked for the year; (3) total labor dollars charged to the EE/PDR Rider; (4) total labor dollars for the year; and (5) the percentage of time that each Ohio Power Company employee charged to the EE/PDR Rider. In its supplemental response to LA-EE PDR-11-1, the Company provided the requested labor related information, which is summarized in the exhibit below:

Exhibit 10-13. Ohio Power Distribution Labor Costs Charged to the EE/PDR Rider in 2015

	Year 2015				
	EE Labor Hrs for the Year	Total Employee Labor Hrs for Year	EE Labor Dollars for the Year	Total Labor Dollars for the Year	% of EE Hrs Charged To Rider
Employee ID	Ohio Power	Ohio Power	Ohio Power	Ohio Power	Ohio Power
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	35,027.91	40,460.91	$ 1,732,226	$ 2,004,497	86.57%

As shown in Exhibit 10-13, for 2015, Ohio Power employees working on the AEP Ohio EE/PDR programs charged 35,028 labor hours to the EE/PDR programs out of their total labor hours of 40,461, i.e., 86.57% of their 2015 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.732 million (which are embedded in Exhibit 10-12 above) of $2.004 million of their total labor costs. Similar to prior years, as shown under the column heading "% of EE Hrs Charged to Rider", the individual Company employees (identified by Employee ID) charged the majority of their time in 2015 to the EE/PDR programs. As previously noted in Chapter 6, the data shown for labor hours in the exhibit above are from each respective employee's timesheets.

Review of 2015 Employee Expenses

As noted above, the general ledger detail includes the following specific cost centers, which relate to employee expenses charged to the EE/PDR programs:

Cost Center 510 - Busin Exp 100% Deduct Gen

Cost Center 520 - Business Exp Part Deduct Gen

The Company's response to LA-EE PDR-18-3 provided the following breakout of employee expenses charged to the EE/PDR programs in 2015 by (1) general ledger account, and (2) by EE/PDR project ID:

Exhibit 10-14. Summary of 2015 Employee Expenses by General Ledger Account and EE/PDR Project ID

Account		Total
1840063	Corporate Charge Card Clearing	$ 97.03
9070001	Supervision - DSM	$ 91,749.53
9080009	Cust Assistance Expense - DSM	$ 41,405.35
9100000	Misc Cust Svc&Informational Ex	$ 138.88
9110001	Supervision - Residential	$ 36,362.55
9110002	Supervision - Comm & Ind	$ 26,479.25
9210001	Off Supl & Exp - Nonassociated	$ 6,198.52
9301015	Other Corporate Comm Exp	$ 43,095.14
Grand Total		**$ 245,526.25**

Project		Total
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 53,990.57
OHDSM004A	R-Efficient Products	$ 3,709.15
OHDSM004B	R-Home Retrofit	$ 4,322.98
OHDSM004C	R-New Construction	$ 6,311.61
OHDSM004D	R-Appliance Recycling	$ 397.99
OHDSM004E	R-Low Income	$ 4,605.90
OHDSM004G	R-Energy Conservation Kit	$ 101.17
OHDSM004H	R-Behavioral	$ 2,283.53
OHDSM004Z	Residential General	$ 3,557.19
OHDSM005A	CII-Prescriptive Incentives	$ 12,810.90
OHDSM005B	CII-Custom	$ 5,045.96
OHDSM005E	CII-Custom Direct Install	$ 56.72
OHDSM005G	Retro-Commissioning	$ 158.02
OHDSM005H	CII-Continuous Improvement	$ 331.52
OHDSM005K	CII - Data Center	$ 68.70
OHDSM005Z	CII General	$ 26,895.68
OHDSM007A	DSM Education	$ 27,772.98
OHDSM007B	DSM Corp Com	$ 43,323.83
OHDSM008A	DSM Meas,Eval and Verification	$ 11,343.71
OHDSM008Z	Evaluation General	$ 21,495.23
OHDSM009M	Business Behavior Change	$ 72.91
OHDSM009N	Codes and Standards	$ 41.84
OHDSM009S	EE Financing Fund	$ 99.49
OHDSM009X	Government/Community Pilots	$ 3,836.59
OHDSM010Z	R&D General	$ 12,892.08
Grand Total		**$ 245,526.25**

As shown in both tables in the above exhibit, employee expenses totaling $245,526 were charged to EE/PDR programs during 2015.

In order to test the employee expenses that were charged to the EE/PDR programs in 2015, Larkin initially selected ten transactions from the general ledger detail that relate to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense report, invoices and any other documentation which supports the amounts shown for each transaction. The ten transactions Larkin selected totaled $50,897 and was comprised of the following:

CC - 510	$	48,837
CC - 520	$	2,059
Total	$	50,897

The Company provided the requested supporting documentation for the selected transactions in response to LA-EE PDR-20-1. Specifically, for 2015, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2015 general ledger detail; (2) copies of employee expense reports, invoices and receipts; and (3) a narrative summary of all of the expenses reflected on the employee expense reports (including expenses not specifically selected for review, but which were itemized on the same expense reports).

Larkin reviewed the referenced expense detail for each of the ten transactions that were initially selected for review and verified the amounts that were recorded to the general ledger. No exceptions were noted.

Upon reviewing the documentation, Larkin identified the same areas of concerns noted for the prior years with regard to certain employee expenses being charged to the EE/PDR programs, including (1) AEP Ohio employee charging out of state travel costs to the EE/PDR programs; (2) the Company purchasing gift cards and charging the cost to the EE/PDR programs; and (3) AEP Ohio employees charging the cost of annual dues to memberships to the EE/PDR programs.

Similar to prior years, for each of these areas of costs charged to the EE/PDR programs in 2015, Larkin requested that the Company to provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose of the Company purchasing [redacted] gift cards, and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs.

In addition and again similar to prior years, Larkin asked AEP Ohio whether the 2015 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2015, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

As it relates to out of state travel, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to out of state travel costs charged to the EE/PDR programs in 2015, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 10-15. Summary of 2015 Out of State Travel Expense

State	Conference	Airfare	Lodging	Transportation	Meals	Total
California	IEPEC International Energy Program Evaluation Conference	$ 430	$ 1,077	$ 143	$ 186	$ 1,836
Oregon	DOE Department of Energy SS Lighting Workshop	$ 486	$ 317	$ 303	$ 339	$ 1,445
New York	AESP Association of Energy Service Professionals		$ 807	$ 871	$ 52	$ 1,730
Florida	OPOWER Annual Conference	$ 318	$ 1,098	$ 96	$ 77	$ 1,590
Oregon	Energy Star Products Partners Meeting	$ 688	$ 1,186	$ 214	$ 175	$ 2,264
Texas	CLEAResult Energy Forum		$ 481	$ 166	$ 3	$ 649
Massachusetts	ACEEE American Council for Energy Efficient Economy	$ 429		$ 96	$ 45	$ 570
Ontario,CN	AESP Association of Energy Service Professionals	$ 296	$ 646			$ 942
Washington DC	US Dept of Energy Data Accelerator Partners Meeting	$ 182	$ 276	$ 112	$ 60	$ 629
Florida	AESP Association of Energy Service Professionals	$ 231	$ 896	$ 64	$ 31	$ 1,221
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 159	$ 300	$ 125	$ 22	$ 606
Colorado	E Source	$ 228	$ 846	$ 73	$ 39	$ 1,186
Florida	AESP Association of Energy Service Professionals	$ 748	$ 896	$ 32		$ 1,676
Colorado	E Source	$ 584	$ 560	$ 24	$ 7	$ 1,175
Arkansas	ACEEE American Council for Energy Efficient Economy	$ 673	$ 181	$ 66	$ 53	$ 973
Colorado	E Source	$ 621	$ 788	$ 147	$ 52	$ 1,609
Florida	AESP Association of Energy Service Professionals	$ 252	$ 672	$ 55		$ 979
Oregon	AESP Association of Energy Service Professionals	$ 623	$ 566	$ 108	$ 18	$ 1,316
Colorado	E Source	$ 556	$ 1,005	$ 104	$ 26	$ 1,692
Texas	CLEAResult Energy Forum	$ 347	$ 481	$ 110	$ 30	$ 968
Illinois	DNV GL Client Forum	$ -	$ 870	$ 127	$ 16	$ 1,013
Louisiana	ACI Affordable Comfort Inc. National Home Performance	$ 396	$ 1,797	$ 458	$ 206	$ 2,857
Oregon	Energy Star New Homes	$ 733	$ 1,472	$ 510	$ 137	$ 2,852
Florida	AESP Association of Energy Service Professionals	$ 248	$ 896		$ 163	$ 1,307
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 252				$ 252
Florida	AESP Association of Energy Service Professionals	$ 398	$ 672	$ 148	$ 202	$ 1,420
New York	ACEEE American Council for Energy Efficient Economy	$ 404	$ 316	$ 101	$ 118	$ 939
Colorado	E Source	$ 532	$ 1,005	$ 81	$ 58	$ 1,676
Massachusetts	ACEEE American Council for Energy Efficient Economy	$ 208	$ 478	$ 36	$ 83	$ 805
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 308	$ 324	$ 118	$ 41	$ 791
Florida	AESP Association of Energy Service Professionals	$ 231	$ 896	$ 110	$ 91	$ 1,328
Arizona	E Source	$ 538	$ 469	$ 97	$ 42	$ 1,146
New York	ACEEE American Council for Energy Efficient Economy		$ 341	$ 56	$ 120	$ 518
Colorado	E Source	$ 444				$ 444
Massachusetts	ACEEE American Council for Energy Efficient Economy	$ 358				$ 358
	Total 2015 Out of State Travel Costs	$12,903	$22,614	$ 4,752	$2,492	$42,762

Source: LA-EE PDR-22-1

As shown in the exhibit above, the 2015 out of state travel totaled $12,903 for airfare; (2) $22,614 for lodging; (3) $4,752 for transportation; and (4) $2,492 for meals for an overall total of $42,762. Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2015 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

As it relates to the cost of gift cards included in 2015 EE/PDR program costs, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to the cost of gift cards charged to the EE/PDR programs in 2015, the response to LA-EE PDR-22-1 indicated costs totaling $2,275 were charged to the EE/PDR programs in 2015, and which relate to two separate transactions.

As discussed in Chapter 6, in Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs. Therefore, Larkin recommends that the $2,275 related to gift cards be removed from 2015 EE/PDR program costs.

The Company's basis for including the cost of membership dues in the EE/PDR program costs is discussed in Chapter 6. With regard to annual membership dues charged to the EE/PDR programs in 2015, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 10-16. Summary of Annual Membership Dues Charged to EE/PDR Programs in 2015

Description	Annual Membership Dues	
Certified Energy Manager Certificate renewal and AEE Membership	$	300
Project Management Professional membership (for continuing education)	$	154
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$	160
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$	140
Annual dues for membership in the American Institute of Certified Public Accountants (AICPA), which as a CPA provides me with access to professional resources, learning and development tools and programs	$	245
Annual dues for membership in the Ohio Society of CPAs (OSCPA), which as a CPA provides me with access to professional resources, learning and development tools and programs	$	299
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$	140
AEE Certified Energy Procurement Professional (CEP) Three-Year Renewal Fee necessary expense to maintain certification	$	200
AEE Certified Energy Manager (CEM) Three-Year Renewal Fee - necessary expense to maintain certification	$	300
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) -- For employees to stay current on HVAC trends and standard changes, receive monthly newsletter, attend chapter meetings, gain insight as to new EE standards	$	202
Total 2015 Annual Membership Dues Charged to EE/PDR Programs	$	2,140
Source: LA-EE PDR-22-1		

As shown in the exhibit above, the Company included costs totaling $2,140 in its 2015 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and are related to energy efficiency or to the professional development of the employees working on the EE/PDR programs. However, Attachment 1 to the response to LA-EE PDR-22-1 included membership dues described as "AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education". Attachment 1 reflected this three-year membership for employees that had similar three-year renewals for the same membership in 2012 through 2014. In response to Larkin's informal inquiry, the Company explained that Attachment 1 to the response to LA-EE PDR-22-1 contained incorrect descriptions for those employees and that the amounts reflected in Attachment 1 were actually for annual AEE membership dues as opposed to three-year renewals.

The Company's rationale for including the costs associated with athletic sporting events or entertainment events in its EE/PDR programs were discussed in Chapter 6. However, according to the response to LA-EE PDR-22-1, the 2015 EE/PDR program costs did not include any of these types of costs.

Review of 2015 EE/PDR Related Revenues

As previously discussed, during Larkin's on-site visit to AEP Ohio's offices in Gahanna, Ohio on August 1, 2017, the Company stated that it used revenue screen shots to tie out revenue related to the EE/PDR Rider for each year of the 2011 through 2016 review period. Larkin requested the revenue screen shots for each year of the review period, which the Company provided in response to LA-EE PDR-8-6. Specifically, AEP Ohio provided separate revenue screen shots for CSP and OPCo, which reflected the EE/PDR Rider revenues on a monthly basis. The revenue screenshots for 2015 are summarized in the exhibit below:

Exhibit 10-17. Revenue Screen Shots for CSP and OPCo for 2015

CSP	January 2015	February 2015	March 2015	April 2015	May 2015	June 2015	July 2015	August 2015	September 2015	October 2015	November 2015	December 2015	Total
Residential	$ 3,599,652	$ 3,400,784	$ 3,300,422	$ 2,320,050	$ 2,120,494	$ 2,575,938	$ 2,923,488	$ 3,026,227	$ 2,988,149	$ 2,253,070	$ 1,953,705	$ 2,591,339	$ 33,053,317
Other C&I	$ 2,753,465	$ 2,594,998	$ 2,602,424	$ 2,391,736	$ 2,427,314	$ 2,725,480	$ 2,775,379	$ 2,784,805	$ 2,785,261	$ 2,583,386	$ 2,269,792	$ 2,526,869	$ 31,220,911
GS-4	$ 154,868	$ 225,547	$ 181,548	$ 158,835	$ 193,978	$ 207,772	$ 243,282	$ 210,092	$ 239,970	$ 203,602	$ 204,343	$ 138,197	$ 2,362,034
Total	$ 6 507 985	$ 6 221 329	$ 6 084 395	$ 4 870 621	$ 4 741 786	$ 5 509 190	$ 5 942 149	$ 6 021 124	$ 6 013 380	$ 5 040 058	$ 4 427 840	$ 5 256 405	$ 66 636 262
OPCo	**January 2015**	**February 2015**	**March 2015**	**April 2015**	**May 2015**	**June 2015**	**July 2015**	**August 2015**	**September 2015**	**October 2015**	**November 2015**	**December 2015**	**Total**
Residential	$ 3,722,665	$ 3,494,794	$ 3,385,078	$ 2,445,800	$ 1,993,190	$ 2,414,604	$ 2,597,004	$ 2,807,156	$ 2,610,103	$ 2,011,656	$ 1,971,211	$ 2,696,710	$ 32,149,971
Other C&I	$ 3,031,938	$ 2,845,797	$ 2,891,515	$ 2,667,285	$ 2,573,270	$ 2,855,541	$ 2,943,889	$ 2,960,429	$ 2,959,544	$ 2,769,990	$ 2,546,000	$ 2,794,392	$ 33,839,590
GS-4	$ 666,075	$ 517,464	$ 539,374	$ 550,747	$ 501,155	$ 677,991	$ 555,154	$ 545,303	$ 537,685	$ 579,566	$ 436,563	$ 589,869	$ 6,696,945
Total	$ 7,420,677	$ 6,858,054	$ 6,815,967	$ 5,663,831	$ 5,067,615	$ 5,948,136	$ 6,096,046	$ 6,312,889	$ 6,107,333	$ 5,361,212	$ 4,953,773	$ 6,080,971	$ 72,686,505
CSP & OPCo	**January 2015**	**February 2015**	**March 2015**	**April 2015**	**May 2015**	**June 2015**	**July 2015**	**August 2015**	**September 2015**	**October 2015**	**November 2015**	**December 2015**	**Total**
Residential	$ 7,322,317	$ 6,895,577	$ 6,685,500	$ 4,765,850	$ 4,113,684	$ 4,990,542	$ 5,520,492	$ 5,833,384	$ 5,598,252	$ 4,264,725	$ 3,924,916	$ 5,288,049	$ 65,203,288
Other C&I	$ 5,785,403	$ 5,440,795	$ 5,493,940	$ 5,059,021	$ 5,000,583	$ 5,581,021	$ 5,719,268	$ 5,745,234	$ 5,744,805	$ 5,353,377	$ 4,815,792	$ 5,321,261	$ 65,060,500
GS-4	$ 820 943	$ 743 012	$ 720 922	$ 709 582	$ 695 132	$ 885 763	$ 798 436	$ 755 395	$ 777 655	$ 783 167	$ 640 905	$ 728 066	$ 9 058 979
Total	$ 13,928,662	$ 13,079,384	$ 12,900,362	$ 10,534,453	$ 9,809,400	$ 11,457,326	$ 12,038,196	$ 12,334,013	$ 12,120,713	$ 10,401,269	$ 9,381,614	$ 11,337,376	$ 139,322,767

As previously discussed in the context of prior years of the review period, Larkin had requested the Company's 2015 general ledger detail for the accounts in which EE/PDR Rider revenues are recorded.

Larkin had requested the Company's general ledger detail for the accounts in which EE/PDR Rider revenues were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-4. The general ledger detail for EE/PDR Rider revenue recorded in 2015 is summarized in Exhibit 10-18 below:

Exhibit 10-18. General Ledger Detail for EE/PDR Rider Revenue For 2015

Description	Account	2015
Residential Sales - With Space Heating	4400001	$ 19,357,867
Residential Sales - Without Space Heating	4400002	$ 45,845,375
Commercial Sales	4420001	$ 37,787,767
Industrial Sales (Excluding Mines)	4420002	$ 28,112,420
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$ 231,747
C&I Sales - Affiliated Companies	4420005	$ 108,934
Sales to Public Authorities - Schools	4420006	$ 3,456,938
Sales to Public Authorities - Excluding Schools	4420007	$ 4,335,800
Public Street - Highway Lighting	4440000	$ 55,603
Other Sales - Public Authorities - Excluding Schools	4450002	$ 2,367
Wholesale / Municipal / Public Authorities	4470027	$ 27,950
Total		$ 139,322,767

Upon comparing the 2015 revenues recorded in the general ledger to the monthly screenshots in Exhibit 10-17 above, Larkin noted that the total 2015 revenue of $139.32 million is reflected in both sets of data. However, as a further test of the EE/PDR revenues, Larkin requested that AEP

Ohio reconcile the 2015 CSP and OPCo EE/PDR revenues reflected in the screenshots to the related revenue general ledger accounts shown in the exhibit above. In response to LA-EE PDR-14-20, the Company stated that the general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 was provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided the following tables which reconciled the 2015 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded .

Exhibit 10-19. Reconciliation of 2015 Revenue Screenshots to General Ledger

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
10	211	GS-4	153,406.73
10	213	GS-4	636,379.59
10	216	GS-4	55,933.92
10	221	GS-4	1,516,313.91
10	010	Other C and I	0.00
10	020	Other C and I	0.00
10	211	Other C and I	19,450,823.12
10	212	Other C and I	2,829,338.44
10	213	Other C and I	1,257,807.26
10	216	Other C and I	2,003,091.24
10	221	Other C and I	5,486,983.10
10	222	Other C and I	65,366.70
10	240	Other C and I	94,256.82
10	400	Other C and I	33,243.97
10	010	Residential	24,700,568.68
10	020	Residential	8,352,728.93
10	211	Residential	19.83
			66,636,262.24

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	24,700,569
020	4400001	Res Sales - W/ Space Heating	8 352 729
211	4420001	Commercial Sales	19,604,250
212	4420001	Commercial Sales	2,829,338
213	4420006	Sales to Public Authorities - Schools	1,894,187
216	4420007	Sales to Public Authorities - Excl. Schools	2,059,025
221	4420002	Industrial Sales (Excl. Mines)	7,003,297
222	4420002	Industrial Sales (Excl. Mines)	65 367
240	4420005	C&I Sales - Affiliated Companies	94 257
400	4440000	Public Street - Hiway Lighting	33,244
	Total CSP		66,636,262

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
07	221	GS-4	6,494,074.71
07	222	GS-4	107,795.35
07	230	GS-4	95 074.51
07	010	Other C and I	3.83
07	020	Other C and I	0.00
07	211	Other C and I	13 144 909.02
07	212	Other C and I	2 209 239.78
07	213	Other C and I	1 562 750.78
07	216	Other C and I	2 276 774.67
07	221	Other C and I	13,885,265.08
07	222	Other C and I	556,621.52
07	230	Other C and I	136,672.09
07	240	Other C and I	12,087.19
07	245	Other C and I	2,589.88
07	400	Other C and I	22,359.09
07	520	Other C and I	2,367.01
07	720	Other C and I	27,949.62
07	010	Residential	21,144,802.36
07	020	Residential	11,005,137.62
07	211	Residential	30.54
			72,686,504.65

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	21 144 806
020	4400001	Res Sales - W/ Space Heating	11,005,138
211	4420001	Commercial Sales	13,144,940
212	4420001	Commercial Sales	2,209,240
213	4420006	Sales to Public Authorities - Schools	1,562,751
216	4420007	Sales to Public Authorities - Excl. Schools	2,276,775
221	4420002	Industrial Sales (Excl. Mines)	20,379,340
222	4420002	Industrial Sales (Excl. Mines)	664,417
230	4420004	Industrial Non-Affiliated (Incl. Mines)	231,747
240	4420005	C&I Sales - Affiliated Companies	12,087
245	4420005	C&I Sales - Affiliated Companies	2,590
400	4440000	Public Street - Hiway Lighting	22,359
520	4450002	Other Sales - Public Authorities - Excl Schools	2,367
720	4470027	Wholesale/Muni/Public Authorities	27,950
	Total OP		72,686,505

	CSP	OP	Total
Residential	33 053 317	32 149 971	65 203 288
Other C and I	31 220 911	33 839 590	65 060 500
GS-4	2 362 034	6 696 945	9 058 979
Total	66,636,262	72,686,505	139,322,767

Ties to Revenue Screenshots

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	45 845 375
020	4400001	Res Sales - W/ Space Heating	19 357 867
211	4420001	Commercial Sales	32 749 189
212	4420001	Commercial Sales	5,038,578
213	4420006	Sales to Public Authorities - Schools	3,456,938
216	4420007	Sales to Public Authorities - Excl. Schools	4,335,800
221	4420002	Industrial Sales (Excl. Mines)	27,382,637
222	4420002	Industrial Sales (Excl. Mines)	729,784
230	4420004	Industrial Non-Affiliated (Incl. Mines)	231,747
240	4420005	C&I Sales - Affiliated Companies	106,344
245	4420005	C&I Sales - Affiliated Companies	2,590
400	4440000	Public Street - Hiway Lighting	55,603
520	4450002	Other Sales - Public Authorities - Excl Schools	2,367
720	4470027	Wholesale/Muni/Public Authorities	27,950
	Total OP		139,322,767

Ties to General Ledger

In addition, Larkin verified that the 2015 revenues are embedded in Schedule 1 from the Company's Application dated May 15, 2017 in Case No. 17-1266-EL-RDR in which revenues totaling $588.067 million are reflected under the column heading "Actual 2012-2016 Rider Revenue." The exhibit below summarizes EE/PDR Rider revenues that were recorded in each year 2012 through 2016 which totals the $588.067 million in the Company's filing.

Exhibit 10-20. Actual EE/PDR Revenue Recorded From 2012 Through 2016

Description	Account	2012	2013	2014	2015	2016	Grand Total
Residential Sales - With Space Heating	4400001	$ 11,795,278	$ 12,506,888	$ 15,578,617	$ **19,357,867**	$ 18,300,920	$ 77,539,570
Residential Sales - Without Space Heating	4400002	$ 30,008,068	$ 29,426,565	$ 36,157,968	$ **45,845,375**	$ 46,587,700	$ 188,025,677
Commercial Sales	4420001	$ 30,116,815	$ 29,748,949	$ 33,183,722	$ **37,787,767**	$ 38,138,607	$ 168,975,860
Industrial Sales (Excluding Mines)	4420002	$ 19,956,868	$ 19,637,024	$ 22,836,019	$ **28,112,420**	$ 27,447,172	$ 117,989,503
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$ 181,629	$ 189,589	$ 205,050	$ **231,747**	$ 159,802	$ 967,816
C&I Sales - Affiliated Companies	4420005	$ 100,264	$ 73,872	$ 104,727	$ **108,934**	$ 112,360	$ 500,157
Sales to Public Authorities - Schools	4420006	$ 2,592,428	$ 2,588,907	$ 2,994,800	$ **3,456,938**	$ 3,519,294	$ 15,152,367
Sales to Public Authorities - Excluding Schools	4420007	$ 2,850,601	$ 3,238,573	$ 3,748,184	$ **4,335,800**	$ 4,339,573	$ 18,512,730
Public Street - Highway Lighting	4440000	$ 53,785	$ 54,421	$ 53,591	$ **55,603**	$ 55,698	$ 273,098
Other Sales - Public Authorities - Excluding Schools	*4450002*	*$ 1,117*	*$ 1,382*	*$ 1,474*	*$ **2,367***	*$ 1,686*	*$ 8,027*
Wholesale / Municipal / Public Authorities	4470027	$ 21,121	$ 21,720	$ 24,661	$ **27,950**	$ 27,212	$ 122,664
Total		$ 97,677,974	$ 97,487,889	$ 114,888,815	$ **139,322,767**	$ 138,690,023	$ 588,067,468

As shown in bold in the exhibit above, the 2015 EE/PDR Rider revenues of $139.32 million agree with what was recorded in the general ledger as well as the Company's screenshots. No exceptions were noted.

2015 Shared Savings

As discussed in Chapter 4, in its Opinion and Order dated May 13, 2010 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR, the Commission approved a shared savings mechanism for the period 2009-2011. In addition, in its Opinion and Order dated March 21, 2012 in Case Nos. 11-5568-EL-POR and 11-5569-EL-POR, the Commission approved a revised shared savings mechanism for the period 2012-2016. Pursuant to these Commission Orders, the Company has included shared savings in the calculation of its EE/PDR Rider rates in its filings to the Commission.

As part of its review, Larkin was tasked with verifying the shared savings reflected in the Company's regulated accounting records for each year of the 2011 through 2016 review period. Ordinarily, such verification would entail tracing the shared savings amounts to the Company's general ledger, However, as previously discussed in Chapter 4, in its supplemental response to LA-EE PDR-18-4, the Company explained that the shared savings are not separately identified in the general ledger, but rather are a component of the costs included in Supplemental Attachment 1, which is a large Excel file that was provided in that supplemental response. Specifically, the shared savings amounts are not booked to the general ledger separately and instead are included in Supplemental Attachment 1 as ledger detail,[103] the amounts of which can be traced to the reconciliation provided in the confidential response to LA-EE PDR-12-18. Larkin reviewed the electronic version of Supplemental Attachment 1 and noted that it contained the Company's accounting for shared savings for CSP and OPCo on separate tabs in the Excel file and in total on a tab titled "Merged".

[103] See the supplemental response to LA-EE PDR-18-4.

For 2015, from the "Merged" tab, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the exhibit below:

Exhibit 10-21. 2015 Shared Savings for the Residential, Commercial and Industrial Rate Classes

Description	2015
Residential Rate Class	$ 14,531,998
Commercial Rate Class	$ 10,153,875
Industrial Rate Class	$ 7,056,083
Total Shared Savings	$ 31,741,956
Source: LA-EE PDR-18-4 (Supplemental Attachment 1)	

As shown in the exhibit above, the shared savings for the residential, commercial and industrial rate classes totaled $14,531,998, $10,153,875 and $7,056,083, respectively, for a total of $31,741,956 for 2015. Larkin verified this amount to the reconciliation that was provided in the confidential response to LA-EE PDR-12-18. No exceptions were noted.

The amount of 2015 shared savings reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR was $31,162,550 or a difference of $579,406. The reconciliation provided in the confidential response to LA-EE PDR-12-18 included footnote "h", which in part addressed this difference and stated:

> $579,406 is the Reg. Acct. net adjustment in 2015 for the following in order to match the rate filing (email tab).

The "email tab" was included as part of the reconciliation from LA-EE PDR-12-18 and is an actual email dated October 1, 2015 that was pasted into the Excel file. As it relates to the $579,406 difference, the email states:

> In August 2014, based upon a 2014 OPCo EE/PDR order received from the PUCO, Regulated Accounting made a $968,469 adjustment entry between the Shared Savings and Lost Revenue components of the EE/PDR over/under recovered balance. Regulated Accounting also made a ($387,060) adjustment to Shared Savings based on a 2009-2013 true-up. These two August 2014 adjustments resulted in a net $581,409 adjustment to Shared Savings. In December 2014, Regulated Accounting made its annual adjustment to the Shared Savings estimate grossed up for federal taxes. In making this annual tax gross-up adjustment, Regulated Accounting inadvertently used only the 2014 vintage year info and thus reversed the August 2014 net $581,409 adjustment from the calculation. As a result, the December 31, 2014 and the August 31, 2015 OPCo EE/PDR under-recovered balances in account 1823012 were understated by $581,409.[104]

[104] AEP Ohio indicated that the $2,003 difference between the $581,409 and $579,406 is an unreconciled difference that it considers immaterial.

The Company provided a copy of the journal entry associated with the shared savings true-up in its supplemental response to LA-EE PDR-12-18.

A detailed discussion of the shared savings calculations in the Company's filings for each year of the 2011-2016 review period are discussed in Chapter 15 of this report.

IRP-D Credits - 2015

As discussed in Chapter 4, in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO, the Commission approved the IRP-D credit at $8.21/kW-month and ruled that since the IRP-D credit promotes energy efficiency, it is appropriate for AEP Ohio to recover any costs associated with the IRP-D through the EE/PDR Rider. As shown on Schedule 4 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR, the actual IRP-D credits for 2015 totaled $18,661,634. Larkin requested that AEP Ohio provide documentation that supports this amount, which the Company provided in its confidential response to LA-EE PDR-18-5 and which has been replicated in the exhibit below:

Exhibit 10-22. Actual IRP-D Credit for 2015

Account Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
[redacted]	[redacted]												
Total IRP KW	202,569.0	198,882.0	200,000.0	200,420.0	200,943.0	202,156.0	200,533 0	168,720.0	175,556.0	176,550.0	176,588 0	170,120.0	2,273,037.00
PUCO Ordered Credit	$ 8.21	$ 8 21	$ 8.21	$ 8.21	$ 8 21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	
Monthly Charge to EE/PDR rider	$ 1,663,091	$ 1,632,821	$ 1,642,000	$ 1,645,448	$ 1,649,742	$ 1,659,701	$ 1,646,376	$ 1,385,191	$ 1,441,315	$ 1,449,476	$ 1,449,787	$ 1,396,685	$ 18,661,634
Cumulative 2015 Charge	$ 1,663,091	$ 3,295,913	$ 4,937,913	$ 6,583,361	$ 8,233,103	$ 9,892,804	$ 11,539,180	$ 12,924,371	$ 14,365,686	$ 15,815,161	$ 17,264,949	$ 18,661,634	$ 18,661,634

As shown in the exhibit, the 2015 IRP-D credit was calculated using the $8.21/kW-month rate that was authorized by the Commission in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO.

11 2016 COSTS AND REVENUES

Review of 2016 EE/PDR Program Costs

As previously discussed, Larkin requested that the Company identify the amount of total expenditures recorded (by program) in each year 2011 through 2016, which was provided in response to LA-EE PDR-2-1. The 2016 EE/PDR program costs are summarized in Exhibit 11-1 below:

Exhibit 11-1. Summary of 2016 EE/PDR Program Costs

Description	2016 EE and PDR Program Costs
CONSUMER	
Efficient Products	$ 9,992,275
Appliance Recycling	$ 1,435,438
Home Retrofit + In-Home	$ 4,020,483
Low Income	$ 9,213,291
Residential New Construction	$ 1,861,954
Behavior Change	$ 816,157
e3smart	$ 727,543
BUSINESS	
Prescriptive	$ 14,839,563
Custom	$ 1,779,399
Self Direct	$ 1,499,636
C&I New Construction	$ 5,550,815
C&I Demand Response	
Express	$ 3,186,639
Retro-Commissioning	$ 1,156,665
Continuous Improvement	$ 4,367,014
Energy Efficiency Auction	$ 3,102,746
Data Center	$ 1,940,095
MULTI-SECTOR	
Energy Education and Training	$ 360,434
Targeted Advertising	$ 1,972,056
Research and Development	$ 2,606,569
Total Program Costs	**$ 70,428,772**

Source: LA-EE PDR-2-1

As shown in the exhibit, AEP Ohio recorded EE/PDR programs costs totaling $70.4 million in 2016. This is the amount of 2016 program costs reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR.

As previously noted, the costs reported in AEP Ohio's EE/PDR Rider are sourced from the Company's general ledger. The Company separated its 2016 EE/PDR costs in to the following eight cost components:

Exhibit 11-2. 2016 AEP Ohio EE/PDR Program Costs in the General Ledger

EE/PDR Program Per G/L	2016
EE/PDR Department	$ 5,184,905
Education	$ 111,372
Evaluation	$ 2,357,809
Implementation	$ 15,425,226
Incentives	$ 42,646,425
Marketing	$ 2,761,770
Media	$ 1,941,264
R&D General	$ -
Grand Total	$ 70,428,772

The total amount of EE/PDR 2016 costs in the general ledger of $70.4 million agreed to the total amount reflected in the EE/PDR Rider as well as the annual Portfolio Status Report for EE/PDR program costs.

Larkin requested the Company's general ledger detail for the accounts in which EE/PDR program costs were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-5. The general ledger detail for EE/PDR program costs recorded in 2016 is summarized in Exhibit 11-3 below:

Exhibit 11-3. General Ledger Detail for EE/PDR Program Costs For 2016

Description	Account	2016
Undistributed Labor Fringe Benefits Clearing	1840040	$ 632,633
Undistributed Incentive Fringe Benefits Clearing	1840041	$ 26,161
Miscellaneous Distribution Exp	**5880000**	**$ 185**
Maintenance of Overhead Lines	**5930000**	**$ 528**
Supervision of Demand Side Management (DSM) Activities	9070001	$ 4,641,283
Customer Assistance Expense - DSM	9080009	$ 61,096,150
Supervision - Residential Sales Activities	9110001	$ 549,350
Supervision - Commercial & Industrial Sales Activities	9110002	$ 1,518,711
Off Supl & Exp - Nonassociated	**9210001**	**$ 5,765**
Outside Svcs Empl - Nonassoc	9230001	$ 6
Special Advertising Space & Production Expenses	9301007	$ 215
Other Corporate Communication Expenses	9301015	$ 1,957,361
Maint of Office Furniture & Eq	**9350015**	**$ 425**
Total		$ 70,428,772
Source: LA-EE PDR-1-5		

As shown in the exhibit above, the total 2016 EE/PDR costs recorded in the general ledger agree with the total amount of 2016 program costs reflected in Exhibit 11-1 and in the Company's EE/PDR filing dated May 15, 2017 in Case No. 12-1266-EL-RDR. However, similar to previous years, Larkin noted that there were costs recorded in accounts not specified in the response to LA-EE PDR-1-3. The accounts in the exhibit above that are in bold print were not included in the list of accounts in which EE/PDR program costs are recorded per the response to LA-EE PDR-1-3. As previously discussed, during a conference call between Larkin and AEP Ohio on February 16, 2018 in which this issue was discussed, the Company stated that when it was preparing its initial response to LA-EE PDR-1-3, certain accounts were inadvertently omitted from the query performed in the general ledger detail. As a result, the Company supplemented its response and attachment to LA-EE PDR-1-3 in which all of the accounts highlighted in bold in the exhibit above were included in the list of accounts in which EE/PDR costs were recorded during the 2011-2016 review period.

Review of 2016 Incentive Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to incentive payments to customers. For 2016, incentive costs charged to the EE/PDR programs totaled $42,646,425. The response to LA-EE PDR-1-8 provided the following breakout of 2016 incentive costs between EE/PDR programs:

Exhibit 11-4. 2016 Incentive Payment Costs by Program

Description	2016
Consumer	
Efficient Products	$ 6,599,063
Appliance Recycling	$ 660,938
Home Retrofit + In-Home	$ 2,105,677
Low Income	$ 7,006,671
Residential New Construction	$ 697,025
Behavior Change	
e3smart	$ 546,337
Business	
Prescriptive	$ 10,843,544
Custom	$ 853,880
Self Direct	$ 959,857
C&I New Construction	$ 3,519,527
C&I Demand Response	
Express	$ 2,759,933
Retro-Commissioning	$ 437,364
Continuous Improvement	$ 2,751,228
Energy Efficiency Auction	$ 1,624,861
Data Center	$ 1,079,969
Multi-Sector	
Energy Education and Training	
Targeted Advertising	
Research and Development	$ 200,552
Total Incentive Costs	$ 42,646,425
Source: LA-EE PDR-1-8	

As shown in the exhibit, the 2016 incentive costs were spread among various but not all of the EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the incentive costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 11-5. General Ledger Detail for EE/PDR Incentive Costs For 2016

Description	Account	2016
Customer Assistance Expense - DSM	9080009	$ 42,646,425
Total Incentive Costs		$ 42,646,425
Source: LA-EE PDR-1-5		

As shown in the exhibit, the total incentive costs recorded in the general ledger 2016 was confined to the one account shown and which agreed with the incentive costs by program. No exceptions were noted.

Review of 2016 Evaluation, Measurement & Verification Costs

As previously discussed in Chapter 4, the EE/PDR program costs included costs related to EM&V. As discussed in Chapter 3, in accordance with Ohio Administrative Code ("OAC") 4901:1-39-05 (C)(2)(b), the Company conducts EM&V on its EE/PDR programs whereby AEP Ohio's EM&V report must document energy savings and peak-demand reduction values and the cost-effectiveness of each energy efficiency and demand side management program reported in its portfolio status reports. The Company's EM&V results are discussed in further detail in Chapters 14 and 15 of this report.

In terms of the EM&V costs included in the 2016 EE/PDR program costs, as previously noted in Chapter 4, according to the response to LA-EE PDR-2 -2, the EM&V included in 2016 EE/PDR program costs totaled $2,647,277. The exhibit below provides a breakout of the 2016 EM&V costs by Project ID:

Exhibit 11-6. 2016 EM&V Costs by Project ID

Description		2016
OHDSM008A	DSM Meas,Eval and Verification	$ 2,560,905
OHDSM008Z	Evaluation General	$ 29,594
OHDSM09AA	DSM-Cogged V-Belt Pilot	$ 4,987
OHDSM09AB	Advanced Lighting Controls	$ 12,240
OHDSM09AD	It's Your Power - [redacted]	$ 39,550
Total EM&V Costs		$ 2,647,277

Larkin verified the 2016 EM&V costs in the exhibit above to the general ledger and to the overhead allocation worksheets provided in the response to LA-EE PDR-3-8. No exceptions were noted.

Similar to prior years, the majority of the EM&V costs in 2016 (i.e., $2,560,905) were incurred pursuant to EM&V procedures conducted by [redacted] As discussed below, as part of our review of the EE/PDR program costs, Larkin selected a sample of vendor invoices for purposes of verifying costs to the general ledger. As discussed in Chapter 4, Larkin selected its vendor invoice samples through a combination of judgmental and statistical methods. Through this process, Larkin selected six [redacted] invoices as part of its sample for 2016. As discussed below, through our initial review of the sampled vendor invoices coupled with a discussion with AEP Ohio during a conference call on September 8, 2017, Larkin verified all of the sampled vendor invoices, including those by [redacted] to the general ledger. No exceptions were noted.

Review of 2016 Administrative Costs

As previously discussed in Chapter 4, the 2016 EE/PDR program costs included administrative costs totaling $4,895,438. In response to LA-EE PDR-3-8 (Attachment 2) and as shown in the exhibit below, the Company provided a breakout of administrative costs between (1) costs that were directly charged to the EE/PDR programs, and (2) overhead administrative costs that were allocated to the EE/PDR programs in 2016.

Exhibit 11-7. Breakout of 2016 Administrative Costs Between Direct Charged and Allocated to EE/PDR Programs

Description	2016 Administrative Costs
Direct Charged Administrative Costs	$ 1,431,617
Allocated Overhead Administrative Costs	$ 3,463,821
Total Administrative Costs	$ 4,895,438

Source: LA-EE PDR-3-8 (Attachment 2)

As shown in the exhibit above, administrative costs totaling $1,431,617 were directly charged to the EE/PDR programs in 2016 while $3,463,821 was overhead allocated to the EE/PDR programs. In addition, the response to LA-EE PDR-3-8 provided the following breakout of 2016 administrative costs between EE/PDR programs:

Exhibit 11-8. 2016 Administrative Costs by EE/PDR Program

EE/PDR Program	2016
OHDSM0001 DSM NonAssign Pgm Adm&Corp Spt	$ 2,394,224
OHDSM004A R-Efficient Products	$ 43,787
OHDSM004B R-Home Retrofit	$ 70,216
OHDSM004C R-New Construction	$ 52,105
OHDSM004D R-Appliance Recycling	$ 41,096
OHDSM004E R-Low Income	$ 127,204
OHDSM004G R-Energy Conservation Kit	$ 5,111
OHDSM004H R-Behavioral	$ 42,945
OHDSM004Z Residential General	$ 356,695
OHDSM005A CII-Prescriptive Incentives	$ 95,430
OHDSM005B CII-Custom	$ 146,257
OHDSM005C CII-Self Direct	$ 27,872
OHDSM005D CII-New Construction	$ 66,273
OHDSM005E CII-Custom Direct Install	$ 57,136
OHDSM005G Retro-Commissioning	$ 45,724
OHDSM005H CII-Continuous Improvement	$ 44,408
OHDSM005J CII-Energy Efficiency Auction	$ 37,059
OHDSM005K CII - Data Center	$ 33,748
OHDSM005Y C&I Outreach	$ 83,592
OHDSM005Z CII General	$ 376,011
OHDSM007A DSM Education	$ 249,062
OHDSM007B DSM Corp Com	$ 30,792
OHDSM009B Hospital Energy Audit Pilot	$ 8,784
OHDSM009F C&I Energy Audits	$ 15,367
OHDSM009M Business Behavior Change	$ 319
OHDSM009N Codes and Standards	$ 135
OHDSM009S EE Financing Fund	$ 5
OHDSM009X Government/Community Pilots	$ 33,451
OHDSM010Z R&D General	$ 336,891
OHDSM09AA DSM-Cogged V-Belt Pilot	$ 735
OHDSM09AD Intelligent Energy Assistance	$ 145
OHDSM09AD It's Your Power - [redacted]	$ 72,407
OHDSM09AJ DSM Demand Response Pilot	$ 450
Grand Total	$ 4,895,438

Source: LA-EE PDR-3-8 (Attachment 1)

As shown in the exhibit, the 2016 administrative costs were spread among the various EE/PDR programs. As previously noted, the source for the EE/PDR program costs is the general ledger. Larkin verified the administrative costs in the exhibit above to the Company's general ledger detail as summarized in the exhibit below:

Exhibit 11-9. General Ledger Detail for EE/PDR Administrative Costs For 2016

Description	Account	2016
Undist Labor Fringe Benfit Clr	1840040	$ 576,509
Undist Incentive Frg Ben Clr	1840041	$ 23,719
Miscellaneous Distribution Exp	5880000	$ 185
Maintenance of Overhead Lines	5930000	$ 528
Supervision - DSM	9070001	$ 1,989,211
Cust Assistance Expense - DSM	9080009	$ 235,024
Supervision - Residential	9110001	$ 548,686
Supervision - Comm & Ind	9110002	$ 1,499,203
Off Supl & Exp - Nonassociated	9210001	$ 5,629
Outside Svcs Empl - Nonassoc	9230001	$ 6
Other Corporate Comm Exp	9301015	$ 16,312
Maint of Office Furniture & Eq	9350015	$ 425
Grand Total		$ 4,895,438
Source: LA-EE PDR-3-8		

As shown in the exhibit, the total administrative costs recorded in the general ledger agree with the administrative costs by program. No exceptions were noted.

Review of 2016 Vendor Invoices

The file provided by AEP Ohio entitled "2016 Match to GL (Modified)" contained EE/PDR vendor invoices totaling to $58,416,076. In data request LA-EE PDR-6-6, all invoices above $300,000 were selected for review. Those invoices totaled to $25,042,451.

In data request LA-EE PDR-7-6 AEP Ohio was asked to provide a listing of invoices that were randomly selected from the "2016 Match to GL (Modified)" listing that had amounts ranging from $10,000 to $100,000 and from $100,000 to 300,000.

The invoices requested in LA-EE PDR-6-6 and LA-EE PDR-7-6 resulted in the sample summarized by selection method in the following exhibit:

Exhibit 11-10. 2016 Summary of Stratification and Sample Selection

2016 EE/PDR Vendor Invoices
Summary of Stratification and Sample Selection

Group	Criteria for Group	Population	No of Invoices Selected for Review	Basis	Total Dollar Value	Dollar Value of Selected	Selected as a Percent of Total Dollar Amount in Group
Batch 1	Over $300,000	38	38	Select all (100% judgmental)	$ 25,042,451	$ 25,042,451	100%
Batch 2	Less than $300,000, more than $100,000	92	33	Random Sample	$ 14,863,412	$ 5,563,588	37%
Batch 3	Less than $100,000, more than $10,000	430	37	Random Sample	$ 17,159,259	$ 1,361,014	8%
Batch 4	Less than $10,000, more than -$10,000	621		None (judgmental)	$ 1,455,324		0%
Batch 5	Less than -$10,000	3	3	Select all (100% judgmental)	$ (104,370)	$ (104,370)	
Totals		1184	111		$ 58,416,076	$ 31,862,684	55%

Based on the selection of the vendor invoices requested in LA-EE PDR-6-6 and LA-EE PDR-7-6 this provided coverage of $31,862,684 of EE/PDR vendor invoices, out of a net amount of $58,416,076 for 2016 that was listed in the Company-provided "2014 Match to GL (Modified)"

Excel file. The combined dollar coverage was approximately 55 percent of the total EE/PDR vendor invoice amount for the year in the Company-provided "2016 Match to GL (Modified)" Excel file.

Larkin reviewed the 2016 vendor invoices that the Company provided in response to the data requests listed above. During our review process, we noted that many of the amounts listed on the invoices did not match to the amounts listed in the referenced responses. We set up a conference call on September 8, 2017 with the Company personnel who were responsible for keeping track of the vendor invoices to discuss these discrepancies. The Company explained that the reason the amounts did not match directly to the invoices was due to some of the amounts being allocated over multiple projects.

One such invoice discussed during the September 8, 2017 conference call was invoice number 0100000651 from the vendor [redacted] dated August 31, 2016. Using the Company's explanation as a guide, we verified the total invoice amount to the corresponding general ledger detail. The exhibit below shows the general ledger entries for this invoice:

Exhibit 11-11. Summary of Invoice Number 0100000651

Years	Periods		Project	PO ID	AP Invoice ID	Vendor Name #	Act $
2016	(10) Oct	OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	028571430001	0100000651	[redacted]	$ 7,014 63
2016	(10) Oct	OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	028571430001	0100000651	[redacted]	$ 365,160 93
							$ 372,175 56

The total amount in the general ledger of $372,175.56 agreed to the amount shown on the invoice. We verified the other invoices we had concerns with in a similar manner and those invoices agreed to the general ledger as well. No exceptions were noted.

Review of 2016 Labor Costs Charged to the EE/PDR Programs

As previously noted, the Company's the labor costs charged to the EE/PDR programs for the period 2012 through 2016 were incurred by Ohio Power employees as it was subsequent to the merger between CSP and OPCo.

Larkin requested that for each year in the 2011-2016 review period, that AEP Ohio identify the amounts of Company and affiliate labor costs charged to each EE/PDR program. In its response to LA-EE PDR-3-3, for 2016, the Company initially identified the amounts shown in the exhibit below:

Exhibit 11-12. Labor Costs Charged to EE/PDR Programs in 2016

Description	Account	2016 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 632,633
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 26,161
Supervision DSM	9070001	$ 1,225,561
Customer Assistance Expense - DSM	9080009	$ 11,771
Cust Serv & Info - Supv - Residential	9110001	$ 495,346
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 771,935
Total Labor Costs Charged to EE/PDR Programs		$ 3,163,408

As shown in the exhibit above, AEP Ohio initially indicated that labor costs totaling $3.163 million were charged to the EE/PDR programs during 2016. For 2016, these costs include (1) AEP Ohio employee labor costs; (2) employee associated labor fringes; and (3) outside contractor labor costs for individuals who report directly to EE/PDR management and who work full time as members of the EE/PDR team. However, upon attempting to trace these amounts to the general ledger detail, Larkin noted a discrepancy in the amount of $69,298 as shown in the exhibit below.

Exhibit 11-13. Discrepancy Between AEP Ohio Stated Labor Costs and Labor Costs in General Ledger

Cost Component	Amount
11E Exempt Labor	$ 1,646,168.85
11S Non Exempt Salaried Labor	$ 45,583.55
120 Labor Fringes (Straight-time)	$ 632,614.66
121 Labor Fringes (Overtime)	$ 18.31
122 Labor Fringes (Incentv Accr)	$ 26,171.76
125 Payroll Dist Nonproductive	$ 304,258.79
13S Non Exempt OT Salaried Labor	$ 161.99
141 Incentive Accrual Dept Level	$ 231,596.93
145 Stock-based Compensation	$ 1,500.60
154 Restricted Stock Incentives	$ 2,729.02
210 Contract Labor (General)	$ 307,418.19
U3E Exempt Uncompensated Labor	$ 34,483.03
Total Labor Costs Per G/L	$ 3,232,705.68
Company & Affiliate Labor Costs Per LA-EE PDR-3-3	$ 3,163,407.65
Difference	$ 69,298.03

Larkin requested that AEP Ohio explain and reconcile this discrepancy and in its response to LA-EE PDR-16-5, the Company provided the following explanations for the variance:

1. Cost Component 210 - Contract Labor (General) included a [redacted] in the amount of $34,815 that should be removed, thus reducing the $307,418.19 in the exhibit above to $272,603.19.[105]

2. Cost Component U3E - Exempt Uncompensated Labor in the amount of $34,483.03 was inadvertently omitted from the response to LA-EE PDR-3-3.

The Company provided a supplemental response to LA-EE PDR-3-3, which incorporated the corrections noted above and resulted in the updated 2016 labor costs shown in the exhibit below.

[105] While the $34,815 is not a labor cost, it is still an includable EE/PDR program cost.

Exhibit 11-14. Corrected AEP Ohio and Affiliate Labor Costs Charged to EE/PDR Programs in 2016

Description	Account	2016 Labor Costs
Undistributed Labor Fringe Benefit Clearing	1840040	$ 632,633
Undistributed Incentive Fringe Benefit Clearing	1840041	$ 26,161
Supervision DSM	9070001	$ 1,257,838
Customer Assistance Expense - DSM	9080009	$ 12,074
Cust Serv & Info - Supv - Residential	9110001	$ 496,908
Cust Serv & Info - Supv - Commercial & Industrial	9110002	$ 772,276
Total Labor Costs Charged to EE/PDR Programs		$ 3,197,891

In its response to LA-EE PDR-16-2, the Company stated that the 2016 labor costs charged to the EE/PDR programs (Department 11254) included $1,819.08, which was reversed in 2017.

As noted above, the labor costs charged to the EE/PDR programs in 2016 were incurred by Ohio Power employees. In order to obtain an understanding of the level of the Company's distribution labor hours and costs that were charged to the EE/PDR program costs for 2016 in proportion to the total distribution labor hours and costs, Larkin requested that AEP Ohio provide: (1) total labor hours charged to the EE/PDR Rider; (2) total labor hours worked for the year; (3) total labor dollars charged to the EE/PDR Rider; (4) total labor dollars for the year; and (5) the percentage of time that each OPCo employee charged to the EE/PDR Rider. In its supplemental response to LA-EE PDR-11-1, the Company provided the requested labor related information, which is summarized in the exhibit below:

Exhibit 11-15. Ohio Power Distribution Labor Costs Charged to the EE/PDR Rider in 2016

	Year 2016				
	EE LaborHrs for the Year	Total Employee Labor Hrs for Year	EE LaborDollars for the Year	TotalLaborDollars for the Year	% of EE Hrs ChargedToRider
Employee ID	Ohio Power	Ohio Power	Ohio Power	Ohio Power	Ohio Power
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	34,037.25	40,293.75	$ 1,724,578	$ 2,043,491	84.47%

As shown in Exhibit 11-15, for 2016, Ohio Power employees working on the AEP Ohio EE/PDR programs charged 34,037 labor hours to the EE/PDR programs out of their total labor hours of 40,294, i.e., 84.47% of their 2016 labor hours were for the EE/PDR programs. In addition, the EE/PDR related labor costs totaled $1.725 million (which are embedded in Exhibit 11-14 above) of $2.043 million of their total labor costs. Similar to prior years, as shown under the column heading "% of EE Hrs Charged to Rider", the individual Company employees (identified by Employee ID) charged the majority of their time in 2016 to the EE/PDR programs. As previously noted in Chapter 6, the data shown for labor hours in the exhibit above are from each respective employee's timesheets.

Review of 2016 Employee Expenses

As noted above, the general ledger detail includes the following specific cost centers, which relate to employee expenses charged to the EE/PDR programs:

Cost Center 510 - Busin Exp 100% Deduct Gen

Cost Center 520 - Business Exp Part Deduct Gen

The Company's response to LA-EE PDR-18-3 provided the following breakout of employee expenses charged to the EE/PDR programs in 2016 by (1) general ledger account, and (2) by EE/PDR project ID:

Exhibit 11-16. Summary of 2016 Employee Expenses by General Ledger Account and EE/PDR

Account		Total
9070001	Supervision - DSM	$ 100,801.03
9080009	Cust Assistance Expense - DSM	$ 56,576.76
9110001	Supervision - Residential	$ 29,182.76
9110002	Supervision - Comm & Ind	$ 18,610.31
9210001	Off Supl & Exp - Nonassociated	$ 5,718.83
9301015	Other Corporate Comm Exp	$ 2,999.77
Grand Total		**$ 213,889.46**

Project		Total
OHDSM0001	DSM NonAssign Pgm Adm&Corp Spt	$ 48,908.98
OHDSM004A	R-Efficient Products	$ 3,031.70
OHDSM004B	R-Home Retrofit	$ 3,140.04
OHDSM004C	R-New Construction	$ 4,032.58
OHDSM004D	R-Appliance Recycling	$ 316.09
OHDSM004E	R-Low Income	$ 8,019.48
OHDSM004H	R-Behavioral	$ 2,196.19
OHDSM004Z	Residential General	$ 6,657.95
OHDSM005A	CII-Prescriptive Incentives	$ 9,099.24
OHDSM005B	CII-Custom	$ 4,557.89
OHDSM005G	Retro-Commissioning	$ 15.09
OHDSM005K	CII - Data Center	$ 2,153.80
OHDSM005Z	CII General	$ 10,967.16
OHDSM007A	DSM Education	$ 66,769.38
OHDSM007B	DSM Corp Com	$ 2,999.77
OHDSM008A	DSM Meas,Eval and Verification	$ 11,901.34
OHDSM008Z	Evaluation General	$ 11,101.06
OHDSM009M	Business Behavior Change	$ 18.63
OHDSM009X	Government/Community Pilots	$ 1,353.12
OHDSM010Z	R&D General	$ 14,191.86
OHDSM09AD	It's Your Power - [redacted]	$ 2,458.11
Grand Total		**$ 213,889.46**

As shown in both tables in the above exhibit, employee expenses totaling $213,889 were charged to EE/PDR programs during 2016.

In order to test the employee expenses that were charged to the EE/PDR programs in 2016, Larkin initially selected ten transactions from the general ledger detail that relate to Cost Centers 510 and 520 for which Larkin requested that the Company provide copies of employee expense reports, invoices and any other documentation which supports the amounts shown for each transaction. The ten transactions Larkin selected totaled $50,190 and was comprised of the following:

CC - 510	$	49,240
CC - 520	$	950
Total	$	50,190

The Company provided the requested supporting documentation for the selected transactions in response to LA-EE PDR-20-1. Specifically, for 2016, AEP Ohio provided (1) a summary sheet which listed the ten transactions selected from the 2016 general ledger detail; (2) copies of employee expense reports, invoices and receipts; and (3) a narrative summary of all of the expenses reflected on the employee expense reports (including expenses not specifically selected for review, but which were itemized on the same expense reports).

Larkin reviewed the referenced expense detail for each of the ten transactions that were initially selected for review and verified the amounts that were recorded to the general ledger. No exceptions were noted.

Upon reviewing the documentation, Larkin identified the same areas of concerns noted for the prior years with regard to certain employee expenses being charged to the EE/PDR programs, including (1) AEP Ohio employee charging out of state travel costs to the EE/PDR programs; (2) the Company purchasing gift cards and charging the cost to the EE/PDR programs; and (3) AEP Ohio employees charging the cost of annual dues to memberships to the EE/PDR programs.

Similar to prior years, for each of these areas of costs charged to the EE/PDR programs in 2016, Larkin requested that the Company provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose of the Company purchasing [redacted] gift cards, and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs.

In addition and again similar to prior years, Larkin asked AEP Ohio whether the 2016 EE/PDR program costs included amounts for items such as athletic or sporting events, entertainment, theater tickets, sky boxes, concerts and/or festivals, fairs or any other similar activities. In the event that such costs were charged to the EE/PDR program costs in 2016, Larkin requested a summary of all such costs and for AEP Ohio to explain why they were needed for the Ohio EE/PDR programs.

As it relates to out of state travel, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to out of state travel costs charged to the EE/PDR programs in 2016, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 11-17. Summary of 2016 Out of State Travel Expense

State	Conference	Airfare	Lodging	Transportation	Meals	Total
Colorado	E Source	$ 360	$ 589	$ 152	$ 14	$ 1,115
Washington DC	AABE American Association of Blacks in Energy National Conference	$ 148				$ 148
Illinois	MEEA Midwest Energy Efficiency Alliance Conference		$ 115	$ 763	$ 157	$ 1,035
North Carolina	GE Lighting/DOE Department of Energy workshop		GE provided	$ 629	$ 253	$ 882
Colorado	DLC Design Light Consortium	$ 464	$ 682	$ 300	$ 79	$ 1,524
Florida	OPOWER Annual Conference	$ 396	$ 766	$ 206	$ 123	$ 1,491
Louisanna	Energy Star Products Partners Meeting	$ 342	$ 1,096	$ 134	$ 181	$ 1,754
Florida	PLMA Peak Load Management Association	$ 267		$ 112	$ 65	$ 443
Texas	Energy Smart	$ 289	$ 550	$ 97	$ 42	$ 978
Washington DC	US Dept of Energy Data Accelerator Partners Meeting	$ 322		$ 43	$ 37	$ 403
Pennsylvania	AESP Association of Energy Service Professionals		$ 460	$ 144		$ 604
Arizona	AESP Association of Energy Service Professionals	$ 477	$ 726	$ 116	$ 113	$ 1,433
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 204	$ 171	$ 105	$ 107	$ 587
Colorado	E Source	$ 406	$ 913	$ 45	$ 209	$ 1,573
Florida	AESP Association of Energy Service Professionals	$ 377				$ 377
Arizona	AESP Association of Energy Service Professionals	$ 434	$ 752	$ 63	$ 11	$ 1,260
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 318	$ 342	$ 65		$ 725
Louisiana	Energy Star New Homes	$ 590	$ 1,531	$ 379	$ 199	$ 2,699
Arizona	AESP Association of Energy Service Professionals	$ 575	$ 968	$ 6	$ 102	$ 1,652
Colorado	NEADA) & NEUAC Annual Conference	$ 708	$ 808	$ 126	$ 196	$ 1,837
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 216	$ 171	$ 17	$ 9	$ 413
Washington DC	Green Grid Conference	$ 464	$ 858	$ 47	$ 25	$ 1,394
Illinois	AESP Association of Energy Service Professionals	$ 486	$ 514	$ 152	$ 158	$ 1,310
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 204	$ 342	$ 66		$ 612
Arizona	AESP Association of Energy Service Professionals	$ 527	$ 484	$ 27	$ 275	$ 1,313
Arizona	AESP Association of Energy Service Professionals	$ 539	$ 726	$ 94	$ 132	$ 1,491
North Carolina	Utility GE Conference	$ 714	$ -	$ 71	$ 98	$ 883
Colorado	E Source	$ 406	$ 913	$ 139	$ 95	$ 1,553
Illinois	MEEA Midwest Energy Efficiency Alliance Conference	$ 401	$ 342	$ 168	$ 113	$ 1,024
Maryland	ACEEE American Council for Energy Efficient Economy	$ 387	$ 483	$ 40	$ 57	$ 966
Illinois	DOE Department of Energy Roundtable Conference		$ 529	$ 844	$ 185	$ 1,557
	Total 2016 Out of State Travel Costs	$ 11,020	$ 15,832	$ 5,150	$ 3,035	$ 35,037

Source: LA-EE PDR-22-1

As shown in the exhibit above, the 2016 out of state travel totaled $11,020 for airfare; (2) $15,832 for lodging; (3) $5,150 for transportation; and (4) $3,035 for meals for an overall total of $35,037. Larkin, with assistance from Mims, determined that the conferences associated with the out of state travel in 2016 were related to energy efficiency program design, implementation, measurement and verification, and that the associated costs appear to be reasonable for the EE/PDR department. No exceptions were noted.

As it relates to the cost of gift cards included in 2016 EE/PDR program costs, the Company's basis for including such costs in the EE/PDR program costs is discussed in Chapter 6. With regard to the cost of gift cards charged to the EE/PDR programs in 2014, the response to LA-EE PDR-22-1 indicated costs totaling $2,334 were charged to the EE/PDR programs in 2016, and which relate to seven separate transactions.

As discussed in Chapter 6, in Larkin's view, the costs associated with AEP Ohio purchasing and giving away gift cards are not needed for energy efficiency and should not be charged to the EE/PDR programs. Therefore, Larkin recommends that the $2,334 related to gift cards be removed from 2016 EE/PDR program costs.

The Company's basis for including the cost of membership dues in the EE/PDR program costs is discussed in Chapter 6. With regard to annual membership dues charged to the EE/PDR programs in 2016, the response to LA-EE PDR-22-1 reflected the following:

Exhibit 11-18. Summary of Annual Membership Dues Charged to EE/PDR Programs in 2016

Description	Annual Membership Dues
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 300
Toastmasters 6 month membership - professional development in public speaking and leadership	$ 41
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 160
Annual dues for membership in the American Institute of Certified Public Accountants (AICPA), which as a CPA provides me with access to professional resources, learning and development tools and programs	$ 255
Annual dues for membership in the Ohio Society of CPAs (OSCPA), which as a CPA provides me with access to professional resources, learning and deve	$ 325
Annual due for membership in the Association of Certified Fraud Examiners (ACFE) - provides access to professional resources, learning and developmen	$ 175
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) -- For employees to stay current on HVAC trends and standard changes, receive monthly newsletter, attend chapter meetings, gain insight as to new EE standards	$ 204
AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education	$ 160
Membership in Ohio Water Environment Association (OWEA) to help support information for AEP Ohio Water/Wastewater Treatment Workshops	$ 160
Total 2016 Annual Membership Dues Charged to EE/PDR Programs	$ 1,780
Source: LA-EE PDR-22-1	

As shown in the exhibit above, the Company included costs totaling $1,780 in its 2016 EE/PDR program costs that were associated with annual membership dues. Larkin, with assistance from Mims, determined that the annual membership dues appear to be reasonable and are related to energy efficiency or to the professional development of the employees working on the EE/PDR programs. However, Attachment 1 to the response to LA-EE PDR-22-1 included membership dues described as "AEE (Association of Energy Engineers) -3 year renewal of Certified Energy Manager certification-energy efficiency technical proficiency training for sound decision-making in program design, implementation and customer education". Attachment 1 reflected this three-year membership for employees that had similar three-year renewals for the same membership in 2012 through 2015. In response to Larkin's informal inquiry, the Company explained that Attachment 1 to the response to LA-EE PDR-22-1 contained incorrect descriptions for those employees and that the amounts reflected in Attachment 1 were actually for annual AEE membership dues as opposed to three-year renewals.

The Company's rationale for including the costs associated with athletic sporting events or entertainment events in its EE/PDR programs were discussed in Chapter 6. However, according to the response to LA-EE PDR-22-1, the 2016 EE/PDR program costs did not include any of these types of costs.

Review of 2016 EE/PDR Related Revenues

As previously discussed, during Larkin's on-site visit to AEP Ohio's offices in Gahanna, Ohio on August 1, 2017, the Company stated that it used revenue screen shots to tie out revenue related to the EE/PDR Rider for each year of the 2011 through 2016 review period. Larkin requested the revenue screen shots for each year of the review period, which the Company provided in response to LA-EE PDR-8-6. Specifically, AEP Ohio provided separate revenue screen shots for CSP and OPCo, which reflected the EE/PDR Rider revenues on a monthly basis. The revenue screenshots for 2016 are summarized in the exhibit below:

Exhibit 11-19. Revenue Screen Shots for CSP and OPCo for 2016

CSP	January 2016	February 2016	March 2016	April 2016	May 2016	June 2016	July 2016	August 2016	September 2016	October 2016	November 2016	December 2016	Total
Residential	$ 3,161,716	$ 3,152,157	$ 2,663,335	$ 2,177,658	$ 1,907,035	$ 2,473,795	$ 3,186,517	$ 3,626,748	$ 3,570,721	$ 2,431,870	$ 2,025,974	$ 2,869,654	$ 33,247,181
Other C&I	$ 2,600,095	$ 2,560,863	$ 2,533,652	$ 2,344,636	$ 2,328,404	$ 2,648,041	$ 2,781,880	$ 3,079,101	$ 3,012,312	$ 2,668,770	$ 2,355,298	$ 2,640,919	$ 31,553,971
GS-4	$ 190 337	$ 229 231	$ 191 328	$ 183 967	$ 197 492	$ 188 765	$ 208 733	$ 219 993	$ 227 360	$ 201 615	$ 186 234	$ 192 786	$ 2 417 842
Total	$ 5,952,148	$ 5,942,252	$ 5,388,315	$ 4,706,262	$ 4,432,931	$ 5,310,601	$ 6,177,130	$ 6,925,842	$ 6,810,393	$ 5,302,255	$ 4,567,506	$ 5,703,359	$ 67,218,994
OPCo	**January 2016**	**February 2016**	**March 2016**	**April 2016**	**May 2016**	**June 2016**	**July 2016**	**August 2016**	**September 2016**	**October 2016**	**November 2016**	**December 2016**	**Total**
Residential	$ 3,242,998	$ 3,118,229	$ 2,674,206	$ 2,270,849	$ 1,876,743	$ 2,347,824	$ 2,849,735	$ 3,252,912	$ 2,976,805	$ 2,155,052	$ 1,966,845	$ 2,909,697	$ 31,641,894
Other C&I	$ 2,693,636	$ 2,814,283	$ 2,714,268	$ 2,616,812	$ 2,512,928	$ 2,853,691	$ 2,909,733	$ 3,104,623	$ 3,066,824	$ 2,727,147	$ 2,571,902	$ 2,762,761	$ 33,348,606
GS-4	$ 532,656	$ 608,267	$ 550,976	$ 535,878	$ 502,077	$ 551,099	$ 475,998	$ 545,201	$ 542,789	$ 584,851	$ 505,563	$ 545,174	$ 6,480,529
Total	$ 6,469,290	$ 6,540,779	$ 5,939,449	$ 5,423,538	$ 4,891,749	$ 5,752,614	$ 6,235,465	$ 6,902,735	$ 6,586,418	$ 5,467,050	$ 5,044,310	$ 6,217,632	$ 71,471,029
CSP & OPCo	**January 2016**	**February 2016**	**March 2016**	**April 2016**	**May 2016**	**June 2016**	**July 2016**	**August 2016**	**September 2016**	**October 2016**	**November 2016**	**December 2016**	**Total**
Residential	$ 6,404,713	$ 6,270,387	$ 5,337,541	$ 4,448,507	$ 3,783,778	$ 4,821,619	$ 6,036,251	$ 6,879,659	$ 6,547,526	$ 4,586,922	$ 3,992,820	$ 5,779,351	$ 64,889,075
Other C&I	$ 5,293,731	$ 5,375,146	$ 5,247,920	$ 4,961,448	$ 4,841,333	$ 5,501,732	$ 5,691,612	$ 6,183,724	$ 6,079,136	$ 5,395,917	$ 4,927,199	$ 5,403,679	$ 64,902,577
GS-4	$ 722,993	$ 837,498	$ 742,304	$ 719,845	$ 699,569	$ 739,864	$ 684,731	$ 765,194	$ 770,148	$ 786,466	$ 691,797	$ 737,960	$ 8,898,371
Total	$ 12 421 437	$ 12 483 031	$ 11 327 765	$ 10 129 800	$ 9 324 680	$ 11 063 216	$ 12 412 595	$ 13 828 577	$ 13 396 811	$ 10 769 305	$ 9 611 816	$ 11 920 991	$ 138 690 023

As previously discussed in the context of prior years of the review period, Larkin had requested the Company's 2016 general ledger detail for the accounts in which EE/PDR Rider revenues are recorded.

Larkin had requested the Company's general ledger detail for the accounts in which EE/PDR Rider revenues were recorded in each year of the 2011-2016 review period, which the Company provided in its response to LA-EE PDR-1-4. The general ledger detail for EE/PDR Rider revenue recorded in 2016 is summarized in Exhibit 11-20 below:

Exhibit 11-20. General Ledger Detail for EE/PDR Rider Revenue For 2016

Description	Account	2016
Residential Sales - With Space Heating	4400001	$ 18,300,920
Residential Sales - Without Space Heating	4400002	$ 46,587,700
Commercial Sales	4420001	$ 38,138,607
Industrial Sales (Excluding Mines)	4420002	$ 27,447,172
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$ 159,802
C&I Sales - Affiliated Companies	4420005	$ 112,360
Sales to Public Authorities - Schools	4420006	$ 3,519,294
Sales to Public Authorities - Excluding Schools	4420007	$ 4,339,573
Public Street - Highway Lighting	4440000	$ 55,698
Other Sales - Public Authorities - Excluding Schools	4450002	$ 1,686
Wholesale / Municipal / Public Authorities	4470027	$ 27,212
Total		$ 138,690,023

Upon comparing the 2016 revenues recorded in the general ledger to the monthly screenshots in Exhibit 11-19 above, Larkin noted that the total 2016 revenue of $138.69 million is reflected in both sets of data. However, as a further test of the EE/PDR revenues, Larkin requested that AEP Ohio reconcile the 2016 CSP and OPCo EE/PDR revenues reflected in the screenshots to the related revenue general ledger accounts shown in the exhibit above. In response to LA-EE PDR-14-21, the Company stated that the general ledger data from LA-EE PDR-1-4 was provided by industrial SIC Code (Revenue Class) whereas the revenue screenshots provided in LA-EE PDR-8-6 was provided by Rider Class, which was used in the EE/PDR rate design. Pursuant to this explanation, AEP Ohio provided the following tables in Exhibit 11-21 below, which reconciled the 2016 Residential, Other C&I and GS-4 revenues summarized on the revenue screenshots for CSP and OPCo to the general ledger accounts in which they were recorded:

Exhibit 11-21. Reconciliation of 2016 Revenue Screenshots to General Ledger

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
10	211	GS-4	155,627 96
10	213	GS-4	691,452 75
10	216	GS-4	57,512 65
10	221	GS-4	1,513,248 42
10	010	Other C and I	0 00
10	020	Other C and I	0 00
10	211	Other C and I	19,671,838 32
10	212	Other C and I	2,863,732 53
10	213	Other C and I	1,281,828 12
10	216	Other C and I	2,040,999 82
10	221	Other C and I	5,498,522 05
10	222	Other C and I	64,439 14
10	240	Other C and I	98,558 09
10	400	Other C and I	34,053 21
10	010	Residential	25,364,564 24
10	020	Residential	7,882,516 43
10	211	Residential	100 39
			67,218,994.12

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	25,364,564
020	4400001	Res Sales - W/ Space Heating	7,882,516
211	4420001	Commercial Sales	19,827,567
212	4420001	Commercial Sales	2,863,733
213	4420006	Sales to Public Authorities - Schools	1,973,281
216	4420007	Sales to Public Authorities - Excl Schools	2,098,512
221	4420002	Industrial Sales (Excl Mines)	7,011,770
222	4420002	Industrial Sales (Excl Mines)	64,439
240	4420005	C&I Sales - Affiliated Companies	98,558
400	4440000	Public Street - Hiway Lighting	34,053
	Total CSP		67,218,994

Co Cd	Revn Class Cd	Rider Class	Sales of ELE Amt
07	221	GS-4	6,304,496 88
07	222	GS-4	107,486 49
07	230	GS-4	68,546 08
07	010	Other C and I	1 51
07	020	Other C and I	20 34
07	211	Other C and I	13,325,533 82
07	212	Other C and I	2,121,397 37
07	213	Other C and I	1,546,013 60
07	216	Other C and I	2,241,060 54
07	221	Other C and I	13,390,795 05
07	222	Other C and I	568,183 60
07	230	Other C and I	91,255 45
07	240	Other C and I	12,563 22
07	245	Other C and I	1,238 38
07	400	Other C and I	21,644 59
07	520	Other C and I	1,686 10
07	720	Other C and I	27,212 21
07	010	Residential	21,223,134 11
07	020	Residential	10,418,383 64
07	211	Residential	305 08
07	212	Residential	71 20
			71,471,029.26

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	21,223,136
020	4400001	Res Sales - W/ Space Heating	10,418,404
211	4420001	Commercial Sales	13,325,839
212	4420001	Commercial Sales	2,121,469
213	4420006	Sales to Public Authorities - Schools	1,546,014
216	4420007	Sales to Public Authorities - Excl Schools	2,241,061
221	4420002	Industrial Sales (Excl Mines)	19,695,292
222	4420002	Industrial Sales (Excl Mines)	675,670
230	4420004	Industrial Non-Affiliated (Incl Mines)	159,802
240	4420005	C&I Sales - Affiliated Companies	12,563
245	4420005	C&I Sales - Affiliated Companies	1,238
400	4440000	Public Street - Hiway Lighting	21,645
520	4450002	Other Sales - Public Authorities - Excl Schools	1,686
720	4470027	Wholesale/Muni/Public Authorities	27,212
	Total OP		71,471,029

	CSP	OP	Total
Residential	33,247,181	31,641,894	64,889,075
Other C and I	31,553,971	33,348,606	64,902,577
GS-4	2,417,842	6,480,529	8,898,371
Total	67,218,994	71,471,029	138,690,023

Ties to Revenue Screenshots

Rev Class	Account	Description	Sales
010	4400002	Res Sales - W/O Space Heating	46,587,700
020	4400001	Res Sales - W/ Space Heating	18,300,920
211	4420001	Commercial Sales	33,153,406
212	4420001	Commercial Sales	4,985,201
213	4420006	Sales to Public Authorities - Schools	3,519,294
216	4420007	Sales to Public Authorities - Excl Schools	4,339,573
221	4420002	Industrial Sales (Excl Mines)	26,707,062
222	4420002	Industrial Sales (Excl Mines)	740,109
230	4420004	Industrial Non-Affiliated (Incl Mines)	159,802
240	4420005	C&I Sales - Affiliated Companies	111,121
245	4420005	C&I Sales - Affiliated Companies	1,238
400	4440000	Public Street - Hiway Lighting	55,698
520	4450002	Other Sales - Public Authorities - Excl Schools	1,686
720	4470027	Wholesale/Muni/Public Authorities	27,212
	Total OP		138,690,023

Ties to General Ledger

In addition, Larkin verified that the 2016 revenues are embedded in Schedule 1 from the Company's Application dated May 15, 2017 in Case No. 17-1266-EL-RDR in which revenues totaling $588.067 million are reflected under the column heading "Actual 2012-2016 Rider Revenue." The exhibit below summarizes EE/PDR Rider revenues that were recorded in each year 2012 through 2016 which totals the $588.067 million in the Company's filing.

Exhibit 11-22. Actual EE/PDR Revenue Recorded From 2012 Through 2016

Description	Account	2012	2013	2014	2015	2016	Grand Total
Residential Sales - With Space Heating	4400001	$ 11,795,278	$ 12,506,888	$ 15,578,617	$ 19,357,867	$ 18,300,920	$ 77,539,570
Residential Sales - Without Space Heating	4400002	$ 30,008,068	$ 29,426,565	$ 36,157,968	$ 45,845,375	**$ 46,587,700**	$ 188,025,677
Commercial Sales	4420001	$ 30,116,815	$ 29,748,949	$ 33,183,722	$ 37,787,767	**$ 38,138,607**	$ 168,975,860
Industrial Sales (Excluding Mines)	4420002	$ 19,956,868	$ 19,637,024	$ 22,836,019	$ 28,112,420	**$ 27,447,172**	$ 117,989,503
Industrial Sales - Nonaffiliated (Including Mines)	4420004	$ 181,629	$ 189,589	$ 205,050	$ 231,747	**$ 159,802**	$ 967,816
C&I Sales - Affiliated Companies	4420005	$ 100,264	$ 73,872	$ 104,727	$ 108,934	**$ 112,360**	$ 500,157
Sales to Public Authorities - Schools	4420006	$ 2,592,428	$ 2,588,907	$ 2,994,800	$ 3,456,938	**$ 3,519,294**	$ 15,152,367
Sales to Public Authorities - Excluding Schools	4420007	$ 2,850,601	$ 3,238,573	$ 3,748,184	$ 4,335,800	**$ 4,339,573**	$ 18,512,730
Public Street - Highway Lighting	4440000	$ 53,785	$ 54,421	$ 53,591	$ 55,603	**$ 55,698**	$ 273,098
Other Sales - Public Authorities - Excluding Schools	4450002	$ 1,117	$ 1,382	$ 1,474	$ 2,367	**$ 1,686**	$ 8,027
Wholesale / Municipal / Public Authorities	4470027	$ 21,121	$ 21,720	$ 24,661	$ 27,950	**$ 27,212**	$ 122,664
Total		$ 97,677,974	$ 97,487,889	$ 114,888,815	$ 139,322,767	**$ 138,690,023**	$ 588,067,468

As shown in bold in the exhibit above, the 2016 EE/PDR Rider revenues of $138.69 million agree with what was recorded in the general ledger as well as the Company's screenshots. No exceptions were noted.

2016 Shared Savings

As discussed in Chapter 4, in its Opinion and Order dated May 13, 2010 in Case Nos. 09-1089-EL-POR and 09-1090-EL-POR, the Commission approved a shared savings mechanism for the period 2009-2011. In addition, in its Opinion and Order dated March 21, 2012 in Case Nos. 11-5568-EL-POR and 11-5569-EL-POR, the Commission approved a revised shared savings mechanism for the period 2012-2016. Pursuant to these Commission Orders, the Company has included shared savings in the calculation of its EE/PDR Rider rates in its filings to the Commission.

As part of its review, Larkin was tasked with verifying the shared savings reflected in the Company's regulated accounting records for each year of the 2011 through 2016 review period. Ordinarily, such verification would entail tracing the shared savings amounts to the Company's general ledger, However, as previously discussed in Chapter 4, in its supplemental response to LA-EE PDR-18-4, the Company explained that the shared savings are not separately identified in the general ledger, but rather are a component of the costs included in Supplemental Attachment 1, which is a large Excel file that was provided in that supplemental response. Specifically, the shared savings amounts are not booked to the general ledger separately and instead are included in Supplemental Attachment 1 as ledger detail,[106] the amounts of which can be traced to the reconciliation provided in the confidential response to LA-EE PDR-12-18. Larkin reviewed the electronic version of Supplemental Attachment 1 and noted that it contained the Company's accounting for shared savings for CSP and OPCo on separate tabs in the Excel file and in total on a tab titled "Merged".

For 2016, from the "Merged" tab, Larkin recalculated the monthly shared savings amounts for the residential, commercial and industrial rate class, which totaled the amounts shown in the exhibit below:

[106] See the supplemental response to LA-EE PDR-18-4.

Exhibit 11-23. 2016 Shared Savings for the Residential, Commercial and Industrial Rate Classes

Description	2016
Residential Rate Class	$ 14,040,000
Commercial Rate Class	$ 10,124,400
Industrial Rate Class	$ 7,035,600
Total Shared Savings	$ 31,200,000
Source: LA-EE PDR-18-4 (Supplemental Attachment 1)	

As shown in the exhibit above, the shared savings for the residential, commercial and industrial rate classes totaled $14,040,000, $10,124,400 and $7,035,600, respectively, for a total of $31,200,000 for 2016. Larkin verified this amount to the reconciliation that was provided in the confidential response to LA-EE PDR-12-18. No exceptions were noted.

The amount of 2016 shared savings reflected in the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR was $31,180,283 or a difference of $19,717. The reconciliation provided in the confidential response to LA-EE PDR-12-18 included footnote "i", which stated:

> $19,717 is 2016 difference for the Shared Savings tax gross-up %. This was corrected in May 2017 (see b. on Journal Entries tab).

Larkin reviewed the journal entry on the referenced tab to the reconciliation from LA-EE PDR-12-18 and verified the amount and that it was recorded on May 1, 2017.

A detailed discussion of the shared savings calculations in the Company's filings for each year of the 2011-2016 review period are discussed in Chapter 15 of this report.

IRP-D Credits - 2016

As discussed in Chapter 4, in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO, the Commission approved the IRP-D credit at $8.21/kW-month and ruled that since the IRP-D credit promotes energy efficiency, it is appropriate for AEP Ohio to recover any costs associated with the IRP-D through the EE/PDR Rider. As shown on Schedule 4 from the Company's EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR, the actual IRP-D credits for 2016 totaled $17,770,512. Larkin requested that AEP Ohio provide documentation that supports this amount, which the Company provided in its confidential response to LA-EE PDR-18-5 and which has been replicated in the exhibit below:

Exhibit 11-24. Actual IRP-D Credit for 2016

Account Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
[redacted]	[redacted]												
Total IRP KW	171,000.0	177,566.0	179,700.0	179,714.0	180,148.0	178,879.0	170,680.0	191,597.0	192,346.0	192,362.0	170,800.0	179,704.0	2,164,496.00
PUCO Ordered Credit	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	$ 8.21	
Monthly Charge to EE/PDR ride	$ 1,403,910	$ 1,457,817	$ 1,475,337	$ 1,475,452	$ 1,479,015	$ 1,468,597	$ 1,401,283	$ 1,573,011	$ 1,579,161	$ 1,579,292	$ 1,402,268	$ 1,475,370	$ 17,770,512
Cumulative 2016 Charge	$ 1,403,910	$ 2,861,727	$ 4,337,064	$ 5,812,516	$ 7,291,531	$ 8,760,127	$ 10,161,410	$ 11,734,422	$ 13,313,582	$ 14,892,874	$ 16,295,142	$ 17,770,512	$ 17,770,512

As shown in the exhibit, the 2016 IRP-D credit was calculated using the \$8.21/kW-month rate that was authorized by the Commission in its Opinion and Order dated August 8, 2012 in Case No. 11-346-EL-SSO

12 DEFERRED BALANCE AS OF DECEMBER 31, 2016

As previously discussed in Chapter 5, the Company had accumulated an over-recovery balance of $18,165,953 as of December 31, 2011, which has been carried over into the Company's EE/PDR filings for the 2012-2016 review period up to an including the Company's filing dated May 15, 2017 in Case No. 17-1266-EL-RDR, which reflects the deferral balance as of December 31, 2016.

Specifically, the Company's EE/PDR filing dated May 15, 2017 reflects an over-recovery balance of $29,058,469 as of December 31, 2016, which is shown on Schedule 1 from the Company's filing, and replicated in Exhibit 12-1 below:

Exhibit 12-1. Calculation of EE/PDR Rider for Period of January 2012 through December 2016

Tariffs	2009-2011 (Over) / Under	2012-2016 Actual Program Costs ($)	2012-2016 Actual Shared Savings ($)	Total ($)	Total IRP Less: Revenue Credits	Total Revenue Requirement	Actual 2012-2016 Rider Revenue	Remaining Rider Revenue To be Collected	2017 Forecasted Metered Energy (kWh)	EE&PDR Rider ($/kWh)	Revenue Verification ($)
RS	$ 1,843,289	$ 180,661,876	63,042,185	$ 245,547,350	$ 23,708,306	$ 289,255,656	$265,585,586	$3,690,069	14,316,196,403	$ 0.0002578	$3,690,069
	$ -				$ -	$ -					
All Other C&I	$ (18,052,090)	$ 157,381,754	84,135,759	$ 223,465,423	$ 31,879,702	$ 255,345,125	$289,736,012	($34,390,887)	19,250,471,895		
GS4/IRP	$ (1,957,152)	$ 16,500,648	8,821,097	$ 23,364,593	$ 11,043,625	$ 34,408,218	$32,765,870	$1,642,349	6,668,663,405		
Total C&I	$ (20,009,242)	$ 173,882,402	92,956,856	$ 246,830,016	$ 42,923,327	$ 289,753,343	$322,501,882	$ (32,748,539)	25,919,135,300	$ (0.0012635)	$ (32,748,539)
	$ -			$ -							
Total	$ (18,165,953)	$ 354,544,278	155,999,041	$ 492,377,366	$ 66,631,633	$ 559,008,999	$588,067,468	$ (29,058,469)	40,235,331,703		(29,058,469)

As part of its review of the EE/PDR programs, Larkin requested that AEP Ohio identify the amount of any deferred asset, regulatory asset and/or regulatory liability at December 31 of each year 2010 through 2016, which the Company provided in response to LA-EE PDR-1-7. This part of our review as it relates to the period 2009 through 2011 was previously discussed in Chapter 5. As it relates to the period 2012 through 2016, the response to LA-EE PDR-1-7 indicated the following over/under recovery balances at December 31 of each of those years:

Exhibit 12-2. (Over)/Under-Recovery Balances as of December 31

Description	(Over)/Under Recovery Amount
2012 - Over Recovery	$ (12,595,580)
2013 - Under Recovery	$ 18,528,782
2014 - Under Recovery	$ 29,067,267
2015 - Over Recovery	$ (1,469,534)
2016 - Over Recovery	$ (29,043,829)
Source: LA-EE PDR-1-7	

As noted in the exhibit above, the response to LA-EE PDR-1-7 indicates an over-recovery balance of $29,043,829 as of December 31, 2016[107], whereby the EE/PDR filing dated May 15, 2017 in Case No. 17-1266-EL-RDR reflects December 31, 2016 over-recovery balance of $29,058,469, or a difference of $14,640. Larkin traced the $29,043,829 over-recovery balance noted in response to LA-EE PDR-1-7 to the general ledger. Since the over/under recovery balances are cumulative over the years of the review period, Larkin requested that the Company identify and provide information for each year's billed and accrued revenue (and any other information) needed to reconcile the EE/PDR over-under recovery amounts recorded in the general ledger with the amounts reflected in the EE/PDR filings.

In its response to LA-EE PDR-12-18, the Company stated that the difference is "due to the methodology of creating a new Regulated Accounting Over/Under (O/U) calculation for corrections/adjustments to match the filings. Then the new Regulatory Accounting Over/Under calculated balance was subtracted from the previous Regulatory Accounting Over/Under calculation for the adjusting journal entry." In addition, the response to LA-EE PDR-12-18 included a confidential attachment which provided the requested reconciliation between the over-under recovery balances recorded in the general ledger and those reflected in the Company's EE/PDR filings.

As shown in the exhibit below, using the information from the confidential attachment to LA-EE PDR-12-18 and starting with the over-recovery balance as of December 31, 2011, Larkin calculated the cumulative over-under recovery balances as recorded in the general ledger and as reflected in the EE/PDR filings, which results in the $14,640 difference noted below:

[107] The supplemental response to LA-EE PDR-1-7, which provided corrected (over)/under recovery information related to 2010, stated that the amounts shown for all other years (i.e., 2011 through 2016) are correct.

Exhibit 12-3. Differences of the Over-Under Recovery Balances Between AEP Ohio's General Ledger and EE/PDR Filings

Date	Over/(Under) Balance Per Adjusted Accounting Records	Cumulative Over/(Under) Balance Per G/L
12/31/2011		$ 19,124,332
12/31/2012	$ (6,528,753)	$ 12,595,580
12/31/2013	$ (31,189,282)	$ (18,528,782)
12/31/2014	$ (10,538,485)	$ (29,067,267)
12/31/2015	$ 30,753,803	$ 1,469,534
12/31/2016	$ 27,568,877	$ 29,043,829
Date	**Over/(Under) Balance Per EE/PDR Filings**	**Cumulative Over/(Under) Balance Per Filings**
12/31/2011		$ 18,165,953
12/31/2012	$ (4,529,318)	$ 13,636,634
12/31/2013	$ (30,955,118)	$ (17,318,484)
12/31/2014	$ (12,781,950)	$ (30,100,434)
12/31/2015	$ 31,570,302	$ 1,469,868
12/31/2016	$ 27,588,601	$ 29,058,469
	Difference	$ 14,640

As shown in Exhibit 12-4 below, the reconciliation provided by AEP Ohio in response to LA-EE PDR-12-18 included a breakout of various items between 2009 and 2016 which results in a cumulative difference of $14,647, or $7 greater than the $14,640 noted in Exhibit 12-3 above, which Larkin considers immaterial.

Exhibit 12-4. Reconciliation Items for the period 2009-2016 Over-Recovery Differences Between Discovery Response and General Ledger

Description	2009	2010	2011	2012	2013	2014	2015	2016	Total
Total Difference between Reg Acct and Filing Annual Over/(Under) Recovery is comprised of the following components:	$ 4,723,052	$ (3,693,467)	$ (71,205)	$ (1,934,514)	$ (234,165)	$ 2,026,464	$ (811,095)	$ (19,717)	$ (14,647)
Shared Savings	$ 1,631,311	$ (1,191,459)	$ (383,383)	$ 1,345,439	$ -	$ -	$ 579,406	$ 19,717	
Program Costs	$ -	$ (0)	$ (0)	$ (1)	$ 0 059	$ 0	$ 12	$ (0)	
IRPD-Cr	$ -	$ -	$ -	$ 589,076	$ 233,959	$ (1,057,996)	$ 231,677	$ (0)	
Lost D Reve	$ 3,091,741	$ 4,884,926	$ 454,588	$ -	$ -	$ (968,469)	$ -	$ -	

With regard to the reconciliation items in the exhibit above, AEP Ohio included footnotes, which stated:

> The 2009-2012 differences for Shared Savings and Lost Distribution Revenues (SS and Lost D Rev) are primarily due to Reg. Acct. timing differences due to using a 2 month lag for SS and Lost D Rev Estimated and Actual Revenue cycles versus the filings using Actual revenues. The two month lag ended 12/31/2012.

> The 2012-2015 differences for Interruptible Credit (IRPD-Cr) are primarily due to Reg Acct. timing differences due to using IRPD-Cr Billed and Accrued revenues versus the rate filings using Billed revenues only. Reg Acct. began to use Billed revenues only beginning 1/2016.
>
> $19,717 is the 2016 difference for the Shared Savings tax gross up %. This was corrected in May 2017.[108]

The Company clarified the $14,640 difference in its response to LA-EE PDR-14-22 where it *stated:*

> Of this difference, $19,717 was due to timing differences between the forecast and actual taxes used in the Shared Savings gross up percentage. The Company books an estimated Shared Savings Tax gross-up in the forecast portion of the EE/PDR filing then trues it up in the next filing when the forecast period becomes actual. The $19,717 difference was corrected on AEP Ohio's books in May 2017 with support being provided in the Confidential reply to LA-EE PDR-12-18 (footnote "b")...
>
> Of the remaining difference of $5,077, $3,284 is due to billed cost of the IRP program being collected through the rider and billed and accrued revenue being used by accounting for the IRP component. This was noted in Confidential LA-EE PDR-12-18 attachment (footnote "g")...
>
> The accounting department will book an adjusting entry in January 2018 business to Account for the difference in the IRP-D Credit of $3,284 and an unreconciled difference of $1,793 due to being immaterial.

As for the over-collection of $29,058,469 reflected in the Company's May 15, 2017 EE/PDR filing in Case No. 17-1266-EL-RDR, AEP Ohio stated that it proposed to use the amount that *was higher by $14,640 because it was beneficial to customers and the timing differences were* known.

[108] The journal entry for this correction was provided in response to LA-EE PDR-12-18.

13 ADJUSTMENTS TO AEP OHIO'S RECORDED COSTS

Incentive and Stock-Based Compensation

As part of our review of the costs associated with AEP Ohio's EE/PDR programs for the period 2011 through 2016, Larkin requested the Company's detailed general ledger files. In its response to LA-EE PDR-1-5, AEP Ohio provided the Company's EE/PDR general ledger cost detail for each year 2011 through 2016.

Larkin reviewed the general ledger transaction detail that was provided in the aforementioned response to LA-EE PDR-1-5. Pursuant to this review, Larkin inquired as to whether any costs for incentive compensation or stock-based compensation were charged to the EE PDR programs in each year during the 2011-2016 review period. Beginning with its response to LA-EE PDR-4-7 and ending with LA-EE PDR-4-12, AEP Ohio provided the requested information for each year 2011 through 2016.

Before the specific amounts of incentive compensation and stock-based compensation that were charged to the EE/PDR programs during each year of the 2011-2016 review period are addressed (see additional discussion below), a discussion of the cost centers that are applicable to these costs is warranted. Specifically, the Company has identified four cost centers that are applicable to the incentive compensation and stock-based compensation charged to the EE/PDR programs during the review period. The four cost centers are as follows:

1. CC 122 Labor Fringes (Incentive Accrual)
2. CC 141 Incentive Accrual Department Level
3. CC 145 Stock-Based Compensation
4. CC 154 Restricted Stock Incentives

In response to LA-EE PDR-8-8, which requested that the Company identify and provide the policies and procedures detailing how each type of labor-related cost is allocated to the EE/PDR programs, AEP Ohio provided Attachment 1, which is a summary of the labor cost components associated with the EE/PDR programs. One such cost component that relates to the labor fringes associated with incentive compensation is Cost Center 122. The Company described Cost Center 122 as follows:

> CC 122 = partial fringe loading on applicable incentive accruals: 141 (general), 148 (corp and shared services), 149 (generation), 150 (nuclear), 151 (energy services non-generating), 155 (transmission), and 158 (energy services generating).

Of the incentive accruals listed in the passage above to which the 122 labor fringe loading cost center is applicable, only those related to Cost Center 141 (general) were allocated to the

EE/PDR programs. Attachment 1 from the response to LA-EE PDR-8-8 identified the cost types applicable to the 122 labor fringe loading cost component as relating to FICA and the Savings Plan. In addition, the allocation method for the 122 labor fringe loading cost component is determined quarterly and spread over labor based on fringe and labor costs.

As it relates to the 145 and 154 cost centers for stock-based compensation[109] and restricted stock incentives, respectively, Attachment 1 from the response to LA-EE PDR-8-8 states:

> Incentives are loaded over the labor basis on each biweekly pay, as applicable. Pool costs are submitted based on HR and Corporate Accounting analyses. Amounts will load over the labor basis consisting of both straight-time and overtime earnings subject to qualifying plans. Incentives are apportioned based on the benefiting organizations; accordingly the costs spread over GLBU and departmental groups included in the cost assignment.

In addition to the foregoing, the response to LA-EE PDR-8-8 also included Attachment 3, which is a AEP generated document titled "Incentive Accrual Overhead Loading." This document states that the purpose of this overhead is to load estimated costs of incentive compensation to productive labor costs and to accrue a liability in the year earned for payment of incentive compensation in the following year.

This document states that performance share incentives ("PSI") and restricted stock units ("RSU") do not receive a partial fringe loading (Cost Center 122) or a FICA and savings accrual (Cost Center 127) and that both incentives are excluded from the savings plan. The Company stated that the reason for not loading FICA for these two plans is because the participants are at the executive level and typically reach the FICA limit with their bi-weekly pay.

In terms of procedure, the Expense Allocations ("EA") group at the Company's offices in Canton, Ohio is responsible for loading the annual incentive accrual, while the Regulated Accounting group at AEPSC, along with Corporate Planning and Budgeting, supplies the estimated incentive compensation amounts. The specific procedures performed by these groups are as follows:

> For each biweekly pay, Regulated Accounting provides the EA group with the estimates for the incentive accruals by GLBU and high-level department. The estimates are provided as dollar amounts to load per pay period. These amounts are loaded by EA in the PeopleSoft table Z_LD_CIP_ACCRUAL. During each bi-weekly pay process, as part of the overhead allocation group, the incentive accrual amounts are loaded on productive labor as either cost component 141 (Energy Delivery Incentive), 145 (Performance Share Incentive), 148 (Corp & Shared Service Incentive), 149 (Fossil & Hydro Incentive), 151 (ES Non Generation Incentive), 153 (Stock-Based Compensation Units), 154 (Restricted Stock Units), 155 (Transmission Incentive), 157 (Restricted Stock Cash Payout), or 158 (ES Generation Incentive) at the department id level. While the estimates are loaded into the table at a level 2, 3 or 4 department node (ex 10559R) the

[109] Attachment 1 to LA-EE PDR-8-8 indicates that cost component 145is also referred to Performance Share Incentives.

allocation spreads the incentive amounts to all departments rolling up to the level 2, 3 or department node.

Components of employee incentive compensation that was related to the Company's financial goals had been removed by Staff in AEP Ohio's last distribution rate case filing (Case Nos. 11-351-EL-AIR and 11-352-EL-AIR). Specifically, as it relates to CSP and OPCo, in its reports dated September 5, 2011 that were filed with the Commission in the aforementioned distribution rate case, Staff stated the following with regard to incentive compensation:

> Incentive pay is based on actual incentive pay as of May 31, 2011, reduced by 40% for incentive pay attributable to the obtainment of financial goals.

Through discovery and as discussed below, Larkin has identified amounts of disallowable incentive and stock-based compensation for each year, 2011 through 2016.

AEP Ohio has indicated in responses to discovery, including LA-EE PDR-12-3, that it does not agree with the removal of any of the incentive or stock-based compensation costs identified. Incentive compensation related to financial results would be recommended for disallowance in an AEP Ohio distribution rate case; it should therefore not be included in recoverable EE/PDR costs. As noted above, in the most recent AEP Ohio distribution rate case in Case Nos. 11-351-EL-AIR and 11-352-EL-AIR, Staff reduced O&M related incentive compensation by 40% to reflect the removal of incentive compensation related to the Company's financial goals.

A discussion of the incentive compensation and stock-based compensation costs charged to the EE/PDR programs for each year of the 2011-2016 review period is included in the sections below.

Review of 2011 Incentive Compensation and Stock-Based Compensation

LA-EE PDR-4-7(e) asked AEP Ohio whether any costs for incentive compensation or stock-based compensation was charged to the EE PDR work orders in 2011. In its response, the Company referred to Attachment 2 from that response. The data provided on Attachment 2 reflected the following amounts for 2011: (1) $28,143 for cost center 122 - Labor Fringes (Incentive Accrual); (2) $240,299 for cost center 141 (Incentive Accrual Dept Level); (3) $210,210 for cost center 145 (Stock-based Compensation); and (4) $35,118 for cost center 154 (Restricted Stock Incentives) for an overall total of $513,770. These amounts were initially provided as totals (by cost center), but in a Confidential attachment that AEP Ohio included in its response to LA-EE PDR-12-5, the Company provided a breakout of each cost center by FERC account, which has been replicated in the exhibit below:

Exhibit 13-1. Incentive Compensation and Stock-Based Compensation Charged to EE/PDR Program Costs in 2011

2011 Description	Cost Center	9070001 Supervision Demand Side Management	9080009 Cust Assist Exp Demand Side Management	9110001 Supervisor Residential Sales Activities	9110002 Supervisor Common & Ind Sales Activities	9200000 Adminstrative & Gen Salaries	Total
Labor Fringes (Incentive Accrual)	122	$ 11,660	$ 13,528	$ 2,242	$ 678	$ 36	$ 28,143
Incentive Accrual Department Level	141	$ 99,277	$ 115,752	$ 19,143	$ 5,835	$ 293	$ 240,299
Stock-Based Compensation	145	$ 82,448	$ 103,953	$ 19,862	$ 3,947	$ -	$ 210,210
Restricted Stock Incentives	154	$ 15,304	$ 16,639	$ 2,775	$ 399	$ -	$ 35,118
Total							$ 513,770
Source: LA-EE PDR-12-5							

As shown in the exhibit, the costs related to incentive compensation and stock-based compensation that were charged to the Company's EE/PDR programs in 2011 were broken into the four cost centers previously discussed and also broken out by FERC account. During the interviews on October 19, 2017, the Company stated that these amounts reflect actuals taken from the general ledger, which Larkin verified.[110]

LA-EE PDR-4-7, also inquired as to whether any of the amounts for incentive or stock-based compensation charged to the EE/PDR programs in 2011 were related to AEP's stock price, dividends or financial goals. In response, the Company referred to the response to LA-EE PDR-4-8, which stated that each of the amounts shown in the exhibit above, including the amounts associated with Cost Center 122, include elements related to AEP's stock price, dividends, and/or financial goals. However, upon reviewing the responses to LA-EE PDR-4-7 and LA-EE PDR-4-8 (as well as LA-EE PDR-4-9 through LA-EE PDR-4-12) the accuracy of those responses was *called into question insofar as each of the referenced responses indicated that 21.5% of the actual* payout of incentive compensation was related to AEP Ohio's net income for each year 2011 through 2016.

Following a discussion of these responses with the Company during the interviews on October 19, 2017, Larkin issued a follow-up data request that asked AEP Ohio to confirm the accuracy of the aforementioned responses, including (1) the percentage of the target that is tied to AEP Ohio's net income; (2) the actual payout; (3) the percentage of target scope for the AEP Ohio net income goal which provided the basis for the actual payout; (4) details showing the AEP Ohio net income for each year and how it relates to the target; (5) the modifier applicable to each year; and (6) the percent of the actual payout that is tied to AEP Ohio net income. In response to LA-EE PDR-12-3, which reflected corrected information related to LA-EE PDR-4-7,[111] AEP Ohio stated the following:

- Of the amount reported in part a) - cost component "122 Labor Fringes (Incentv Accr)", the amount reported in part b) - cost component "141 Incentive Accrual Dept Level", is the same as part a above.

[110] *The amounts provided for 2012 through 2016 also reflect actual amounts from the general ledger.*
[111] This response also reflects corrected responses to part "e" of data requests LA-EE PDR-4-8 through LA-EE PDR-4-12, which cover the periods 2012 through 2016.

- o All employees who charged time to the EE/PDR rider in 2011 participated in the AEPSC plan, rather than the AEP Ohio plan applicable in subsequent years. The weight of the AEP Ohio Net Income goal reflects the 10% weight of AEP OH Net Income goal in the AEP Ohio plan and the weight of the AEP Ohio plan in the target weighted average of all AEP business units and Operating Companies (4.88%), which was the operating measure used for AEPSC employee awards. However, the actual payout for 2011 was based on a 0.854% of target score for the AEP Ohio Net Income goal and a 0.938 Modifier. Multiplying these factors results in a weighted contribution of 0.4% from AEP Ohio Net Income goal to the actual 120.9% of target total payout. The Ohio Net Income goal therefore *contributed 0.3% of the total payout (0.4% / 120.9% = 0.3%).*[112]
- o 75% of the Modifier was tied to AEP's operating earnings per share, which is a funding factor that services to better ensure that the parent company can afford to make annual incentive payments to employees while also keeping its commitments to customers, shareholders and other stakeholders. AEP's funding measure is not the focus of communications to participants, AEP Ohio only contributes a small portion of the earnings that determine the Modifier score and few, if any, AEP Ohio employees are in a position to have any impact on the Modifier score. Such financially-based funding measures are typically not excluded even when financial-based performance measures are excluded.

- The amount reported in part c) - cost component "145 Stock-based Compensation" is related to performance shares/units, which is tied to AEP's operating earnings per share relative to a board approved target and total shareholder return relative to a peer group of similar utility holding companies, both of which are financial performance measures. It is also denominated in AEP shares, so their value is also related to AEP's share price.
- The amount reported in part d) - cost component "154 Restricted Stock Incentives" is related to restricted shares or units that are not tied to any performance measures, financial or otherwise. Restricted stock units are, however, denominated in AEP shares, so their value is related to AEP's share price.

According to the response to LA-EE PDR-12-4, the Modifier for each plan year is calculated as the Weighted Average Funding Score divided by the Average Operating Performance Score ("AOPS"). The Company defines AOPS as being the average of the Composite Scores for all incentive groups weighted by the aggregate target incentive award for all participants in each incentive group.

As part of its response to LA-EE PDR-12-3, AEP Ohio included Confidential Attachment 1, which summarized the information discussed above related to the AEP Ohio Net Income goal, total payout percentage, etc. However, upon reviewing this confidential attachment, Larkin noted several discrepancies between the data shown and the Company's written response to LA-EE PDR-12-3 (cited in the bullet points above). Larkin's issued follow-up discovery in which

[112] As discussed in further detail below, Larkin noted discrepancies between the Company's written response to LA-EE PDR-12-3 and the data shown on Confidential Attachment 1 to that response.

we inquired about these discrepancies, which the Company addressed in its response to LA-EE PDR-13-2 (see discussion below). The Company prefaced its response by stating the following:

> In addressing annual incentive compensation, it would be helpful for the auditor to understand that, at least until now, the Company has not had a need to maintain or provide detailed incentive plan inputs and calculations after its internal audits are complete and incentive awards are determined. The Company has never provided the level of incentive plan detail requested in this audit before. As such, this information is generally not available without extensive research and analysis to reconstruct it from multiple high level and underlying sources, some of which are pdf files that no longer contain calculations, when such information is available at all.
>
> There are a large number of inputs into incentive plan calculations and performance measure results often change during the final calculation process. When such changes occur, it is generally only necessary to update the final results at a high level and to update the underlying sources to the extent they have changed. However, the underlying sources are not necessarily updated for changes for which they are not the primary source. This creates a situation in which some of the underlying source information was never fully updated. Reconstruction of these incentive plan calculations relies on research of both the underlying and high level sources. As such it is challenging to ensure that the information provided are the final results and that the calculations are exactly the same as those used at the time.

With regard to the discrepancies between the Company's written response to LA-EE PDR-12-3 and Confidential Attachment 1 to that response, as noted in the passage above, the response to LA-EE PDR-12-3 discusses the percentage of the target that is tied to AEP Ohio's net income. However, Confidential Attachment 1 from LA-EE PDR-12-3 states in part the following with respect to the period 2011 through 2013:

> 2011-2013 ICP tied to ROE results, not Net Income. For 2011 the AEPSC plan was applicable for all employees who charged time to this rider, not the AEP Ohio plan.

In its response to LA-EE PDR-13-2(a) the Company confirmed that for 2011 through 2013, the target payout for each of these years was based on AEP Ohio ROE results and not net income. Consequently, the Company stated: "For the years 2011 through 2013 all uses of the term "net income" should be replaced with the term "ROE". In addition, the Company confirmed that the percentages reflected on Confidential Attachment 1 for 2011 through 2013 are based on the AEP Ohio ROE measure. The following section discusses the discrepancies Larkin identified as it pertains to the targeted 2011 payouts:

> As noted in the passage above, the Company stated that the Modifier for 2011 was 0.938%. However, Confidential Attachment 1 reflects a Modifier of 0.958% for 2011. In response to LA-EE PDR-13-2(e), the Company stated that for 2011, a Modifier score of 0.958% was applicable to staff positions, including employees who charged time to the EE PDR rider whereas a Modifier score of 0.938% was applicable for business units and

> operating company employees, which includes AEP Ohio. Due to a late change in one business unit's overall score, which was flowed through to the staff group, but not to each business unit and operating company, two different modifier scores were applicable to 2011. AEP Ohio stated that a business decision was made to limit the impact of this late change to the staff group as well as the related business unit. As a result, the Company stated: "Because the employees who charged time to the EE PDR rider during 2011 participated in the AEPSC staff plan for that year, the 0.958% modifier score is the applicable modifier score.
>
> For 2011, Confidential Attachment 1 reflects a Ohio overall score of 0.846% versus the 120.9% discussed in the response to LA-EE PDR-12-3. In response to LA-EE PDR-13-2(h), the Company stated that the 2011 Ohio overall score was 0.846% and that the 120.9% figure was incorrect. As noted above, the response to LA-EE PDR-13-2(a) stated that all uses of the term "net income" should be replaced with the term "ROE measure" for each year 2011 through 2013. As a result, the last two sentences from the passage on page 13-4 above should be corrected to state: "Multiplying these factors results in a weighted contribution of 0.4% from the AEP Ohio ROE goal to the actual .846 of target total payout. The Ohio ROE goal therefore contributed 0.5% of the total payout (0.4% / 84.6% = 0.5%)."

Pursuant to the previous bullet point, AEP Ohio stated the following as it relate to the error discussed above:

> The source of this error seems to be confusion about what information was being requested and should be provided, given that the employees who charged time to the EE PDR rider participated in the AEPSC staff plan for 2011, rather than the AEP Ohio incentive plan. Therefore, the AEP Ohio overall incentive score is not relevant to this audit for that year.
>
> The relevant information for 2011 is the contribution of the AEP OH ROE measure to the overall score for the AEPSC incentive compensation plan. The AEP Ohio Net Income goal had a 10% weight for 2011 in the AEP Ohio incentive plan. The weight of the AEP Ohio incentive plan in the target weighted average of all AEP business units and Operating Companies was 4.88%. This target weighted average of all AEP business units and Operating Company scores is the operating score used for the AEPSC staff plan. However, the actual payout for 2011 for this group was based on a 85.4% of target score for the AEP Ohio Net Income goal and a 0.938 Modifier. Multiplying these factors (10% x 4.88% x 85.4% x 93.8% = 0.4%) results in a weighted contribution of 0.4% from AEP Ohio Net Income goal to the actual 103.3% of target total payout for the AEPSC incentive plan. The Ohio Net Income goal therefore contributed 0.4% of the total payout (0.4% / 103.3% = 0.4%).

Larkin reviewed AEP's 2011 Annual Incentive Plan ("2011 Plan"), which was provided in response to LA-EE PDR-12-6. In the "2011 Overview" section of the 2011 Plan, it states in part that annual incentive compensation is tied to AEP's company performance through the EPS measure, which establishes the overall funding for AEP's annual incentive program. In addition, under the "2011 EPS Performance Measure" section on page 2 of the 2011 Plan, its states that tying annual funding to AEP's EPS:[113]

> Further aligns the financial interests of all AEP employees with those of AEP's shareholders.
>
> Ensures that adequate earnings are generated for AEP's shareholders and continued investment in AEP's business before employees are rewarded with annual incentive compensation; and
>
> Aligns employee interest with those of regulated ratepayers by encouraging strong expense discipline, among other reasons.

Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2011 be reduced by 0.4%,which reflects the percentage of the actual incentive compensation payout in 2011 that was tied to AEP Ohio's ROE. The portion of incentive compensation that relates to the Company achieving its financial goals, and not directly tied to the achievement of regulated utility service requirements, should be borne by the Company's shareholders, not ratepayers.

In addition, Larkin recommends that 100% of the stock-based compensation and restricted stock incentives that were paid out in 2011 be removed from the 2011 EE/PDR program costs. Ratepayers should not be required to pay for compensation that is based on the performance of the Company's (or its parent company's) stock price, or which has the primary purpose of benefitting the parent company's stockholders and aligning the interests of participants in the stock-based compensation plans with those of such stockholders. Prior to being required to expense stock options for financial reporting purposes under Accounting Standards Codification ("ASC") 718 (formerly Statement of Financial Accounting Standards No. 123R), the cost of stock options was typically treated as a dilution of shareholders' investments, i.e., it was a cost borne by shareholders. While AEP provides its stock-based compensation in forms other than stock options (such as performance shares and restricted stock), and ASC 718 now requires stock option costs to be expensed on a company's financial statements, this does not provide a reason for shifting the cost responsibility for stock-based compensation to utility ratepayers.

Our recommendation reduces incentive compensation and related labor fringes by $1,037, stock-based compensation by $210,210 and restricted stock incentives by $35,118 for an overall reduction to the 2011 EE/PDR programs of $246,365.

Supplemental Executive Retirement Plan - 2011 Only

The Supplemental Executive Retirement Plan ("SERP") is a retirement plan which provides supplemental retirement benefits for select executives. Generally, SERPs are implemented for executives to provide retirement benefits that exceed amounts limited in qualified plans by Internal Revenue Service ("IRS") limitations. Companies usually maintain that providing such supplemental retirement benefits to executives is necessary in order to ensure attraction and

[113] The Annual Incentive Compensation plans that were provided for each year 2012 through 2016, in response to LA-EE PDR-12-6, contained similar verbiage.

retention of qualified employees. Typically, SERPs provide for retirement benefits in excess of the limits placed by IRS regulations on pension plan calculations for salaries in excess of specified amounts. IRS restrictions can also limit a company's 401(k) contribution such that a company's 401(k) contribution as a percent of salary may be smaller for a highly paid executive than for other employees.

Larkin inquired as to whether the Company had charged and/or allocated any SERP costs to the EE/PDR programs during the 2011-2016 review period. In its response to LA-EE PDR-9-1, AEP Ohio stated that SERP expense totaling $16,340 was allocated to the EE/PDR programs in 2011, but that no SERP expense was allocated to the EE/PDR programs during the period 2012 through 2016. The Company provided the following explanation for this:

> Prior to the December 31, 2011 merger of Columbus Southern Power and Ohio Power, all employees for the EE/PDR were AEPSC employees, as their time had to be allocated between CSP and OPCo. Thus, for 2011, amounts for the Supplemental Savings Plan and SERP were included through AEPSC allocation as part of the AEPSC bill. Beginning in 2012, all EE/PDR employees were Ohio Power employees; as such, the AEPSC allocation of SERP was not included in the EE/PDR rider and the amount of the Supplemental Savings Plan was lower for 2012-2016.

The provision of additional retirement compensation to the Company's highest paid executives is not a reasonable expense that should be recovered from ratepayers. Therefore, Larkin recommends that 100% of the SERP costs that were allocated to the EE/PDR programs, which totaled $16,340 in 2011, be removed. As noted above, 2011 was the only year in the 2011-2016 review period in which SERP expense was charged to the EE/PDR programs.

Review of 2012 Incentive Compensation and Stock-Based Compensation

In its response to LA-EE PDR-4-8, in which Larkin asked whether any costs for incentive compensation or stock-based compensation was charged to the EE PDR programs in 2012, the Company referred to an attachment to that response, the amounts of which have been replicated in the exhibit below:

Exhibit 13-2. Incentive Compensation and Stock-Based Compensation Charged to EE/PDR Program Costs in 2012

2012 Description	Cost Center	1840041 Undistributed Incentive Fringe Benefit Clearing	9070001 Supervision Demand Side Management	9080009 Cust Assist Exp Demand Side Management	9100001 Miscellaneous Cust Service & Info Expenses	9110001 Supervisor Residential Sales Activities	9110002 Supervisor Common & Ind Sales Activities	9220002 Adminstrative Exp Transfer Const Managerial	Total
Labor Fringes (Incentive Accrual)	122	$ 16,145							$ 16,145
Incentive Accrual Department Level	141		$ 59,152	$ (433)	$ (5,207)	$ 29,178	$ 54,128		$ 136,819
Stock-Based Compensation	145		$ 1,457	$ 23	$ 175	$ 481	$ 1,179	$ 2	$ 3,316
Restricted Stock Incentives	154		$ 878	$ 3	$ 24	$ 501	$ 825	$ 3	$ 2,234
Total									$ 158,514
Source: LA-EE PDR-4-8									

*As shown in the exhibit, similar to 2011, the costs related to incentive compensation and stock-*based compensation that were charged to the Company's EE/PDR programs in 2012 were broken into the four cost centers previously discussed and also broken out by FERC account.

In response to LA-EE PDR-4-8, AEP Ohio stated that each of the amounts shown in the table above, including the amounts associated with Cost Center 122, include elements related to AEP's stock price, dividends and/or financial goals. As discussed above, the response to LA-EE PDR-12-3(e) reflected corrected information initially provided in response to LA-EE PDR-4-8 as it relates to the percent of the actual incentive compensation payout that is tied to AEP Ohio's Net Income goal. Specifically, the Company stated:

> 15% of the target was tied to AEP Ohio net income for 2012, which is a financial goal. However, the actual payout for 2012 was based on a 200% of target score for the AEP Ohio Net Income goal and a 0.791 Modifier. Multiplying these factors results in a weighted contribution of 23.7% from AEP Ohio Net Income goal to the actual 164.8% of target total payout. The Ohio Net Income goal therefore contributed 17.3% of the total payout (23.7% / 164.8% = 17.3%).

Similar to the 2011 data, Larkin noted a discrepancy relative to 2012 between the Company's explanation cited in the passage above to what is shown on Confidential LA-EE PDR-12-3, Attachment 1. Specifically, Confidential Attachment 1 reflected a Ohio Overall Score of 136.9% versus the 164.8% cited in the passage above. In its response to LA-EE PDR-13-2(i), AEP Ohio stated that the 2012 Ohio overall score of 136.9% is the correct figure to use and that the 164.8% cited above is incorrect due to an oversight. However, the 17.3% total payout percentage is correct. As noted above, the response to LA-EE PDR-13-2(a) stated that all uses of the term "net income" should be replaced with the term "ROE measure" for each year 2011 through 2013. Therefore, the Company indicated that the two sentences in the passage above from LA-EE-PDR-12-3 should state:

> Multiplying these factors results in a weighted contribution of 23.7% from AEP Ohio ROE goal to the actual 136.9% of target total payout. The Ohio ROE goal therefore contributed 17.3% of the total payout (23.7% / 136.9% = 17.3%).

For the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2012 be reduced by 17.3%,which reflects the percentage of the actual incentive compensation payout in 2012 that was tied to AEP Ohio's ROE goal. In addition, Larkin recommends that 100% of the stock-based compensation and restricted stock incentives that were paid out in 2012 be removed from the 2012 EE/PDR program costs.

Our recommendation reduces incentive compensation and related labor fringes by $26,514, stock-based compensation by $3,316 and restricted stock incentives by $2,234 for an overall reduction to the 2012 EE/PDR programs of $32,064.

Review of 2013 Incentive Compensation and Stock-Based Compensation

In its response to LA-EE PDR-4-9, in which Larkin asked whether any costs for incentive compensation or stock-based compensation was charged to the EE PDR programs in 2013, the Company referred to an attachment to that response, the amounts of which have been replicated in the exhibit below:

Exhibit 13-3. Incentive Compensation and Stock-Based Compensation Charged to EE/PDR Program Costs in 2013

2013 Description	Cost Center	1840041 Undistributed Incentive Fringe Benefit Clearing	9070001 Supervision Demand Side Management	9110001 Supervisor Residential Sales Activities	9110002 Supervisor Common & Ind Sales Activities	Total
Labor Fringes (Incentive Accrual)	122	$ 25,783				$ 25,783
Incentive Accrual Department Level	141		$ 103,543	$ 51,875	$ 68,657	$ 224,075
Stock-Based Compensation	145		$ 2,622	$ 1,413	$ 1,679	$ 5,714
Restricted Stock Incentives	154		$ 1,050	$ 553	$ 652	$ 2,255
Total						$ 257,827

Source: LA-EE PDR-4-9

As shown in the exhibit, the costs related to incentive compensation and stock-based compensation that were charged to the Company's EE/PDR programs in 2013 were broken into the four cost centers previously discussed and also broken out by FERC account.

In response to LA-EE PDR-4-9, AEP Ohio stated that each of the amounts shown in the table above, including the amounts associated with Cost Center 122, include elements related to AEP's stock price, dividends and/or financial goals. As discussed above, the response to LA-EE PDR-12-3 reflected corrected information initially provided in response to LA-EE PDR-4-9 as it relates to the percent of the actual incentive compensation payout that is tied to AEP Ohio's Net Income goal. Specifically, the Company stated:

> 15% of the target was tied to AEP Ohio net income for 2013, which is a financial goal. However, the actual payout for 2013 was based on a 154.3% of target score for the AEP Ohio Net Income goal and a 1.135 Modifier. Multiplying these factors results in a weighted contribution of 26.3% from AEP Ohio Net Income goal to the actual 155.4% of target total payout. The Ohio Net Income goal therefore contributed 16.9% of the total payout (26.3% / 155.4% = 16.9%).

Similar to the 2011 and 2012 data, Larkin noted a discrepancy relative to 2013 between the Company's explanation cited in the passage above to what is shown on Confidential LA-EE PDR-12-3, Attachment 1. Specifically, Confidential Attachment 1 indicated that the percentage of the overall AEP Ohio payout attributable to the ROE measure was 17.0% versus the 16.9% cited in the passage above. In its response to LA-EE PDR-13-2(j), AEP Ohio stated that Confidential Attachment 1 has been corrected to reflect an AOPS result of 1.435 versus the 1.423 shown on the original attachment. Reflecting this change updated the Modifier in the corrected attachment to 1.135 (noted in the passage above) from the 1.435 shown in the original attachment. The result of these changes on the corrected confidential attachment is that the percentage of the overall AEP Ohio payout attributable to ROE is the 16.9% cited in the passage above. As previously noted, the response to LA-EE PDR-13-2(a) stated that all uses of the term "net income" should be replaced with the term "ROE measure" for each year 2011 through 2013. Consequently, the Company indicated that the two sentences in the passage above from LA-EE-PDR-12-3 should state:

> Multiplying these factors results in a weighted contribution of 26.3% from AEP Ohio ROE goal to the actual 155.4% of target total payout. The Ohio ROE goal therefore contributed 16.9% of the total payout (26.3% / 155.4% = 16.9%).

For the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2013 be reduced by 16.9%,which reflects the percentage of the actual incentive compensation payout in 2013 that was tied to AEP Ohio's ROE goal. In addition, Larkin recommends that 100% of the stock-based compensation and restricted stock incentives that were paid out in 2013 be removed from the 2013 EE/PDR program costs.

Our recommendation reduces incentive compensation and related labor fringes by $42,225, stock-based compensation by $5,714 and restricted stock incentives by $2,255 for an overall reduction to the 2013 EE/PDR programs of $50,194.

Review of 2014 Incentive Compensation and Stock-Based Compensation

In its response to LA-EE PDR-4-10, in which Larkin asked whether any costs for incentive compensation or stock-based compensation was charged to the EE PDR programs in 2014, the Company referred to an attachment to that response, the amounts of which have been replicated in the exhibit below:

Exhibit 13-4. Incentive Compensation and Stock-Based Compensation Charged to EE/PDR Program Costs in 2014

2014 Description	Cost Center	1840041 Undistributed Incentive Fringe Benefit Clearing	9070001 Supervision Demand Side Management	9080009 Cust Assist Exp Demand Side Management	9110001 Supervisor Residential Sales Activities	9110002 Supervisor Common & Ind Sales Activities	Total
Labor Fringes (Incentive Accrual)	122	$ 28,055					$ 28,055
Incentive Accrual Department Level	141		$ 114,425	$ 114	$ 55,987	$ 74,168	$ 244,694
Stock-Based Compensation	145		$ 13,464	$ 8	$ 6,493	$ 8,266	$ 28,231
Restricted Stock Incentives	154		$ 2,587	$ 7	$ 1,185	$ 1,611	$ 5,390
Total							$ 306,370
Source: LA-EE PDR-4-10							

As shown in the exhibit, the costs related to incentive compensation and stock-based compensation that were charged to the Company's EE/PDR programs in 2014 were broken into the four cost centers previously discussed and also broken out by FERC account.

In response to LA-EE PDR-4-10, AEP Ohio stated that each of the amounts shown in the table above, including the amounts associated with Cost Center 122, include elements related to AEP's stock price, dividends and/or financial goals. As discussed above, the response to LA-EE PDR-12-3 reflected corrected information initially provided in response to LA-EE PDR-4-10 as it relates to the percent of the actual incentive compensation payout that is tied to AEP Ohio's Net Income goal. Specifically, the Company stated:

> 15% of the target was tied to AEP Ohio net income for 2014, which is a financial goal. However, the actual payout for 2014 was based on a 200% of target score for the AEP Ohio Net Income goal and a1.131 Modifier. Multiplying these

factors results in a weighted contribution of 33.9% from AEP Ohio Net Income goal to the actual 178.9% of total target payout. The Ohio Net Income goal therefore contributed 19.0% of the total payout (33.9% / 178.9% = 19.0%).

For the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2014 be reduced by 19.0%,which reflects the percentage of the actual incentive compensation payout in 2014 that was tied to AEP Ohio's net income. In addition, Larkin recommends that 100% of the stock-based compensation and restricted stock incentives that were paid out in 2014 be removed from the 2014 EE/PDR program costs.

Our recommendation reduces incentive compensation and related labor fringes by $51,729, stock-based compensation by $28,231 and restricted stock incentives by $5,390 for an overall reduction to the 2014 EE/PDR programs of $85,350.

Review of 2015 Incentive Compensation and Stock-Based Compensation

In its response to LA-EE PDR-4-11, in which Larkin asked whether any costs for incentive compensation or stock-based compensation was charged to the EE PDR programs in 2015, the Company referred to an attachment to that response, the amounts of which have been replicated in the exhibit below:

Exhibit 13-5. Incentive Compensation and Stock-Based Compensation Charged to EE/PDR Program Costs in 2015

2015 Description	Cost Center	1840041 Undistributed Incentive Fringe Benefit Clearing	9070001 Supervision Demand Side Management	9080009 Cust Assist Exp Demand Side Management	9110001 Supervisor Residential Sales Activities	9110002 Supervisor Common & Ind Sales Activities	Total
Labor Fringes (Incentive Accrual)	122	$ 31,916					$ 31,916
Incentive Accrual Department Level	141		$ 127,421	$ 1,369	$ 56,447	$ 97,197	$ 282,434
Stock-Based Compensation	145		$ 8,075	$ 126	$ 3,896	$ 6,486	$ 18,583
Restricted Stock Incentives	154		$ 2,154	$ 14	$ 930	$ 1,632	$ 4,730
Total							$ 337,663

Source: LA-EE PDR-4-11

As shown in the exhibit, the costs related to incentive compensation and stock-based compensation that were charged to the Company's EE/PDR programs in 2015 were broken into the four cost centers previously discussed and also broken out by FERC account.

In response to LA-EE PDR-4-11, AEP Ohio stated that each of the amounts shown in the table above, including the amounts associated with Cost Center 122, include elements related to AEP's stock price, dividends and/or financial goals. As discussed above, the response to LA-EE PDR-12-3 reflected corrected information initially provided in response to LA-EE PDR-4-11 as it relates to the percent of the actual incentive compensation payout that is tied to AEP Ohio's Net Income goal. Specifically, the Company stated:

> 15% of the target was tied to AEP Ohio net income goal for 2015, which is a financial goal. However, the actual payout for 2015 was based on a 200% of target score for the AEP Ohio Net Income goal and a 1.272 Modifier.

> Multiplying these factors results in a weighted contribution of 38.2% from AEP Ohio Net Income goal to the actual 173.1% of target total payout. The Ohio Net Income goal therefore contributed 22.0% of the total payout (38.2% / 173.1% = 22.0%).

For the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2015 be reduced by 22.0%,which reflects the percentage of the actual incentive compensation payout in 2015 that was tied to AEP Ohio's net income. In addition, Larkin recommends that 100% of the stock-based compensation and restricted stock incentives that were paid out in 2015 be removed from the 2015 EE/PDR program costs.

Our recommendation reduces incentive compensation and related labor fringes by $69,299, stock-based compensation by $18,583 and restricted stock incentives by $4,730 for an overall reduction to the 2015 EE/PDR programs of $92,612.

Review of 2016 Incentive Compensation and Stock-Based Compensation

In its response to LA-EE PDR-4-12, in which Larkin asked whether any costs for incentive compensation or stock-based compensation was charged to the EE PDR programs in 2016, the Company referred to an attachment to that response, the amounts of which have been replicated in the exhibit below:

Exhibit 13-6. Incentive Compensation and Stock-Based Compensation Charged to EE/PDR Program Costs in 2016

2016 Description	Cost Component	1840041 Undistributed Incentive Fringe Benefit Clearing	9070001 Supervision Demand Side Management	9080009 Cust Assist Exp Demand Side Management	9110001 Supervisor Residential Sales Activities	9110002 Supervisor Common & Ind Sales Activities	Total
Labor Fringes (Incentive Accrual)	122	$ 26,161			$ 10		$ 26,172
Incentive Accrual Department Level	141		$ 100,730 60	$ 1,080 89	$ 50,813 40	$ 78,972 04	$ 231,597
Stock-Based Compensation	145		$ 122	$ (36)	$ 515	$ 901	$ 1,501
Restricted Stock Incentives	154		$ 1,175	$ 3	$ 614	$ 936	$ 2,729
Total							$ 261,998
Source: LA-EE PDR-4-12							

As shown in the exhibit, the costs related to incentive compensation and stock-based compensation that were charged to the Company's EE/PDR programs in 2016 were broken into the four cost centers previously discussed and also broken out by FERC account.

In response to LA-EE PDR-4-12, AEP Ohio stated that each of the amounts shown in the table above, including the amounts associated with Cost Center 122, include elements related to AEP's stock price, dividends and/or financial goals. As discussed above, the response to LA-EE PDR-12-3 reflected corrected information initially provided in response to LA-EE PDR-4-12(e) as it relates to the percent of the actual incentive compensation payout that is tied to AEP Ohio's Net Income goal. Specifically, the Company stated:

> 10% of the target was tied to AEP Ohio net income for 2016, which is a financial goal. However, the actual payout for 2016 was based on a 200% of target score

for the AEP Ohio Net Income goal and a 1.074 Modifier. Multiplying these factors results in a weighted contribution of 21.5% from AEP Ohio Net Income goal to the actual 169.0% of target total payout. The Ohio Net Income goal therefore contributed 12.7% of the total payout (21.5% / 169.0% = 12.7%).

For the reasons discussed above as it relates to year 2011 from the review period, Larkin recommends that the incentive compensation and related labor fringes included in the EE/PDR programs in 2016 be reduced by 12.7%,which reflects the percentage of the actual incentive compensation payout in 2016 that was tied to AEP Ohio's net income. In addition, Larkin recommends that 100% of the stock-based compensation and restricted stock incentives that were paid out in 2016 be removed from the 2016 EE/PDR program costs.

Our recommendation reduces incentive compensation and related labor fringes by $32,763, stock-based compensation by $1,501 and restricted stock incentives by $2,729 for an overall reduction to the 2016 EE/PDR programs of $36,993.

14 MANAGEMENT/PRUDENCE REVIEW - OVERVIEW

EE/PDR Regulatory Review

Mims' review of AEP Ohio's EE/PDR programs included a review of relevant regulations and Commission orders. For the purpose of this audit, relevant regulations for EE/PDR programs are found in the Ohio Administrative Code, Chapter 4901:1-39, and Ohio Revised Code, Chapter 4928. The Ohio Administrative Code, Chapter 4901:1-39 defines cost-effectiveness and provides rules regarding: program planning requirements, program portfolio plan and filing requirements including evaluation, measurement and verification requirements; benchmark and annual status reports, and the rate recovery mechanism. Ohio Revised Code, Chapter 4928 sets EE/PDR goals for electric distribution utilities, provides rules for measurement and compliance with the EE/PDR goals and provides rules for customers to opt in and out of EE/PDR portfolios, among other things.

AEP Ohio's shared savings incentive mechanism regulatory guidance was provided in two orders:

> May 13, 2010 Order approving the 2009-2011 EE/PDR portfolio, shared savings incentive mechanism and lost distribution revenues in dockets 09-1089-EL-POR and 09-1090-EL-POR.
>
> March 21, 2012 Order approving the 2012-2014 EE/PDR portfolio and shared savings incentive mechanism in dockets 11-5568-EL-POR and 11-5569-EL-POR.

EE/PDR Program Impact Review

Mims' review of the prudency of management decisions in the administration of the Company's EE/PDR program portfolio plans included a review of AEP Ohio's EE/PDR program impacts (energy (kWh) and capacity (kW)) for the period 2011-2016. The purpose of the audit did not include verification of energy savings claimed by the Companies, which are reviewed through the Commission's EM&V process. The findings and recommendations of this audit will be subject to future adjustment based on results of such further review.

As discussed in Chapter 3, during the period of this audit (2011-2016), AEP Ohio has offered seven consumer sector (residential) programs and eleven business sector (non-residential) programs. Mims reviewed four sources of data on the Company's EE/PDR program portfolio impacts, including: (1) the annual Portfolio Status Reports, (2) each program annual EM&V report included with AEP Ohio's annual Portfolio Status Report filings; (3) the EE/PDR Rider applications and (4) the Excel models used to calculate the shared savings incentive.

The Company's annual Portfolio Status Reports, and EM&V reports were filed in six cases: 12-1537-EL-EEC, 13-1182-EL-EEC, 14-0853-EL-EEC, 15-0919-EL-EEC, 16-10099-EL-EEC and 17-1229-EL-EEC. The EE/PDR Riders that cover the period 2011-2016 were filed in Case Nos. 12-1557-EL-RDR and 17-1266-EL-RDR. The Company provided 97 Excel models used to calculate the shared savings incentive in response to LA-EE PDR-8-1, and 35 Excel models in response to LA-EE PDR-14-1.

Mims's review of the prudency of management decisions in the administration of the Company's EE/PDR program portfolio plans included a review of AEP Ohio's compliance with Ohio Revised Code, Chapter 4928.66, which requires electric distribution utilities to implement energy efficiency programs (benchmark savings goals). Mims reviewed the annual Portfolio Status Reports to verify AEP Ohio's compliance with their benchmark savings goals.

Mims's review of the prudency of management decisions in the administration of the Company's EE/PDR program portfolio plans included a review of AEP Ohio's EE/PDR program and measure life. Program and measures lives were reviewed for this audit because measure life is used to calculate the lifetime savings for each program.[114] The lifetime savings are used to calculate the benefits in the cost-benefit tests. The net benefits, as calculated using the Utility Cost Test (UCT), are an input to AEP Ohio's shared savings calculations.

Mims reviewed two data sources for AEP Ohio's measure life: (1) the Excel models that AEP Ohio provided to calculate shared savings as provided in the responses to LA-EE PDR-8-1 and LA-EE DR-14-1, and (2) EM&V reports included in AEP Ohio's annual Portfolio Status Reports.

As part of Mims's review of measure and program life, Mims reviewed AEP Ohio's residential lighting savings for compliance with Phase II of the Energy Independence and Security Act of 2007.[115] The Company provided a list of the annual energy impacts from compact florescent lamps that will not meet the lighting standard in 2020 in its response to LA-EE PDR 19-5.

EE/PDR Program Cost Review

Mims's review of AEP Ohio's EE/PDR program costs for the period 2011-2016 included reviewing five sources of program costs, including: (1) the general ledger program costs provided in response to LA-EE PDR 1-5; (2) the annual Portfolio Status Report summary tables; (3) each program's annual EM&V report included with AEP Ohio's annual Portfolio Status Report; (4) AEP Ohio's annual EE/PDR Rider and (5) the program costs identified in the Excel models used to calculate the shared savings incentive.

[114] First year program savings are multiplied by the program life to determine the lifetime energy savings. This is multiplied by the appropriate avoided energy and capacity cost to determine the program benefits.

[115] The Department of Energy failed to complete a rulemaking in accordance with the 2007 EISA law. Subsequently, the "backstop requirement" of the 2007 EISA law has been enacted sale of any general service lamp that does not meet a minimum efficiency standard of 45 lumens per watt (LPW) are prohibited beginning January 1, 2020. LEDs are about 70 LPW and most CFLs can meet the standard. Halogen bulbs are about 20 LPW, and it is unlikely that they will be able to meet the standard. See "Impacts of the 2020 Federal Light Bulb Efficiency Standard" by Chris Granada. Published in AESP Strategies magazine (subscription required).

The EE/PDR Rider for the period 2011-2016 are summarized in two filings:

12-1557-EL-EEC (2009-2011)

17-1266-EL-EEC (2012-2016)

Mims reviewed AEP Ohio's compliance with the Ohio's cost-recovery regulations. Ohio law permits an electric utility to request cost recovery associated with "peak-demand reduction, demand response, energy efficiency program costs, appropriate lost distribution revenues, and shared savings"[116] after filing its energy efficiency and peak demand reduction program portfolio plan. On March 29, 2012, in Columbus Southern Power and Ohio Power Company's EE/PDR Rider application, the PUCO approved the Companies' November 29, 2011 stipulation. The stipulation provided the terms of AEP Ohio's program cost recovery. One of the terms approved by the PUCO was that "the Total Resource Cost (TRC) test will be used to qualify the Portfolio for cost-recovery."

Shared Savings

The audit period covers two shared savings mechanisms for AEP Ohio. In addition to verifying the shared savings reflected in the EE/PDR Rider and the regulated accounting records (Chapters 6-11), Mims also traced the annual shared savings amount back to each programs' calculated net benefits. In order to do this, Mims reviewed: (1) program energy and demand savings; (2) program costs; and (3) the shared savings calculation in each year.

Mims also reviewed program costs that are included in the Shared Savings calculation, including the cost of research and development (pilot programs) and advertising. These costs were excluded from the shared savings calculation.

EE/PDR Employee Expenses

Larkin identified some concerns with regard to certain employee expenses being charged to the EE/PDR programs for which Larkin requested additional information. These areas of concern included (1) many instances where AEP Ohio employees attended conferences or other events in states other than Ohio; (2) instances where the Company purchased gift cards from [redacted] and charged the costs to the EE/PDR programs; and (3) instances where AEP Ohio employees charged the cost of annual dues to memberships in various organizations to the EE/PDR programs.

For each of these areas of costs charged to the EE/PDR programs in 2011-2016, Larkin requested that the Company provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual

[116] Available at: http://codes.ohio.gov/oac/4901%3A1-39

membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs. These issues are discussed in detail in Chapters 6 through 11 of this report.

15 ENERGY EFFICIENCY AND PEAK DEMAND REDUCTION PROGRAM IMPACTS

Program Impacts

As discussed in Chapter 3, during the period of this audit (2011-2016), AEP Ohio has offered seven consumer sector (residential) programs and eleven business sector (non-residential) programs. Mims reviewed four sources of data on the Company's EE/PDR program portfolio impacts, including: (1) the annual Portfolio Status Reports, (2) each program annual EM&V report included with AEP Ohio's annual Portfolio Status Report filings; (3) the EE/PDR Rider applications and (4) the excel models used to calculate the shared savings incentive.

The Company's annual Portfolio Status Reports, and EM&V reports were filed in six cases: 12-1537-EL-EEC, 13-1182-EL-EEC, 14-0853-EL-EEC, 15-0919-EL-EEC, 16-10099-EL-EEC and 17-1229-EL-EEC. The EE/PDR Riders that cover 2011-2016 were filed in Case Nos. 12-1557-EL-RDR and 17-1266-EL-RDR. The Company provided 97 Excel models used to calculate the shared savings incentive in response to LA-EE PDR-8-1, and 35 Excel models in response to LA-EE PDR-14-1.

Program impacts for AEP Ohio are provided in Exhibit 15-1 through 15-4.

Compliance with Benchmarking Goals

Mims's review of the prudency of management decisions in the administration of the Company's EE/PDR program portfolio plans included a review of AEP Ohio's compliance with Ohio Revised Code, Chapter 4928.66, which requires electric distribution utilities to implement energy efficiency programs (benchmarking savings goals). Mims reviewed the annual Portfolio Status Reports to verify AEP Ohio's compliance with their benchmark savings goals.

Ohio Revised Code, Chapter 4928.66 requires electric distribution utilities to meet an annual benchmark energy and peak demand savings reduction target. The EE/PDR reduction target is as follows:

> 2009: 0.30% of the total, annual average, and normalized kilowatt-hour sales of the electric distribution utility during the preceding three calendar years to customers in the state. The peak demand reduction goal is 1% of the average peak demand on the utility in the preceding three calendar years.
>
> 2010: 0.50% of the total, annual average, and normalized kilowatt-hour sales of the electric distribution utility during the preceding three calendar years to customers in the state. The peak demand reduction goal is 0.75% of the average peak demand on the utility in the preceding three calendar years.

> 2011: 0.70% of the total, annual average, and normalized kilowatt-hour sales of the electric distribution utility during the preceding three calendar years to customers in the state. The peak demand reduction goal is 0.75% of the average peak demand on the utility in the preceding three calendar years.
>
> 2012: 0.80% of the total, annual average, and normalized kilowatt-hour sales of the electric distribution utility during the preceding three calendar years to customers in the state. The peak demand reduction goal is 0.75% of the average peak demand on the utility in the preceding three calendar years.
>
> 2013: 0.90% of the total, annual average, and normalized kilowatt-hour sales of the electric distribution utility during the preceding three calendar years to customers in the state. The peak demand reduction goal is 0.75% of the average peak demand on the utility in the preceding three calendar years.
>
> 2014: 1% of the total, annual average, and normalized kilowatt-hour sales of the electric distribution utility during the preceding three calendar years to customers in the state. The peak demand reduction goal is 0.75% of the average peak demand on the utility in the preceding three calendar years.

According to the Ohio Revised Code, Chapter 4928, in 2015 and 2016, "an electric distribution utility shall achieve energy savings equal to the result of subtracting the cumulative energy savings achieved since 2009 from the product of multiplying the baseline for energy savings by 4.2%. If the result is zero or less for the year for which the calculation is being made, the utility shall not be required to achieve additional energy savings for the first year, but may achieve additional energy savings for that year." Similarly, in 2015 and 2016 "an electric distribution utility shall achieve a reduction in peak demand equal to the result of subtracting the cumulative peak demand reductions achieved since 2009 from the product of multiplying the baseline for peak demand reduction by 4.75%. If the result is zero or less for the year for which the calculation is being made, the utility shall not be required to achieve an additional reduction in peak demand for that year, but may achieve an additional reduction in peak demand for that year."

AEP Ohio meets its benchmark savings goal with annual incremental energy savings, and the peak demand savings goal is met with a combination of: (1) transmission and distribution projects that reduce losses, (2) interruptible tariffs and special contracts, (3) permanent cumulative savings, and (4) AEP Ohio's gridSMART demonstration project.

To review compliance with the benchmarking goals, Mims requested that the Company identify any programs that produced energy or demand savings that were used when the Company calculated its performance towards the annual benchmark savings goal. In its response to LA-EE PDR-12-21, the Company stated:

> Please see below for the dockets associated to the Annual Portfolio Status Report Appendix A. These appendices have the breakdowns by measure, by program. Starting in 2013, these appendices have the sourced formula used for savings calculations.

AEP Ohio reports gross ex-ante impacts[117] in its Portfolio Status Reports. In its EM&V report, AEP Ohio reports gross ex-post impacts.[118] Exhibit 15-1 provides gross ex-ante and gross ex-post energy impacts by program. Exhibit 15-2 provides gross ex-ante and gross ex-post demand impacts by program.

AEP Ohio determines its ex-ante impacts by "using actual participation with TRM [Technical Reference Manual] calculations, engineering calculations, and/or billing analysis."[119] Ex-post impacts are determined through the EM&V process, which varies by program.

Exhibit 15-1 summarizes the energy savings (in kWh) identified by the Company for each Consumer Products (i.e., Residential) program by year. All annual ex-ante energy impacts are higher than ex-post energy impacts for Consumer Products programs during the audit period (2011-2016). The ex-ante annual savings ranges from -4% to 8% higher than the ex-post savings depending on the year. The two years with the largest differences between ex-ante and ex-post savings were 2011 and 2012.

Exhibit 15-1. Consumer Products Program Energy Impacts (kWh)

		2011	2012	2013	2014	2015	2016
				Ex-Ante			
1	Efficient Products	130,000,000	229,900,000	204,100,000	210,500,000	110,400,000	131,500,000
2	Appliance Recycling	24,000,000	27,300,000	26,200,000	24,000,000	19,700,000	9,900,000
3	e3 smart	5,000,000	6,100,000	4,700,000	4,300,000	3,400,000	3,400,000
4	In-Home Energy	5,000,000	8,300,000	12,000,000	10,000,000	8,100,000	6,800,000
6	Community Assistance	14,000,000	11,600,000	16,700,000	15,900,000	7,400,000	10,100,000
7	New Homes	1,000,000	2,200,000	5,800,000	3,800,000	4,200,000	4,100,000
8	Home Energy Reports	57,000,000	53,000,000	62,600,000	63,200,000	70,600,000	67,300,000
9	Ex-Ante Total	236,000,000	338,400,000	332,100,000	331,700,000	223,800,000	233,100,000
				Ex-Post			
10	Efficient Products	143,978,000	207,998,000	203,412,000	204,523,230	109,752,966	123,883,960
11	Appliance Recycling	25,671,000	14,783,000	26,179,986	23,973,295	19,723,660	9,933,000
12	e3 smart	5,829,552	10,945,786	7,244,000	4,875,493	3,593,428	4,252,636
13	In-Home Energy	3,743,000	6,060,000	10,460,000	8,191,073	6,702,767	5,708,235
14	Community Assistance	11,547,512	4,825,000	16,083,000	14,840,764	7,035,729	9,084,558
15	New Homes	840,000	2,068,000	5,889,000	3,813,575	4,196,276	4,144,102
16	Home Energy Reports	53,800,000	63,243,000	61,857,000	72,934,000	70,962,390	68,807,281
17	Ex-Post Total	245,409,064	309,922,786	331,124,986	333,151,430	221,967,216	225,813,772
18	Difference between ex-ante and ex-post kWh impact	-4%	8%	0%	0%	1%	3%

[117] AEP Ohio uses the term ex-ante to describe EE/PDR impacts before evaluation. See AEP Ohio's response to LA-EE PDR-14-3.

[118] In AEP Ohio's Portfolio Status Reports, ex-post savings are energy and demand impacts after evaluation, measurement and verification has been conducted.

[119] AEP Ohio's response to LA-EE PDR-14-3.

Exhibit 15-2 summarizes the demand savings (in kW) identified by the Company for each Consumer Products program by year. Most ex-post capacity savings are higher than ex-ante demand savings (which is opposite of the relationship between the values for energy savings). The exceptions to this observation were 2012 and 2013. There does not appear to be a program that consistently caused the differences in annual ex-ante and ex-post demand impacts.

Exhibit 15-2. Consumer Products Program Demand Impacts (MW)

		2011	2012	2013	2014	2015	2016
				Ex-Ante			
1	Efficient Products	9.00	20.7	24.7	25.6	13.4	16.0
2	Appliance Recycling	4.00	3.8	4.2	3.8	3.2	1.6
3	e3 smart	0.00	0.8	0.6	0.5	0.4	0.4
4	In-Home Energy	1.00	1.2	2.1	1.5	2.0	0.6
6	Community Assistance	1.00	1.1	1.5	1.4	0.6	1.0
7	New Homes	1.00	1.0	1.1	1.0	1.0	2.5
8	Home Energy Reports	0.00	6.9	8.1	8.2	9.2	8.7
9	Ex-Ante Total	16.0	35.5	42.3	42.0	29.8	30.8
				Ex-Post			
10	Efficient Products	13.2	19.6	24.5	25.4	14.1	18.8
11	Appliance Recycling	3.4	1.9	4.2	3.8	3.2	1.6
12	e3 smart	0.7	0.9	0.9	0.6	0.4	0.5
13	In-Home Energy	0.6	0.9	1.9	1.2	1.9	0.5
14	Community Assistance	1.3	1.3	1.5	1.9	1	1.2
15	New Homes	0.2	0.7	1.1	1	1	2.5
16	Home Energy Reports	0	8.2	8	9.5	9.3	9
17	Ex-Post Total	19.4	33.5	42.1	43.4	30.9	34.1
18	Difference between ex-ante and ex-post kW	-18%	6%	0%	-3%	-4%	-10%

Exhibit 15-3 summarizes the energy savings (in kWh) identified by the Company for each Business Products program by year. The Business Products programs had higher ex-ante energy impacts in 2012, 2015 and 2016. For the Business Products programs, not all programs had EM&V savings for each year reported. This contributes to the difference in annual ex-ante and ex-post values. In addition, in 2015 and 2016, the Custom program included savings from combined heat and power ("CHP") measures. Verification of the CHP savings was not provided in the EM&V report used for this exhibit and were excluded from the ex-post savings. This also contributes to the difference in ex-ante and ex-post values.

Exhibit 15-3. Business Products Program Energy Impacts (kWh)*

		2011	2012	2013	2014	2015	2016
			Ex-Ante				
1	Prescriptive	113,000,000	142,300,000	120,100,000	106,800,000	119,900,000	129,100,000
2	Custom	43,000,000	26,000,000	60,200,000	86,600,000	71,100,000	70,400,000
3	Self Direct	87,000,000	35,900,000	27,300,000	6,200,000	18,500,000	22,500,000
4	New Construction	15,000,000	19,300,000	27,800,000	36,700,000	35,200,000	42,000,000
5	Express	8,000,000	9,000,000	10,500,000	7,200,000	12,700,000	11,400,000
6	Retro-Commissioning			4,700,000	4,500,000	4,700,000	1,600,000
7	Data Center			10,900,000	13,600,000	12,300,000	19,000,000
8	EE Auction				3,400,000	26,300,000	45,300,000
9	Demand Response						
10	Continuous Energy Improvement				40,200,000	14,700,000	55,900,000
11	Ex-Ante Total	266,000,000	232,500,000	261,500,000	305,200,000	315,400,000	397,200,000
			Ex-Post				
12	Prescriptive	131,914,000	132,132,000	134,675,000	110,835,531	120,278,630	132,170,736
13	Custom**	25,559,000	27,018,000	55,552,000	85,254,000	50,360,000	43,002,933
14	Self Direct	18,147,000	32,710,000	32,710,000	6,126,831	18,745,752	19,223,071
15	New Construction	8,869,000	20,406,000	27,186,000	42,908,000	32,213,204	44,151,419
16	Express	2,970,077	5,126,000	5,126,000	5,252,989	9,245,664	9,123,764
17	Retro-Commissioning			3,840,000	2,908,000	4,215,512	1,368,494
18	Data Center			9,796,000	11,894,798	11,292,334	21,399,475
19	EE Auction				5,131,784		
20	Demand Response						
21	Continuous Energy Improvement				39,298,617	18,810,000	43,676,784
22	Ex-Post Total	187,459,077	217,392,000	268,885,000	309,610,550	265,161,096	314,116,676
23	Difference between ex-ante and ex-post kWh impacts	30%	6%	-3%	-1%	16%	21%

* In 2011, the EM&V report provided multiple energy and demand values for the prescriptive, business new construction and self-direct programs. The data in this table is from the "Inputs to cost effectiveness Model for AEP Ohio" for each program.

** The 2011 savings for the custom program are from table E-2 in the 2011 Business Custom report.

Exhibit 15-4 summarizes the demand savings (kW) identified by the Company for each Business Products program by year. Unlike the Consumer Products demand impacts, the ex-post savings are generally higher than the ex-ante savings. The range in demand impacts reported for 2011-2016 is quite large, from -1% to 65% difference. The largest annual difference occurred in 2011, where the ex-ante savings were 65% higher than ex-post savings. This occurred because the demand response program reported ex-ante, but not ex-post savings. In addition, in 2015 and 2016, the Custom program included demand savings from CHP measures. Verification of the CHP demand savings was not provided in the EM&V report used for this exhibit and were excluded from the ex-post demand savings. This also contributes to the difference in ex-ante and ex-post values.

Exhibit 15-4. Business Products Programs Demand Impacts (MW)*

		2011	2012	2013	2014	2015	2016
				Ex-Ante			
1	Prescriptive	24.0	30.2	25.3	16.7	16.7	18.9
2	Custom	6.0	3.4	6.2	7.4	7.9	5.8
3	Self Direct	14.0	5.7	9.0	0.8	2.2	3.0
4	New Construction	5.0	5.3	6.3	6.5	7.2	8.4
5	Express	1.0	2.2	2.8	1.8	2.0	1.5
6	Retro-Commissioning			0.4	0.3	0.2	
7	Data Center			1.5	1.6	1.3	2.4
8	EE Auction				0.4	0.4	4.4
9	Demand Response	62.0					
10	Continuous Energy Improvement				1.7	0.0	1.7
11	Ex-Ante Total	112.0	46.8	51.5	37.2	37.9	46.1
				Ex-Post			
12	Prescriptive	28.1	28.5	23.5	17.4	16.8	17.2
13	Custom	6.5	3.8	3.7	7.8	4.3	3.9
14	Self Direct	2.0	5.6	9.7	0.7	2.1	2.5
15	New Construction	1.0	3.0	4.9	6.4	6.9	8.3
16	Express	1.5	2.2	2.2	1.6	1.7	1.3
17	Retro-Commissioning			0.4	0.2	0.2	0.2
18	Data Center			1.4	1.3	1.2	2.7
19	EE Auction				0.6		
20	Demand Response						
21	Continuous Energy Improvement				1.7	0.0	1.8
22	Ex-Post Total	39.1	43.1	45.8	37.7	33.2	37.9
23	Difference between ex-ante and ex-post kW impacts	65%	8%	11%	-1%	12%	18%

* In 2011, the EM&V report provided multiple energy and demand values for the custom, prescriptive, business new construction and self-direct programs. The data in this table is from the "Inputs to cost effectiveness Model for AEP Ohio" for each program.

There are many reasons for differences in ex-ante and ex-post energy and demand savings data (e.g., difference in expected and actual program measure installation, difference in assumptions regarding waste heat factors). However, the purpose of this audit did not include verification of energy savings claimed by the Companies, which are reviewed through the Commission's EM&V process. The findings and recommendations of this audit will be subject to future adjustment based on results of such further review.

As future EM&V on AEP Ohio's program savings is already required, Mims' only recommendation regarding program impacts pertains to ease of collecting the data for analysis. In order to gather the ex-post data from AEP Ohio's Portfolio Status Report, each individual EM&V report must be reviewed. Mims recommends that the PUCO require that AEP Ohio provide ex-ante and ex-post savings in a summary table in the Portfolio Status Reports for ease of reference in the future.

Exhibit 15-5 displays AEP Ohio's benchmark energy and demand savings goal and by year. As shown in Exhibit 15-5, AEP Ohio met their energy efficiency and peak demand reduction goal each year.

Exhibit 15-5. AEP Ohio Benchmark Goals and Compliance, 2011-2016

		2011	2012	2013	2014	2015	2016
1	GWh Goal	307	341	388	432	427	428
2	**GWh Achieved**	**502**	**571**	**594**	**637**	**539**	**630**
3	MW Goal	218	287	359	425	471	524
4	Current Year EE/PDR	65	82	94	79	68	77
5	Current Year T&D	12	6	11	11	6	2
6	Historic Programs	75	140	345	307	378	445
7	Historic T&D				26	37	44
8	gridSMART				0	1	1
9	IRP and Special Contract	426	383	242	243	206	206
10	**MW Achieved**	**578**	**610**	**692**	**665**	**695**	**775**

Program and Measure Life

Mims's review of the prudency of management decisions in the administration of the Company's EE/PDR program portfolio plans included a review of AEP Ohio's EE/PDR program and measure life. Program and measures lives were reviewed for this audit because measure life is used to calculate the lifetime savings for each program.[120] The lifetime savings are used to calculate the benefits in the cost-benefit tests. The net benefits, as calculated using the Utility Cost Test (UCT), are an input to AEP Ohio's shared savings calculations.

Mims reviewed two data sources to for AEP Ohio's measure life: (1) the Excel models that AEP Ohio provided to calculate shared savings in its responses to LA-EE PDR-8-1 and LA-EE DR-14-1, and (2) EM&V reports that were included in AEP Ohio's annual Portfolio Status Reports.

Program measure life is reported below for each year. Program measure lives may vary from year to year. Exhibit 15-6 displays the Consumer and Business programs that use the same program measure life each year from 2011 – 2016. Exhibit 15-7 displays the Consumer and Business programs that use the varied program measure life.

Exhibit 15-6. Consumer and Business Programs with the Same Program Measure Life for 2011-2016

	Program	Measure Life
1	Appliance Recycling	8
2	e3 Smart	9
3	New Homes	25
4	Home Energy Report	1
5	Retrocommissioning	5

[120] First year program savings are multiplied by the program life to determine the lifetime energy savings. This is multiplied by the appropriate avoided energy and capacity cost to determine the program benefits.

Exhibit 15-7. Consumer and Business Programs with the Differing Program Measure Life for 2011-2016[121]

		Measure life						
		2011 (CSP)	2011 (OPC)	2012	2013	2014	2015	2016
1	EE Auction (Bid to Win)				1	10	19	21
2	Business New Construction	12	13	14	13	14	13	15
3	Community Assistance	9	9	13	13	14	14	15
4	Continuous Improvement				5	5	4	5
5	Custom	11	11	14	17	15	18	18
6	Data Center				9	10	13	15
7	Efficient Products	12	12	10	11	13	16	17
8	Express	6	6	11	11	15	13	13
9	In Home Energy	11	11	11	11	11	13	12
10	Prescriptive	11	10	11	10	10	10	9
11	Self Direct	11	12	13	10	11	16	17

Mims inquired specifically about the program life of the New Home Program. This program has the longest program life, which is 25 years. The program is comprised of several measures, and Mims asked in LA-EE PDR-12-13 how the various components of the program were averaged to derive a 25-year program life. In its response, the Company stated:

> Please refer to the Draft Ohio Technical Reference Manual page 142:
>
> Deemed Lifetime of Efficient Building: 25 years (for heating, cooling and shell savings measures). Source: Measure Life Report, Residential and Commercial/Industrial Lighting and HVAC Measures, GDS Associates, June 2007.

The citation provided for this report in the Ohio Draft Technical Reference Manual is no longer active. Mims investigated the source of other measure lives provided in the Ohio Draft TRM and observed that a number of measure lives listed in the Draft Ohio Technical Reference Manual are dated:

> Lighting measures included in the Efficient Products and In-Home Retrofit programs are from a 2004 study[122]
>
> Refrigerator and/or freezer recycling measure life is from a 2004 study[123]
>
> Refrigerated case covers measure life is from a 2004 study[124]

[121] AEP Ohio's response to LA-EE PDR-8-1.

[122] See footnote 3 on page 11 of the Draft Ohio 2010 Technical Reference Manual. The cited evaluation report is available at: https://library.cee1.org/system/files/library/1308/485.pdf

[123] See footnote 34 on page 23 of the Draft Ohio 2010 Technical Reference Manual. The cited evaluation report is available at: https://library.cee1.org/system/files/library/1308/485.pdf

> Residential HVAC maintenance/tune up, air source heat pumps, attic/roof/ceiling insulation, Energy Star torchiere, dedicated pin based CFL table lamp, Energy Star room air conditioner, Energy Star room air conditioner replacement, central air conditioning, ground source heat pump, domestic hot water pipe insulation, wall insulation, and other HVAC measure lives all are from a 2007 study[125]

A more thorough investigation as to why program lives change over time (e.g., a change in the measure mix that comprises the program), and the source of the data that is used to determine program life may be useful data to gather in the next independent EM&V report. Using more recent data to determine measure lives may result in more accurate net benefit and shared savings calculations.

Compliance with Phase II of the Energy Independence and Security Act (EISA) of 2007

Phase II of the Energy Independence Security Act of 2007 is projected to have a significant impact on customer funded energy efficiency programs. When the law was passed in 2007, it stated,[126]

> Not later than January 1, 2014, the Secretary shall initiate a rulemaking procedure to determine whether (I) standards in effect for general service lamps should be amended to establish more stringent standards than those specified in paragraph (1)(A); and (II) the exemption of certain incandescent lamps should be maintained or discontinued based in part, on exempted lamp sales collected by the Secretary by manufacturers.
>
> The rulemaking shall not be limited to incandescent lamp technologies and shall include consideration of a minimum standard of 45 lumens per watt for general service lamps. If the Secretary determines that the standards in effect for general service incandescent lamps should be amended, the Secretary shall publish a final rule not later than January 1, 2017, with an effective date that is not earlier than three years after the date on which the final rule is published.

Mims' investigation of AEP Ohio's EE/PDR program life found that Ohio TRM stated that "a provision in the Energy Independence and Security Act (EISA) of 2007 notes that by January 1, 2020, all lamps meet efficiency criteria of at least 45 lumens per watt, in essence making the CFL baseline. Therefore, after 2011, the measure life will have to be reduced each year to account for the number of years remaining to 2020." As lighting is a significant contributor to AEP Ohio's EE/PDR portfolio impacts, Mims requested in LA-EE PDR-12-33 that the Company

124 See footnote 613 on page 253 of the Draft Ohio 2010 Technical Reference Manual. The cited evaluation report is available at: https://library.cee1.org/system/files/library/1308/485.pdf
125 See footnotes 40, 52, 59, 69, 151, 160, 189, 200, 248 of the Draft Ohio 2010 Technical Reference Manual. The cited evaluation report is available at: https://library.cee1.org/system/files/library/1308/485.pdf
126 The full text of the Act is available at: https://www.gpo.gov/fdsys/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf

provide the energy and demand savings values used for all lighting measures in the Consumer Products, Custom and Prescriptive program for 2011-2016 by bulb. The Company referred to the response to LA-EE PDR-12-23, which provided a spreadsheet that listed each measure and its description for the Efficient Products program. The Company also stated that:

> Please see LA-EE PDR-12-33 Attachment 1 (AEP_OhioAppendix_A_2016.pdf) for the sourced vendor savings documentation on the Custom and Prescriptive Programs. For true Custom lighting measures, these do not have prescribed savings. These measures are individually calculated and consistent with Ohio TRM methodology.

Subsequently, LA-EE PDR-19-5 requested that AEP Ohio provide a list of the measures that have been installed as part of the Efficient Products programs that do not have a lumen per watt ratio of at least 45 lumens per watt. AEP Ohio supplied a list of measures that have been installed since 2011 that would not meet the EISA standard. Exhibit 15-8 displays the energy savings from each year that did not meet the EISA standard.

Exhibit 15-8. Savings from the Efficient Product Program that do not meet EISA Phase II Standard

	Program Year	Program	kWh Savings as filed	CFL kWh < 45 Lumens Per Watt
1	2011 OPC	Efficient Products	62,832,782	1,376,605
2	2011 CSP	Efficient Products	67,038,982	1,468,759
3	2012	Efficient Products	229,928,778	3,147,526
4	2013	Efficient Products	204,123,090	1,678,957
5	2014	Efficient Products	210,515,086	2,282,532
6	2015	Efficient Products	110,435,935	1,006,746
7	2016	Efficient Products	131,481,002	532,194

In LA-EE PDR 12-27 Mims also asked whether it is the Company's interpretation of PUCO policy that it can use technology baselines in the Ohio Draft TRM, even if they are out of date (e.g., if a new residential new construction code is adopted, can the formulas identified in the Ohio Draft TRM still be used to calculate measure and program savings?). Mims also requested that the Company identify all testimony that discusses the use of technology baselines to calculate energy or demand savings.

In its response, the Company stated:

> AEP Ohio implements the code as adopted by the State of Ohio, per the Ohio Revised Code. AEP Ohio has also updated to new standards for individual measures such as Residential HVAC standards and clothes washer standards. The TRM Appendix D section shows guidelines on the proposed update process (Page 392):
>
> Existing measure updates – Updates will be required for a number of reasons. Examples include: the federal standard for efficiency of a measure is increased.

Using this logic for savings, AEP Ohio takes a conservative approach and updates our baseline assumptions the current standard.

Given the guidance in the Draft Ohio TRM, and AEP Ohio's response to LA-EE PDR-12-27, the savings listed in Exhibit 15-6 may need to be removed from the years 2020 and beyond. Mims recommends that, in the next independent EM&V report, the PUCO investigate the impact of the federal lighting standard on all of AEP Ohio's EE/PDR programs and shared savings calculations.

Mims investigated the impact of removing these savings from the Efficient Products program impacts for the purposes of calculating AEP Ohio's shared savings incentive. Mims conducted a preliminary analysis to determine whether reducing the energy savings by the amount listed in the "CFL kWh < 45 Lumens Per Watt" column of Exhibit 15-8 had any impact on AEP Ohio's shared savings incentive total. Reducing the savings in years 2020 and beyond by the amounts listed in Exhibit 15-8 reduced the amount of kilowatt-hour savings and subsequently lowered the avoided costs and avoided capacity values for each year after 2020 in the program shared savings calculator. Exhibit 15-9 displays the difference in shared savings after reducing the energy savings by the amount listed in Exhibit 15-8.

Exhibit 15-9. Difference in Shared Savings Incentive from Potential EISA Adjustment

		2012	2013	2014	2015	2016
1	Efficient Products Net Benefits, As Filed	$ 77,597,286	$ 61,106,917	$ 78,966,235	$ 66,705,867	$ 89,338,530
2	Efficient Products Net Benefits with EISA Adjustment	$ 77,418,763	$ 60,897,117	$ 78,451,841	$ 66,353,901	$ 89,111,558
3	Difference	$ 178,523	$ 209,800	$ 514,394	$ 351,966	$ 226,972
5	Shared Savings Reduction from EISA Adjustment	$ 23,208	$ 27,274	$ 66,871	$ 45,756	$ 29,506
6	Shared Savings, As Filed	$ 21,931,715	22,327,416	28,099,254	30,184,853	58,284,107
7	Shared Savings with EISA Adjustment	$ 21,908,507	$ 22,300,142	$ 28,032,383	$ 30,139,098	$ 58,254,601

There was no impact in 2011 as the shared savings calculation was based on program expenditures, not net benefits. Program costs would not have been reduced, regardless of the measure life. Based on this preliminary analysis, there was no impact on 2012-2016 shared savings incentive because the total shared savings values did not drop below $20 million, as shown in Exhibit 15-9. However, the purpose of this audit did not include verification of energy savings claimed by the Company, which are reviewed through the Commission's EM&V process. The findings and recommendations of this audit will be subject to future adjustment based on results of such further review.

Detailed Program Cost Review

As discussed in Chapters 6-11, Larkin requested that AEP Ohio provide the detailed general ledger information for the accounts listed in the exhibit above for each year of the 2011-2016 review period. In response to LA-EE PDR-1-5, the Company provided its detailed EE/PDR program cost account transactions for the period January 1, 2011 through December 31, 2016. A discussion of our findings related to the review of the EE/PDR portfolio costs for each year of the 2011-2016 review period is included in Chapters 6 through 11.

In this chapter, Mims reviewed five sources of data on the Company's EE/PDR program costs for its detailed program cost analysis, including: (1) the annual Portfolio Status Reports, (2) each program EM&V report included with AEP Ohio's annual Portfolio Status Report filing; and (3) the Excel models used to calculate the shared savings incentive, (4) the general ledger and, (5) the EE/PDR Rider.

Exhibit 15-10 displays the total annual program cost for the EE/PDR programs offered by AEP Ohio in 2011-2016, as provided in AEP Ohio's responses to LA-EE PDR-3-1(c) and LA-EE PDR-5-1.

Exhibit 15-10. AEP Ohio Annual Total Investments by Program, 2011-2016, Actual[127]

	Program Name	2011	2012	2013	2014	2015	2016	2011-2016
	Residential Program							
1	Products	$ 6,858,423	$ 10,808,536	$ 12,078,924	$ 15,175,590	$ 10,344,878	$ 9,992,275	$ 65,258,626
2	Recycling	$ 2,665,614	$ 2,841,627	$ 3,615,443	$ 3,262,502	$ 2,166,604	$ 1,435,438	$ 15,987,229
3	Retrofit	$ 2,388,332	$ 3,374,159	$ 5,051,382	$ 5,064,289	$ 4,663,660	$ 4,020,483	$ 24,562,305
4	Behavior Change	$ 1,906,085	$ 1,244,977	$ 2,393,710	$ 1,564,115	$ 707,748	$ 816,157	$ 8,632,793
5	New Construction	$ 1,049,124	$ 2,174,609	$ 2,748,346	$ 1,473,375	$ 1,757,700	$ 1,861,954	$ 11,065,108
6	e³SMART	$ 1,119,863	$ 914,636	$ 697,447	$ 968,677	$ 953,003	$ 727,543	$ 5,381,169
7	*Community Assistance*	*$ 13,832,977*	*$ 7,469,722*	*$ 12,739,555*	*$ 11,709,065*	*$ 6,651,548*	*$ 9,213,291*	*$ 61,616,158*
8	Research and Development	$ 242,630	$ 229,441	$ 271,548	$ 1,106,694	$ 349,031	$ 2,239,703	$ 4,439,046
9	Education and Training	$ 5,518,471	$ 54,109	$ 59,232	$ 50,610	$ 66,075	$ 73,373	$ 5,821,870
10	Targeted Advertising	*	$ 5,253,503	$ 3,532,724	$ 1,095,077	$ 1,823,844	$ 1,577,645	$ 13,282,794
11	Codes and Standards		$ 2,697	$ 59,879	$ 132,983	$ 739	$ -	$ 196,298
12	Residential Program Subtotal	$ 35,581,520	$ 34,368,016	$ 43,248,190	$ 41,602,978	$ 29,484,830	$ 31,957,862	$ 216,243,396
	C&I Programs							
13	Prescriptive	$ 14,617,869	$ 17,174,822	$ 14,532,913	$ 13,294,968	$ 16,162,075	$ 14,839,563	$ 90,622,211
14	Custom	$ 3,651,581	$ 3,055,156	$ 4,734,052	$ 5,932,752	$ 3,902,864	$ 1,779,399	$ 23,055,803
15	Custom-CHP							
16	New Construction	$ 1,786,850	$ 2,419,387	$ 4,401,470	$ 4,075,062	$ 3,873,849	$ 5,550,815	$ 22,107,433
17	Express	$ 1,730,581	$ 2,170,658	$ 3,136,790	$ 1,955,901	$ 3,122,617	$ 3,186,639	$ 15,303,186
18	Self Direct	$ 7,599,707	$ 2,887,520	$ 2,007,237	$ 726,127	$ 949,885	$ 1,499,636	$ 15,670,112
19	Demand Response	$ 484,534	$ 5,100	$ 336	$ -	$ -	$ -	$ 489,970
20	Retro-Commissioning		$ 200,529	$ 813,453	$ 742,119	$ 1,037,047	$ 1,156,665	$ 3,949,813
21	Continuous Improvement		$ 234,819	$ 1,541,726	$ 4,348,618	$ 2,664,144	$ 4,367,014	$ 13,156,320
22	Energy Efficiency Auction		$ -	$ 386,230	$ 653,899	$ 1,091,195	$ 3,102,746	$ 5,234,070
23	Data Center		$ 8,298	$ 1,832,821	$ 1,995,630	$ 1,663,575	$ 1,940,095	$ 7,440,419
24	Research and Development	$ 337,103	$ 61,459	$ 494,470	$ 747,549	$ 460,426	$ 360,434	$ 2,461,442
25	Education and Training	$ 613,163	$ 216,435	$ 236,927	$ 202,440	$ 264,301	$ 293,493	$ 1,826,759
26	Targeted Advertising	*	$ 1,313,376	$ 883,181	$ 273,769	$ 455,961	$ 394,411	$ 3,320,698
27	Business Behavior Change		$ -	$ 26,212	$ 24,565	$ 14,778		$ 65,555
28	C&I Program Subtotal	$ 30,821,390	$ 29,747,558	$ 35,027,819	$ 34,973,399	$ 35,662,716	$ 38,470,910	$ 204,703,792
29	Total Programs	$ 66,402,910	$ 64,115,574	$ 78,276,008	$ 76,576,377	$ 65,147,546	$ 70,428,772	$ 354,544,278

*In 2011, Education and Media (Targeted Advertising) were combined as one cost in the General Ledger.

Mims used five data sources to review AEP Ohio's EE/PDR individual program costs, and found that:

> In 2011, there was inconsistency on a portfolio level between costs reported in the Annual Portfolio Status Report and the general ledger.
>
> As discussed in Chapters 6-11, the EE/PDR Riders match the general ledger detail at the portfolio level. Each year, on a program level, there was inconsistency between the EE/PDR Rider and the general ledger.

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[127] AEP Ohio's response to LA-EE PDR DR 3-1(c) and 5-1 (EE/PDR Rider costs). The total program cost does not match the Portfolio Status Report total program cost for 2011 because of "accruals booked each month on the books of Ohio Power and timing differences between the general ledger recognition of incentive costs and Compliance recognition of savings and incentives." See AEP Ohio's response to LA-EE PDR DR 15-1.

> The EE/PDR Rider and the Excel models provided to calculate shared savings annual program costs align for each year.

Each of these findings is discussed below.

In 2011, there was inconsistency between the annual Portfolio Status Report and the general ledger for portfolio level costs. In response to LA-EE PDR-15-1, AEP Ohio stated that there were differences between the total program cost from the Portfolio Status Report and AEP Ohio's EE/PDR Rider primarily due to "the program cost figures in the Portfolio status report do not reflect accruals booked each month on the books of Ohio Power; and timing differences between general ledger recognition of incentive costs and Compliance recognition of savings and incentives."

As discussed in Chapters 6-11, the EE/PDR Rider matches general ledger detail at the portfolio level. The different cost classifications in the EE/PDR Rider and the general ledger create challenges for data comparison and verification. However, across all years, the Company stated that the general ledger and the EE/PDR Rider costs do not align because:

> The majority of the differences between the program costs figures shown in the EE/PDR rider and the general ledger are due to EEPDR administrative and evaluation costs being allocated on top of program direct costs in figures reported in the EE/PDR rider. In the general ledger figures, the EE/PDR administrative and evaluation costs are identified in the "DSM Non-Assigned Program Administration and Corporate Support Total", "Department", "Residential General", "C&I General", "Evaluation" and "DSM EM&V" categories.[128]

In the three examples found where the general ledger costs were higher than the EE/PDR Rider, AEP Ohio stated in its supplemental response to LA-EE PDR-20-3 that:

> 2015 Home Energy Report- Please refer to Attachment 7 in our response to LA-EE PDR-3-8. Cell O16 shows that direct charge to this program in 2015 were $721,930.09. Cell AR16 shows that with overheads allocated, total costs for this program in 2015 was $707,747.81. The total program cost with allocations [for the 2015 Home Energy Report] is lower than direct program costs because department costs in January 2015 were negative. They were negative due to accruals being inadvertently not made in January 2015. This had an impact on the Home Energy Report program that it did not have on any other program because $686,166.05 of the program's total year's costs of $721,930.09 was booked in January. The contract with [redacted] for this program required a yearly payment in January.

> 2015 Continuous Improvement – Please refer to Attachment 7 in our response to LA-EE PDR 3-8. Cell O26 shows that direct charges to this program in 2015 was $2,452,967.41. Cell AR26 shows that with overheads allocated, total costs for this program in 2015 was $2,664,143.99. The total program cost with allocations is higher than direct program costs in 2015.

[128] See the response to LA-EE PDR-20-3.

> 2016 Custom – the incentives and share of administrative costs for custom projects that were initiated through the EE Energy Auction are moved and reported under the "EE Auction" program for EEPDR reporting. (Please see line 315 that shows that EEPDR reporting for the EE Auction (for 2016) was $2,102,746 while the General Ledger shows $202,621.) Please note incentive and administrative costs for prescriptive projects were initiated through the EE Energy Auction were also moved and reported under the "EE Auction" program for EEPDR reporting.

The Company provided 97 Excel models that were used to calculate the shared savings incentives in response to LA-EE PDR-8-1, and 35 Excel models in its response to LA-EE PDR-14-1. Mims reviewed all of these spreadsheets and verified that the program costs from the shared savings Excel models align with the EE/PDR Rider as shown in the Company's response to LA-EE PDR-20-4.

After reviewing all five of these data sources, Mims recommends that the PUCO staff create a consistent data reporting template that AEP Ohio can use for all EE/PDR program cost reporting to the PUCO.

Program Specific Cost Review

Mims also reviewed specific program costs for the three following programs: Low Income, Self-Direct and Demand Response. In LA-EE PDR-3-12, Mims inquired about the low-income program. Specifically, Mims asked why the program expenditures ranged from an 85% decline in spending to a 28% increase in spending from year to year. Exhibit 15-11 displays the Low-Income program expenditures provided by AEP Ohio in its response to LA-EE PDR-2-1, Attachment 1.

Exhibit 15-11. AEP Ohio Low-income program expenditures, 2011 -2016

	2011 Total Expenditures	2012 Total Expenditures	2013 Total Expenditures	2014 Total Expenditures	2015 Total Expenditures	2016 Total Expenditures	Grand Total
Low Income	$ 13,984,737	$ 7,469,722	$ 12,739,555	$ 11,709,065	$ 6,651,548	$ 9,213,291	$ 61,767,918
Annual Percentage Change in Expenditures		-87%	41%	-9%	-76%	28%	

In its response to LA-EE PDR-3-12, the Company stated:

> Ohio Power had a contract with [redacted] to run the "Low Income" program that was effective from April 1, 2010 through December 31, 2011. The approved contract value was $17,100,000. Due to a late start and the startup time to get the program running, less than $ 1 million was spent in 2010. This resulted in approximately $ 12.7 million to be spent in 2011.
>
> A new contract was written and approved with [redacted] for the period 2012 - 2014. The budgeted annual amount for these years was between $ 9 - 10 million. However, this contract was not signed until mid-June 2012. With this very late start in 2012, only $ 6.8 million was spent on this contract in 2012.

> For the years 2015 and 2016, separate contracts were written and approved between Ohio Power and 17 individual community assistance agencies to run our "Low Income" program. These contracts were effective April 1, 2015 through December 31, 2016, but were not signed until mid-June 2015. With this very late start in 2015, only $ 6.0 million was spent on these "Low Income" contracts in 2015.

In LA-EE PDR-3-13, Mims inquired about the Business Self-Direct program. Specifically, Mims asked why the program expenditures ranged from a 176% decline in spending to a 24% increase in spending from year to year. Exhibit 15-12 displays the Self-Direct program expenditures provided by AEP Ohio in response to LA-EE PDR-2-1, Attachment 1.

Exhibit 15-12. AEP Ohio Self-Direct program expenditures, 2011 -2016

	2011 Total Expenditures	2012 Total Expenditures	2013 Total Expenditures	2014 Total Expenditures	2015 Total Expenditures	2016 Total Expenditures	Grand Total
Self Direct	7,564,645	2,887,520	2,007,237	726,127	949,885	1,499,636	15,635,050
Annual Percentage Change in Expenditures		-162%	-162%	-44%	-176%	24%	

In its response to LA-EE PDR-3-13, the Company stated:

> The initial energy bill SB221 had programs starting in 2009. The program available at the start was self-direct. With increased marketing and higher savings targets, self-direct was the program most customers used to claim incentives. When other programs were developed (Prescriptive and Custom) customers continued to apply for self-direct. An evaluation finding showed that many customers did not know there were additional programs, so customers continued to access the self-direct program. Additional marketing and communications informed customers of the many program alternatives in the 2012-2014 Plan and the number of self-direct projects decreased. The number decreased primarily due to larger incentives available under the other programs.

In LA-EE PDR-3-13, Mims inquired about the Demand Response program. Specifically, Mims asked why the program ended in 2013. Exhibit 15-13 displays the Demand Response program expenditures provided by AEP Ohio in response to LA-EE PDR-2-1, Attachment 1.

Exhibit 15-13. AEP Ohio Demand Response program expenditures, 2011 -2016

	2011 Total Expenditures	2012 Total Expenditures	2013 Total Expenditures	2014 Total Expenditures	2015 Total Expenditures	2016 Total Expenditures	Grand Total
C&I Demand Response	$ 487,457	$ 5,100	$ 336				492,893
Annual Percentage Change in Expenditures		-9458%	-9458%	-1418%			

In its response to LA-EE PDR-3-13, the Company stated:

> It was determined that this program was not a cost-effective way to drive demand reductions. The incentive payments made in 2011 were the last incentive payments made under this program.

After reviewing these three programs, Mims found that AEP Ohio provided a sufficient explanation as to why these three programs (Low-Income, Self-Direct, and Demand Response) had large inconsistencies in spending year over year.

Program Components as a Percentage of Total Cost

Mims also reviewed specific components of program costs. Specifically, similar to what is shown in Chapters 6-11, Exhibit 15-14 displays AEP Ohio's portfolio costs by dollar value, by year. In addition, Exhibit 15-15 below displays the program costs as a percentage of total program costs, by year.

Exhibit 15-14. AEP Ohio General Ledger Program Costs, 2011-2016[129]

		2011	2012	2013	2014	2015	2016
1	EE/PDR Department	$ 3,239,208	$ 2,758,021	$ 3,916,416	$ 4,585,477	$ 4,051,589	$ 5,184,905
2	Education	$ 5,961,254	$ 148,153	$ 135,212	$ 103,132	$ 127,037	$ 111,372
3	Evaluation	$ 3,211,615	$ 2,442,041	$ 3,619,952	$ 2,436,843	$ 2,363,387	$ 2,357,809
4	Implementation	$ 12,914,240	$ 13,049,511	$ 19,232,371	$ 18,906,714	$ 15,012,223	$ 15,425,226
5	Incentives	$ 40,387,199	$ 38,027,446	$ 45,245,760	$ 46,529,847	$ 40,033,878	$ 42,646,425
6	Marketing	$ 689,393	$ 1,181,088	$ 1,535,392	$ 2,367,571	$ 1,207,941	$ 2,761,770
7	Media*		$ 6,559,313	$ 4,415,905	$ 1,369,742	$ 2,276,492	$ 1,941,264
8	R&D General	$ -	$ -	$ 175,000	$ 277,053	$ 75,000	$ -
9	Overaccrual		$ (50,000)				$ -
10	Grand Total	$ 66,402,909	$ 64,115,573	$ 78,276,008	$ 76,576,379	$ 65,147,547	$ 70,428,771

*In 2011, Education and Media were combined as one cost in the General Ledger.

Exhibit 15-15. AEP Ohio General Ledger Program Costs as a Percent of Total Cost 2011-2016

		2011	2012	2013	2014	2015	2016
1	EE/PDR Department	4.9%	4.3%	5.0%	6.0%	6.2%	7.4%
2	Education	9.0%	0.2%	0.2%	0.1%	0.2%	0.2%
3	Evaluation	4.8%	3.8%	4.6%	3.2%	3.6%	3.3%
4	Implementation	19.4%	20.4%	24.6%	24.7%	23.0%	21.9%
5	Incentives	60.8%	59.3%	57.8%	60.8%	61.5%	60.6%
6	Marketing	1.0%	1.8%	2.0%	3.1%	1.9%	3.9%
7	Media*	0.0%	10.2%	5.6%	1.8%	3.5%	2.8%
8	R&D General	0.0%	0.0%	0.2%	0.4%	0.1%	0.0%
9	Overaccrual	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%
10	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*In 2011, Education and Media were combined as one cost in the General Ledger.

Exhibit 15-15 shows that incentive payments to customers comprise close to 60% of the EE/PDR program costs in each year of the review period. The next largest component of program costs is implementation, which ranged from 19% to 25% of program costs annually. The remaining approximately 20% of program costs are spent on administrative costs (EE/PDR department costs, education, marketing, media, R&D general) and evaluation.

[129] See AEP Ohio's response to LA-EE PDR-1-5.

Negative participant costs

In reviewing AEP Ohio's 2012-2014 EE/PDR Plan, Mims found that two programs, the Low-Income and the In-Home Audit program both had negative participant costs. Mims asked AEP Ohio about this in LA-EE PDR-12-9 and in response the Company stated:

> AEP Ohio's Independent Evaluator assumed that positive participants lifetime cost savings due to CFL bulbs vs. incandescent bulbs, which from a participant viewpoint, overall made their out of pocket costs negative in these cases.

In sum, Mims's review of detailed program costs found that:

> In 2011, there was inconsistency on a portfolio level between costs reported in the Annual Portfolio Status Report and the general ledger.
>
> As discussed in Chapters 6-11, the EE/PDR Rider matches the general ledger detail at the portfolio level. Each year, on a program level, there was inconsistency between the EE/PDR Rider and the general ledger.
>
> The EE/PDR Rider and the Excel models provided to calculate shared savings annual program costs align for each year.
>
> AEP Ohio provided a sufficient explanation as to why three programs (Low-Income, Self-Direct, and Demand Response) had large inconsistencies in spending year over year.
>
> AEP Ohio provided a sufficient explanation as to why two programs (Low-Income and In-Home Audit) had negative program costs.

EE/PDR Program Cost Recovery

Ohio law permits an electric utility to request cost recovery associated with "peak-demand reduction, demand response, energy efficiency program costs, appropriate lost distribution revenues, and shared savings"[130] after filing its energy efficiency and peak demand reduction program portfolio plan. On March 29, 2012, in Columbus Southern Power and Ohio Power Company's EE/PDR Rider application,[131] the PUCO approved the Companies' November 29, 2011 Stipulation. The Stipulation provided the terms of AEP Ohio's program cost recovery. One of the terms of cost recovery approved by the PUCO was that "the Total Resource Cost (TRC)[132]

[130] Available at: http://codes.ohio.gov/oac/4901%3A1-39
[131] Ohio Public Utilities Commission Case Number 11-5568-EL-POR and 11-5569-EL-POR.
[132] "The TRC is defined in the Companies' filed plan, Volume I, which states as follows: "[the] TRC is a test that measures the total net resource expenditures of an EE/PDR program from the point of view of the utility and its ratepayers. Resource costs include changes in supply and participant costs. An EE/PDR program, which passes the TRC test (i.e., a ratio greater than 1.0) is viewed as beneficial to the utility and its customers because the savings in electric costs outweigh the EE/PDR costs incurred by the utility and its customers."

test will be used to qualify the Portfolio for cost-recovery."[133] Exhibit 15-16 displays the portfolio TRC test ratios for each year.

Exhibit 15-16. Portfolio Total Resource Cost Test Ratio, 2011-2016

	2011	2012	2013	2014	2015	2016
Total Resource Cost Test Ratio	4.2	1.8	1.8	1.9	1.9	1.7

AEP Ohio's portfolio has remained cost-effective (i.e., by achieving a score of greater than 1.0) based on the TRC test for all years covered by the audit (2011-2016). In the discussion below, regarding program cost-effectiveness, Exhibit 15-17 provides the TRC ratio by program, by year.

Program Cost-Effectiveness

AEP Ohio measures program cost-effectiveness using four cost-benefit tests that are defined in the National Standard Practice Manual.[134]

> Participant Cost Test – The intended purpose of the participant cost test is to indicate whether the benefits of the efficiency program will exceed its costs from the perspective of the EE program participant. This test includes all impacts on the program participants, but no other impacts.
>
> Ratepayer Impact Measure (RIM) Test – The purpose of the ratepayer impact measure test is to indicate whether an efficiency resource will increase or decrease electricity or gas rates (i.e., prices). The RIM test includes all the costs and benefits of the UCT test, plus estimates of the utility lost revenues created by efficiency programs.
>
> Total Resource Cost (TRC) Test[135]- The TRC test means an analysis to determine if, for an investment in energy efficiency or peak-demand reduction measure or program, on a life-cycle basis, the present value of the avoided supply costs for the periods of load reduction, valued at marginal cost, are greater than the present value of the monetary costs of the demand-side measure or program borne by both the electric utility and the participants, plus the increase in supply costs for any periods of increased load resulting directly from the measure or program adoption. Supply costs are those costs of supplying energy and/or capacity that are avoided by the investment, including generation, transmission, and distribution to customers. Demand-side measure or program costs include, but are not limited to, the costs for equipment, installation, operation and maintenance, removal of replaced equipment, and program administration, net of any residual benefits and avoided expenses such as the comparable costs for devices that would otherwise have been installed, the salvage value of removed equipment, and any tax credits.

[133]AEP Ohio's response to LA-EE PDR-14-6; Case No. 11-5568-EL-POR. Stipulation filed November 29, 2011.
[134] Available at https://nationalefficiencyscreening.org/wp-content/uploads/2017/05/NSPM_May-2017_final.pdf
[135]From Ohio Administrative Code http://codes.ohio.gov/oac/4901%3A1-39

Utility Cost Test: The purpose of the UCT is to indicate whether the benefits of an efficiency resource will exceed its costs from the perspective only of the utility system.

Exhibit 15-17 is taken from the National Standard Practice Manual, which summarizes the costs and benefits of each of these cost-effectiveness tests.

Exhibit 15-17. Costs and Benefits of the California Standard Practice Manual Cost-Effectiveness Tests[136]

	UCT	TRC Test	SCT	Participant Cost Test	RIM Test
EE Costs:					
Efficiency Program Costs	Yes	Yes	Yes	—	Yes
Efficiency Portfolio Costs	Yes	Yes	Yes	—	Yes
Financial Incentive Provided to Participant	Yes	Yes	Yes	—	Yes
Participant Financial Cost of Efficiency	—	Yes	Yes	Yes	—
Participant Non-Financial Cost of Efficiency	—	Yes	Yes	Yes	—
Participant Increased Resource Consumption	—	Yes	Yes	Yes	—
Societal costs (environmental, health, etc.)	—	—	Yes	—	—
Lost Revenues	—	—	—	—	Yes
EE Benefits:					
Avoided Energy Costs	Yes	Yes	Yes	—	Yes
Avoided Generation Capacity Costs	Yes	Yes	Yes	—	Yes
Avoided T&D Capacity Costs	Yes	Yes	Yes	—	Yes
Avoided T&D Losses	Yes	Yes	Yes	—	Yes
Wholesale Market Price Suppression Effects	Yes	Yes	If applicable	—	Yes
Avoided Environmental Compliance Costs	Yes	Yes	Yes	—	Yes
Avoided RPS Compliance Costs	Yes	Yes	Yes	—	Yes
Avoided Credit and Collection Costs	Yes	Yes	Yes	—	Yes
Participant Resource Savings (fuel, water)	—	Yes	Yes	Yes	—
Participant Non-Resource Benefits	—	Yes	Yes	Yes	—
Reduce Low-Income Energy Burden	—	—	Yes	—	—
Environmental Benefits	—	—	Yes	—	—
Jobs and Economic Development Benefits	—	—	Yes	—	—
Societal Health Care Benefits	—	—	Yes	—	—
Increased energy security	—	—	Yes	—	—
Customer Bill Savings	—	—	—	Yes	—

In this audit, we focused on the Total Resource Cost (TRC) test and the Utility Cost Test (UCT). As mentioned above, AEP Ohio's portfolio is cost-effective in Ohio if the cost-benefit ratio is

[136] Excerpt from the National Standard Practice Manual, available at https://nationalefficiencyscreening.org/wp-content/uploads/2017/05/NSPM_May-2017_final.pdf

greater than one, as defined by using the TRC test. Most of AEP Ohio's programs maintain a TRC score of greater than one. The exceptions are the Community Assistance (low-income) program and the In-Home Energy program. Three programs, New Homes (2012), Prescriptive (2014) and Retro-Commissioning (2016), had a TRC score of less than one for one year, and then resumed a score of greater than one. Exhibit 15-18 displays the TRC test scores for all EE/PDR programs for each year, 2011-2016.

Exhibit 15-18. Consumer and Business Products Total Resource Cost Test Scores, 2011-2016137

		2011	2012	2013	2014	2015	2016
	Consumer Products						
1	Efficient Products	9.9	4.8	2.6	3.5	4.9	2.5
2	Appliance Recycling	10.5	3.4	2.7	2.9	3.9	3.1
3	e3 smart	7.6	2.6	2.4	1.7	1.6	2.2
4	In-Home Energy	1.2	0.4	0.5	0.7	0.3	0.2
5	Community Assistance	2.9	0.8	0.6	0.7	0.7	0.7
6	New Homes	2.1	0.4	1.0	1.0	1.0	1.5
7	Home Energy Reports	3.1	1.9	1.0	1.9	5.5	5.3
	Business Products						
8	Prescriptive	3.9	1.4	1.2	0.9	1.4	1.5
9	Custom	4.1	1.6	1.5	2.7	1.9	1.4
10	Self Direct	2.4	2.1	2.1	1.8	2.1	2.5
11	New Construction	4.8	1.9	2.2	3.8	2.6	2.1
12	Express	1.3	1.8	1.3	1.8	1.5	1.5
13	Retro-Commissioning			1.5	2.9	1.2	0.4
14	Data Center			1.0	1.3	1.4	2.3
15	EE Auction				2.6	7.9	2.8
16	Continuous Energy Improvement				2.8	1.5	3.4

AEP Ohio calculates the net benefits for its shared savings incentive (see additional discussion below) based on the UCT score. A program does not need to earn a UCT score greater than one to be included in the shared savings calculation.[138] Exhibit 15-18 displays the UCT score for all EE/PDR programs for each year 2011-2016. Similar to the TRC test scores, most of AEP Ohio's EE/PDR programs maintained a UCT score of greater than one. The exception was the Community Assistance (low-income) program. Three programs – In-Home Energy (2011, 2014, and 2016), New Homes (2011), and Express (2011) all had a UCT score of less than one, and then resumed a score of greater than one. Exhibit 15-19 displays the UCT test scores for all EE/PDR programs for each year 2011-2016.

[137] AEP Ohio Annual Portfolio Status Report, 2011-2016.
[138] AEP Ohio's response to LA-EE PDR-12-26 .

Exhibit 15-19. Consumer and Business Product Utility Cost Test Scores, 2011-2016[139]

		2011 CSP	2011 OPC	2012	2013	2014	2015	2016
				Consumer Products				
1	Efficient Products	17.2	15.0	8.2	6.1	6.2	7.4	9.9
2	Appliance Recycling	4.3	4.2	3.2	2.7	2.9	3.9	3.1
3	e3 smart	2.5	3.5	2.5	2.4	1.7	1.6	2.2
4	In-Home Energy	1.3	0.8	1.1	1.0	0.8	1.3	0.9
5	Community Assistance	0.4	0.5	0.7	0.6	0.7	0.7	0.7
6	New Homes	2.7	0.4	1.0	1.9	2.7	2.5	3.6
7	Home Energy Reports	3.2	4.0	1.8	1.0	1.9	5.5	5.3
				Business Products				
8	Prescriptive	7.2	5.5	4.3	4.2	4.2	4.0	4.5
9	Custom	6.5	9.4	5.0	8.7	9.4	11.6	21.2
10	Self Direct	17.4	6.8	7.1	7.8	2.2	14.4	12.3
11	New Construction	8.4	3.2	5.5	4.1	6.3	6.6	6.3
12	Express	0.8	0.8	2.3	2.0	2.9	2.8	2.4
13	Retro-Commissioning				1.4	1.5	1.2	0.4
14	Data Center				2.5	3.3	4.7	7.4
15	EE Auction				0.0	2.5	17.0	12.9
16	Continuous Energy Improvement				0.0	1.7	1.6	3.4
17	Demand Response	7.9						

Shared Savings Mechanism

As discussed in Chapter 4 and Chapters 6 through 11, AEP Ohio had two shared savings mechanisms; the first from 2009-2011; and the second from 2012-2016. As part of its review, Mims verified the shared savings reflected in the Company's regulated accounting records for each year of the 2011 through 2016 review period. Ordinarily, such verification would entail tracing the shared savings amounts to the Company's general ledger. However, as previously discussed in Chapter 4, in its supplemental response to LA-EE PDR-18-4, the Company explained that the shared savings are not separately identified in the general ledger, but rather are a component of the costs included in Supplemental Attachment 1, which is a large Excel file that was provided in the supplemental response to LA-EE PDR-18-4. Specifically, the shared savings amounts are not booked to the general ledger separately and instead are included in Supplemental Attachment 1 as ledger detail,[140] the amounts of which can be traced to the reconciliation provided in the confidential response to LA-EE PDR-12-18.

Program Savings, Costs, and Net Benefits

In addition to verifying the shared savings reflected in the EE/PDR Rider and the regulated accounting records, Mims also traced the annual shared savings amount back to each programs'

[139] AEP Ohio's response to LA-EE PDR DR 8-1.
[140] See the supplemental response to LA-EE PDR-18-4.

calculated net benefits. In order to do this, Mims reviewed the: (1) program energy and demand savings; (2) EE/PDR program costs; and (3) the shared savings calculation in each year.

In LA-EE PDR-8-1, Mims asked the Company to provide the Excel models used for calculating shared savings and utility cost test values for each EE/PDR program for 2011-2016. In response, AEP Ohio sent Mims 97 Excel models.

Mims asked the Company if the Excel models provided in response to LA-EE PDR-8-1 are the source of the utility cost test net benefits in LA-EE PDR-14-1. In its response to LA-EE PDR-14-1, AEP Ohio provided an additional 35 Excel models and stated:

> For program years 2013 - 2016, yes. Please see attached LA-EE PDR-14-1, Attachment 1 for the models used as the source of the utility cost test net benefits used to calculate AEP Ohio's shared savings incentive for 2011 and 2012.

Mims compared the energy savings in each Excel model to the EE/PDR Riders and did not find any discrepancies. Next, Mims reviewed the program costs in each calculator, and compared them to the EE/PDR Riders. As discussed above, Mims reviewed all of Excel shared savings model spreadsheets, and verified that the program costs from the shared savings Excel models align with the EE/PDR Riders as shown in AEP Ohio's response to LA-EE PDR-20-4.

After verifying the energy savings and program costs, Mims reviewed the calculation of net benefits. In each Excel model, the annual program savings (for each year of the program life) are multiplied by the avoided energy cost and avoided generation cost. These values are summed to create the program benefits. A discount rate of 8.3% is applied to calculate the net present value of the program benefits. Similarly, the program costs are summed, and a discount rate of 8.3% is applied to calculate the net present value. The net benefits for the program are calculated by subtracting the program costs from the program benefits. When the program benefits are higher than the program costs, the utility cost test score is greater than one.

Finally, the net benefits are summed by year. This is shown in AEP Ohio's EE/PDR Rider, provided as in response to LA-EE PDR-3-1(c) and LA-EE PDR-5-1. Exhibit 15-20 displays the net benefits for 2011, and Exhibit 15-21 displays the net benefits for 2012-2016. Mims did not find any inconsistencies in the calculations.

Exhibit 15-20. Net Benefits by Program, 2011

		2011 CSP		2011 OPC	
	Program Name	Net Benefits		Net Benefits	
1	Measurable Residential Program				
2	Consumer Sector				
3	Products	$	34,054,873	$	28,391,894
4	Recycling	$	3,352,720	$	2,921,358
5	Retrofit	$	312,363	$	(91,642)
6	Low Income	$	(2,800,492)	$	(2,484,188)
7	New Construction	$	443,784	$	(86,646)
8	Conservation Kits	$	531,372	$	959,675
9	Behavior Modification	$	2,039,581	$	2,496,142
10	Pilot Program Fund	$	-	$	-
11	Subtotal	$	37,934,201	$	32,106,593
12	Measurable C&I Program				
13	Demand Response	$	3,059,397	$	-
14	Prescriptive	$	30,254,130	$	21,848,247
15	Custom	$	7,461,313	$	8,996,620
16	New Construction	$	4,111,372	$	1,131,637
17	Express Install	$	(116,485)	$	(155,988)
18	LED Traffic Signals	$	-	$	-
19	Pilot Program Fund	$	-	$	-
20	Subtotal	$	44,769,726	$	31,820,516
22	Total	$	82,703,928	$	63,927,109

Exhibit 15-21. Net Benefits by Program, 2012-2016

		2012	2013	2014	2015	2016
1	Residential Program					
2	Consumer Sector					
3	Products	$ 77,597,286	$ 61,106,917	$ 78,966,235	$ 66,705,867	$ 89,338,530
4	Recycling	$ 6,331,290	$ 5,972,750	$ 6,197,555	$ 6,203,596	$ 3,008,871
5	Retrofit	$ 353,233	$ (155,647)	$ (804,930)	$ 1,178,372	$ (214,514)
6	Behavior Change	$ 991,996	$ 116,257	$ 1,385,949	$ 3,149,609	$ 3,504,189
7	New Construction	$ (75,911)	$ 2,528,744	$ 2,531,360	$ 2,695,342	$ 4,910,822
8	e3SMART	$ 1,342,780	$ 973,610	$ 631,760	$ 525,903	$ 867,827
9	Community Assistance	$ -	$ -	$ -	$ -	$ -
10	Research and Development	$ -	$ -	$ -	$ -	$ -
11	Education and Training	$ -	$ -	$ -	$ -	$ -
12	Targeted Advertising	$ -	$ -	$ -	$ -	$ -
13	Codes and Standards	$ -	$ -	$ -	$ -	$ -
14	Residential Program Subtotal	$ 86,540,673	$ 70,542,631	$ 88,907,928	$ 80,458,688	$ 101,415,724
15	C&I Programs					
16	Prescriptive	$ 56,961,456	$ 46,736,260	$ 41,954,726	$ 48,349,433	$ 52,423,032
17	Custom	$ 12,132,087	$ 36,488,701	$ 50,023,124	$ 51,604,845	$ 52,880,840
18	Custom-CHP					
19	New Construction	$ 10,806,260	$ 13,741,565	$ 21,532,581	$ 21,540,267	$ 29,298,737
20	Express	$ 2,713,770	$ 3,029,082	$ 3,804,289	$ 5,487,267	$ 4,579,509
21	Self Direct	$ -	$ -	$ -	$ -	$ -
22	Demand Response	$ (5,100)	$ (336)	$ -	$ -	$ -
23	Retro-Commissioning	$ (200,529)	$ 322,869	$ 401,000	$ 160,427	$ (739,935)
24	Continuous Improvement	$ (234,819)	$ (1,541,726)	$ 3,874,708	$ 1,057,283	$ 10,284,799
25	Energy Efficiency Auction	$ -	$ (386,230)	$ 999,861	$ 17,417,390	$ 36,831,127
26	Data Center	$ (8,298)	$ 2,816,536	$ 4,649,890	$ 6,115,578	$ 12,327,251
27	Research and Development	$ -	$ -	$ -	$ -	$ -
28	Education and Training	$ -	$ -	$ -	$ -	$ -
29	Targeted Advertising	$ -	$ -	$ -	$ -	$ -
30	Business Behavior Change	$ -	$ -	$ -	$ -	$ -
31	C&I Program Subtotal	$ 82,164,828	$ 101,206,721	$ 127,240,180	$ 151,732,492	$ 197,885,361
32	Total Net Benefits	$ 168,705,500	$ 171,749,352	$ 216,148,108	$ 232,191,180	$ 299,301,085

As shown in Exhibits 15-20 and 15-21, there were several programs in each year that were included in the shared savings incentive that did not generate net benefits as defined by the utility cost test. With the exception of programs that are specifically excluded from the shared savings mechanism, if a program produces negative net benefits, those values are included in the sector level net benefits.[141] This simply lowers the amount of the benefits that contribute to AEP Ohio's shared savings incentive.

Shared Savings Calculation

As discussed in Chapter 4, in 2011, if AEP Ohio achieved 115% of its Benchmark goal, then the Shared Savings calculation was calculated as the lower of 15% of net benefits or 17% of program costs. In 2011, the lower value was 17% of program costs, as shown in Exhibits 15-22 and 15-23. These exhibits were provided in the Company's response to LA-EE PDR-3-1(c).

Exhibit 15-22. Columbus Southern Power Company 2011 Shared Savings Calculation

Acutal 2011 AEP Ohio EE/PDR Shared Savings
Columbus Southern Power Company

Program Name	2011 Program Investment	2011 Net Benefits	Shared Savings 15%	Shared Savings After Cap 17%	Tax Gross-Up 56.139%	Pre-Tax Shared Savings
Measurable Residential Program						
Consumer Sector						
Products	$ 3,534,783	$ 34,054,873				
Recycling	$ 1,375,525	$ 3,352,720				
Retrofit	$ 1,626,076	$ 312,363				
Low Income	$ 6,789,523	$ (2,800,492)				
New Construction	$ 667,174	$ 443,784				
Conservation Kits	$ 550,830	$ 531,372				
Behavior Modification	$ 998,870	$ 2,039,581				
Pilot Program Fund	$ 76,658	$ -				
Subtotal	$ 15,619,440	$ 37,934,201				$ 3,366,546
Measurable C&I Program						
Demand Response	$ 484,534	$ 3,059,397				
Prescriptive	$ 7,714,442	$ 30,254,130				
Custom	$ 1,931,994	$ 7,461,313				
New Construction	$ 930,370	$ 4,111,372				
Express Install	$ 857,215	$ (116,485)				
LED Traffic Signals	$ -	$ -				
Pilot Program Fund	$ 113,554	$ -				
Subtotal	$ 12,032,109	$ 44,769,726				$ 3,973,178
Total	$ 27,651,549	$ 82,703,928	$ 12,405,589	$ 4,700,763	$ 2,638,961	$ 7,339,724

[141] AEP Ohio's response to LA-EE PDR DR 12-26.

Exhibit 15-23. Ohio Power Company 2011 Shared Savings Calculation

Acutal 2011 AEP Ohio EE/PDR Shared Savings						
Program Name	2011 Program Investment	2011 Net Benefits	Shared Savings	Shared Savings After Cap*	Tax Gross-Up	Pre-Tax Shared Savings
			15%	17%	56.994%	
Measurable Residential Program						
Consumer Sector						
Products	$ 3,323,640	$ 28,391,894				
Recycling	$ 1,290,089	$ 2,921,358				
Retrofit	$ 762,255	$ (91,642)				
Low Income	$ 7,043,454	$ (2,484,188)				
New Construction	$ 381,950	$ (86,646)				
Conservation Kits	$ 569,034	$ 959,675				
Bahavior Modification	$ 907,215	$ 2,496,142				
Pilot Program Fund	$ 165,972	$ -				
Subtotal	$ 14,443,609	$ 32,106,593				$ 3,353,735
Measurable C&I Program						
Demand Response	$ -	$ -				
Prescriptive	$ 6,903,427	$ 21,848,247				
Custom	$ 1,719,587	$ 8,996,620				
New Construction	$ 856,481	$ 1,131,637				
Express Install	$ 873,366	$ (155,988)				
LED Traffic Signals	$ -	$ -				
Pilot Program Fund	$ 223,550	$ -				
Subtotal	$ 10,576,410	$ 31,820,516				$ 3,323,853
Total	$ 25,020,019	$ 63,927,109	$ 9,589,066	$ 4,253,403	$ 2,424,185	$ 6,677,588

In 2012-2016, the shared savings incentive mechanism removed the requirement that the incentive be the lesser of 17% of program costs or 15% of net benefits. Instead, the criteria was the lesser of $20 million or 13% of net benefits, assuming that AEP Ohio met 115% of its Benchmark goal. For 2012-2016, AEP Ohio compiled program net benefits into customer classes (e.g., residential, commercial and IRP-D) prior to calculating the 13% shared savings values. Mims verified that these combined class costs were equal to the individual programs within each class. Exhibit 15-24 and 15-25 display the calculation for shared savings for each year.

Exhibit 15-24. AEP Ohio - OPCo 2012-2016 Shared Savings Calculation

Actual 2012 AEP Ohio EE/PDR Shared Savings
Ohio Power Company

Tariffs	2012 Net Benefits	Shared Savings 13%	Tax Gross-Up 56.130%	Pre-Tax Shared Savings
RS	$ 39,503,774	$ 5,135,490.64	$ 2,882,550	$ 8,018,040
All Other C&I	$ 38,964,288	$ 5,065,357	$ 2,843,184	$ 7,908,541
GS4/IRP	$ 5,158,224	$ 670,569	$ 376,390	$ 1,046,959
Total C&I	$ 44,122,512	$ 5,735,927	$ 3,219,574	$ 8,955,501
Total	$ 83,626,287	$ 10,871,417	$ 6,102,124	$ 16,973,541

Actual 2013 AEP Ohio EE/PDR Shared Savings
Ohio Power Company

Tariffs	2013 Net Benefits	Shared Savings 13%	Tax Gross-Up 56.389%	Pre-Tax Shared Savings
RS	$ 32,201,046	$ 4,186,135.97	$ 2,360,512	$ 6,546,648
All Other C&I	$ 47,994,354	$ 6,239,266	$ 3,518,247	$ 9,757,513
GS4/IRP	$ 6,353,655	$ 825,975	$ 465,757	$ 1,291,733
Total C&I	$ 54,348,009	$ 7,065,241	$ 3,984,004	$ 11,049,246
Total	$ 86,549,055	$ 11,251,377	$ 6,344,516	$ 17,595,893

Actual 2014 AEP Ohio EE/PDR Shared Savings
Ohio Power Company

Tariffs	2014 Net Benefits	Shared Savings 13%	Tax Gross-Up 55.762%	Pre-Tax Shared Savings
RS	$ 40,584,370	$ 5,275,968	$ 2,942,000	$ 8,217,968
All Other C&I	$ 60,339,968	$ 7,844,196	$ 4,374,102	$ 12,218,297
GS4/IRP	$ 7,988,009	$ 1,038,441	$ 579,058	$ 1,617,500
Total C&I	$ 68,327,976	$ 8,882,637	$ 4,953,160	$ 13,835,797
Total	$ 108,912,347	$ 14,158,605	$ 7,895,159	$ 22,053,765

Actual 2015 AEP Ohio EE/PDR Shared Savings
Ohio Power Company

Tariffs	2015 Net Benefits	Shared Savings 13%	Tax Gross-Up 55.813%	Pre-Tax Shared Savings
RS	$ 36,727,492	$ 4,774,574	$ 2,664,821	$ 7,439,395
All Other C&I	$ 71,954,737	$ 9,354,116	$ 5,220,789	$ 14,574,905
GS4/IRP	$ 9,525,611	$ 1,238,329	$ 691,146	$ 1,929,475
Total C&I	$ 81,480,348	$ 10,592,445	$ 5,911,935	$ 16,504,380
Total	$ 118,207,840	$ 15,367,019	$ 8,576,756	$ 23,943,775

Actual 2016 AEP Ohio EE/PDR Shared Savings
Ohio Power Company

Tariffs	2016 Net Benefits	Shared Savings 13%	Tax Gross-Up 55.901%	Pre-Tax Shared Savings
RS	$ 46,293,884	$ 6,018,205	$ 3,364,262	$ 9,382,467
All Other C&I	$ 93,841,397	$ 12,199,382	$ 6,819,627	$ 19,019,008
GS4/IRP	$ 12,423,041	$ 1,614,995	$ 902,805	$ 2,517,801
Total C&I	$ 106,264,439	$ 13,814,377	$ 7,722,432	$ 21,536,809
Total	$ 152,558,323	$ 19,832,582	$ 11,086,694	$ 30,919,276

Exhibit 15-25. AEP Ohio - CSP 2012-2016 Shared Savings Calculation

Actual 2012 AEP Ohio EE/PDR Shared Savings
Columbus Southern Power Company

Tariffs	2012 Net Benefits	Shared Savings	Tax Gross-Up	Pre-Tax Shared Savings
		13%	56.130%	
RS	$ 47,036,899	$ 6,114,797	$ 3,432,234	$ 9,547,031
All Other C&I	$ 35,403,107	$ 4,602,404	$ 2,583,328	$ 7,185,732
GS4/IRP	$ 2,639,208	$ 343,097	$ 192,580	$ 535,677
Total C&I	$ 38,042,315	$ 4,945,501	$ 2,775,908	$ 7,721,409
Total	$ 85,079,214	$ 11,060,298	$ 6,208,142	$ 17,268,440

Actual 2013 AEP Ohio EE/PDR Shared Savings
Columbus Southern Power Company

Tariffs	2013 Net Benefits	Shared Savings	Tax Gross-Up	Pre-Tax Shared Savings
		13%	56.389%	
RS	$ 38,341,585	$ 4,984,406	$ 2,810,647	$ 7,795,053
All Other C&I	$ 43,607,861	$ 5,669,022	$ 3,196,693	$ 8,865,715
GS4/IRP	$ 3,250,850	$ 422,611	$ 238,305	$ 660,916
Total C&I	$ 46,858,712	$ 6,091,633	$ 3,434,998	$ 9,526,631
Total	$ 85,200,297	$ 11,076,039	$ 6,245,645	$ 17,321,683

Actual 2014 AEP Ohio EE/PDR Shared Savings
Columbus Southern Power Company

Tariffs	2014 Net Benefits	Shared Savings	Tax Gross-Up	Pre-Tax Shared Savings
		13%	55.762%	
RS	$ 48,323,558	$ 6,282,062	$ 3,503,021	$ 9,785,083
All Other C&I	$ 54,825,135	$ 7,127,268	$ 3,974,326	$ 11,101,594
GS4/IRP	$ 4,087,068	$ 531,319	$ 296,275	$ 827,594
Total C&I	$ 58,912,203	$ 7,658,586	$ 4,270,602	$ 11,929,188
Total	$ 107,235,761	$ 13,940,649	$ 7,773,622	$ 21,714,271

Actual 2015 AEP Ohio EE/PDR Shared Savings
Columbus Southern Power Company

Tariffs	2015 Net Benefits	Shared Savings	Tax Gross-Up	Pre-Tax Shared Savings
		13%	55.813%	
RS	$ 43,731,197	$ 5,685,056	$ 3,172,986	$ 8,858,041
All Other C&I	$ 65,378,360	$ 8,499,187	$ 4,743,630	$ 13,242,817
GS4/IRP	$ 4,873,783	$ 633,592	$ 353,625	$ 987,217
Total C&I	$ 70,252,144	$ 9,132,779	$ 5,097,255	$ 14,230,034
Total	$ 113,983,340	$ 14,817,834	$ 8,270,241	$ 23,088,075

Actual 2016 AEP Ohio EE/PDR Shared Savings
Columbus Southern Power Company

Tariffs	2016 Net Benefits	Shared Savings	Tax Gross-Up	Pre-Tax Shared Savings
		13%	55.901%	
RS	$ 55 121 840	$ 7 165 839	$ 4 005 805	$ 11 171 645
All Other C&I	$ 85,264,667	$ 11,084,407	$ 6,196,340	$ 17,280,747
GS4/IRP	$ 6,356,255	$ 826,313	$ 461,921	$ 1,288,234
Total C&I	$ 91,620,922	$ 11,910,720	$ 6,658,261	$ 18,568,981
Total	$ 146,742,762	$ 19,076,559	$ 10,664,066	$ 29,740,625

Inclusion of Pilot Programs and Advertising Cost in Shared Savings

In its review of the shared savings mechanism, in LA-EE PDR-8-13, Mims asked AEP Ohio if costs associated with Pilot Programs are included in the shared savings calculation. In its response the Company stated that:

> Only the costs of pilot programs that produce any measurable energy or demand savings are included in the shared savings calculations. Some pilot programs do not produce any measureable energy or demand savings. The exclusion of pilot program costs for programs that do not produce measurable energy or demand savings is documented on page 6, lines 1-7 of David Roush's testimony in Case No. 09-1089-EL-POR.

In LA-EE PDR-8-15, Mims asked AEP Ohio if costs associated with advertising are included in the shared savings calculation. In its response the Company stated that:

> Since advertising expenditures do not produce any measureable energy or demand savings, they are not included in the shared savings calculations. The exclusion of costs that do not produce measurable energy or demand savings is documented on page 6, lines 1-7 of David Roush's testimony in Case No. 09-1089-EL-POR

Mims noted no exceptions to this. In AEP Ohio's response to LA-EE PDR-20-4, the Company showed the following costs in Exhibit 15-25 as being excluded from shared savings. Specifically, Exhibit 15-25 displays the R&D and Education and Media costs excluded from shared savings.

Exhibit 15-26. R&D and Education and Media costs excluded from shared savings

	2011	2012	2013	2014	2015	2016	Total
Pilot Programs/R&D	$ 674,206	$ 122,918	$ 988,940	$ 1,495,098	$ 920,852	$ 720,868	$ 4,922,882
Education and Media	$ 6,131,634	$ 6,837,423	$ 4,712,064	$ 1,621,896	$ 2,609,881	$ 2,338,922	$ 24,251,820
Total	$ 6,805,840	$ 6,960,341	$ 5,701,004	$ 3,116,994	$ 3,530,733	$ 3,059,790	

Based on Mims's review of AEP Ohio's EE/PDR Rider and Excel models used to calculate shared savings, AEP Ohio has appropriately calculated its shared savings incentive according to PUCO orders in Case No. 09-1089-EL-POR and 09-1090-EL-POR for 2011, and Case No. 11-5568-EL-POR and 11-5569-EL-POR for 2012-2016. However, the purpose of this audit did not include verification of energy savings claimed by the Company, which are reviewed through the Commission's EM&V process. The findings and recommendations of this audit will be subject to future adjustment based on results of such further review.

EE/PDR Employee Expenses

As discussed earlier, Larkin identified some concerns with regard to certain employee expenses being charged to the EE/PDR programs for which Larkin requested additional information. These areas of concern included (1) many instances where AEP Ohio employees attended conferences or other events in states other than Ohio; (2) instances where the Company purchased gift cards from [redacted] and charged the costs to the EE/PDR programs; and (3) instances where AEP Ohio employees charged the cost of annual dues to memberships in various organizations to the EE/PDR programs.

For each of these areas of costs charged to the EE/PDR programs in 2011-2016, Larkin requested that the Company provide (1) a summary of the costs of all out of state travel by Company employees and to explain why it was necessary to travel to these conferences/events, and how they related to the EE/PDR programs in Ohio; (2) a summary of the costs of [redacted] (or any other) gift cards purchased and charged to the EE/PDR programs and to explain the purpose and why they were needed for the EE/PDR programs; and (3) a summary of the costs for annual membership dues charged to the EE/PDR programs and to explain how the memberships were needed for the EE/PDR programs. These issues are discussed in detail in Chapters 6 through 11 of this report.

Conferences

As part of the management review, Mims reviewed the conferences or other events that AEP Ohio employees attended out of state and the memberships which required annual dues.

The conferences that AEP Ohio employees attended out of state were focused on energy efficiency program design, implementation, measurement and verification, and appear to reasonable expenditures for the EE/PDR department. Mims did not find any exceptions.

Membership dues

As part of the management review, Mims reviewed the annual membership dues charged to the EE/PDR programs. The membership dues were reasonable and related to EE/PDR program implementation.