

Large Filing Separator Sheet

Case Number: 13-2385-EL-SSO
13-2386-EL-AAM

Date Filed: 12/20/2013

Section: 1 OF 9

Number of Pages: 182

Description of Document: Application

FILE

181

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)
Ohio Power Company for Authority to) Case No. 13-2385-EL-SSO
Establish a Standard Service Offer)
Pursuant to §4928.143, Revised Code,)
in the Form of an Electric Security Plan)

In the Matter of the Application of)
Ohio Power Company for Approval of) Case No. 13-2386-EL-AAM
Certain Accounting Authority)

OHIO POWER COMPANY'S
ELECTRIC SECURITY PLAN

Application and Testimony of Company Witnesses:

Vegas, Spitznogle, Dias, Allen, Gabbard, and Roush

RECEIVED-DOCKETING DIV
2013 DEC 20 PM 3:13
PUCO

This is to certify that the images appearing are an
accurate and complete reproduction of a case file
document delivered in the regular course of business.
Technician SM Date Processed DEC 20 2013

DEC 20 2013

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Ohio Power Company for Authority to)	
Establish a Standard Service Offer	)	Case No. 13-2385-EL-SSO
Pursuant to Section 4928.143, Revised Code,)	
in the Form of an Electric Security Plan)	

In the Matter of the Application of)	
Ohio Power Company for Approval of	)	Case No. 13-2386-EL-AAM
Certain Accounting Authority)	

**OHIO POWER COMPANY'S
ELECTRIC SECURITY PLAN**

I. AEP Ohio's current Standard Service Offer rates

Through an August 8, 2012 Opinion and Order, a January 30, 2013 Entry on Rehearing, and a March 27, 2013 Second Entry on Rehearing in Case Nos. 11-346-EL-SSO and 11-348-EL-SSO, the Public Utilities Commission of Ohio (Commission) approved a modified Electric Security Plan ("ESP II") to be in effect for Ohio Power Company ("AEP Ohio" or "the Company") from September 2012 through May 2015. As relevant to this application, AEP Ohio is an "electric distribution utility," "electric light company," "electric supplier" and "electric utility" as those terms are defined in §4928.01 (A) (6), (7), (10) and (11), Ohio Rev. Code, respectively. By its Application in this proceeding, AEP Ohio seeks approval of a new electric security plan (also referred to as "the proposed ESP" or "ESP III") that will be in effect from June 2015 through May 2018, absent early termination of the rate plan as provided below.

II. Summary of the Proposed Electric Security Plan and Requested Relief

An electric distribution utility (EDU) may comply with §4928.141(A)'s standard service offer (SSO) requirement through either a market rate offer (MRO), pursuant to §4928.142, Ohio Rev. Code, or an ESP, pursuant to 4928.143, Ohio Rev. Code. Pursuant to § 4928.143, Ohio

Rev. Code, and as set forth in greater detail below, AEP Ohio is proposing an ESP to fulfill its obligation to provide an SSO under §4928.141, Ohio Rev. Code. The Applicant seeks the Commission's approval of an ESP based on §4928.143, Ohio Rev. Code, and Rule 4901:1-35, Ohio Admin. Code, for a term commencing on June 1, 2015 and ending May 31, 2018.

The Company has approached the proposed ESP in a manner that is consistent with S.B. 221. For example, the ESP addresses a range of issues that are broader than simply focusing on the SSO for competitive retail electric services. The Company's proposed ESP, as described in this application and in supporting Company testimony, also addresses provisions regarding its distribution service (See §4928.143 (B) (2) (d) and (h), Ohio Rev. Code); provisions that promote retail electric competition; economic development and job retention (See §§4928.02(N), 4928.143 (B) (2) (i) and 4905.31 (E), Ohio Rev. Code); the alternative energy resource requirements of §4928.64, Ohio Rev. Code; the energy efficiency requirements of §4928.66, Ohio Rev. Code (See also §§4928.143 (B) (2) (i) and 4905.31 (E), Ohio Rev. Code); preserving and expanding the development of competition for retail electric services in its territory in accordance with §4928.02(B) and (C), Ohio Rev. Code; and other matters. That being said, the primary focus of the application concerns the SSO rate plan.

The proposed ESP, which addresses this broad range of issues, will have the effect of stabilizing and providing certainty regarding retail electric service (§4928.143 (B) (2) (d), Ohio Rev. Code). As demonstrated in the testimony of Company witness Allen, the proposed ESP is "more favorable in the aggregate as compared to the expected results that would otherwise apply under section 4928.142 of the Revised Code" (§4928.143, (C) Ohio Rev. Code). The terms of the proposed ESP offer AEP Ohio customers reasonable and stable electricity rates while offering investors some measure of financial stability. Each of the major components of the proposed ESP is critical to AEP Ohio's ability to reliably serve its customers in the future and need to be addressed.

Through a separate application, AEP Ohio is requesting authority to collect revenues sufficient to amortize capacity cost deferrals through continuation of the Retail Stability Rider (RSR), as authorized by the Commission's August 8, 2012 Opinion and Order in Case Nos. 11-346-EL-SSO and 11-348-EL-SSO, but which will remain unrecovered at the end of the term of ESP II. Thus, while the RSR will continue during the ESP III term, it is a function of the ESP II decision and will be addressed in parallel to this Application. That being said, however, the RSR will be incorporated into the rate impact illustrations in order to acknowledge its continued existence during the ESP III term.

Accordingly, as set forth below in greater detail, AEP Ohio requests that the Commission:

1. approve the proposed ESP without modification, including all accounting authority needed to implement the proposed riders and other aspects of the ESP as proposed;
2. approve new rates under the proposed ESP effective with the first billing cycle of June, 2015 and continuing through the last billing cycle of May, 2018; and
3. grant any waivers or other relief needed to accept the proposed ESP.

III. Filing Requirements of Rule 4901:1-35-03(C), Ohio Admin. Code

A. Description of Supporting Testimony

A more complete description of and support for the proposed ESP is provided through the testimony of the Company witnesses listed in the following table, with each witnesses' subjects also being referenced in the table.

Witness	Subject Area	Description of Testimony
Pablo Vegas	Overview of the ESP	<ul style="list-style-type: none"> • AEP Ohio objectives • ESP components • Basic Transmission Cost Rider • PPA Rider Benefit • NERC Compliance and Cybersecurity Rider
Gary Spitznogle	General Policy	<ul style="list-style-type: none"> • Advancing Ohio policies • Corporate separation status • Economic Development Rider • Pilot Throughput Balancing Adjustment Rider • Late payment charge • Discontinuance of Variable Price Tariffs
Selwyn Dias	Distribution Programs and Riders	<ul style="list-style-type: none"> • Description and proposed modifications of the existing distribution programs and riders • Sustainable and Skilled Workforce Rider
William Allen	Financial Metrics Impacts of Shopping Customers Corporate Separation	<ul style="list-style-type: none"> • Aggregate Market Rate Offer Test • Customer shopping levels • Significantly Excessive Earnings Test • PPA Rider • Retail Stability Rider
Stacey Gabbard	Customer Choice Implementation Customer Programs	<ul style="list-style-type: none"> • Purchase of Receivables Program • Bad Debt Rider
Chantale LaCasse	Competitive Auction Process	<ul style="list-style-type: none"> • Competitive auction mechanics • Competitive auction offerings
David Roush	Rate Design Customer Rate Impacts	<ul style="list-style-type: none"> • Competitive auction rates • Rate design, rate terms and conditions
Andrea Moore	Tariff and Rider Design	<ul style="list-style-type: none"> • Tariffs • Rate recovery design for continuation of certain riders, for proposed changes or additions to current riders, and/or recovery of new riders
Matthew Kyle	Financial Forecasts	<ul style="list-style-type: none"> • Forecast methodology • Forecast assumptions and results
Renee Hawkins	Weighted Average Cost of Capital Capital Structure	<ul style="list-style-type: none"> • Capitalization, weighted average cost of capital (WACC), and capital carrying costs
William Avera	Return on Equity (ROE)	<ul style="list-style-type: none"> • Recommended ROE
Thomas Mitchell	Regulatory Accounting	<ul style="list-style-type: none"> • Regulatory accounting for certain proposed riders

B. *Pro Forma* Financial Projections of the Effect of the ESP

Pro forma financial projections of the effect of the ESP for the duration of the ESP are presented in the testimony of Company witness Kyle as part of Exhibit MDK-2 and the assumptions made and methodologies used in deriving the *pro forma* projections are listed in Exhibit MDK-1.

C. Projected Rate Impacts of the Proposed ESP

Projected rate impacts by customer class/rate schedules during the term of the proposed ESP are contained in the testimony of Company witness Roush and Exhibits DMR-3 and DMR-4.

D. Description of the Corporate Separation Plan and Demonstration that the Plan Complies with §4928.17, Ohio Rev. Code and Rule 4901:1-37, Ohio Admin. Code

AEP Ohio provides a description of its corporate separation plan, adopted pursuant to §4928.17, Ohio Rev. Code, by reference to its separate application filed on March 30, 2012 in Case No. 12-1126-EL-UNC, which the Commission approved by its October 17, 2012 Finding and Order and April 24, 2013 Entry on Rehearing. That corporate separation plan is cross-referenced in the testimony of Company witnesses Spitznogle and Allen filed in support of this ESP. In Case No. 12-1126-EL-UNC, the Commission granted waivers of OAC Rule 4901:1-37-09(C)(4). AEP Ohio continues to pursue the transfer of its owned generating assets and its power purchase contracts that have been authorized to be transferred to its affiliate, AEP Generation Resources, Inc., and complete the requirements of corporate separation by December 31, 2013, with one exception. On December 4, the Commission granted the Company's application in Case No. 12-1126-EL-UNC to amend its corporate separation plan to permit it to maintain its existing contractual relationship with Ohio Valley Electric Corporation. The testimony of Company witnesses Spitznogle and Allen provide additional detail regarding that proposed amendment to the corporate separation plan.

E. Status of the Operational Support Plan

Pursuant to Rule 4901:1-35-03(C)(5), Ohio Admin. Code, AEP Ohio states that its Operational Support Plan has been implemented and that it is not aware of any outstanding problems with its implementation.

F. Description of How the Company Addresses Governmental Aggregation and Implementation of Divisions (I), (J), and (K) of §4928.20, Ohio Rev. Code and the Effect on Large-Scale Governmental Aggregation of Unavoidable Generation Charges

For the proposed ESP, the Company's plan for addressing governmental aggregation programs and the implementation of divisions (I), (J), and (K) of §4928.20, Ohio Rev. Code, and the effect on large-scale governmental aggregation of any unavoidable generation charges, is to preserve and expand retail competition opportunities through a fully competitive, auction-based SSO structure. The Company's proposed nonbypassable charges do not have an adverse impact on large-scale governmental aggregation.

G. State Policies Enumerated in §4928.02, Ohio Rev. Code, Are Advanced by the Modified ESP

A detailed account of how the proposed ESP is consistent with and advances the policies of this state enumerated in §4928.02(A) through (N), Ohio Rev. Code, is provided by Company witness Spitznogle.

H. Statement Regarding Qualifying Transmission Entity

AEP Ohio and AEP Ohio Transmission Company, Inc. are members of PJM Interconnection, which is a qualifying transmission entity, as that term is used in §4928.12, Ohio Rev. Code.

I. Executive Summary

An overview of the proposed ESP is included in the testimony of Company witness Vegas.

IV. Standard Service Offer Rate Provisions of the Proposed ESP

A. Generation Rates

1. Competitive Bid Process and Procurement of Generation Services for SSO Load

The Company's proposal will utilize full auction-based pricing for the Company's SSO customers beginning in June 2015 through the full term of the proposed ESP. This procurement plan increases diversity of electricity supplies and suppliers, which supports reasonably priced retail electric service. The delivery point for the auction is specified as the AEP Load Zone established in PJM. This is currently the point at which all load in AEP Ohio's service territory is priced. At a time in the future it may be appropriate to request that PJM establish an AEP Ohio Aggregate pricing point that would be used to settle AEP Ohio load. There is a certain amount of lead time that PJM requires for requesting a new pricing point (which would serve as the new delivery point in the SSO Agreement). Potential bidders will be provided sufficient notice. In the event a new pricing point is established, the SSO agreement will be revised accordingly. The testimony of Company witness LaCasse provides additional detail regarding the Competitive Bid Process and the procurement of generation services for the Company's non-shopping SSO load.

2. SSO Generation Service Riders

The Company's proposed ESP will provide transparency in AEP Ohio's SSO pricing, through the introduction of a Generation Energy (GENE) rider, a Generation Capacity (GENC) rider, a Basic Transmission Cost Rider (BTCR), and an Auction Cost Reconciliation Rider (ACRR), which will give consumers a comparable price that they can use to compare information when determining whether to select an alternative supplier. Customer knowledge of and education regarding charges for services allows customers to make informed decisions when dealing with sales practices and interacting in the market with potential suppliers, receive

reasonably priced service, and provides clarity on any relationship between affiliated entities. The manner in which SSO generation service rates will be developed and updated are discussed in the testimony of Company witnesses Roush and Moore.

3. Power Purchase Agreement Rider

The Company is seeking to stabilize customer rates by providing a hedge against market volatility through the Power Purchase Agreement (PPA) Rider. Under the PPA rider mechanism, the Company will have the ability to petition the Commission to allow the inclusion of additional PPAs (or similar products subsequently approved by the Commission) in the PPA rider throughout the ESP term. The Company is proposing this new rider will initially flow through to customers, on a nonbypassable basis, the net benefit of all revenues accruing to AEP Ohio from the sale of its OVEC entitlement into the PJM market (including energy, capacity, ancillaries, etc.) less all costs associated with the Company's OVEC entitlement. Due to the relative stability of OVEC's costs as compared to market based costs, this rider should rise and fall in a manner that is counter to the market and as a result will increase rate stability for all customers.

None of the energy or capacity associated with the Company's OVEC entitlement would be bid into the auctions conducted to procure generation services for or used to offset any of the SSO load included in the auction. The energy and capacity associated with the Company's OVEC entitlement will simply be sold into the PJM market. Coupled with the nonbypassable nature of the rider, this will ensure that this provision of the Company's proposed ESP will have no adverse impact on the SSO auction or the ability of CRES providers to compete for customers on a level playing field. This proposal allows customers to take advantage of market opportunities while providing added price stability. Company witness Vegas supports this benefit to AEP Ohio's customers.

The testimony of Company witnesses Allen and Moore provide additional detail regarding how the PPA Rider, including a calculation of how the rider will be developed and the

rider's over/under component that will be used to true-up forecasted revenues and expenses to their actual levels.

4. Alternative Energy Rider

The Company recovers Renewable Energy Credit (REC) expense through the AER, which the Commission previously approved in ESP II. REC expense is the identified renewable value of costs associated with acquiring or creating renewable energy. The proposed ESP retains the bypassable Alternative Energy Rider (AER). Company witness Spitznogle discusses how the AER supports Ohio energy policy.

5. Discontinuance of Variable Price Tariffs

As a result of the implementation of full auction-based pricing for AEP Ohio's SSO customers and the continued development of the competitive marketplace, AEP Ohio is proposing to eliminate Schedule IRP-D (IRP-D), Supplement No. 18, Schedule Standby Service (SBS), and its Standard Time of Use tariffs, as discussed in the testimony of Company witnesses Spitznogle and Moore.

B. Distribution Rates

1. Comprehensive Distribution Reliability Plan

A major focus of the proposed ESP is a comprehensive distribution reliability strategic plan. The foundation of this plan is a group of programs, supported by current riders, already approved by the Commission in ESP I and ESP II. The existing programs, which AEP Ohio requests authority to continue and/or modify as part of the proposed ESP, include the replacement of aging infrastructure through the Distribution Investment Rider (DIR), continued cyclic vegetation maintenance through the Enhanced Service Reliability Rider (ESRR), further implementation of advanced technologies through Phase 2 of the gridSMART[®] program, and continued recovery of major storm costs through the Storm Damage Recovery (SDR) Mechanism and Rider. In addition, the Company is proposing to implement a new program

designed to ensure the availability of a sustained and skilled workforce, the Sustained and Skilled Workforce Rider (SSWR). Additional details on the proposed suite of riders that support the Company's comprehensive distribution reliability plan are discussed in the testimony of Company witnesses Dias, Moore and Mitchell.

a. Distribution Investment Rider

The DIR program supports the replacement of aging infrastructure and the improvement of system reliability. Established in ESP II, the DIR will provide continued capital funding for distribution assets needed to support distribution asset management programs, distribution capacity and infrastructure additions driven by customer demand and support the continued implementation of advanced technology including AEP Ohio's gridSMART® initiative. Company witness Moore's testimony explains how the rider will be calculated and updated.

b. Enhanced Service Reliability Rider

The ESRR program provides storm hardening by reducing the risk of tree contact during storms. Established in ESP I and renewed in ESP II, the Company proposes to continue the ESSR program as part of ESP III. Company witness Moore's testimony explains how the rider will be calculated and updated.

c. gridSMART® Rider

The gridSMART® program supports storm hardening through the use of new technologies, the backbone of which is its communication infrastructure. As part of the proposed ESP, the Company proposes to modify the gridSMART® program by moving the remaining gridSMART® Phase 1 costs to the DIR and use the ESP III gridSMART® Rider to track gridSMART® Phase 2 costs going forward. Company witness Moore's testimony explains how the rider will be calculated and updated.

d. Storm Damage Recovery Mechanism and Rider

The Company proposes to modify the SDR Mechanism, established as part of ESP II. The modification creates an annual true-up, including a provision that establishes a carrying charge based on the Weighted Average Cost of Capital for major storm costs exceeding a \$5 million baseline if the major storm damage costs are deferred and remain unrecovered for longer than 12 months. The testimony of Company witnesses Moore and Mitchell explain how the rider and mechanism work.

e. Sustained and Skilled Workforce Rider

The Company is proposing a new SSWR to be included with the existing suite of riders, described above, that further supports its comprehensive strategy for long-term improved reliability. The purpose of the SSWR is to provide a mechanism to recover the incremental operations and maintenance (O&M) labor costs incurred to remedy the projected shortfall of internal labor resources, both in front-line construction and construction support, in order to execute the planned distribution infrastructure investment. Company witness Dias addresses the Company's need for the Sustained and Skilled Workforce program and Company witness Moore's testimony explains how the rider will be calculated and updated.

2. NERC Compliance and Cybersecurity Rider

In light of the increasingly expansive scope of the North American Electric Reliability Corporation ("NERC") compliance and cybersecurity activities, the Company is proposing a NERC Compliance and Cybersecurity Rider (NCCR) to serve as a placeholder for significant future increases in the cost of compliance. The Company's intention is to track and defer both the capital and O&M costs associated with new NERC compliance and cybersecurity requirements or new interpretations of existing requirements, starting with the date of the decision in this case and going forward through the entire term of the proposed ESP. Such costs would be tracked and deferred with a carrying cost, after which the Company would file a rider

application during the ESP III term to recover the costs. For now, the NCCR would be a placeholder rider established at a level of zero. Additional details regarding the proposed NCCR are discussed in the testimony of Company witnesses Vegas and Mitchell.

3. Pilot Throughput Balancing Adjustment Rider

The Commission approved the establishment of the Pilot Throughput Balancing Adjustment Rider (PTBAR), a revenue decoupling mechanism, in its December 14, 2011 Opinion and Order in Case Nos. 11-351-EL-AIR and 11-352-EL-AIR. The Company proposes to continue the PTBAR for residential and GS-1 tariff schedules, as currently implemented, throughout the term of the proposed ESP. Company witnesses Spitznogle and Moore discuss additional details regarding the continuation of the PTBAR.

4. Residential Distribution Credit Rider

As with the PTBAR above, the Commission approved the establishment of the Residential Distribution Credit Rider (RDCR) in the Opinion and Order in Case Nos. 11-351-EL-AIR and 11-352-EL-AIR. The Company proposes to continue the RDRC for all residential tariff schedules, as currently implemented, throughout the term of the proposed ESP. Company witness Moore discusses the continuation of the RDRC.

C. Transmission Rates

As part of the new ESP, AEP Ohio proposes to establish a nonbypassable Basic Transmission Cost Rider (BTCR) through which it will recover non-market based transmission charges from all of its customers, both shopping and non-shopping. Certain transmission charges would be included as part of the auction product offering for SSO customers, and competitive retail electric service (CRES) providers would be responsible for paying certain transmission charges for their shopping customers. Company witness Moore's testimony

provides additional detail regarding costs recovered through the BTCR, and Company witness Vegas's testimony explains the basis for the new rider. Company witness Moore's testimony explains how the rider will be calculated and updated. Annual filings for the BTCR will comply with the requirements of Chapter 4901:1-36, Ohio Admin. Code. While many of the proposed riders and terms and conditions of the proposed ESP are being submitted as part of a package, there is independent statutory authority for this rider and the Company reserves the right to pursue continued collection of this rider outside the context of an ESP, if necessary.

D. Other Nonbypassable "Wires" Charges

1. Energy Efficiency/Peak Demand Reduction Rider

The modified ESP includes modification and continuation of an Energy Efficiency/ Peak Demand Reduction Rider (EE/PDR). The rider rate will continue to be updated periodically. Additional discussion on the proposed modification is provided in the testimony of Company witness Spitznogle. While many of the proposed riders and terms and conditions of the proposed ESP are being submitted as part of a package, there is independent statutory authority for this rider and the Company reserves the right to pursue continued collection of this rider outside the context of an ESP, if necessary.

2. Economic Development Rider

The Company proposed to continue, as part of the ESP III, its Economic Development Rider (EDR), previously approved by the Commission. Additional details on the EDR are discussed in the testimony of Company witnesses Spitznogle. While many of the proposed riders and terms and conditions of the proposed ESP are being submitted as part of a package, there is independent statutory authority for this rider and the Company reserves the right to pursue continued collection of this rider outside the context of an ESP, if necessary.

3. Purchase of Receivables Program and Bad Debt Rider

The Company proposes to establish a Purchase of Receivables (POR) program and a new Bad Debt Rider (BDR), which is an integral component of the POR program. In the Company's prior ESP proceeding, the Commission directed the Company to evaluate a POR program as a means of supporting Ohio Choice. The testimony of Company witness Gabbard summarizes the Company's evaluation by providing details on the benefits of a POR program without recourse and the mechanics of how it would work, in concert with the BDR. While AEP Ohio is not legally required to adopt a POR program, it is offering to do so voluntarily as part of the proposed ESP package. Accordingly, the Company reserves the right to withdraw the proposed POR program if the proposed ESP is modified or rejected by the Commission. Company witness Moore's testimony explains how the rider will be updated.

4. Continuation of Statutory and Existing Miscellaneous Riders

The Company plans to continue implementing other existing riders during the term of the modified ESP, as detailed in the testimony of Company witness Moore and at Exhibit AEM-1 to Ms. Moore's testimony and in the testimony of Company witness Dias. While many of the proposed riders and terms and conditions of the proposed ESP are being submitted as part of a package, there is independent legal authority for these statutory riders and the Company reserves the right to pursue continued collection of these riders outside the context of an ESP, if necessary.

The Company plans to continue collecting the Retail Stability Rider (RSR) through the term of ESP III, consistent with the Commission's decision in the ESP II proceeding. The purpose of the RSR during the ESP III term will shift to being exclusively to recover the capacity charge deferrals, inclusive of carrying charges, and will continue for three years or until fully recovered. AEP Ohio will file a separate Application to continue the RSR but the rider will be incorporated into the projected rate impacts being submitted as part of this case.

V. New Accounting Deferrals and Recovery of Existing Regulatory Assets

The proposed ESP requests authority to record regulatory liabilities and regulatory assets and, thus, to perform regulatory deferral over/under recovery true-up accounting for a number of riders identified by Company witness Moore's testimony, at Exhibit AEM-1. Company witness Mitchell's testimony explains the basis and need for that over/under accounting authority. The ESP also requests continued deferral accounting authority for its proposed major storm damage recovery mechanism and additional deferral authority related to its NERC Compliance and Cybersecurity Rider proposal, which are discussed in the testimony of Company witnesses Vegas, Moore and Mitchell.

VI. Early Termination and Reopener Provision

The Company reserves a right to terminate the proposed ESP one year early (*i.e.*, by June 1, 2017) based upon: (a) a substantive change in Ohio law (including rules or orders of the Commission) affecting standard service offer (SSO) obligations and/or SSO rate plan options under Chapter 4928 of the Revised Code, or (b) a substantive change in federal law (including FERC rules or orders) or PJM tariffs or rules with respect to capacity, energy or transmission regulation or pricing that has an impact on SSO obligations and/or rate plan options. The Company may exercise this early termination right, at its sole option and discretion, by giving written notice to the Commission no later than October 1, 2016. If the Company exercises the right to early termination, it will propose a new SSO rate plan to encompass the June 1, 2017 through May 30, 2018 period, which proposed rate plan may also encompass a longer time period consistent with applicable law.

VII. Work Papers

Filed with this proposed ESP is a complete set of work papers, consistent with Rule 4901:1-35-03(G), Ohio Admin. Code. The work papers include all pertinent documents prepared by the Company for the Application and an explanation, narrative or other support of the assumptions used in the work papers. Parties are also being electronically served with the native files containing the work papers.

VIII. Waiver Requests

Under Rule 4901:1-35-02(B), Ohio Admin. Code, the Commission may grant requests to waive any requirement of Chapter 4901:1-35 for good cause shown. To the extent that the relief requested in this application requires a waiver of any filing requirements found in Chapter Rule 4901:1-35, Ohio Admin. Code, the Company requests such a waiver.

IX. Service of the Application and Direct Testimony

As required by Rule 4901:1-35-04(A), Ohio Admin. Code, the Company is providing, concurrent with the filing of this Application and Direct Testimony, an electronic copy of the filing to each party in its most recent SSO proceeding, Case Nos. 11-346-EL-SSO and 11-348-EL-SSO. In a form consistent with Rule 4901:1-35-04(B), Ohio Admin. Code, attached as Attachment 1 to this Application is a proposed notice for newspaper publication that fully discloses the substance of the proposed ESP, including projected rate impacts, and that prominently states that any person may request to become a party to the proceeding.

X. Procedural Schedule

Under §4928.143(C)(1), Ohio Rev. Code, the Commission is required to issue an order approving, or modifying and approving, the instant Application for its ESP III within 275 days. In addition, the Company needs a final decision ruling on its Application prior to holding the first auction, in September 2014, that will procure full requirements supply for its SSO customers, for delivery beginning June 1, 2015. Moreover, the Company also needs to receive an order by the Commission prior to September 2014, in order to allow sufficient time to complete the process for a base distribution rate case prior to the May 31, 2015 expiration of its current ESP II, which would be necessary if the Commission does not approve, or if it modifies and approves, the distribution service-related elements of this proposed ESP III. The timing of the filing of this Application provides the Commission adequate time to rule upon this proposed ESP, while still meeting the need to conduct timely full requirements product auctions for its SSO and the need for the distribution rate case contingency. Accordingly, the Company proposes, and requests that the Commission adopt, the following procedural schedule for reviewing and issuing its final order ruling upon the Company's proposed ESP III:

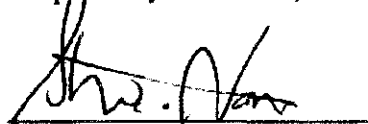
- a. A technical conference should be scheduled to allow interested persons the opportunity to better understand AEP Ohio's Application. The conference should be held on January 8, 2014, at 10:00 am, at the offices of the Commission.
- b. Motions to intervene shall be filed by March 7, 2014.
- c. Testimony on behalf of intervenors shall be filed by March 14, 2014.
- d. Discovery requests, except for notices of deposition, shall be served by April 4, 2014.
- e. Testimony on behalf of the Commission Staff shall be filed by April 4, 2014.
- f. A procedural conference shall be scheduled for April 8, 2014, at 10:00 a.m., at the offices of the Commission.

- g. The evidentiary hearing shall commence on April 15, 2014, at 10:00 a.m., at the offices of the Commission.
- h. The Commission should issue its Opinion and Order approving, or modifying and approving, the Application by July 16, 2014.
- i. The Commission will issue its Entry on Rehearing ruling on any applications for rehearing by September 17, 2014.

WHEREFORE, AEP Ohio requests that the Commission find and order as follows:

- 1. That the Company's proposed procedural schedule be adopted;
- 2. That the Company's modified ESP is more favorable in the aggregate as compared to the expected results that would otherwise apply under section 4928.142 of the Revised Code;
- 3. That the Company's ESP III be approved, including all accounting authority needed to implement the proposed riders and other aspects of the ESP as proposed;
- 4. That the Company's proposed tariffs be approved; and
- 5. That the Commission issue such other orders as may be just and proper.

Respectfully submitted,



Steven T. Nourse
Matthew J. Satterwhite
American Electric Power Corporation
1 Riverside Plaza, 29th Floor
Columbus, Ohio 43215-2373
Telephone: (614) 716-1608
Facsimile: (614) 716-2950
stnourse@aep.com
mjsatterwhite@aep.com

Daniel R. Conway
Porter Wright Morris & Arthur
Huntington Center
41 S. High Street
Columbus, Ohio 43215
Telephone: (614) 227-2770
Fax: (614) 227-2100
dconway@porterwright.com

Counsel for Ohio Power Company

Attachment 1

LEGAL NOTICE

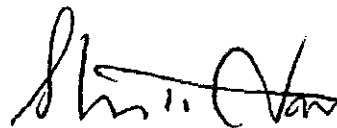
Ohio Power Company (AEP Ohio) is a subsidiary electric utility operating company of American Electric Power Company, Inc. AEP Ohio conducts its business in Ohio as "AEP Ohio." AEP Ohio has filed with the Public Utilities Commission of Ohio (PUCO) Case No. 13-2385-EL-SSO, *In the Matter of the Application of Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to §4928.143, Ohio Rev. Code, in the Form of an Electric Security Plan*, and Case No. 13-2386-EL-AAM, *In the Matter of the Application of Ohio Power Company for Approval of Certain Accounting Authority*. In these cases the Commission will consider AEP Ohio's request for approval of its new Electric Security Plan (ESP) that includes its standard service offer (SSO), effective with the first billing cycle of June 2015, through the last billing cycle of May 2018, absent early termination of the rate plan. The ESP, which includes the SSO pricing for generation, also addresses provisions regarding distribution service, economic development, alternative energy resource requirements, energy efficiency requirements and other matters. Rates for some customer classes will increase and rates for other classes will decline; however, on average for all customer classes, AEP Ohio customers are expected to see average annual rate changes ranging from -27% to 6% during the ESP period. AEP Ohio proposes to recover certain other costs through riders during the ESP period; however, those costs and the subsequent rate impacts are not known at this time.

Any person may request to become a party to the proceeding.

Further information, such as requesting a copy of the filing, may be obtained by contacting the Public Utilities Commission of Ohio, 180 East Broad Street, Columbus, Ohio 43215-3793, viewing the Commission's web page at <http://www.puc.state.oh.us>, or contacting the Commission's call center at 1-800-686-7826.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of Ohio Power Company's Application and twelve pieces of Direct Testimony has been served upon the below-named counsel by electronic mail this 20th day of December, 2013.



katie.stenman@puc.state.oh.us;
jodi.bair@puc.state.oh.us;
doris.mccarter@puc.state.oh.us;
tammy.turkenton@puc.state.oh.us;
william.wright@puc.state.oh.us;
aehaedt@jonesday.com;
afreifeld@viridityenergy.com;
Amy.spiller@duke-energy.com;
arthur.beeman@snrdenton.com;
asim.haque@icemiller.com;
bakahn@vorys.com;
barthroyer@aol.com;
bkelly@cpv.com;
bmcMahon@emh-law.com;
bpbarger@bcslawyers.com;
callwein@wamenergylaw.com;
campbell@whitt-sturtevant.com;
carolyn.flahive@thompsonhine.com;
cendsley@ofbf.org;
christopher.miller@icemiller.com;
clinton.vince@snrdenton.com;
cmontgomery@bricker.com;
cmooney2@columbus.rr.com;
cmoore@porterwright.com;
cynthia.a.fonner@constellation.com;
dakutik@jonesday.com;
dan.barnowski@snrdenton.com;
Dane.Stinson@baileycavalieri.com;
David.fein@constellation.com;
dclark1@aep.com;
dboehm@bkllawfirm.com;
dconway@porterwright.com;
djmichalski@hahnlaw.com;
dmeyer@krmklaw.com;
Doris.McCarter@puc.state.oh.us;
Dorothy.corbett@duke-energy.com;
doug.bonner@snrdenton.com;
drinebolt@ohiopartners.org;
dstahl@eimerstahl.com;

dsullivan@nrdc.org;
eisenstatl@dicksteinsharpiro.com;
Elizabeth.watts@duke-energy.com;
emma.hand@snrdenton.com;
etter@occ.state.oh.us;
fdarr@mwncmh.com;
Gary.A.Jeffries@dom.com;
gpoulos@enernoc.com;
grady@occ.state.oh.us;
gregory.dunn@icemiller.com;
gthomas@gtpowergroup.com;
haydenm@firstenergycorp.com;
henryeckhart@aol.com;
iejadwin@aep.com;
Jeanne.Kingery@duke-energy.com;
jestes@skadden.com;
jkooper@hess.com;
jlang@calfee.com;
jmaskovyak@ohiopoveritylaw.org;
Jodi.Bair@puc.state.oh.us;
joliker@mwncmh.com;
joseph.clark@directenergy.com;
judi.sobecki@DPLINC.com;
keith.nusbaum@snrdenton.com;
kguerry@hess.com;
kinderr@dicksteinsharpiro.com;
korenergy@insight.rr.com;
kpkreider@kmklaw.com;
kwatson@cloppertlaw.com;
laurac@chappelleconsulting.net;
lehfeldtr@dicksteinsharpiro.com;
lkalepsclark@vorys.com;
lmcbride@calfee.com;
malina@wexlerwalker.com;
mohler@carpenterlipps.com;
matt@matthewcoxlaw.com;
mjsatterwhite@aep.com;
mchristensen@columbuslaw.org;
mhpetricoff@vorys.com;
Michael.dillard@thompsonhine.com;
mjsettineri@vorys.com;
mkurtz@bkllawfirm.com;
msmalz@ohiopoveritylaw.org;
mwarnock@bricker.com;
myurick@taftlaw.com;
ned.ford@fuse.net;
nolan@theoec.org;
paul.wight@skadden.com;
pfox@hilliardohio.gov;
philip.sineneng@thompsonhine.com;

Randall.griffin@DPLINC.com;
rburke@cpv.com;
ricks@ohanet.org;
rihart@hahnlaw.com;
rmason@ohiorestaurant.org;
rocco.d'ascenzo@duke-energy.com;
rremington@hahnlaw.com;
rsugarman@keglerbrown.com;
sam@mwncmh.com;
sbruce@oada.com;
sasloan@aep.com;
small@occ.state.oh.us;
smhoward@vorys.com;
ssalamido@cloppertlaw.com;
stephanie.chmiel@thompsonhine.com;
Stephen.chriss@wal-mart.com;
stnourse@aep.com;
swolfe@viridityenergy.com;
talexander@calfee.com;
Tammy.Turkenton@puc.state.oh.us;
terrance.mebane@thompsonhine.com;
thompson@whitt-sturtevant.com;
tlindsey@uaoh.net;
tobrien@bricker.com;
toddm@wamenergylaw.com;
todonnell@bricker.com;
trent@theoec.org;
tsantarelli@elpc.org;
tsiwo@bricker.com;
whitt@whitt-sturtevant.com;
wmassey@cov.com;
zkravitz@cwsllaw.com

AEP OHIO EX. NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Ohio Power Company for Authority to	)	Case No. 13-2385-EL-SSO
Establish a Standard Service Offer)	
Pursuant to §4928.143, Revised Code,)	
in the Form of an Electric Security Plan)	

In the Matter of the Application of)	
Ohio Power Company for Approval of	)	Case No. 13-2386-EL-AAM
Certain Accounting Authority)	

DIRECT TESTIMONY OF
PABLO A. VEGAS
IN SUPPORT OF AEP OHIO'S
ELECTRIC SECURITY PLAN

Filed: December 20, 2013

INDEX TO DIRECT TESTIMONY OF
PABLO A. VEGAS

	<u>Page No.</u>
Personal Data	1
Purpose of Testimony	2
Overview of the Proposed ESP	3
Changes to Transmission Cost Recovery Mechanism.....	10
Changes to Customer Programs.....	12
Power Purchase Agreement Rider Benefit	13
NERC Compliance and Cybersecurity Rider	13

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
PABLO A. VEGAS
ON BEHALF OF OHIO POWER COMPANY

1 **PERSONAL DATA**

2 **Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?**

3 A. My name is Pablo A. Vegas and my business address is 850 Tech Center Drive, Gahanna,
4 Ohio 43230.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by the American Electric Power Service Corporation (AEPSC), a unit of
7 American Electric Power (AEP). My title is President and Chief Operating Officer of
8 AEP Ohio (the Company). AEP Ohio is an operating unit of AEP.

9 **Q. WHAT ARE YOUR RESPONSIBILITIES AS PRESIDENT AND CHIEF**
10 **OPERATING OFFICER OF AEP OHIO?**

11 A. I am directly responsible for the day-to-day operations of AEP Ohio. As part of my
12 responsibilities, I oversee and lead AEP Ohio in establishing goals that are designed to
13 align and support the corporate goals and objectives of AEP, as well as achieve the
14 objectives of the state of Ohio for the benefit of customers and shareholders.

15 **Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?**

16 A. I earned a Bachelor of Science Degree in Mechanical Engineering from the University of
17 Michigan and have attended the AEP Strategic Leadership Program at The Ohio State
18 University. Before joining AEP, I held senior leadership positions with IBM,
19 PricewaterhouseCoopers and Andersen Consulting. I joined AEP in 2005, where I held

1 leadership positions in Information Technology and Finance, leading both the Corporate
2 IT Planning and Commercial Operations IT Planning organizations. I then served as
3 Director of Strategic Planning, working cross functionally to formulate AEP's short and
4 long-term strategic plans.

5 From 2008 to 2010, I was President and Chief Operating Officer of AEP Texas,
6 overseeing distribution operations serving nearly one million electricity consumers in
7 south and west Texas, as well as the operating unit's safety, customer services,
8 marketing, communications, community affairs, governmental affairs, and regulatory
9 functions. In 2010, I became Vice President and Chief Information Officer for AEP,
10 responsible for development and support of AEP's software applications and operation of
11 AEP's information technology infrastructure. I assumed my current position in 2012.

12 **PURPOSE OF TESTIMONY**

13 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

14 A. I am AEP Ohio's overall policy witness in the proposed Electric Security Plan (ESP III)
15 case which covers the period from June 1, 2015 to May 31, 2018 (subject to the early
16 termination and reopener provision as discussed in the Application). My testimony will
17 address a number of policy topics related to the proposed ESP filing. Topics to be
18 covered include the following:

- 19 • Overview of the proposed ESP;
- 20 • Witnesses in the ESP III filing and their sponsored testimonies;
- 21 • Proposed changes to the recovery of transmission costs;
- 22 • Proposed changes to customer programs;
- 23 • Discussion of Power Purchase Agreement (PPA) Rider benefit; and

- A proposed North American Electric Reliability Company (NERC) Compliance and Cybersecurity Rider.

OVERVIEW OF THE PROPOSED ESP

Q. WHY IS THE PROPOSED ESP IMPORTANT TO THE CUSTOMER, THE STATE OF OHIO, AND THE COMPANY?

A. The proposed ESP incorporates numerous commitments and programs that balance the interests of both customers and investors over the 2015-2018 timeframe and into the future by stabilizing customers' rates and promoting economic development in the state of Ohio. Reasonably-priced electricity is a critical component to the economic vitality of our nation, particularly in Ohio. National, regional, and state energy policies continue to evolve, and AEP Ohio has already embraced some of these changes through investments in transmission and distribution infrastructure, reliability enhancements, comprehensive energy efficiency programs, and by taking an active role in educating and communicating impacts of electricity proposals within various policy arenas.

Building on previous applications and orders, AEP Ohio's proposed plan establishes a competitive auction process to supply internal load, while also supporting more than \$300 million annually in continued infrastructure investment in the Company's transmission and distribution systems to enhance reliability. The requested relief will provide for AEP Ohio's financial stability as shown in the *pro forma* financial projections provided in witness Kyle's workpapers, and is critical to AEP Ohio's financial stability during the ESP III term given the flat 2015-2018 load forecast. The Company is committed to support Ohio's economic growth and the rate impact analysis presented by

1 witness Roush, and set forth below in Table 2 of my testimony, shows that the proposed
2 ESP generally provides decreased summer and winter monthly bills for our customers.

3 The proposed ESP also supports the continued development of a marketplace in
4 which CRES providers can offer innovative and competitive generation supply options.
5 Further, the proposed ESP continues to support compliance with existing benchmarks
6 concerning advanced and renewable energy and energy efficiency and demand response
7 programs. The proposed ESP aligns with the state of Ohio's long-term vision for a
8 competitive generation marketplace, promotes Senate Bill 221 (SB 221) state policies,
9 and supports economic development within the state of Ohio. The proposed ESP also
10 provides the regulatory flexibility to enable innovative mechanisms that will help sustain
11 critical investment in Ohio's electricity infrastructure which will support jobs for Ohioans
12 and an essential tax base to fund Ohio's ongoing needs.

13 The regulatory mechanisms and conditions of the proposed ESP, along with the
14 previously approved regulatory mechanisms from ESP I and ESP II, were considered
15 when developing the financial forecast for the period covered by the ESP III. The
16 financial health of AEP Ohio is dependent on Commission approval of the proposed ESP,
17 which in turn is important for economic stability and continued economic development in
18 the state of Ohio.

19 **Q. PLEASE SUMMARIZE THE MAJOR COMPONENTS OF AEP OHIO'S**
20 **PROPOSED ESP.**

21 **A.** The proposed ESP contains a balanced set of customer programs, investment proposals,
22 and associated rate mechanisms. The components of the ESP III achieve state policy
23 objectives, promote economic development in the state, and support a competitive market

1 place. Through the ESP III, the Company remains dedicated to further advance reliability
2 through investments in its distribution assets. AEP Ohio's proposed distribution
3 reliability plan entails continued investments of approximately \$200 million annually in
4 capital programs, while also continuing to provide approximately \$25 million annually
5 above the baseline spending for maintaining its cycle-based vegetation management
6 program.

7 These components, as well as other key issues of the proposed ESP, are addressed
8 by twelve witnesses. The following table – Table 1: Witnesses in the ESP III –
9 summarizes and serves to introduce the witnesses, the general ESP subject area they are
10 sponsoring, and a brief description of their testimony.

Table 1: Witnesses in the ESP III

Witness	Subject Area	Description of Testimony
Pablo Vegas	Overview of the ESP	<ul style="list-style-type: none"> • AEP Ohio objectives • ESP components • Basic Transmission Cost Rider • PPA Rider Benefit • NERC Compliance and Cybersecurity Rider
Gary Spitznogle	General Policy	<ul style="list-style-type: none"> • Advancing Ohio policies • Corporate separation status • Economic Development Rider • Pilot Throughput Balancing Adjustment Rider • Late payment charge • Discontinuance of Variable Price Tariffs
Selwyn Dias	Distribution Programs and Riders	<ul style="list-style-type: none"> • Description and proposed modifications of the existing distribution programs and riders • Sustainable and Skilled Workforce Rider
William Allen	Financial Metrics Impacts of Shopping Customers Corporate Separation	<ul style="list-style-type: none"> • Aggregate Market Rate Offer Test • Customer shopping levels • Significantly Excessive Earnings Test • PPA Rider • Retail Stability Rider
Stacey Gabbard	Customer Choice Implementation Customer Programs	<ul style="list-style-type: none"> • Purchase of Receivables Program • Bad Debt Rider
Chantale LaCasse	Competitive Auction Process	<ul style="list-style-type: none"> • Competitive auction mechanics • Competitive auction offerings
David Roush	Rate Design Customer Rate Impacts	<ul style="list-style-type: none"> • Competitive auction rates • Rate design, rate terms and conditions
Andrea Moore	Tariff and Rider Design	<ul style="list-style-type: none"> • Tariffs • Rate recovery design for continuation of certain riders, for proposed changes or additions to current riders, and/or recovery of new riders
Matthew Kyle	Financial Forecasts	<ul style="list-style-type: none"> • Forecast methodology • Forecast assumptions and results
Renee Hawkins	Weighted Average Cost of Capital Capital Structure	<ul style="list-style-type: none"> • Capitalization, weighted average cost of capital (WACC), and capital carrying costs
William Avera	Return on Equity (ROE)	<ul style="list-style-type: none"> • Recommended ROE
Thomas Mitchell	Regulatory Accounting	<ul style="list-style-type: none"> • Regulatory accounting for certain proposed riders

1 The riders the witnesses are sponsoring in this case help ensure the recovery of prudently
2 incurred costs and are consistent with other riders that were previously approved and are
3 in effect today for AEP Ohio and other Ohio utilities. The proposed ESP properly
4 balances the interests of AEP Ohio's customers, the Competitive Retail Electric Service
5 (CRES) providers, and AEP Ohio.

6 **Q. WHY IS AEP OHIO FILING NOW FOR ITS PROPOSED ESP COVERING THE**
7 **PERIOD FROM JUNE 2015 THROUGH MAY 2018?**

8 A. AEP Ohio is filing its proposed ESP now for a number of reasons. First, the first SSO
9 auction for power to be delivered beginning June 2015 is proposed to be performed by
10 September 2014, which is only nine months away, so establishing clear ground rules and
11 expectations for that auction early enough to allow adequate time for planning should
12 allow an orderly and effective auction process to occur. Second, the proposed changes to
13 the recovery of transmission charges allow for CRES providers to plan and modify their
14 contract offerings in an orderly manner prior to the proposed change taking effect in June
15 2015. Third, the establishment of a Purchase of Receivables (POR) program should
16 attract additional CRES providers to the territory and should make offering services to
17 residential customers more appealing to those CRES providers that traditionally focused
18 on other customer classes. Additional CRES providers should increase the robustness of
19 the marketplace. Finally, the DIR, a critical component of our distribution reliability
20 plan, provides a mechanism to recover needed capital investments in our distribution
21 system. Having the DIR approved for the ESP period well in advance of that time allows
22 the Company to make investment and resource plans in a methodical manner. If the DIR
23 is not extended throughout the term of the proposed ESP, a distribution base case would

1 be needed to provide for the critical investment in distribution infrastructure that it is
2 currently undertaking.

3 AEP Ohio is proposing a three-year term from June 1, 2015 through May 31,
4 2018 for its proposed ESP to align with the annual planning cycle of the Pennsylvania
5 New Jersey Maryland Interconnection LLC (PJM). Since the competitive auction
6 process that AEP Ohio will utilize to fulfill its SSO load is connected to the procurement
7 cycles of PJM, it is appropriate to align the two schedules. The three-year term also
8 provides a reasonable planning horizon for AEP Ohio to execute its distribution,
9 customer service, and related plans.

10 As discussed in the Application, the Company reserves the right to terminate the
11 ESP one year early if there are substantive legal or regulatory changes that directly or
12 indirectly affect SSO obligations and/or rate plan options. If that happens, the Company
13 will provide advanced written notice and propose a new rate plan to cover that final year.

14 **Q. CAN YOU SUMMARIZE THE RATE PROPOSALS INCLUDED IN THE**
15 **PROPOSED ESP?**

16 A. The overall framework of rates proposed in this ESP reflects the continuation,
17 modification, addition, or elimination of several riders. A comprehensive schedule of
18 rate mechanisms is found in Exhibit AEM-1 to the testimony of Company witness Moore
19 and company witness Roush addressed the customer rate impacts. Details on the
20 accounting treatment for certain of these mechanisms can be found in the testimony of
21 Company witness Mitchell.

1 **Q. PLEASE SUMMARIZE WHY THE PROPOSED ESP IS REASONABLE.**

2 **A.** AEP Ohio's proposed ESP best serves the public interest by offering a plan that is more
3 favorable in the aggregate than would be expected under an MRO. This conclusion is
4 substantiated by Company witness Allen's testimony. The proposed ESP is consistent
5 with the framework constructed by SB 221 for all customer classes and affords all
6 customers the opportunity to participate in a robust and competitive market for generation
7 services.

8 In addition, the proposed ESP offers programs such as a CRES POR program
9 combined with a Bad Debt Rider (BDR), which supports further development of a highly
10 competitive retail electric supply market while minimizing the cost of uncollectibles to
11 Ohio ratepayers. The proposed ESP also continues a comprehensive distribution
12 reliability program that supports both reliable and reasonably priced electric service, as
13 well as a rider to capture the benefits of AEP Ohio's contractual arrangement with OVEC
14 as discussed later in my testimony. As demonstrated in the table below – Table 2: ESP
15 III Rate Plan – the proposed ESP provides AEP Ohio customers with relatively stable to
16 declining rates during the 2015-2018 timeframe.

Table 2: ESP III Rate Plan

Columbus Southern Power Rate Zone							
Household	Summer Monthly Bills			Winter Monthly Bills			Tariff
	Current	Proposed	Change	Current	Proposed	Change	
1,000 kWh usage	\$156	\$144	-8%	\$143	\$133	-7%	R-R Bill
2,000 kWh usage	\$306	\$281	-8%	\$230	\$232	1%	R-R Bill
3,000 kWh usage	\$455	\$418	-8%	\$316	\$330	4%	R-R Bill
4,000 kWh usage	\$604	\$555	-8%	\$402	\$428	6%	R-R Bill
Small Business							
1,000 kW demand and 100,000 kWh usage	\$17,749	\$14,238	-20%	\$17,749	\$13,916	-22%	GS-2 Primary
1,000 kW demand and 300,000 kWh usage	\$37,245	\$29,876	-20%	\$37,245	\$28,910	-22%	GS-3 Primary
Industrial Business							
20,000 kW demand and 6 million kWh usage	\$507,465	\$423,228	-17%	\$507,465	\$404,268	-20%	GS-4
20,000 kW demand and 12 million kWh usage	\$832,612	\$775,112	-7%	\$832,612	\$737,192	-11%	GS-4

Ohio Power Rate Zone							
Household	Summer Monthly Bills			Winter Monthly Bills			Tariff
	Current	Proposed	Change	Current	Proposed	Change	
1,000 kWh usage	\$141	\$137	-3%	\$141	\$133	-5%	RS Bill
2,000 kWh usage	\$265	\$261	-2%	\$265	\$254	-4%	RS Bill
3,000 kWh usage	\$389	\$384	-1%	\$389	\$374	-4%	RS Bill
4,000 kWh usage	\$513	\$507	-1%	\$513	\$494	-4%	RS Bill
Small Business							
1,000 kW demand and 100,000 kWh usage	\$16,896	\$15,521	-8%	\$16,896	\$15,199	-10%	GS-2 Primary
1,000 kW demand and 300,000 kWh usage	\$35,403	\$30,715	-13%	\$35,403	\$29,749	-16%	GS-2 Primary
Industrial Business							
20,000 kW demand and 6 million kWh usage	\$584,463	\$443,698	-24%	\$584,463	\$424,738	-27%	GS-4 Transmission
20,000 kW demand and 12 million kWh usage	\$897,602	\$816,035	-9%	\$897,602	\$778,115	-13%	GS-4 Transmission

Therefore, AEP Ohio believes the proposed ESP is reasonable, and it is in our customers' best interest to propose an ESP that offers aggregate benefits such as our commitment to economic development, distribution infrastructure investments, and the continued support of a competitive retail marketplace.

CHANGES TO TRANSMISSION COST RECOVERY MECHANISMS

Q. HOW DOES AEP OHIO CURRENTLY RECOVER TRANSMISSION COSTS?

A. AEP Ohio currently recovers all of its PJM-assessed transmission costs for its SSO customers through the Transmission Cost Recovery Rider, a bypassable rider previously approved by the Commission. CRES providers currently include their PJM-assessed transmission costs in their rates charged to shopping customers.

1 **Q. WHAT CHANGES TO TRANSMISSION COST RECOVERY IS AEP OHIO**
2 **PROPOSING IN ITS ESP?**

3 A. AEP Ohio is proposing to establish a nonbypassable rider to recover non-market based
4 transmission charges from all of its customers, both shopping and non-shopping. This
5 would be the Basic Transmission Cost Rider. Market based transmission charges would
6 be included as part of the auction product offering for SSO customers, and CRES
7 providers would be responsible for market based transmission charges for their shopping
8 customers. Company witness Moore provides additional details about what charges are
9 considered non-market based transmission charges and what charges are considered
10 market based transmission charges.

11 **Q. WHY IS AEP OHIO PROPOSING THIS CHANGE TO HOW IT RECOVERS**
12 **TRANSMISSION COSTS?**

13 A. AEP Ohio's proposed Basic Transmission Cost Rider will ensure all customers, both
14 shopping customers and SSO customers, only pay the actual costs of non-market based
15 transmission expenses, and making this change will come at no cost to customers as cost
16 responsibilities are simply being shifted from the CRES providers to AEP Ohio. AEP
17 Ohio is proposing this change for three primary reasons. First, it aligns AEP Ohio's
18 transmission cost recovery mechanism with other electric distribution utilities in the state
19 of Ohio. Other electric distribution utilities in the state separate their transmission
20 charges and recover non-market based transmission charges through a nonbypassable
21 rider and make market based transmission charges the responsibility of the CRES
22 provider. This proposed change provides additional clarity for all customers regarding
23 non-market based transmission charges. Second, it enables CRES providers and SSO

1 suppliers to operate and provide price rate offerings in a similar manner in different
2 regions of the state as opposed to using different permutations of products in different
3 regions of the state. The ability of CRES providers to offer consistent products across the
4 state should advance the development of a competitive marketplace. Finally, non-market
5 based transmission charges are primarily driven by the PJM Open Access Transmission
6 Tariff, so AEP Ohio's ability to use the Basic Transmission Cost Rider to true-up
7 recovered costs with actual expenses ensures customers only pay the actual costs from
8 PJM. When non-market based transmission charges are the responsibility of the CRES
9 providers, they include an estimate of these costs in their rates, so shopping customers are
10 forced to pay rates based on an estimate, as opposed to the actual costs. This
11 combination of factors provides sufficient justification to shift non-market based
12 transmission costs into a nonbypassable rider for AEP Ohio customers and making
13 market based transmission costs part of the SSO competitive auction or CRES products.

14 **CHANGES TO CUSTOMER PROGRAMS**

15 **Q. WHAT CHANGES ARE BEING PROPOSED TO AEP OHIO'S CUSTOMER** 16 **PROGRAMS?**

17 A. As detailed in the testimony of Company witness Gabbard, AEP Ohio is proposing a
18 POR program without recourse in concert with a BDR. These changes are being
19 presented as a single comprehensive package, not as a menu of options from which
20 selections can be made. AEP Ohio believes that the combination of a POR program and
21 a BDR supports a competitive marketplace that is attractive to CRES providers, thereby
22 enhancing shopping opportunities for customers, while also providing financial security
23 for AEP Ohio to ensure that it will not be harmed by the actions of others in the

1 marketplace. This comprehensive package strikes a reasonable balance between the
2 needs of customers, CRES providers, and AEP Ohio that neither advantages nor
3 disadvantages any individual stakeholder.

4 **POWER PURCHASE AGREEMENT RIDER BENEFIT**

5 **Q. WHAT IS AEP OHIO SEEKING IN THE PROPOSED ESP WITH RESPECT TO**
6 **THE PPA RIDER?**

7 A. The Company is seeking to stabilize customer rates by providing a hedge against market
8 volatility. This rider allows the Company to continue providing over \$100 million of
9 economic benefit to Ohio annually, including over \$40 million in a rural six county area
10 of Southern Ohio provided by OVEC.

11 **Q. HOW IS THE COMPANY ABLE TO PROVIDE THIS BENEFIT?**

12 A. As discussed by witness Allen, the Company is entitled to a 19.93% share of the OVEC
13 power participation benefits and requirements. The PPA Rider is needed to capture the
14 benefit of the OVEC contract that will be sold into the PJM market. The rider will
15 stabilize customer rates by providing a hedge against future market volatility. The
16 relative stability of the OVEC's costs compared to market based costs would smooth out
17 market fluctuations as the rider will rise or fall in a direction opposite that of the market.
18 Our customers would thus be able to take advantage of market opportunities that will
19 provide added price stability.

20 **NERC COMPLIANCE AND CYBERSECURITY RIDER**

21 **Q. WHAT IS THE NERC?**

22 A. Beginning in 2007, all bulk power system owners, operators, and users were required to
23 comply with reliability standards established by the North American Electric Reliability

1 Corporation, which are implemented and enforced through Federal Energy Regulatory
2 Commission (FERC) approved delegation agreements to eight Regional Entities. AEP
3 Ohio is registered and operates within the region of the Reliability First Corporation.

4 **Q. WHAT IS CYBERSECURITY?**

5 A. Cybersecurity encompasses protection and security of physical distribution and
6 transmission grids, substations, and offices, as well as equipment and systems that
7 communicate, store, and act on data. Cybersecurity encompasses not only utility-owned
8 systems, but it also includes some aspects of customer and third party components that
9 interact with the grid, such as advanced meters and devices behind the meter.
10 Cybersecurity focuses on hardware and software, as well as the data and the networks
11 that use the data to keep the system operating. Finally, there are human elements to
12 cybersecurity, including system operators, customers, and criminals interacting at all
13 levels of a system. The dynamic and broad landscape that is covered by cybersecurity is
14 continuously evolving and merits dedicated attention and constant vigilance.

15 **Q. WHAT DOES THE TERM “NERC COMPLIANCE AND CYBERSECURITY”**
16 **MEAN WITH RESPECT TO AN ELECTRIC UTILITY LIKE AEP OHIO?**

17 A. For decades, electric system security was defined as the ability of the system to withstand
18 sudden, unexpected disturbances, such as a short circuit or an unanticipated loss of
19 system elements due to natural causes. In today’s world, the security focus of utilities
20 has expanded to include withstanding disturbances caused by manmade physical or
21 cyberattacks. Cybersecurity refers to the prevention and mitigation of impacts from these
22 types of cyberattacks. With the list of potential threats expanding, the NERC has begun
23 to implement new programs and requirements to counteract the increased threats. In

1 2007, AEP Ohio complied with 67 NERC reliability standards. Since that time, AEP
2 Ohio has complied with 73 new or revised versions of these standards. The moving
3 target with which AEP Ohio must comply is expected to change and expand, further,
4 requiring a significant effort to remain in compliance. The volume of this change and the
5 new standards being introduced are simply indicators of the continuously expanding
6 reach of NERC security requirements and our commensurately expanding compliance
7 obligation.

8 Recent events further illustrate the heightened attention these issues are receiving.
9 For example, the Grid 20/20 conference hosted by the PJM on November 11-12, 2013
10 focused on the need for the electric grid to become more resilient in the face of a rising
11 number of physical challenges, such as sabotage attempts and cyberattacks. This forum
12 was followed on November 13-14 with the NERC conducting its second Grid Security
13 Exercise (GridEx II) to exercise NERC and industry crisis response plans and identify
14 actionable improvement recommendations for plans, security programs, and skills. AEP
15 Ohio participated in this NERC event. President Obama's administration and United
16 States energy officials have also recently called on Congress to pass a bill to resolve
17 questions about potential liability in the aftermath of cyberattacks, as well as how energy
18 companies can share potential threat information with the government or each other.
19 Additionally, Senate Majority Leader Harry Reid and the heads of three Senate
20 committees issued a letter on November 12, 2013 urging electric utilities to be more
21 aggressive in protecting key infrastructure assets from physical attacks. Finally,
22 bipartisan cybersecurity legislation (H.R. 3696) was introduced by the House Homeland
23 Security Committee on December 11, 2013. The National Cybersecurity and Critical

1 Infrastructure Protection Act of 2013 (NCCIP Act)¹ proposes to strengthen the
2 cybersecurity of the nation's 16 critical infrastructure sectors as well as the federal
3 government by codifying, strengthening, and providing oversight of the cybersecurity
4 mission of the Department of Homeland Security. These recent examples show the
5 increased focus on these issues and evolving nature of the industry's response.

6 **Q. WHAT IS THE INTENT OF THE PROPOSED NERC COMPLIANCE AND**
7 **CYBERSECURITY RIDER?**

8 A. With the increasingly expansive scope of NERC compliance and cybersecurity activities,
9 AEP Ohio is proposing a NERC Compliance and Cybersecurity Rider (NCCR) to serve
10 as a placeholder (established at a level of zero) for the cost of compliance from the date
11 of the ESP III order through June 2018. Our intent is, effective with the Commission's
12 approval, to track and defer the capital costs as well as operations and maintenance
13 (O&M) expense costs associated with compliance and cybersecurity activities for new
14 NERC requirements or new interpretations of existing requirements. The NERC capital-
15 related costs to be deferred would be calculated using Company witness Hawkins'
16 investment levelized carrying charge rates as shown on Exhibit RVH-4. AEP Ohio
17 would in a subsequent proceeding during the ESP III term, request recovery for these
18 deferred NERC costs through the NCCR, subject to the Commission's review for
19 prudence.

¹ http://homeland.house.gov/sites/homeland.house.gov/files/documents/12113_NCCIP_summary.pdf

1 **Q. WHY IS THE NCCR NECESSARY?**

2 A. AEP Ohio's proposed ESP covers the timeframe of June 2015 through May 2018, where
3 the end date is almost five years from the time of submittal of this proposal. As stated
4 above, NERC continues to revise existing reliability standards and issue new reliability
5 standards, and a similar or increased level of activity over the next five years would be
6 difficult to continue absorbing in our base rates. Cybersecurity needs also continue to
7 grow as new threats emerge and new vulnerabilities are identified. The NCCR provides a
8 mechanism for AEP Ohio to recover compliance costs for cybersecurity in future years.

9 **Q. WHAT WILL BE RECOVERED THROUGH THE NCCR?**

10 A. As stated above, the NCCR would initially simply be a zero value placeholder rider.
11 Going forward, the NCCR is intended to recover capital related costs and O&M
12 compliance costs associated with items such as information technology infrastructure,
13 physical security, workforce training, supervisory control and data acquisition (SCADA)
14 systems, smart grid security systems, internal and external audits, external reporting, and
15 recordkeeping that are not recovered through other regulatory mechanisms. For example,
16 program costs to perform vulnerability assessments due to a specific identified threat
17 could be a type of cost proposed for inclusion in the NCCR. The Company would ensure
18 that only NERC-related capital costs not recovered through other regulatory mechanisms,
19 such as the DIR, would be included in the NCCR.

20 AEP Ohio is at the forefront of industry efforts to plan and prepare for these types
21 of NERC compliance and cybersecurity obligations. AEP Ohio intends to continue
22 planning and preparing for future compliance and cybersecurity obligations, but
23 unforeseen increases in compliance costs cannot simply be absorbed within existing

1 budgets. If new NERC compliance and cybersecurity costs materialize, AEP Ohio will
2 propose to the Commission, in a rider application during the ESP III term, recovery of
3 these identified costs through the NCCR. Company witness Moore discusses the
4 mechanics of how the NCCR will recover the costs associated with these compliance
5 activities in the event that recovery is pursued.

6 **Q. DO YOU HAVE ANY ADDITIONAL THOUGHTS?**

7 A. Yes. Reasonably-priced electricity is a critical component to the economic vitality of our
8 nation, particularly in Ohio. This proposed ESP extends and follows the guidance and
9 directives of the Commission, incorporating numerous commitments and programs that
10 balance the interests of both customers and investors over the 2015-2018 timeframe. It
11 will stabilize customers' rates and promote economic development in the state of Ohio
12 through investments in transmission and distribution infrastructure, reliability
13 enhancements, and comprehensive energy efficiency programs – sustaining critical
14 investment in Ohio's electricity infrastructure which will support jobs for Ohioans and an
15 essential tax base to fund Ohio's ongoing needs. The financial health of AEP Ohio is
16 dependent on Commission approval of the proposed ESP, which in turn is important for
17 economic stability and continued economic development in the state of Ohio.

18 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

19 A. Yes.

AEP OHIO EX.NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Ohio Power Company for Authority to	)	Case No. 13-2385-EL-SSO
Establish a Standard Service Offer)	
Pursuant to §4928.143, Revised Code,)	
in the Form of an Electric Security Plan)	

In the Matter of the Application of)	
Ohio Power Company for Approval of	)	Case No. 13-2386-EL-AAM
Certain Accounting Authority)	

DIRECT TESTIMONY OF
GARY O. SPITZNOGLE
IN SUPPORT OF AEP OHIO'S
ELECTRIC SECURITY PLAN

Filed: December 20, 2013

INDEX TO DIRECT TESTIMONY OF
GARY O. SPITZNOGLE

	<u>Page No.</u>
Personal Data	1
Purpose of Testimony	2
ESP III Promotes State Policies	2
Status of Corporate Separation Activities	9
Economic Development Cost Recovery Rider	10
Pilot Throughput Balancing Adjustment Rider	10
Late Payment Charge	11
Discontinuance of Variable Price Tariffs	12

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
GARY O. SPITZNOGLE
ON BEHALF OF
OHIO POWER COMPANY

1 **PERSONAL DATA**

2 **Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?**

3 A. My name is Gary O. Spitznogle, and my business address is 850 Tech Center Drive,
4 Gahanna, Ohio 43230.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by Ohio Power Company, dba AEP Ohio (the Company), a unit of
7 American Electric Power (AEP). My title is Vice President, Regulatory and Finance. I am
8 responsible for regulatory operations, regulated electric pricing, and financial performance
9 related to AEP Ohio. I report directly to AEP Ohio's President and Chief Operating Officer.

10 **Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?**

11 A. I earned a Bachelor of Science degree in chemical engineering with an environmental option
12 in 1998 from The Ohio State University. I began my career with AEP Ohio in 1997 as an
13 environmental technician at the Conesville Generating Station. I served at the Conesville
14 Generating Station until 2001 when I accepted a position as a lead engineer in Engineering
15 Services at AEP Service Corporation (AEPSC). I then served in several other engineering
16 positions before I was named Manager of Air Emissions Optimization in 2002. I was
17 promoted to Manager of New Generation Development in 2006, and then Manager of
18 Integrated Gasification Combined Cycle and Carbon Sequestration and Storage Engineering
19 in 2008. I then advanced to the position of Director of New Technology Development and
20 Policy Support in 2010. I assumed my current role in 2013.

1 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE A**
2 **REGULATORY AGENCY?**

3 A. Yes. I have filed testimony in support of the Company's Stipulation in Case No. 12-3255-
4 EL-RDR and direct testimony in Case Nos. 13-2249-EL-UNC, 13-2250-EL-UNC and 13-
5 2251-EL-UNC.

6 **PURPOSE OF TESTIMONY**

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. The purpose of my testimony is to describe how the proposed Electric Security Plan (ESP
9 III) advances state policies and to provide a brief update on AEP Ohio's corporate
10 separation efforts. I will then describe the benefits that the proposed continuation of the
11 Economic Development Rider (EDR) will deliver to customers. I will also discuss the
12 Pilot Throughput Balancing Adjustment Rider and a Late Payment Charge. Finally, I
13 will address why AEP Ohio is proposing to discontinue offering variable pricing options
14 as part of its standard tariffs.

15 **ESP III PROMOTES STATE POLICIES**

16 **Q. DOES THE ESP III PROMOTE STATE POLICIES?**

17 A. Yes. The ESP III promotes state policies in §4928.02 of the Ohio Revised Code (R.C.)
18 and is a reasonable rate plan for AEP Ohio to provide customers and stakeholders for the
19 period of June 1, 2015 through May 31, 2018.

20 **Q. PLEASE DESCRIBE HOW THE PROPOSED ESP ADVANCES STATE**
21 **POLICIES CONTAINED IN §4928.02 OHIO R.C.**

22 A. Many aspects of AEP Ohio's proposed ESP touch on the enumerated policy
23 considerations detailed in §4928.02 R.C. As a whole, the proposed ESP enhances the

1 state's effectiveness in the global economy, in accordance with §4928.02(N).
2 Additionally, many of the individual parts of the proposed ESP support state policies
3 including, but not limited to, the following:

- 4 • Full auction-based pricing for the Company's standard service offer ("SSO")
5 customers beginning in June 2015 through the full term of the proposed ESP
6 increases diversity of electricity supplies and suppliers and ensures effective
7 competition among competitive retail electric service (CRES) providers for
8 electricity pricing to shopping customers, both of which support reasonably priced
9 retail electric service.

- 10 ○ *§4928.02(A) Ensure the availability to consumers of adequate, reliable,*
11 *safe, efficient, nondiscriminatory, and reasonably priced retail electric*
12 *service;*

- 13 ○ *§4928.02(B) Ensure the availability of unbundled and comparable retail*
14 *electric service that provides consumers with the supplier, price, terms,*
15 *conditions, and quality options they elect to meet their respective needs;*
16

- 17 ○ *§4928.02(C) Ensure diversity of electricity supplies and suppliers, by*
18 *giving consumers effective choices over the selection of those supplies and*
19 *suppliers and by encouraging the development of distributed and small*
20 *generation facilities;*
21

- 22 ○ *§4928.02(G) Recognize the continuing emergence of competitive*
23 *electricity markets through the development and implementation of*
24 *flexible regulatory treatment;*
25

- 26 • Transparency in AEP Ohio's SSO pricing, through the introduction of a
27 Generation Energy (GENE) rider, a Generation Capacity (GENC) rider, a Basic
28 Transmission Cost Rider (BTCR), and an Auction Cost Reconciliation Rider
29 (ACRR), gives consumers a comparable price that they can use to compare
30 information when determining whether to select an alternative supplier.
31
32

Customer knowledge of and education regarding charges for services allows customers to make informed decisions when dealing with sales practices and interacting in the market with potential suppliers, receive reasonably priced service, and provides clarity on any relationship between affiliated entities;

- *§4928.02(A) Ensure the availability to consumers of adequate, reliable, safe, efficient, nondiscriminatory, and reasonably priced retail electric service;*
- *§4928.02(B) Ensure the availability of unbundled and comparable retail electric service that provides consumers with the supplier, price, terms, conditions, and quality options they elect to meet their respective needs;*
- *§4928.02(H) Ensure effective competition in the provision of retail electric service by avoiding anticompetitive subsidies flowing from a noncompetitive retail electric service to a competitive retail electric service or to a product or service other than retail electric service, and vice versa, including by prohibiting the recovery of any generation-related costs through distribution or transmission rates;*
- *§4928.02(I) Ensure retail electric service consumers protection against unreasonable sales practices, market deficiencies, and market power;*

- Continuation of the Distribution Investment Rider (DIR) and the gridSMART® Rider provide for continued deployment of emerging distribution system technologies where they can cost-effectively improve the efficiency and reliability of the distribution system, develop performance standards and targets for service quality for all consumers, and encourage the use of energy efficiency programs and alternative energy resources;

- *§4928.02(A) Ensure the availability to consumers of adequate, reliable, safe, efficient, nondiscriminatory, and reasonably priced retail electric service;*
- *§4928.02(D) Encourage innovation and market access for cost-effective supply- and demand-side retail electric service including, but not limited to, demand-side management, time-differentiated pricing, waste energy*

- 1 *recovery systems, smart grid programs, and implementation of advanced*
2 *metering infrastructure;*
3
4 ○ *§4928.02(E) Encourage cost-effective and efficient access to information*
5 *regarding the operation of the transmission and distribution systems of*
6 *electric utilities in order to promote both effective customer choice of*
7 *retail electric service and the development of performance standards and*
8 *targets for service quality for all consumers, including annual*
9 *achievement reports written in plain language;*
10
11 ○ *§4928.02(G) Recognize the continuing emergence of competitive*
12 *electricity markets through the development and implementation of*
13 *flexible regulatory treatment;*
14
15 ○ *§4928.02(M) Encourage the education of small business owners in this*
16 *state regarding the use of, and the encourage the use of, energy efficiency*
17 *programs and alternative energy resources in their businesses;*
18
19 • Continuation of the Enhanced Service Reliability Rider (ESRR) enhances electric
20 distribution service consistent with the value customers place on service reliability
21 and targets for service quality;
22 ○ *§4928.02(A) Ensure the availability to consumers of adequate, reliable,*
23 *safe, efficient, nondiscriminatory, and reasonably priced retail electric*
24 *service;*
25
26 ○ *§4928.02(E) Encourage cost-effective and efficient access to information*
27 *regarding the operation of the transmission and distribution systems of*
28 *electric utilities in order to promote both effective customer choice of*
29 *retail electric service and the development of performance standards and*
30 *targets for service quality for all consumers, including annual*
31 *achievement reports written in plain language;*
32
33 • Continuation of the EDR provision related to reasonable arrangements with
34 mercantile customers, approved by the Public Utilities Commission of Ohio
35 (Commission), facilitates the state's effectiveness in a global economy;
36 ○ *§4928.02(N) Facilitate the state's effectiveness in the global economy. In*
37 *carrying out this policy, the commission shall consider rules as they apply*
38 *to the costs of electric distribution infrastructure, including, but not*
39 *limited to, line extensions, for the purpose of development in this state;*
40

- 1 • Continuation of the Storm Damage Recovery (SDR) Mechanism ensures the
2 ability of the Company to continue to perform and fund its normal
3 responsibilities;
 - 4 ○ §4928.02(A) *Ensure the availability to consumers of adequate, reliable,*
5 *safe, efficient, nondiscriminatory, and reasonably priced retail electric*
6 *service;*
 - 7 ○ §4928.02(E) *Encourage cost-effective and efficient access to information*
8 *regarding the operation of the transmission and distribution systems of*
9 *electric utilities in order to promote both effective customer choice of*
10 *retail electric service and the development of performance standards and*
11 *targets for service quality for all consumers, including annual*
12 *achievement reports written in plain language;*
- 13 • Continuation of the Alternative Energy Rider (AER) to continue recovery of
14 renewable energy credit (REC) expenses;
 - 15 ○ §4928.02(B) *Ensure the availability of unbundled and comparable retail*
16 *electric service that provides consumers with the supplier, price, terms,*
17 *conditions, and quality options they elect to meet their respective needs;*
 - 18 ○ §4928.02(N) *Facilitate the state's effectiveness in the global economy. In*
19 *carrying out this policy, the commission shall consider rules as they apply*
20 *to the costs of electric distribution infrastructure, including, but not*
21 *limited to, line extensions, for the purpose of development in this state;*
- 22 • Continuation of the Energy Efficiency / Peak Demand Reduction (EE/PDR) Rider
23 enables AEP Ohio to continue offering innovative energy efficiency programs for
24 all customer segments, allowing the Company to achieve the established
25 benchmarks for both the energy efficiency and peak demand reduction programs;
 - 26 ○ §4928.02(A) *Ensure the availability to consumers of adequate, reliable,*
27 *safe, efficient, nondiscriminatory, and reasonably priced retail electric*
28 *service;*
 - 29 ○ §4928.02(D) *Encourage innovation and market access for cost-effective*
30 *supply- and demand-side retail electric service including, but not limited*
31 *to, demand-side management, time-differentiated pricing, waste energy*
32 *management, and energy conservation programs;*

1 *recovery systems, smart grid programs, and implementation of advanced*
2 *metering infrastructure;*

- 3
4 ○ *§4928.02(M) Encourage the education of small business owners in this*
5 *state regarding the use of, and encourage the use of, energy efficiency*
6 *programs and alternative energy resources in their businesses*

- 7
8
9 • Elimination of Schedule IRP-D (IRP-D) and Schedule Supplement 18 enables
10 AEP Ohio to focus on providing its standard service offering and allows
11 competitive retail electric suppliers the opportunity to provide innovative or
12 creative rate offerings;

- 13 ○ *§4928.02(A) Ensure the availability to consumers of adequate, reliable,*
14 *safe, efficient, nondiscriminatory, and reasonably priced retail electric*
15 *service;*

- 16
17 ○ *§4928.02(B) Ensure the availability of unbundled and comparable retail*
18 *electric service that provides consumers with the supplier, price, terms,*
19 *conditions, and quality options they elect to meet their respective needs;*

- 20
21 ○ *§4928.02(D) Encourage innovation and market access for cost-effective*
22 *supply- and demand-side retail electric service including, but not limited*
23 *to, demand-side management, time-differentiated pricing, waste energy*
24 *recovery systems, smart grid programs, and implementation of advanced*
25 *metering infrastructure;*

- 26
27 • Introduction of a Purchase of Receivables (POR) Program and a Bad Debt Rider
28 (BDR) fosters the continued development of a robust and diverse CRES
29 marketplace;

- 30 ○ *§4928.02(B) Ensure the availability of unbundled and comparable retail*
31 *electric service that provides consumers with the supplier, price, terms,*
32 *conditions, and quality options they elect to meet their respective needs;*

- 33
34 ○ *§4928.02(G) Recognize the continuing emergence of competitive*
35 *electricity markets through the development and implementation of*
36 *flexible regulatory treatment;*

37
38 and;
39

- Introduction of a NERC Compliance and Cyber Security Rider (NCCR) and a Sustainable and Skilled Workforce Rider (SSWR) enable new programs to address emerging issues in the electric power industry;
 - *§4928.02(E) Encourage cost-effective and efficient access to information regarding the operation of the transmission and distribution systems of electric utilities in order to promote both effective customer choice of retail electric service and the development of performance standards and targets for service quality for all consumers, including annual achievement reports written in plain language.*

STATUS OF CORPORATE SEPARATION ACTIVITIES

Q. WHAT IS THE CURRENT STATUS OF CORPORATE SEPARATION ACTIVITIES FOR AEP OHIO?

A. The Commission has previously found that AEP Ohio should divest its competitive generation assets from its noncompetitive electric distribution utility. AEP Ohio has diligently worked to fulfill the requirements of that order. The Commission subsequently issued an order on October 17, 2012 in Case No. 12-1126-EL-UNC stating that AEP Ohio has provided sufficient details with respect to the object, purpose, and terms and conditions of the proposed transfer of generating assets such that the Commission is satisfied that the transfer is just, reasonable, and in the public interest. Additionally, the Commission found that AEP Ohio's structural corporate separation and amended corporate separation plan are in compliance with Section 4928.17, Revised Code, and Chapter 4901:1-3, O.A.C., and should be approved. As directed by the Commission, AEP Ohio currently expects to complete the transfer of its owned generating assets and its power purchase contracts that have been authorized to be transferred to AEP

1 Generation Resources, Inc. and complete the requirements of corporate separation by
2 December 31, 2013. However, AEP Ohio has been unable to obtain the required consent
3 of the other Ohio Valley Electric Corporation (“OVEC”) Sponsoring Companies to
4 permit AEP Ohio to transfer its OVEC contractual entitlements to AEP Generation
5 Resources, Inc. Therefore, on October 4, 2013, the Company filed an application in Case
6 No. 12-1126-EL-UNC to amend its corporate separation plan to permit it to maintain
7 AEP Ohio’s existing contractual relationship with OVEC. The Commission approved
8 AEP Ohio’s application on December 4, 2013. Company witness Allen explains in his
9 testimony how the Power Purchase Agreement Rider will incorporate the revenues and
10 expenses from the existing OVEC contractual relationship into AEP Ohio’s
11 comprehensive ESP III proposal.

12 **ECONOMIC DEVELOPMENT RIDER**

13 **Q. PLEASE EXPLAIN THE BENEFITS OF THE ECONOMIC DEVELOPMENT**
14 **RIDER.**

15 A. Continuation of the EDR for reasonable arrangements with mercantile customers,
16 previously approved by the Commission, facilitates the state’s effectiveness in a regional,
17 national, and global economy. The EDR currently supports mercantile customers with
18 Commission-approved reasonable arrangements that retain existing and create new Ohio
19 jobs. AEP Ohio proposes to continue the existing EDR throughout the proposed ESP
20 term of June 1, 2015 through May 31, 2018. While AEP Ohio is proposing to continue
21 the EDR as part of this ESP filing for convenience, I am advised by counsel that the
22 Company is entitled to receive foregone revenues associated with reasonable arrangement
23 approved by the Commission under Section 4905.31 of the Revised Code.

1 **PILOT THROUGHPUT BALANCING ADJUSTMENT RIDER**

2 **Q. DOES AEP OHIO PROPOSE TO CONTINUE THE PILOT THROUGHPUT**
3 **BALANCING ADJUSTMENT RIDER THROUGHOUT THE TERM OF THE**
4 **PROPOSED ESP?**

5 A. Yes. The Commission approved the establishment of the Pilot Throughput Balancing
6 Adjustment Rider (PTBAR) in its December 14, 2011 order in Case Nos. 11-351-EL-
7 AIR, et al. The PTBAR is a revenue decoupling pilot program applicable to the
8 residential and GS-1 tariff rate schedules. In that order, the Commission approved the
9 extension of the PTBAR past its proposed termination date of 2015 until otherwise
10 ordered by the Commission. AEP Ohio proposes to continue the PTBAR for residential
11 and GS-1 tariff rate schedules, as currently implemented, throughout the proposed ESP
12 term of June 1, 2015 through May 31, 2018. Company witness Moore explains the
13 details of how the PTBAR will continue to be calculated and charged to customers.

14 **LATE PAYMENT CHARGE**

15 **Q. WHAT TYPE OF LATE PAYMENT CHARGE IS AEP OHIO PROPOSING?**

16 A. AEP Ohio is proposing a late payment charge for all residential service tariffs of 1.5% on
17 the unpaid account balance, including charges related to purchased CRES provider
18 receivables, existing five days after the due date of the bill. The late payment charge will
19 be assessed once and will become due and payable for that month. If payment is not
20 made by the subsequent month, an additional late payment charge will be reapplied to the
21 new month's service charges, but will not be applied again to the previous month's
22 unpaid balance. This provision would not be applicable to those customers enrolled on
23 percentage of income payment plans (PIPP Plus).

1 **Q. WHY IS AEP OHIO PROPOSING A LATE PAYMENT CHARGE FOR**
2 **RESIDENTIAL CUSTOMERS?**

3 A. AEP Ohio is proposing a late payment charge for three reasons. First, a late payment
4 charge will encourage our residential customers to pay their bills on time, as it does for
5 other customer classes. Currently, there is no incentive for our residential customers to
6 pay their bills on time because we do not utilize a late payment charge nor do we file bad
7 credit reports on residential customers. Second, AEP Ohio's late payment charge for
8 residential customers would simply create alignment with other AEP Ohio customer
9 classes and align AEP Ohio with most other electric utilities and other types of service
10 providers. Most Ohio utilities already utilize a 1.5% late payment charge for residential
11 customers. Natural gas providers, telephone service providers, and other similar service
12 providers also typically impose late payment charges. Finally, a late payment charge will
13 reduce the cost of bad debt paid by all customers through encouraging customers to pay
14 their bills and by application of the late payment charge to the uncollectibles balance as
15 described below.

16 **Q. WHAT DOES AEP OHIO PROPOSE TO DO WITH ANY REVENUES**
17 **GENERATED FROM THE LATE PAYMENT CHARGE?**

18 A. AEP Ohio proposes to apply any revenues generated from residential late payment
19 charges to offset the uncollectibles balance that is proposed to be collected through the
20 Bad Debt Rider. The late payment charges associated with other non-residential tariffs
21 are already included in base distribution rates established in the last distribution base rate
22 case. The application of the residential late payment charge to the uncollectibles balance
23 is discussed by Company witnesses Gabbard and Moore.

1 **DISCONTINUANCE OF VARIABLE PRICE TARIFFS**

2 **Q. WHAT TARIFFS ARE AEP OHIO PROPOSING TO ELIMINATE?**

3 A. AEP Ohio is proposing to eliminate Schedule IRP-D, Schedule Supplement No. 18, and
4 Schedule Standby Service (SBS), as well as the generation component of the Standard
5 Time of Use (TOU) tariffs not related to the pilot gridSMART® project tariffs at issue in
6 Case No. 13-1393-EL-RDR as further described by Company witness Moore.

7 **Q. WHY IS AEP OHIO PROPOSING TO ELIMINATE THESE TARIFFS?**

8 A. With the implementation of full auction-based pricing for AEP Ohio's SSO customers
9 and the continued development of the competitive marketplace, CRES providers are
10 better positioned to offer innovative generation service rate offerings than AEP Ohio.
11 AEP Ohio is thus proposing to eliminate these tariffs for a number of reasons. Schedule
12 IRP-D is being eliminated because the market can provide comparable offerings.
13 Schedule Supplement No. 18 is being eliminated because the tariff provided a discount
14 on demand charges for certain church and school service customers, and it is no longer
15 applicable for AEP Ohio as a wires company utilizing a competitive bid auction process
16 to obtain generation service to offer a demand-based discount. Schedule Standby Service
17 is being eliminated because AEP Ohio's distribution charges will be the same for the
18 general service schedule and the Schedule Standby Service, and AEP Ohio, as a wires
19 company, should no longer provide generation related backup and maintenance services.
20 The standard TOU tariffs are legacy rates from a cost of service model for a vertically-
21 integrated utility that is no longer applicable under the current market construct and can
22 be more appropriately obtained in the market from CRES providers. But it is my
23 understanding that there may be some remaining opportunities, albeit limited, to receive

1 payment from the Company for load curtailment in connection with its peak demand
2 reduction mandates. Company witness Moore provides additional details about the
3 elimination of these tariffs and the generation component of tariffs.

4 **Q. IS AEP OHIO EXPECTING ANY SIGNIFICANT CUSTOMER IMPACTS**
5 **THROUGH THE ELIMINATION OF THESE TARIFFS?**

6 A. No. As stated previously, the tariffs that are proposed to be eliminated are shown in the
7 table below and are legacy rates from the historical cost of service model. Many of the
8 customers currently taking service from one of these tariffs should be able to obtain
9 comparable service from CRES providers in the market who are better positioned to offer
10 these types of innovative rate offerings.

Tariff	Customer Counts (as of 8/30/2013)
Schedule IRP-D	3
Schedule Supplement No. 18	546
Schedule Standby Service	3
Standard Time of Use	915

11
12 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

13 A. Yes.

AEP OHIO EX. NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Ohio Power Company for Authority to	)	Case No. 13-2385-EL-SSO
Establish a Standard Service Offer)	
Pursuant to §4928.143, Revised Code,)	
in the Form of an Electric Security Plan)	

In the Matter of the Application of)	
Ohio Power Company for Approval of	)	Case No. 13-2386-EL-AAM
Certain Accounting Authority)	

DIRECT TESTIMONY OF
SELWYN J. DIAS
IN SUPPORT OF AEP OHIO'S
ELECTRIC SECURITY PLAN

Filed: December 20, 2013

INDEX TO DIRECT TESTIMONY OF

SELWYN J. DIAS

	<u>Page No.</u>
Personal Data.....	1
Purpose of Testimony	3
Comprehensive Distribution Reliability Strategic Plan.....	3
Continuation of Existing Riders	8
Sustained and Skilled Workforce Rider	22
Summary and Conclusion.....	28

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
PRE-FILED DIRECT TESTIMONY OF
SELWYN J. DIAS
ON BEHALF OF OHIO POWER COMPANY

1 **PERSONAL DATA**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Selwyn J. Dias and my business address is 850 Tech Center Drive, Gahanna,
4 Ohio 43230.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by the Ohio Power Company (“OPCo”, “the Company” or “AEP Ohio”) as Vice President of Distribution Operations. Ohio Power is a unit of American Electric
7 Power (AEP).
8

9 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
10 **PROFESSIONAL EXPERIENCE.**

11 A. I graduated from the University of Central Oklahoma with a bachelor’s degree in
12 Business Administration (Accounting Major) in 1981. I have also completed the
13 Executive Management Program at the University of Virginia, Darden School of
14 Business. I hold the professional designations of certified internal auditor and certified
15 fraud examiner administered by the Institute of Internal Auditors and the National
16 Association of Certified Fraud Examiners.

17 I began my career in 1981 as an international internal auditor with Kerr-McGee
18 Corporation, an oil and gas drilling and exploration conglomerate. In 1985, I joined
19 Central and South West Corporation (CSW) as an internal auditor and progressed to a

1 management level position within the internal auditing organization. During my tenure
2 with CSW, I held several other leadership positions within the company including
3 Manager of Corporate Services, Director of Pricing Development and Director of
4 Regulatory Administration.

5 After the merger of CSW and AEP in 2000, I continued as Director of
6 Regulatory Administration with responsibilities expanded to include the remainder of
7 AEP's regulated jurisdictions. In June 2003, I was appointed Director, Regulatory
8 Affairs for AEP Ohio, and in September 2008, I was promoted to Vice President,
9 Regulatory and Finance. In January 2013, I was appointed to my current position, Vice
10 President, Distribution Operations. In this capacity, I am responsible for providing
11 organizational leadership on AEP Ohio's delivery of electric service. I oversee the
12 electric distribution system, including engineering, infrastructure design and
13 construction, safety, meter reading and meter service functions.

14 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY**
15 **COMMISSIONS?**

16 A. Yes. I have presented testimony on behalf of AEP Ohio before the Public Utilities
17 Commission of Ohio (Commission) in various cases.

18 **Q. ARE YOU SUPPORTING ANY EXHIBITS?**

19 A. Yes. I am supporting the following exhibits:

- 20 1. Exhibit SJD-1 – Customer Satisfaction Survey
- 21 2. Exhibit SJD-2 – Brattle Group Analysis

1 **PURPOSE OF TESTIMONY**

2 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

3 A. The purpose of my testimony is to explain the need for continuation of specific
4 distribution riders including the Distribution Investment Rider (DIR), the Enhanced
5 Service Reliability Rider (ESRR), the gridSMART® Rider, and the Storm Damage
6 Recovery Mechanism in the proposed Electric Security Plan (ESP). I will also discuss a
7 new rider, the Sustained and Skilled Workforce Rider (SSWR). These mechanisms or
8 riders provide a comprehensive approach to support a suite of programs designed to
9 maintain and improve AEP Ohio's distribution system reliability.

10 **COMPREHENSIVE DISTRIBUTION RELIABILITY STRATEGIC PLAN**

11 **Q. PLEASE DESCRIBE AEP OHIO'S DISTRIBUTION RELIABILITY**
12 **STRATEGY.**

13 A. Improving reliability requires a long-term strategy with multiple, coordinated activities
14 on varied fronts. Reliability is a moving target, and without continuous improvement,
15 the general reliability of the distribution system may unintentionally decline over time.
16 AEP Ohio's reliability strategy is one of continuous process improvement where
17 ongoing analysis identifies opportunities for improvement. There are many factors that
18 influence reliability such as weather, vegetation management, aging infrastructure,
19 maintenance activities, system operation and design, advances in new technologies,
20 experienced and skilled labor, materials, and available funding resources. The
21 Company's comprehensive distribution reliability plan takes all of these factors into
22 account, but can be summarized as a strategy focused on the following key overarching

1 areas: 1) Infrastructure reliability including vegetation management; 2) Technology
2 deployment and automation; and 3) Sustained and skilled workforce.

3 **Q. HOW IS THE RELIABILITY STRATEGY DESCRIBED ABOVE ALIGNED**
4 **WITH PRIOR COMMISSION SUPPORT AND CUSTOMER EXPECTATIONS?**

5 A. The strategy is aligned with the programs supported by prior Commission authorized
6 riders described in this filing. The programs include the replacement of aging
7 infrastructure through the DIR, continued cyclic vegetation maintenance through the
8 ESRR, implementation of advanced technologies through the gridSMART® Rider, and
9 continuation of recovery of major storm costs through the Storm Damage Recovery
10 Mechanism. This filing will introduce an additional program focused on ensuring the
11 availability of a sustained and skilled workforce, which will be expanded upon later in
12 my testimony. The Sustained and Skilled Workforce program will have an incremental
13 cost, and the Company is proposing the SSWR to recover the incremental costs part of
14 this element of the overall distribution reliability strategy.

15 **Q. HOW WILL A COMPREHENSIVE DISTRIBUTION RELIABILITY PLAN**
16 **BENEFIT AEP OHIO CUSTOMERS?**

17 A. A well-executed comprehensive reliability plan develops specific goals for reliability
18 improvements and a process for implementation. With the exception of the SSWR, the
19 Company is requesting the continuation, with modifications, of its existing distribution
20 riders, which include the DIR, the ESRR, the gridSMART® Rider, and the Storm
21 Damage Recovery Mechanism and Rider. The benefits of these cost recovery
22 mechanisms were explained in previous ESP filings and were approved by the

1 Commission. The addition of the SSWR is to ensure the Company addresses the
2 significant incremental labor resources, both front-line construction and construction
3 support, required to implement the needed infrastructure investments. The DIR and
4 SSWR programs complement each other and target the areas of reliability improvement
5 that will yield the maximum benefits to customers.

6 **Q. DO AEP OHIO CUSTOMERS CONTINUE TO HAVE EXPECTATIONS FOR**
7 **IMPROVED OR SUSTAINED RELIABILITY?**

8 A. Yes. AEP Ohio customers continue to have expectations for improved or sustained
9 reliable electric service. This conclusion is confirmed by a survey conducted by Market
10 Strategies International for AEP Ohio in 2012. See Exhibit SJD-1 for the survey results.
11 Customers were asked if they thought their expectations regarding electric service
12 reliability will change over the next five years. The percentage of residential customers
13 whose expectations concerning reliability will stay the same or increase is 89 percent; 19
14 percent of these residential customers' expectations concerning reliability will increase.
15 Similarly, the percentage of commercial customers whose expectations concerning
16 reliability will stay the same or increase is 94 percent; 18 percent of commercial
17 customers' expectations concerning reliability will increase.

18 **Q. WHAT ARE YOUR VIEWS ON THE RELATIONSHIP BETWEEN**
19 **RELIABILITY, DISTRIBUTION INVESTMENT AND CUSTOMER**
20 **SATISFACTION?**

21 A. Make no mistake; there is a cost associated with maintaining and improving reliability.
22 The cost to build a distribution system that would yield nearly perfect reliability would

1 be enormous, and it would not be affordable. Utilities strive to achieve the right balance
2 between low cost electric service and an acceptable level of reliability. Both issues are
3 important to customers. Over time, the accepted levels of reliability or affordability may
4 change. As customers become more dependent on the technologies that use electricity,
5 their tolerance for outages may diminish, and their expectations for improved reliability
6 may increase. The survey results in Exhibit SJD-1 support this conclusion.

7 It is also important to understand that the relationship between cost and reliability
8 is not linear, but exponential. In other words, as the Company improves reliability, the
9 cost to achieve continuous and increasing reliability improvements will increase
10 exponentially. Additionally, high utility costs can also drive down customer satisfaction;
11 so again, the Company must strive to achieve the right balance between reliability,
12 distribution investment, and customer satisfaction.

13 **Q. ARE THERE ANY KNOWN STUDIES THAT SUPPORT THE RELATIONSHIP**
14 **BETWEEN RELIABILITY, DISTRIBUTION INVESTMENT AND CUSTOMER**
15 **SATISFACTION?**

16 A. Yes. The details of a regression analysis prepared by the Brattle Group¹ are presented in
17 the January 2013 issue of Public Utilities Fortnightly Magazine. This is Exhibit SJD-2
18 in my testimony. The analysis was developed using publicly available information that
19 included financial, system operations, customer satisfaction scores, levels of investment,
20 operation and maintenance expenditures, and demographic characteristics for

¹William P. Zarakas, Philip Q. Hanser, and Kent Diep, "Rates, Reliability, and Region," Public Utilities Fortnightly, January 2013, http://www.brattle.com/_documents/UploadLibrary/Upload1140.pdf.

1 approximately thirty investor-owned utilities throughout the United States collected over
2 a period of six years. This regression analysis is noteworthy as it does not rely on
3 opinion, but relies on accepted statistical methods for predicting outcomes. The
4 regression results were summarized into four major points:

5 1. The analysis indicated that system reliability as measured by interruptions, duration,
6 or both significantly explains customer satisfaction scores.

7 2. The analysis showed that rates as measured by average residential revenue per kWh
8 play a significant role in explaining why customers rank utilities at a high or low level
9 with respect to customer satisfaction; however, rate levels are less of a determinant than
10 system reliability.

11 3. Geography and locations provide statistically significant explanations of customer
12 satisfaction scores. I believe this is partly due to the weather events experienced in
13 different geographic locations or regions.

14 4. Electric utility spending on customer service functions is statistically significant. The
15 Brattle Group analysis further explains that customer service programs need to be
16 targeted toward specific customer interests such as improving outage communication
17 systems to impact customer satisfaction, which supports my own perspectives on
18 customer service expenditures and investments.

19 The article also indicated that a separate but related regression analysis by the
20 Brattle Group showed that spending by utilities on their distribution systems was
21 significantly correlated with achieved levels of reliability. These regression analysis
22 results are not surprising, but serve to support the fundamental goal of the DIR to

1 achieve sustained or improved reliability and improved customer satisfaction for the
2 lowest possible cost.

3 **Q. CAN AEP OHIO GUARANTEE IMPROVED RELIABILITY AND CUSTOMER**
4 **SATISFACTION OUTCOMES FROM IMPLEMENTING ITS DISTRIBUTION**
5 **RELIABILITY STRATEGY?**

6 A. No. While statistical methods such as regression analysis can predict a favorable
7 outcome, there are other variables, primarily weather, that are not predictable and can
8 negatively impact reliability and customer satisfaction. Even though major storms are
9 excluded from utility reliability metrics, an increase in the number of non-major storms
10 will negatively impact reliability outcomes. Additionally, both an increase in major and
11 non-major storms will negatively impact customer satisfaction. In this case, the
12 Company's reliability strategy focuses on the variables that are predictable such as the
13 factors addressed by the programs supported by the riders in my testimony.

14 **CONTINUATION OF EXISTING RIDERS**

15 **Q. PLEASE PROVIDE A DESCRIPTION OF EACH OF THE PROGRAMS AND**
16 **RIDERS THE COMPANY IS PROPOSING TO CONTINUE AND PROVIDE**
17 **THE PREVIOUS FINDINGS AND REQUIREMENTS ADOPTED BY THE**
18 **COMMISSION.**

19 A. The following is a description of each rider supported in my testimony and the findings
20 and requirements ordered by the Commission:

1 1. DIR - The purpose of the AEP Ohio DIR is to provide support for capital
2 funding, including carrying costs on distribution infrastructure to support customer
3 expectations and advanced technologies. Aging infrastructure is a primary cause of
4 customer outages and reliability issues. The DIR facilitates and encourages
5 investments to maintain and improve distribution reliability, align customer
6 expectations and the expectations of the distribution utility, as well as streamline
7 recovery of the associated costs, and reduce the frequency of base distribution rate
8 cases.

9 In ESP II, the Commission found the adoption of the DIR and the improved
10 service that comes with the replacement of aging infrastructure does facilitate
11 improved service reliability and better aligns the Company's and its customers'
12 expectations. The Commission noted the Company is placing sufficient proactive
13 emphasis on and will dedicate sufficient resources to the reliability of its
14 distribution system. The Commission concluded it is detrimental to the state's
15 economy to require AEP Ohio to be reactionary or allow the performance standards
16 to take a negative turn before the Commission encourages the electric utility to
17 proactively and efficiently replace and modernize infrastructure, and therefore,
18 found it is reasonable to permit the recovery of costs associated with prudently
19 incurred distribution infrastructure investments. The Commission added that AEP
20 Ohio is correct to aspire to move from a reactive to a more proactive replacement
21 maintenance program. Having made such findings, the Commission approved the
22 DIR as an appropriate mechanism to recover costs associated with AEP Ohio's
23 prudently incurred distribution investments.

1 The Commission found that the Company should work with Staff to develop
2 a plan to emphasize proactive distribution maintenance that focuses spending where
3 it will have the greatest impact on maintaining and improving reliability for
4 customers. Accordingly, AEP Ohio worked with Staff to develop the DIR plan,
5 which was filed on December 3, 2012 in Case No. 12-3129-EL-UNC, and the
6 Commission approved the DIR Plan with modifications on May 29, 2013.

7 2. ESRR – The ESRR program facilitates the transition to, and maintenance of, a
8 cycle-based vegetation management program, and was approved by the
9 Commission in ESP I. In ESP II, AEP Ohio requested the continuation of the
10 ESRR and the Company's transition to a four-year, cycle-based trimming program.
11 AEP Ohio requested incremental funding over the \$24.2 million base for both (a)
12 the completion of the transition to a cycle-based vegetation management program
13 in the amount of \$16 million for 2014 and (b) maintenance of the cycle-based
14 program, through an additional increase of \$2 million annually beginning in 2015,
15 for an annual total of \$42 million. Recent estimates indicate that, instead of \$18
16 million beginning in 2015, approximately \$25 million of O&M and \$1M of capital
17 above the base will be needed to fund the on-going cycle-based program. The
18 recent estimates reflect the history of actual expenditures experienced since
19 beginning the program in 2009.

20 3. gridSMART® Rider – The Company's ESP II application proposed the continuation
21 of the gridSMART® rider approved by the Commission in the ESP I Order. The
22 Company expects to complete the installation of gridSMART® equipment in Phase 1 and
23 to complete gridSMART® data submission to the U. S. Department of Energy on Phase 1

1 of the project by December 31, 2013, with an evaluation to be completed and submitted
2 to the Commission by AEP Ohio around March 31, 2014.

3 The Commission ordered AEP Ohio to continue the gridSMART® Phase 1
4 project and to complete the review and evaluation of the project. Approval was also
5 granted to initiate Phase 2 of the gridSMART® project prior to March 31, 2014, and
6 complete gridSMART® Phase 1 with the technologies that have to-date demonstrated
7 success and are cost-effective. The Commission acknowledged that delaying any further
8 expansion or installation of gridSMART® is unnecessarily restrictive with respect to the
9 further deployment of successful individual smart grid systems and technologies used in
10 the project. The Company was ordered to file its proposed expansion of the
11 gridSMART® project, gridSMART® Phase 2, as part of a new gridSMART® application,
12 and to include sufficient detail on the equipment and technology proposed so that the
13 Commission could evaluate the demonstrated success, cost-effectiveness, customer
14 acceptance and feasibility of the proposed technology. The Company filed its
15 gridSMART® Phase 2 Application in Case No. 13-1939-EL-RDR on September 13,
16 2013.

17 The Company is anticipating that it will receive an order in Case No. 13-1939-
18 EL-RDR, which will approve recovery of the gridSMART® Phase 2 costs, prior to
19 receiving an Order for ESP III. The Company proposes that the current gridSMART®
20 Rider be used to recover the gridSMART® Phase 2 costs and any remaining
21 gridSMART® Phase 1 costs be rolled into the DIR. Company witness Moore describes
22 this proposal in greater detail.

1 4. Storm Damage Recovery Mechanism -- The Storm Damage Recovery Mechanism
2 was designed to recover any incremental O&M expenses incurred over a \$5 million
3 annual baseline due to major storm events. The \$5 million annual baseline was
4 established in ESP II. Absent the mechanism, forecasted operation and maintenance
5 (O&M) funds would be constantly diverted to cover the expense of major storms, which
6 could disrupt planned maintenance activities and impact system reliability. The
7 determination of a major storm is determined by the methodology outlined in the IEEE
8 Guide for Electric Power Distribution Reliability Indices, as set forth in Rule 4901:1-10-
9 10(B), O.A.C. Any capital costs incurred due to a major storm would either become a
10 component of the DIR or would be addressed in a future distribution rate case.

11 In ESP II, the Commission ordered that AEP Ohio may begin deferral of any
12 incremental distribution expenses above or below the established baseline of \$5 million
13 per year. Further, throughout the term of ESP II, AEP Ohio is required to maintain a
14 detailed accounting of all storm expenses within its storm deferral account, including
15 detailed records of all incidental costs and capital costs. AEP Ohio is also required to
16 provide this information annually for Staff to audit to determine if additional proceedings
17 are necessary to establish recovery levels or refunds as necessary.

18 In the event AEP Ohio incurs costs due to one or more unexpected, large scale
19 storms, AEP Ohio is required to open a new docket and file a separate application by
20 December 31 for each year throughout the term of the ESP II if necessary

1 **Q. HOW WILL AEP OHIO MONITOR THE DEVELOPMENT AND PROGRESS**
2 **OF A COMPREHENSIVE DISTRIBUTION RELIABILITY STRATEGY WITH**
3 **RESPECT TO SYSTEM RELIABILITY PERFORMANCE?**

4 A. The Company uses an Outage Management System (OMS) to identify, respond to and
5 assign outage causes to the events that cause sustained customer outages. Through
6 analysis of the outage events over an extended period of time, AEP Ohio can identify
7 solutions or process improvement programs to target the areas that are experiencing
8 frequent outages or outages with long durations. By implementing the reliability
9 programs supported by the riders and continuing to monitor outage events, the Company
10 can determine if the programs are achieving the expected results.

11 **Q. PLEASE EXPLAIN WHY THE PREVIOUSLY APPROVED ESP**
12 **DISTRIBUTION RIDERS DESCRIBED HEREIN SHOULD BE CONTINUED.**

13 A. As previously indicated, these riders, the DIR, the ESRR, the gridSMART® Rider and
14 the Storm Damage Recovery Mechanism, are part of a long-term, comprehensive
15 strategy to improve distribution reliability. The AEP Ohio distribution system is a large
16 system with more than 45,000 distribution line miles and approximately 470 distribution
17 substations. The reliability programs supported by these riders were identified as process
18 improvement programs that could benefit customers by improving distribution reliability
19 by specifically targeting issues that were impacting reliability. The ESRR and the
20 gridSMART® Riders established in ESP I have been in use for multiple years and are
21 achieving the expected results. The DIR and the Storm Damage Recovery Mechanism
22 were approved more recently in ESP II. These relatively new reliability programs and

1 the riders that provide cost recovery will also need to be in use for multiple years to have
2 a measureable impact on all distribution lines and distribution substations. These
3 programs and riders are a reasonable approach for achieving improved reliability and
4 sustaining the improvements over the long-term.

5 **Q. DO ANY OF THE PROGRAMS IDENTIFIED IN THE STRATEGIC**
6 **RELIABILITY PLAN SUPPORT STORM HARDENING OF THE**
7 **DISTRIBUTION SYSTEM?**

8 A. Absolutely. Each of the following programs contributes to the overall improvements
9 that support storm hardening of the distribution system. These contributions are
10 described as follows:

11 1. DIR – The DIR program supports the replacement of aging infrastructure and the
12 improvement of the reliability of the system. Assets that are often more than fifty years
13 old are replaced with modern equipment that takes advantage of robust design and
14 material standards that have evolved over the years. New distribution lines are stronger
15 and more resistant to loading due to wind or ice. As assets are replaced, consideration
16 may also be given to sensitive or critical facilities such as hospitals, fire and police
17 stations, and public works facilities to ensure the electric service to these facilities can be
18 restored quickly if an outage occurs.

19 2. ESRR – The ESRR program provides storm hardening by reducing the risk of tree
20 contact during storms. This program includes the widening of Rights-of-Way (ROW)
21 and the removal of danger trees, which reduces the risk of trees contacting lines during
22 weather related events.

1 3. gridSMART® Program – The gridSMART® Phase 2 program supports storm
2 hardening through the use of new technologies. The backbone of the gridSMART®
3 Phase 2 program is the communication infrastructure. The communication system is
4 developed with sufficient redundancy and protection to ensure continued service during
5 storm conditions. Through the use of the communication system, technologies such as
6 Distribution Automation Circuit Reconfiguration (“DACR”) can automatically isolate
7 faulted line sections and automatically restore the maximum number of customers
8 possible in the line sections that do not have a fault during a storm.

9 **Q. HOW IS A FOCUS ON RELIABILITY DIFFERENT THAN A FOCUS ON**
10 **SENSITIVE FACILITIES?**

11 A. Reliability focuses on improving performance of circuits or equipment regardless of the
12 type of service and/or customer. Sensitivity focuses on the type of service and/or
13 customer. These facilities provide emergency or critical services during storms, so these
14 facilities have the highest priority for restoration in the event of widespread and multiple
15 circuit outages. Additionally, the Company evaluates the reliability of the assets that
16 serve sensitive facilities to improve reliability.

17 **Q. IS AEP OHIO PROPOSING ANY MODIFICATIONS TO THE EXISTING**
18 **PROGRAMS AND RIDERS TO ALIGN THEM WITH CUSTOMER**
19 **EXPECTATIONS?**

20 A. Yes. The Company is proposing adjustments to three of the existing riders to align them
21 to the expected conditions during the term of the ESP III. The following is a summary of
22 the changes proposed for each rider:

1 1. DIR – Modify the DIR to include the General Plant accounts assigned to Distribution.
2 Company witness Moore discusses the proposed modifications.

3 2. gridSMART® Rider – Modify by moving the remaining gridSMART® Phase 1 costs
4 to the DIR and use the ESP III gridSMART® Rider to track gridSMART® Phase 2 costs
5 going forward. Also, modify the new gridSMART® Rider to include Volt/VAR
6 Optimization (VVO) costs, which were proposed in the gridSMART® application.
7 Company witness Moore discusses the proposed modifications.

8 3. Storm Damage Recovery Mechanism – Modify the Storm Damage Recovery
9 Mechanism to an annual true up as further discussed by Company witness Moore.

10 **Q. WHAT IS THE FORECAST FOR THE CAPITAL INVESTMENTS TO BE**
11 **INCLUDED IN THE DIR?**

12 A. The following table provides a summary of the forecasted capital investments that are
13 expected to be included in the DIR.

14 Table 1 - DIR 2015-2018 Capital Investment Forecast

(\$ Millions)				
Category	2015	2016	2017	2018
Asset Improvement	\$31.9	\$32.3	\$32.6	\$32.9
Customer Service	\$22.4	\$22.4	\$22.7	\$23.0
Forestry	\$3.9	\$3.9	\$3.9	\$3.9
General	\$2.2	\$3.5	\$26.4	\$25.7
Other	\$66.9	\$35.9	\$35.4	\$35.3
Planning Capacity	\$37.4	\$32.4	\$31.9	\$35.4
Reliability	\$71.9	\$79.0	\$77.1	\$77.5
System Restoration	\$5.3	\$5.4	\$5.5	\$5.5
Total Capital	\$241.9	\$214.8	\$235.5	\$239.2

1 **Q. PLEASE EXPLAIN EACH OF THE DIR CAPITAL PROJECT**
2 **CATEGORIES.**

3 A. The majority of capital projects completed by AEP Ohio can be classified under
4 one of eight general project categories. The “Other” category contains the projects
5 that do not fall under any of the other seven categories. Each year, AEP Ohio
6 completes thousands of projects of varying degrees of complexity and dollar value.
7 The DIR capital project categories are described as follows:

- 8 • *Asset Improvement:* Asset Improvement projects include replacement of
9 obsolete equipment and other aging infrastructure, but also include the
10 addition of new assets that support project such as gridSMART®. These
11 projects include both line and station equipment. This project category
12 also has a significant impact on reducing outages and improving
13 customer reliability.
- 14 • *Customer Service:* This category of projects supports new customer
15 facilities, meter installations and other customer requirements.
- 16 • *Forestry:* Forestry projects involve ROW widening and clearing ROW
17 for new lines. ROW widening continues to be an important initiative to
18 reduce tree contacts and fall-ins, which cause customer outages.
- 19 • *General:* General projects are projects completed through Shared
20 Services that benefit the entire Company. A portion of these projects are
21 allocated to Distribution. These projects are related to buildings,
22 communications, transportation and security.

- 1 • *Other:* These are projects that are different from the other project
2 categories and include miscellaneous projects or distribution projects
3 that support other business units.
- 4 • *Planning Capacity:* These projects add capacity to the system, which
5 include new line or stations, additions to existing facilities, and
6 replacing existing assets with higher capacity assets such as re-
7 conductoring an existing line with an increased conductor size to
8 increase capacity.
- 9 • *Reliability:* Reliability programs are specific programs that target
10 known reliability issues impacting groups of customers or whole circuits
11 experiencing reliability issues.
- 12 • *System Restoration:* These projects replace assets that have failed.
13 When system restoration projects have been completed, the failed assets
14 have been replaced and those assets have been restored to new
15 condition. Capital projects completed during storm restoration are
16 typical system restoration projects.

17 Capital investment is a key component in the strategy for maintaining the
18 distribution system and improving system reliability.

1 **Q. ARE THE CAPITAL FORECAST LEVELS IN TABLE 1 DIFFERENT THAN**
2 **THE LEVELS APPROVED IN ESP II?**

3 A. No. The actual distribution capital investment² in 2012 was approximately \$152 million.
4 Based on year-to-date actuals, the capital investment for 2013 is projected to be
5 approximately \$197 million. The capital forecast for 2014 is approximately \$231
6 million. The capital forecast for 2015 through 2018 in Table 1 without the General Plant
7 is within the same range as the projected 2013 and 2014 spend levels. The capital
8 forecast for 2015 through 2018 is consistent with the current Commission approved
9 revenue caps for the existing DIR approved for ESP II, which are explained by Company
10 witness Moore.

11 **Q. WHY DOES THE GENERAL CATEGORY INCREASE APPROXIMATELY**
12 **\$23 MILLION IN 2017?**

13 A. In 2017, the Company will begin the replacement of the 800 MHz radio system. The
14 radio system is a critical system that supports the day-to-day communications of AEP
15 Ohio. The radio system is used to support field communication, dispatching, remote
16 equipment interrogation, global positioning satellite ("GPS") communications, service
17 restoration and remote meter reading. The current radio system was installed in the early
18 1990's, and although still functional, has become obsolete. The radio system is
19 overloaded, radio failure rates are increasing, and it has become difficult to purchase
20 replacement parts for repairs.

²The capital investment for 2015 – 2018 as referenced in this Q&A does not include the General Plant Accounts in order to provide an apples-to-apples comparison to the 2012 – 2014 time periods.

1 **Q. WHAT IS THE FORECAST FOR THE ESRR PROGRAM?**

2 A. In Table 2, a summary is provided for the O&M expenses and capital costs expected to
3 be recovered through the ESRR for the duration of ESP III. The base capital costs
4 associated with the Forestry Program are recovered through base distribution rates while
5 incremental capital is recovered through the ESRR.

6 Table 2 – ESRR 2015-2018 Forecast

(\$ Millions)				
Period	2015	2016	2017	2018
O&M	\$25.0	\$25.0	\$25.0	\$26.3
Capital	\$1.0	\$1.0	\$1.0	\$1.1

7

8 The above table provides an updated forecast based on current knowledge. The
9 increase in O&M is primarily due to increased fuel and labor costs and the availability of
10 actual historical data for developing the estimates. The use of actual historical data
11 specific to the attainment of a 4-year trim cycle provides improved forecasting.

12 **Q. WHAT IS THE FORECAST FOR THE gridSMART® PHASE 2 PROGRAM?**

13 A. The details of the projected gridSMART® Phase 2 costs were provided in Case No. 13-
14 1939-EL-RDR. The outcome of this case will determine the approved funding levels
15 and the future annual forecast costs for the program.

16 **Q. DO THE FORECASTED DOLLARS REPRESENT A FIRM SPENDING**
17 **OBLIGATION?**

18 A. No. A long-term forecast spanning multiple years is based on historic spending levels,
19 expected conditions in the future, and the work plan as currently identified in the long-
20 term strategic plan. A long-term forecast can change based on a number of factors

1 including the evolution of work plans, changing priorities, the availability of resources or
2 an unexpected major storm that diverts resources.

3 **Q. ARE THE FORECASTED COSTS FOR EACH OF THE RIDERS**
4 **REASONABLE FOR THE WORK AND SERVICES TO BE PERFORMED?**

5 A. Yes. The costs recovered through the riders are reasonable for the work and services to
6 be performed. The rider costs are no different from other costs incurred through the
7 normal operation of the Company. The riders simply provide a mechanism to quickly
8 and efficiently recover the costs that will lead to sustained activities to improve
9 reliability. Actual costs are trued-up, and then audited by the Commission Staff.

10 **Q. HOW WILL AEP OHIO ENSURE THERE WILL BE NO DOUBLE**
11 **RECOVERY OF O&M EXPENSES OR CAPITAL COSTS?**

12 A. O&M Expenses and Capital costs associated with specific riders are assigned special
13 accounting codes to ensure those costs are tracked and recovered through the rider. The
14 special accounting codes associated with a specific rider also ensure those costs can be
15 identified to receive specific accounting treatment that is required by the terms of the
16 rider.

17 **Q. WILL AEP OHIO CONTINUE THE CURRENT REPORTING MECHANISMS**
18 **REQUIRED BY THE EXISTING RIDERS?**

19 A. Yes. The Company welcomes the opportunity to work with Staff to ensure the
20 requirements of the riders are being met and the expected results are being achieved to
21 benefit customers.

1 **SUSTAINED AND SKILLED WORKFORCE RIDER**

2 **Q. WHAT IS THE SSWR BEING PROPOSED BY THE COMPANY?**

3 A. As indicated in the “Purpose of Testimony”, the Company is proposing a new SSWR to
4 be included with the existing suite of riders and mechanism that supports the Company’s
5 comprehensive strategy for long-term improved reliability. The purpose of the SSWR is
6 to provide a mechanism to recover the incremental O&M labor cost to address the
7 projected shortfall of internal labor resources, both in front-line construction and
8 construction support, required to execute the infrastructure investment.

9 **Q. WHY ARE ADDITIONAL POSITIONS NEEDED TO SUPPORT THE**
10 **COMPREHENSIVE RELIABILITY PLAN?**

11 A. In developing a long-term strategy for improved reliability, it is necessary to
12 continuously evaluate the resources that are needed to support the execution of the
13 infrastructure investment plan. There are two specific issues the Company needs to
14 address going forward: The first issue is the addition of labor resources needed to
15 support the future work requirements. The second issue is the need to achieve an
16 optimal balance of workforce labor resources, which will consist of internal Company
17 employees and external contract employees. See Table 3 for the expected number of full
18 time equivalent (FTE) employees needed to support the future work requirements.

Table 3 – SSWR Employee Complement Forecast

AEP Ohio – Employee and Contractor Complement					
Period	2014	2015	2016	2017	2018
Line Dept. FTEs	578	584	564	570	561
Retire/Replace FTEs	10	4	24	18	27
Const. Contractor FTEs	400	450	500	550	550
SSWR FTEs	0	50	100	150	150
Total	988	1,088	1,188	1,288	1,288
Line Dept Employees – Includes Lineman A-D, Line Servicers, Line Crew Supervisors, and Line Supervisor of Distribution System (“SDS’s”).					

1 As the Company evaluates the current level of internal labor, it is clear additional
2 field employees will be required to execute the infrastructure investment plan. It takes
3 approximately five years to train a new company employee from a line, meter, or
4 substation mechanic from the apprentice level to the journeyman level. The five-year
5 development cycle requires an appropriate hiring plan to assure sustainable and skilled
6 labor resources are available to perform the expected work. As indicated previously in
7 my testimony, improving reliability requires a long-term strategy with multiple,
8 coordinated activities on varied fronts, labor included.

9 Currently, a portion of the workforce labor resources comes from the use of
10 contractors or other sources of external labor. Some of the required workforce labor is
11 internal employees supplied from within the Company. The Company needs additional
12 Company employees to support the increased level of contractors or to displace or offset
13 the labor supplied by the contractors. The proposed Sustained and Skilled Workforce
14 Program will address the Company’s labor strategy, which is to increase the level of
15 Company employees while ultimately reducing the reliance on contract labor.

1 **Q. HOW DO THE FTE LEVELS IN TABLE 3 COMPARE WITH THE CURRENT**
2 **EMPLOYEE AND CONTRACTOR COMPLEMENT?**

3 A. The current Company employee complement for the Line Department is approximately
4 588 FTEs. The number of contract employees varies with work demands, so the current
5 complement of internal and contract employees are similar to the levels beginning in
6 2014.

7 **Q. WHY CAN'T YOU CONTINUE TO RELY ON CONTRACTORS AND**
8 **EXTERNAL RESOURCES TO PERFORM INFRASTRUCTURE**
9 **INVESTMENT INSTEAD OF HIRING INCREMENTAL INTERNAL**
10 **EMPLOYEES?**

11 A. Workforce labor augmentation with contractors and external resources will continue to
12 be part of the Company's overall labor strategy. However, too much reliance on
13 contractors engaged in non-storm recovery activities has proved to carry an increased
14 risk when it comes to labor availability. For example, we've experienced several
15 instances in which entire contractor crews, individually or in a region, have gone absent
16 without permission because they claimed they could earn more money performing work
17 in other parts of the country. The transient nature of contractors makes planning and
18 execution of our reliability programs difficult, and has the potential to increase cost due
19 to supply and demand of qualified line personnel throughout the country.

20 **Q. HOW MUCH HAS YOUR RELIANCE ON CONTRACTOR WORK**
21 **AUGMENTATION CHANGED SINCE THE START OF THE**
22 **INFRASTRUCTURE INVESTMENT PLAN?**

1 A. In December 2012, the Company contracted infrastructure investment work to
2 approximately 25 contractor crews, which is equivalent to approximately 100 FTE
3 employees. By May 2013, the Company had approximately 105 contractor crews or 420
4 FTEs. During July 2013, the Company could only obtain approximately 86 contractor
5 crews or 344 FTEs. In November 2013, the Company had approximately 124 contractor
6 crews or 496 FTEs. See Table 4 for a summary of the variation in the number of crews
7 between May and November, 2013.

8 Table 4 – Approximate Number of Contract Crews and FTEs

AEP Ohio – Approximate Contract Crews and FTEs				
Construction Contractors	Dec 2012	May 2013	Jul 2013	Nov 2013
Crews	25	105	86	124
FTEs	100	420	344	496

9
10 During this period from May to November, the Company peaked at utilizing
11 approximately 124 contractor crews or 496 FTEs. The variability of available contractor
12 resources during this period is a result of a constrained labor market. Contractor firms
13 were unable to meet AEP Ohio's demand for skilled and safe personnel. In my opinion,
14 the contractor labor market is not predictable and therefore, necessitates a Company
15 labor strategy that assures internal employees are available to meet the business needs.

16 **Q. HOW MANY INTERNAL AEP OHIO EMPLOYEES ARE YOU PROPOSING**
17 **TO HIRE AND OVER HOW LONG A PERIOD OF TIME?**

18 A. As previously mentioned, it requires approximately five years of training to advance
19 from an entry level apprentice to a skilled level journeyman. When you couple this
20 reality with an unstable contractor workforce, the obvious conclusion is that AEP Ohio

1 must begin the hiring process now. The proposal is to increase the current internal AEP
2 Ohio employees by 150 FTEs over a three year period. The plan is to hire 50 FTEs in
3 2015, 50 FTEs in 2016, and another 50 FTEs in 2017. This systematic and structured
4 hiring process will allow for a smooth transition for adding new employees.

5 **Q. WILL AEP OHIO ACTIVELY CONSIDER THE EMPLOYMENT OF**
6 **QUALIFIED VETERANS WHEN FILLING THE NEW SUSTAINED AND**
7 **SKILLED WORKFORCE PROGRAM POSITIONS?**

8 A. Yes. AEP Ohio proudly recognizes the sacrifices and contributions of our country's
9 veterans and the valuable work experience veterans can contribute to the workforce. The
10 Company will work with state agencies to identify qualified veterans to include in the
11 candidate pool during the process for selecting new employees for these positions.

12 **Q. WHAT COSTS ASSOCIATED WITH HIRING NEW EMPLOYEES ARE YOU**
13 **PROPOSING BE RECOVERED THROUGH THE SSWR?**

14 A. Only O&M costs associated with the 150 new employees are being proposed to be
15 collected through the SSWR. Typically, a construction line mechanic allocates time
16 incurred between actual time spent on construction work (capitalized costs) and other
17 non-construction required job duties, such as safety training. The ratio of construction
18 line mechanics' labor capitalized versus expenses (O&M) varies depending on the
19 individual employees' skill level – apprentice employees will spend slightly more time
20 training to learning complex skills – within a range of 15% to 40% O&M versus 85% to
21 60% capital. The proposal is to recover only the O&M expenses associated with these

new employees through the SSWR. Their associated capital construction costs will get recovered through the existing DIR mechanism.

Q. WHAT IS THE FORECAST FOR THE SSWR PROGRAM?

A. Table 5 provides a forecast for the proposed SSWR Program that will be spent through the SSWR during the period of ESP III.

Table 5 – SSWR June 2015- December 2018Forecast

(\$ Millions)				
Period	2015	2016	2017	2018
O&M	\$1.6	\$4.9	\$7.7	\$8.0

The SSWR Program O&M forecast supports the increase in Company employees proposed in Table 3.

Q. HOW WILL THESE NEW POSITIONS PROVIDE LONG-TERM BENEFITS TO CUSTOMERS?

A. As previously stated, these positions will be an integral component in the long-term strategy to support the suite of distribution reliability programs. These positions will also be available to respond to emergency work associated with storms and equipment failures, but most importantly, the additional positions will help the Company achieve the necessary labor resource balance. The work associated with the implementation of a comprehensive distribution reliability strategy is expected to improve long-term customer benefits with improved electric service.

Q. WILL THESE NEW POSITIONS BE PERMANENT?

A. Yes. The positions associated with the Sustained and Skilled Workforce Program are intended to be permanent. In the future, the O&M cost of these positions will be

1 recovered in the distribution base rates. As individuals in these positions become fully
2 trained, more of their time will be applied toward capital projects, which will be
3 recovered through the DIR.

4 **SUMMARY AND CONCLUSION**

5 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

6 A. AEP Ohio is committed to improving customer reliability, and has developed a
7 long-term strategy that includes a suite of distribution reliability programs and
8 associated riders as a reasonable approach to implement and sustain reliability
9 improvements. The riders do not increase the cost of performing targeted
10 reliability activities, but serve as a mechanism to recover prudently incurred costs.
11 This streamline recovery process allows the Company to maintain a focus on
12 improving distribution reliability and meeting customer expectations.

13 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

14 A. Yes.

Q15B. Still thinking about your expectations related to having reliable electric service provided to your residence/business, how do you think your expectations will change over the next five years? Do you think your expectations regarding service reliability will...?

Residential

Q15B: Future change in expect.		Wave		
		Wave 1 (A)	Wave 2 (B)	Total
Decrease significantly	Count	3	4	7
	Col %	1.5%	2.0%	1.8%
Decrease somewhat	Count	10	11	21
	Col %	5.0%	5.5%	5.3%
Stay about the same	Count	143	136	279
	Col %	71.5%	68.0%	69.8%
Increase somewhat	Count	28	24	52
	Col %	14.0%	12.0%	13.0%
Increase significantly	Count	10	13	23
	Col %	5.0%	6.5%	5.8%
Don't know	Count	5	11	16
	Col %	2.5%	5.5%	4.0%
Prefer not to answer	Count	1	1	2
	Col %	0.5%	0.5%	0.5%
Total		200	200	400

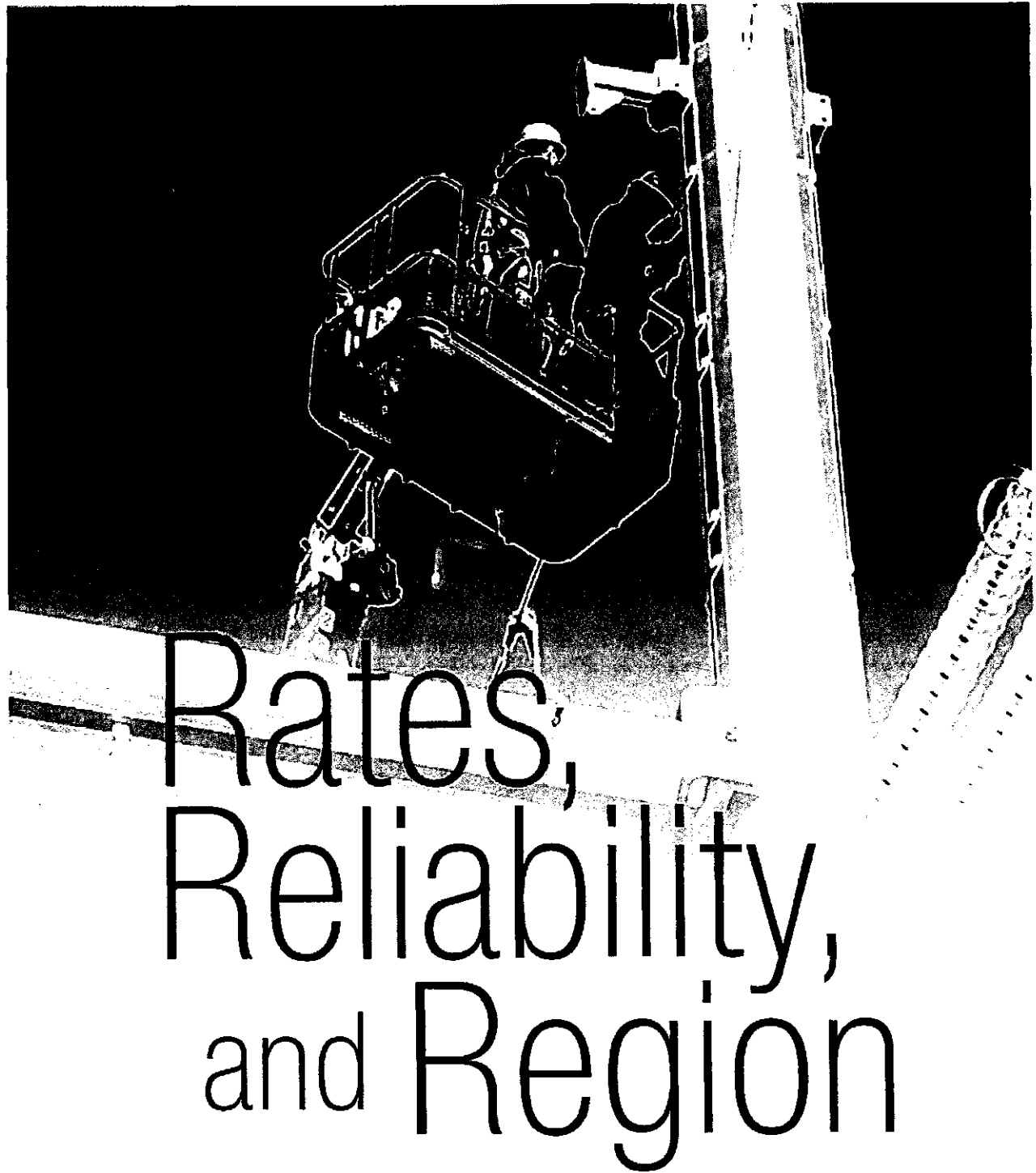
Small C/I

Q15B: Future change in expect.		Wave		
		Wave 1 (A)	Wave 2 (B)	Total
Decrease significantly	Count	1	2	3
	Col %	0.7%	0.8%	0.8%
Decrease somewhat	Count	4	7	11
	Col %	2.7%	2.8%	2.8%
Stay about the same	Count	111	192	303
	Col %	74.0%	76.8%	75.8%

Increase somewhat	Count	27	32	59
	Col %	18.0%	12.8%	14.8%
Increase significantly	Count	2	13	12
	Col %	1.3%	4.0%	3.0%
Don't know	Count	5	7	12
	Col %	3.3%	2.8%	3.0%
Total		150	250	400

Methodology Notes:

- The results in this summary are based on telephone interviews conducted with n=400 Residential households and n=400 Small C/I businesses in AEP Ohio's service area within the State of Ohio.
- The interviews were conducted over two waves in 2012 with the Wave 1 surveys conducted between March 16 and April 3, 2012 (Residential n=200; Small C/I n=150) and the Wave 2 surveys being conducted between October 1 and October 18, 2012 (Residential n=200; Small C/I n=250).
- Randomized sample of active Residential and Small C/I customers was provided by AEP. For Residential, both landline *and* cell phone contact records were included in the survey sample population. The characteristics of the survey populations are provided in the detailed results in this summary.
- The target respondent was the head of household and energy decision maker for Residential and the person most familiar with how electricity is used and with day-to-day electric operations in the business or organization for Small C/I.



Rates, Reliability, and Region

Customer satisfaction and electric utilities.

BY WILLIAM P. ZARAKAS, PHILIP Q HANSER, AND KENT DIEP



It's no surprise that customer satisfaction is increasingly important to retail electric utilities. Satisfying customers was important during the old days of utility regulation, when utility customers had little if any choice concerning their electricity supplier. It's even more important today, when customers can invest in equipment to bypass the grid in whole or in part, and it will inevitably be more pronounced in the future, when distributed generation options become more widespread and affordable.

The Brattle Group's recent research on customer satisfaction, based largely on an empirical analysis, studied the relationships across a data set that included: measures of customer satisfaction, indicators of electric system reliability, and utility cost structures as well as system characteristic and demographic variables. This analysis confirmed some of the views that have been widely held by utility managers, but which were based more on a sense of conventional wisdom than backed up by the data. It provided a few surprises as well, which are important to take into account as utilities brace for mounting competition in retail markets and develop strategies to enhance satisfaction among their customers.

Defining Satisfaction

Customer satisfaction largely depends on whether a company's products or services fulfill a customer's expectations—i.e., whether it meets, exceeds, or falls short. Quantifying customer satisfaction involves accumulating specific customer perceptions, measured through surveys—typically using a 5- or 10-point scale, ranging from “extremely dissatisfied” to “extremely satisfied”—that are presented at various levels of aggregation.¹

It's fairly common practice for companies to survey customers in order to understand how customers perceive the service they receive; it's even more widespread in recent years with the evolution of Internet and app-based survey instruments. Surveys frequently pay significant attention to non-price dimensions, especially in price-competitive environments—such as airlines and retail banking—as companies look for ways to differentiate themselves against competitors.

Historically, electric utilities haven't been directly subject to price competition for electric products due to geographic franchise arrangements—although cross-fuel competition in many areas could be quite fierce. It could be argued that, with nowhere else to turn, customers had few alternatives to their local utility, thereby reducing the importance to utility management of satisfied customers. However, even the most short-sighted utility managers recognized that satisfying customers was important and that it needed to be included as an element of business strategy. For one reason, state regulatory commissions typically required utilities under their jurisdiction to conduct customer satisfaction surveys—which were taken into account in rate and other proceedings. For another, bond and equity analysts also looked

Customers might forgive their utility if rates go up, as long as they perceive service is improving or at least consistently reliable.

at current and projected rates, as well as other customer issues when rating investments in electric utilities.

Currently, the threat of losing customers due to increased competition and potential bypass of the electric distribution system through distrib-

uted generation is driving electric utilities' interest in customer satisfaction. Investment in utility infrastructure is projected to increase as growth in sales is declining; at the same time, alternatives to the electric grid are becoming more widespread and cost competitive. Also, the rates for delivering electric power are almost always volume-based, which means that defections of customers can have a large impact on unit rates. As a result, attracting and retaining customers to keep prices affordable is more important than ever.

Another development that has brought utility customer satisfaction to the forefront is the use of benchmarking studies, which compare levels of customer satisfaction across utilities. High scores in benchmarking studies can show that utilities are recognized by their customers as being the best in class. This notion of comparing levels of customer satisfaction across utilities can be perplexing to many utility managers. Utilities typically serve all of the retail customers in a defined geographic area on an exclusive basis; some residential—as well as small commercial—customers reside in the same utility service area for all of their lives. This means that customers aren't necessarily in a position to directly compare their utility's performance against other utilities, as they would be able to rank their experiences with banks or gas stations. That is, they might not know how good or bad they have it. Nonetheless, utility customers certainly have views about the quality and value of electric services, which

1. The most common scales used to measure customer satisfaction are classical “Likert” scales, which describe the range of possible attitudes from “very dissatisfied” to “very satisfied” using numeric values.

William P. Zarakas and Philip Q. Hanser are Principals with *The Brattle Group*. **Kent Diep** is a Research Analyst at *The Brattle Group*.

FIG. 1 SUMMARY OF VARIABLES INCLUDED IN EMPIRICAL ANALYSIS

SAIDI, SAIFI, and CAIDI are widely used measures of electric distribution system reliability. SAIDI = System Average Interruption Duration Index, which measures the average number of minutes that interruptions last each year (or period of review). SAIFI = System Average Interruption Frequency Index and measures the average number of times customers are interrupted in a year (or period of review). CAIDI = Customer Average Interruption Duration Index which measures the average outage duration experienced by any affected customer. CAIDI = SAIDI / SAIFI.

Variable	Form
Customer satisfaction	Annual J.D. Power score (residential customer survey)
Reliability (SAIDI, SAIFI, CAIDI)	SAIDI, SAIFI, and CAIDI, measured including and excluding major events.
Price	Annual average residential revenue per kWh
Capital investment in distribution system	Annual net capital additions
Distribution system O&M expenditures	Annual spending per kWh
Customer service O&M expenditures	Annual spending per kWh
Service area density	Population per square mile
Geographic location	Utilities assigned to NE, SE, Midwest, NW, or SW regions

are voiced, sometimes vociferously, and best-in-class comparisons have become an embedded part of grading companies.

As a result, utilities have expended considerable effort to understand the drivers of high customer satisfaction ratings, and have undertaken initiatives to improve their scores. They have enhanced their staffs, implemented new information systems, and retained experts to help them strengthen their relationships with customers. Many of their initiatives were borrowed from the best practices of customer-facing industries, including development of user-friendly web interfaces, investment in state of the art customer care centers, and training to make employees more empathetic to the plights of their customers. Other initiatives were more specific to electric utility operations, notably enhancing the electric distribution system in order to provide more reliable service. Finally, and certainly not least, numerous utilities have focused on reducing their cost structures in order to demonstrate to customers that they are delivering as much value per dollar as possible.

Most of the above referenced initiatives—except, of course, for the cost-reduction initiatives—can be expensive. Thus, utility managers and budgeters frequently seek to trade-off between costs and benefits; that is, to target the initiative that will provide the biggest bang—or increase in customer satisfaction—for the buck. In some cases, the answer might be obvious, but in most cases, it tends to be more elusive. This is because there are a number of factors at work. One utility might improve its standing among its customers by upgrading its distribution system, while another might do better by improving its customer interfaces or customizing marketing programs for a segment of particularly concerned customers. The conventional wisdom—*i.e.*, delivering highly

reliable electric service at a low price—might provide good overall direction, but it doesn't provide an actionable plan for addressing customer satisfaction at any particular utility.

Industry Benchmarks

Perhaps the most widely-known benchmark of customer satisfaction comes from J.D. Power and Associates, which surveys customers in a variety of industries and develops scores for the participating companies. For the electric utility industry, customer satisfaction scores were developed for nearly 125 public utilities—*i.e.*, municipals and cooperatives—and investor owned electric utilities.² Many utilities also survey their customers on their own, the results of which are treated confi-

dentially. The J.D. Power survey is one of the only instruments that compares utilities' customer satisfaction on a consistent basis and is publicly available.

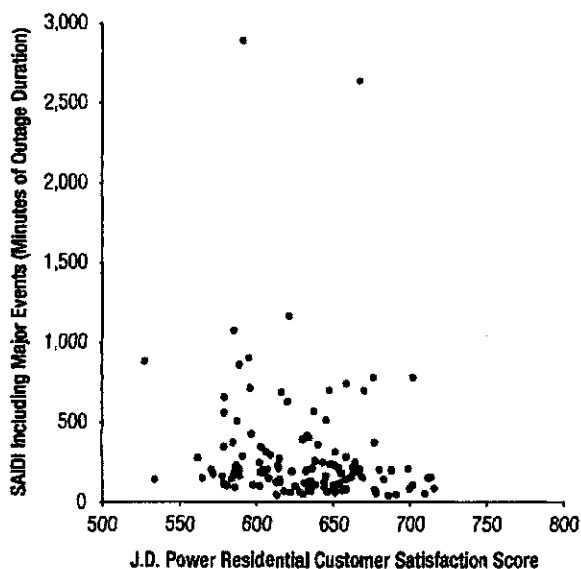
J.D. Power produces an annual report that provides a ranking of the utilities included in the study,³ summarizes the results, and provides insight into the trends in utility customer satisfaction scores. For example, a series of storms in 2011 appears to have had a significant effect on customer satisfaction, specifically with respect to power quality and reliability as well as communications related to outage restorations. In some cases, utilities might be able to act almost immediately on study findings. However, in many cases—such as improving levels of power quality and reliability, which might require construction, development, and implementation of new systems—addressing problem circumstances can take years to effectuate. Further, it can take some time—perhaps years—for customers to fully realize the effects of hard or soft system enhancements, especially since customers tend to notice the bumps in the road more than when their service is being provided smoothly.

Utilities have long puzzled about the levers of customer satisfaction. Specifically, they face the classic balancing act between cost and quality. They can engineer a bullet-proof distribution

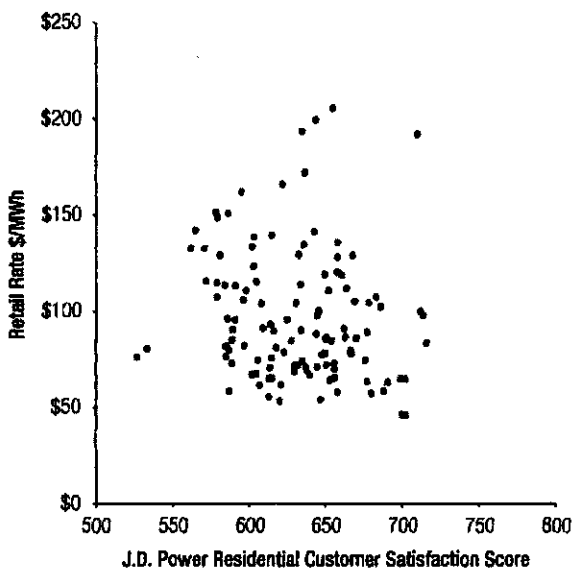
2. The most recent J.D. Power survey included a panel of 124 electric utilities, 85 of which were investor-owned and 39 were non-investor-owned utilities. The panel was smaller in 2006 and 2007, with roughly 80 public and investor owned electric utilities. Residential customer satisfaction is developed on a 1,000-point scale. In 2012, the average score among the electric utilities included in the study was 625.
3. J.D. Power also provides awards to the top performers in several categories, including those based on size and geographic region.

FIG. 2 SAIDI VS. CUSTOMER SATISFACTION

SAIDI including major events vs. J.D. Power residential customer satisfaction score.

**FIG. 3 RATES VS. CUSTOMER SATISFACTION**

Retail rate (\$/MWh) vs. J.D. Power residential customer satisfaction score.



system that would deliver very high levels of reliability regardless of the many perils it faces—including ice storms, hurricanes, errant drivers, and even the potential damages of squirrels and birds—but it would likely come at a very high cost, especially if such hardening included undergrounding a significant percentage of their distribution systems. Thus, utilities have long sought an algorithm that illuminates the customer trade-off of price versus quality of service. Further, they're interested in whether other levers, such as investment in customer service systems and customized product offerings, might better fulfill their customers' expectations.

The Brattle Group's analysis seeks to confirm or refute the views widely held by utility managers concerning the key factors that determine customer satisfaction. It compiled a data set that covers utility performance (e.g., financial, system operations and customer satisfaction scores), levels of investment, operations and maintenance expenditures, and demographic characteristics (primarily concerning geography and customer density) for a panel of roughly 30 investor-owned electric utilities located throughout the United States, covering a period of six years.⁴ The primary factors considered in the analysis are summarized in Figure 1.

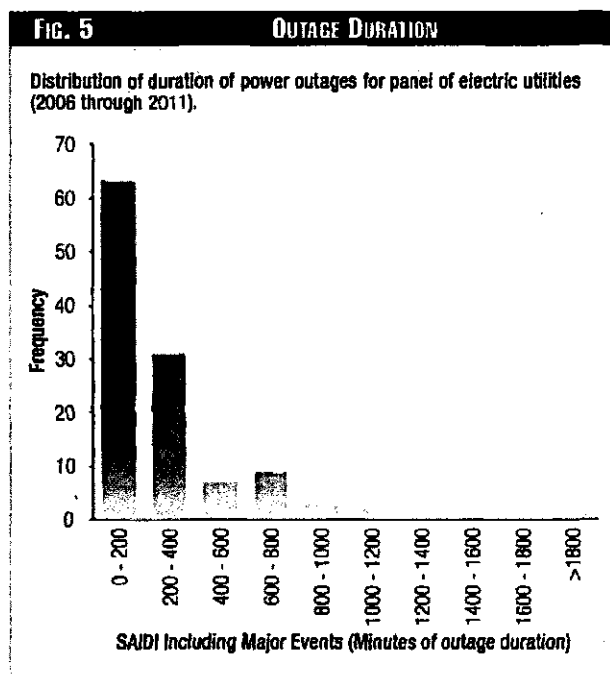
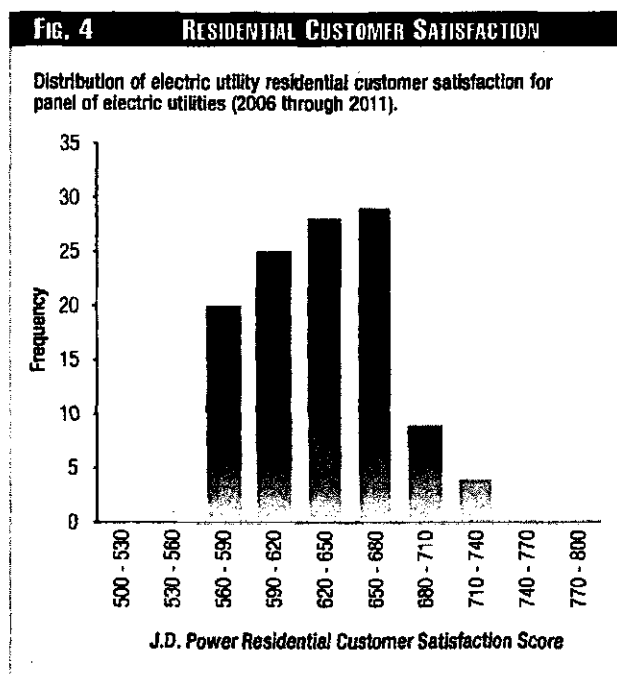
Based on common utility wisdom, a quick look at these data

might be expected to show directly observable relationships between customer satisfaction and the various explanatory variables summarized above. For example, an electric utility that consistently invested in and maintained its distribution systems—as evidenced by above average levels of spending—might be expected to realize high levels of reliability. And if that same utility also had invested and maintained customer service systems and had low rates, it would achieve high customer satisfaction results. Finally, those relationships could be stretched into a matrix or algorithm, through which utility managers could manage their way to strong customer satisfaction. For example, perhaps they could spend a little less on, say, distribution infrastructure per year, in order to keep rates down without triggering noticeable levels of system degradation, with the overall result of happier customers.

All of this seems to make sense. However, as shown in Figures 1 and 2, scatter plots of any two variables don't present any clear pictures. Part of the explanation for this might lie in the complexity among relationships. Few if any utilities simultaneously achieve the combinations of spending, reliability, and rates to clearly make the case.

Figures 2 and 3 depict the relationships between customer satisfaction scores with reliability and price, respectively—both hypothesized to be important explanatory variables of customer satisfaction. These scatter plots indicate that the majority of observations fall within a fairly tight range. However, fitting a trend line within the scatter would be challenging at best. Furthermore, scatter plots of two variables at a time—i.e., customer satisfaction scores versus a single independent variable—don't begin to explain the relative significance of a single explanatory

4. In addition to the customer satisfaction scores from J.D. Power, data included in this analysis come from several sources, primarily Form 1 reports filed by electric utilities to the Federal Energy Regulatory Commission (FERC) and from reliability reports made public by state regulatory commissions or from electric utilities themselves. Not all utilities have publicly available information concerning customer satisfaction scores or consistent reliability indicators. Thus, the size of the data set is limited by the public availability of consistent data.



variable compared to other such variables.

Interpreting Empirical Analysis

A review of the data included in the set confirmed definite differences across utilities concerning customer satisfaction scores as well as some of the key variables that might explain it—such as the extent of power outages. Figures 4 and 5 illustrate the distribution of J.D. Power customer satisfaction scores (based on surveys of residential electric customers) and the duration of power outages (SAIDI measured including major events) for the utilities included in the panel.

The figures indicate that these data tend to be fairly tightly distributed, which means that differences across utilities might not be directly observable through a graphic or visual inspection. They also indicate that explaining the determinants of customer satisfaction might require expressing some of the dependent variables in natural log form.⁵

A regression analysis confirmed much of the conventional wisdom concerning customer satisfaction and also provided a few additional insights as to causation.⁶ This analysis used utility customer satisfaction score as the dependent variable, with

independent variables including: price, reliability, spending on distribution systems, spending on customer service, the density of population in the utility's service area, and the U.S. geographic region where the utility is located.

A summary of results is included in Figure 6. The key findings fall into four areas. First, the analysis indicated that, indeed, system reliability—as measured by the duration of service interruptions, their frequency, or both—significantly explains customer satisfaction scores. Furthermore, a separate but related regression showed that spending by utilities on their distribution systems was significantly correlated with achieved levels of reliability. This confirms general understanding of the cycle and effect of utility investment and operations and maintenance spending: achieving high levels of reliability requires consistent investment and spending.

Second, the analysis showed that rates—as measured by average residential revenue per kWh—play a significant role in explaining why customers rank utilities at a high or low level with respect to customer satisfaction. However, rate levels are less of a determinant than system reliability. In order to make the customer satisfaction scores more meaningful, the analysis standardized the customer satisfaction variable,⁷ which allowed more directly comparing the effect that independent variables have upon the dependent variable. As indicated in Figure 6, improvements in reliability could increase customer satisfac-

5. It is clear that SAIDI scores are asymmetrically distributed, and appear to be approximate a log normal distribution. This means that we can change the form of SAIDI to log normal—or $\ln(\text{SAIDI})$ —to better express its distribution in a regression analysis.

6. Regression analyses—assuming that the results are statistically significant—provide an indication of the importance of an independent variable in explaining changes in the dependent variable. As a general practice, the results of a regression are summarized by displaying the coefficient of the independent variables considered, as well as indicating the degree to which those variables are statistically significant (as measured by t-scores).

7. Standardizing a variable involves centering it about the sample's mean value and dividing it by the sample's standard deviation. This yields a customer satisfaction variable that is measured relative to the panel of observations (i.e., not in absolute terms).

tion scores by roughly 0.23 standard deviations from the mean, while a slight decrease in rates would improve scores by less than 0.01 standard deviations. This suggests that, for the panel overall, customers might forgive their utility if rates go up, as long as they perceive that the service they receive is improving or at least consistently reliable.

Third, geography and locations provide statistically significant explanations of customer satisfaction scores. In fact, the regression analysis indicated that the single biggest impact on overall customer satisfaction scores comes from geographic variables—which was a somewhat unexpected finding.⁸ Specifically, utilities in the Northeastern U.S. are statistically at a disadvantage compared to utilities located elsewhere in the U.S. when customers rate their levels of satisfaction. The coefficient for utilities in the Northeast is statistically insignificant—i.e., it's essentially zero—while the coefficients for all other regions are positive and statistically significant. That suggests an unfortunate locational distinction for Northeastern

utilities. Comparatively, they're starting at ground zero and need to work their way up from there, whereas utilities in the other parts of the country begin above the mean. It's possible that this geographic effect reflects cultural pre-dispositions; it also might be the result of cross-correlations with storm-related service interruptions.

Somewhat related to geography, the analysis showed that population density of a utility's service area—i.e., a proxy for how many customers are served per mile of utility distribution system—is another statistically significant explanatory factor and positively associated with customer satisfaction. However the effect of the density of the distribution system upon customer satisfaction scores is less than the impact stemming from geographic location.

Finally, electric utility spending on their customer service functions is statistically significant, but explains little. This came as a surprise in light of recent findings associated with

FIG. 6 SUMMARY OF REGRESSION RESULTS

In regression analysis, variables are tested to find how they explain the data considered. For each variable, the results provide a coefficient that reflects the strength of the relationship. For example, a large negative coefficient value for an independent variable (e.g., reliability) would mean the variable has a large negative effect on the dependent variable (e.g., J.D. Power Customer Satisfaction Score). That is, poor reliability leads to a low J.D. Power score. Looking at this alone, though, doesn't indicate how significant the dependent variable is in explaining the independent variable. To indicate the level of statistical significance, several statistical tests can be performed. The "t-score" is one such test, showing departure from the norm. Figure 6 summarizes the statistical significance of the variables by placing * for different levels of significance; t-scores higher or lower than the indicated level are either more or less statistically significant.

Variable	Coefficient	t-score
<i>J.D. Power residential customer satisfaction score</i>		
Customer service expenses	0.0920	1.25
Distribution expenses	0.0794	1.38
SAIDI including major events	-0.2265	-2.17**
Population and area	0.0001	1.99**
Retail rate	-0.0087	-2.02**
Net investment in distribution	-0.0017	-1.36
<i>Regions</i>		
Northwest	2.5830	4.25***
Southwest	2.1967	3.73***
Northeast	0.6918	1.12
Southeast	2.5193	3.96***
Midwest	1.8697	2.85***

*** Statistically significant at 1 percent.
 ** Statistically significant at 5 percent.
 * Statistically significant at 10 percent.

reviews of utility performance in response to last year's storms in the Mid-Atlantic and Northeast. Those studies found that customer frustration was tied to poor communications by utilities, frequently more so than to physical restoration efforts and results. Thus, those utilities that spent more on their customer service functions—in the form of system upgrades and other resources—would be expected to have happier customers.

This part of the regression results likely reflect data and measurement issues more than it supports a finding that spending on customer service doesn't matter. The variable included in the regression simply captures dollars spent per customer and per kWh of sales. It might be fair to infer that higher levels of spending on customer service can be associated with more sophisticated systems. However, it doesn't necessarily mean that those utilities have better communications with their customers—especially during crucial events.⁹

8. The analysis used "dummy" variables through which the electric utilities included in the panel were assigned to the Northeast, Southeast, Midwest, Southwest or Northwest.

9. The analysis also considered lagging the customer service variable—e.g., t-1, t-2, etc.—which captured the impact of past spending have on current levels of customer satisfaction. Results for the lagged variable were similar to the results for the contemporaneous variable.

Analysis in Practice

At its highest level, this analysis confirms the primary suppositions underlying why some utilities succeed in achieving high customer satisfaction ratings. It supports the logical hypothesis that good service—*i.e.*, high levels of reliability, or low SAIDI—combined with low prices are key to satisfying customers.

Clearly there's merit in developing empirical support for what common sense tells us must be so. However, the finding above is a prescription that can be applied to virtually any business; by itself, it provides little actionable direction to improve a utility's customer satisfaction rating. In practice, recommending that utilities keep service levels up and prices down is about as useful as advising a stock broker to buy low and sell high.

The primary goal in conducting this research and analysis is to use it to develop actionable recommendations for electric utility managers.¹⁰ The analysis provides three key insights that can be used by utilities to improve customer satisfaction scores.

First, all customers expect reliable electric service at the lowest prices possible. Meeting this expectation requires system-wide investments and initiatives. Comparatively reliable service and reasonably priced delivery services, then, become the common denominators that electric utilities must provide in order to satisfy customers and regulators overall. This will satisfy a segment of customers; however, going above and beyond this foundation level of service must be addressed on an incremental basis.

Second, location matters. This means that customer needs and expectations vary across geographies, even among utilities with similar levels of reliability and rates. It also suggests that best practices—aimed at improving customer satisfaction scores—aren't always portable. On first blush, the analysis might appear to indicate that some drivers of customer satisfaction are beyond the control of the utility. However, that doesn't mean utilities in the Northeast should succumb to despair. Instead, it suggests that utilities have to proactively address these disconnects with their customers through additional customer research and analysis and more effective communications and interactions.

Third, recognizing variances might be more important than understanding averages. The regression analysis estimated variances and standard deviations across the panel of utilities. Likewise, customer preferences vary within utilities. While it's possible to find the mix of cost and service that will generally satisfy customers at a common denominator level, there's probably room to meet the expectations of a sub-segment of customers that are looking for higher levels of service. For example, a sub-set of the overall residential customer segment is interested in realizing

10. More so than incorporating our research into the academic literature. In order to be seriously considered among academic economists, the analysis will need to be fortified further—requiring elaboration upon the statistical dimensions of the analysis to better estimate the regression coefficients, the extent of their explanatory power, and the covariance across independent variables.

greater energy efficiency or receiving higher quality power, and is willing to pay extra for it.¹¹ These customers will be more satisfied with their utility because it enabled them to realize their goals, even though it came at a cost. By addressing the expectations of these customers separately—or incrementally—the utility also can dodge a bullet; it won't upset its foundation customers by applying a system-wide upgrade, thereby increasing rates.

Utilities can realize such incremental improvements in customer satisfaction through market segmentation and other approaches. Utility marketing programs that address energy efficiency and power quality are considered to be successes because they show the utility understands the needs of a segment of its customers, and it applies tools necessary to help.¹² Plus they're developed in an iterative fashion; that is, the programs are neither pushed by product developers nor pulled by segment managers, but instead are developed in response to customer demand.

Customer segmentation is hardly new to the electric utility industry. Utilities track a range of data in order to provide service and to bill customers, notably locations and energy consumption.

More sophisticated systems don't necessarily mean better communications with customers—especially during crucial events.

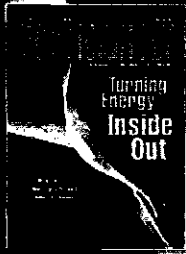
Most utilities segment their customers based on these two criteria, in part because it's useful when developing load forecasts, and in part because it's the primary data that's readily collected and available. From a customer satisfaction standpoint, segmenting customers along these lines doesn't necessarily assist the utility in gaining insight into what it takes to

satisfy those customers, nor does it lead to actionable strategies. This is primarily because customers who share common levels of electricity consumption and those who live in common locations have other characteristics that more fully define their expectations from their electric utility.

Customer segmentation by itself, however, is only meaningful if the utility can act to improve satisfaction in those segments—that is, if it has tools in place, or under development, to reach

11. More accurately, these customers are willing to make an initial investment—either directly or through their electric utility—with the expectation of realizing benefits in the form of lower overall costs in the future or higher levels of power quality.

12. Energy efficiency programs involve saving customers money by improving the efficiency of electricity consumption, ranging from caulking leaky windows in older homes to the mass replacement of light bulbs with LEDs in large warehouses. Programs that address power quality and voltage fluctuations also require an investment, frequently in an uninterruptible power supply that automatically switches the customer off the grid if it detects a transient condition on the line.



Turning Energy Inside Out

insight and analysis in every issue

PUBLIC UTILITIES

FORTNIGHTLY

ENERGY, MONEY, POWER

Your best source for unbiased and insightful coverage of the critical issues facing the energy industry.

Subscribe today:
fortnightly.com/subscribe
or sign up for a no obligation trial at
fortnightly.com/free-trial
or call 1-800-368-5001.

customer needs and expectations. Segmentation can be enhanced, refined, or even outright changed, if utilities develop new tangible tools to address other unmet customer needs. For example, new programs enabled by smart meters, the smart grid, and services related to plug-in hybrid electric vehicles will require that utilities apply more sophisticated segmentation tactics to tailor programs to meet customer expectations.

Without this connection between segments and programs, however, segmentation is an academic exercise; utilities might be able to develop more nuanced, and perhaps more interesting segmentations of their customers, but they will lack the ability to improve their customers' satisfaction.

Beyond Conventional Wisdom

Analysis provides an empirical basis for some of the conventional wisdom concerning the drivers of customer satisfaction assumed by utility managers. It also places these drivers in context. Most of the electric utilities in the panel have achieved relatively consistent and acceptable levels of reliability—in terms of the frequency and duration of service interruptions—which led to these factors being statistically significant. However, the tight cluster of these observations led to low coefficient values, suggesting that improvements in reliability wouldn't move customer satisfaction scores that much. The same is true for rate reductions. This doesn't mean that reliability and rates aren't

Best practices aimed at improving customer satisfaction scores aren't always portable.

important to customers; quite the contrary is true. Customers have come to expect that utilities provide electric service within a certain band of reliability and rates. Low rates—or rates that are as low as possible—plus reliable service then becomes the common denominator of a utility's customer satisfaction strategy.

The geographic region of a utility's service territory plays a strong role in customer satisfaction, the highest of all of the independent variables considered. This could be interpreted to suggest that achieving high levels of customer satisfaction is out of the control of the utility in question. However, such an interpretation would be overly simplistic. Instead, this part of the regression results indicate that customer satisfaction is largely driven by utility attention to the specific issues facing its unique customer base.

Is it possible to improve upon low customer satisfaction scores? Of course, but it might take time to overcome embedded customer biases. This will be particularly true for electric utilities in the Northeastern U.S., which are starting out with lower customer satisfaction scores than is the case for utilities located elsewhere in the country. Regulators and other observers need to keep this point in mind when gauging progress going forward.

In addition to meeting the common denominator of reliable electric service at low rates (or at least without notable increases in rates), electric utilities can improve upon their customer satisfaction scores by improving observed deficiencies (such as communications and customer interactions) and tailoring marketing programs to meet the expectations of specific customer segments, with marketing programs tangible enough to address specific customer needs. Otherwise, generalized programs might make good sound bites, but aren't actionable enough to improve the satisfaction levels for any particular group of customers. ■

AEP OHIO EX. NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Ohio Power Company for Authority to	)	Case No. 13-2385-EL-SSO
Establish a Standard Service Offer)	
Pursuant to §4928.143, Revised Code,)	
in the Form of an Electric Security Plan)	

In the Matter of the Application of)	
Ohio Power Company for Approval of	)	Case No. 13-2386-EL-AAM
Certain Accounting Authority)	

DIRECT TESTIMONY OF
WILLIAM A. ALLEN
IN SUPPORT OF AEP OHIO'S
ELECTRIC SECURITY PLAN

Filed: December 20, 2013

INDEX TO DIRECT TESTIMONY OF
WILLIAM A. ALLEN

Personal Data	1
MRO Test.....	3
Significantly Excessive Earnings Test.....	5
Power Purchase Agreement Rider	8
Estimate of Deferred Capacity Charges.....	11
Customer Shopping Levels	13

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
WILLIAM A. ALLEN
ON BEHALF OF
OHIO POWER COMPANY

1 **PERSONAL DATA**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is William A. Allen, and my business address is 1 Riverside Plaza, Columbus,
4 Ohio 43215.

5 **Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?**

6 A. I am employed by the American Electric Power Service Corporation (AEPSC) as Managing
7 Director of Regulatory Case Management. AEPSC supplies engineering, financing,
8 accounting, and planning and advisory services to the ten electric operating companies of
9 the American Electric Power System, one of which is Ohio Power Company ("OPCo" or
10 "AEP Ohio").

11 **Q. WOULD YOU PLEASE DESCRIBE YOUR EDUCATIONAL AND**
12 **PROFESSIONAL BACKGROUND?**

13 A. Yes. I received a Bachelor of Science in Nuclear Engineering from the University of
14 Cincinnati in 1996 and a Master of Business Administration from the Ohio State University
15 in 2004.

16 I was employed by AEPSC beginning in 1992 as a Coop Engineer in the Nuclear
17 Fuels, Safety and Analysis department and upon completing my degree in 1996 was hired
18 on a permanent basis in the Nuclear Fuel section of the same department. In January 1997,
19 the Nuclear Fuel section became a part of Indiana Michigan Power Company (I&M) due to

1 a corporate restructuring. In 1999, I transferred to the Business Planning section of the
2 Nuclear Generation Group as a Financial Analyst. In 2000, I transferred back to AEPSC
3 into the Regulatory Pricing and Analysis section as a Regulatory Consultant. In 2003, I
4 transferred into the Corporate Financial Forecasting department as a Senior Financial
5 Analyst. In 2007, I was promoted to the position of Director of Operating Company
6 Forecasts. In that role, I was primarily responsible for the supervision of the financial
7 forecasting and analysis of the AEP System's operating companies, including AEP Ohio.
8 In 2010, I transferred to the Regulatory Services Department as Director of Regulatory Case
9 Management. I was named to my current position in January 2013.

10 **Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGING DIRECTOR OF**
11 **REGULATORY CASE MANAGEMENT?**

12 A. I am primarily responsible for the supervision, oversight and preparation of major filings
13 with state utility commissions and the Federal Energy Regulatory Commission (FERC).

14 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN ANY REGULATORY**
15 **PROCEEDINGS?**

16 A. Yes. I have previously testified before the Public Utilities Commission of Ohio
17 (Commission) on behalf of AEP Ohio. I have also submitted testimony or testified before
18 the Michigan Public Service Commission, the Indiana Utility Regulatory Commission, the
19 West Virginia Public Service Commission and the Virginia State Corporation Commission
20 on behalf of various other electric operating companies of the American Electric Power
21 system.

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

2 A. The purpose of my testimony is to describe various elements of the Company's Electric
3 Security Plan (ESP III) including 1) the benefits of the ESP as compared to the expected
4 results under a Market Rate Offer (MRO); 2) the Company's proposed Significantly
5 Excessive Earnings Test (SEET) methodology and return on equity (ROE) threshold; 3) the
6 Company's proposal to enhance customer rate stability through use of the Power Purchase
7 Agreement (PPA) Rider; and 4) the recovery mechanism to collect the deferred capacity
8 charges that were previously authorized by the Commission in the Company's previous ESP
9 case (Case Nos. 11-346-EL-UNC et al) as well as the Commission initiated case to review
10 the Company's capacity charges (Case No. 10-2929-EL-UNC). In addition, I will discuss
11 the current level and recent trends in customer shopping in the Company's service territory.

12 **MRO TEST**

13 **Q. PLEASE GENERALLY DESCRIBE THE MRO TEST.**

14 A. The purpose of the MRO test is to determine whether the Company's proposed ESP,
15 including pricing and all other terms and conditions, is more favorable in the aggregate as
16 compared to the expected results that would apply under an MRO.

17 **Q. DO YOU BELIEVE THAT THE PROVISIONS OF THE COMPANY'S PROPOSED**
18 **ESP ARE MORE FAVORABLE IN THE AGGREGATE THAN WHAT WOULD BE**
19 **EXPECTED UNDER A MRO?**

20 A. Yes. The ESP provides significant customer benefits that are not available through a more
21 narrowly focused MRO process. As discussed below, the ESP is more favorable to
22 customers from both a qualitative and quantitative perspective. A comprehensive ESP can
23 more holistically address many components of electric service, whereas a MRO is primarily

1 a plan just for power procurement. For example, the proposed ESP will maintain base
2 distribution rates constant over the period June 1, 2015, through May 31, 2018, while
3 allowing the Company to make significant investments in distribution infrastructure and
4 improve the reliability of service through the Distribution Investment Rider (DIR) and
5 Enhanced Service Reliability Rider (ESRR). Under either an ESP or MRO, the Company
6 would be acquiring all generation services for SSO customers from the market and as such
7 there is no quantifiable difference in the commodity prices that would be assumed under an
8 ESP or MRO.

9 The DIR mechanism and associated revenues under the ESP proposal provide a
10 benefit to customers that is equal to or greater than the customer benefit that would be
11 expected under a MRO. The DIR mechanism provides a streamlined approach to
12 recovering many of the costs associated with investment in distribution infrastructure.
13 These same types of costs would be recoverable from customers through base distribution
14 cases although with higher costs to customers and other parties as a result of the added
15 complexity of a distribution base case.

16 As part of the total ESP III proposal the Company is extending the Residential
17 Distribution Credit Rider through May 31, 2018. This rider is currently scheduled to expire
18 May 31, 2015. Extending this rider provides an annual benefit to residential customers of
19 \$14,688,000 or \$44,064,000 over the three year term of the ESP. This benefit would not
20 exist under a MRO.

21 The ESP also has several non-quantifiable benefits as compared to a MRO. As the
22 Commission recognized in its order approving the Company's current ESP, the move to
23 fully market based rates by June 1, 2015, could only be accomplished under an ESP

1 structure. ESP III is the result of that accelerated process to achieve the Commission's
2 stated objective of achieving "true competition in the state of Ohio."¹

3 In this ESP the Company has included elements that provide non-quantifiable
4 benefits to customers that would not exist under a MRO. First, the Company has proposed
5 the PPA rider which, as I describe later in my testimony, provides increased rate stability for
6 customers that are now subject to fully market based rates. The increased rate stability
7 provided by the PPA rider would not exist under a MRO. The Company has also included a
8 purchase of receivables (POR) program as described by Company witness Gabbard. He
9 describes the benefits of the POR program which include, among other items, 1) a likely
10 increase in registered CRES providers; 2) additional payment options for customers
11 including the Company's Budget or Monthly Average Payment programs; 3) CRES
12 providers are paid in a predictable time frame for the generation services that they provide;
13 and 4) increased certainty for CRES providers regarding the amount of incoming
14 receivables. The benefits of the POR program would not be available under a MRO.

15 The \$44,064,000 of quantifiable benefits in combination with the non-quantifiable
16 benefits clearly demonstrate that the provisions of the Company's proposed ESP are more
17 favorable in the aggregate than what would be expected under a MRO.

18 **SIGNIFICANTLY EXCESSIVE EARNINGS TEST**

19 **Q. HAVE YOU REVIEWED THE COMMISSION'S ORDERS IN THE COMPANY'S**
20 **2009 AND 2010 SEET PROCEEDINGS?**

21 **A. Yes. In Case No. 10-1261-EL-UNC, the Commission found that "the conceptual**
22 **construct of Staff's proposal to use a percentage of the average of the comparable**

¹ See page 76 of the Commission's August 8, 2012, order in Case Nos. 11-346-EL-SSO, et al.

1 companies to be more appropriately related to the purpose of the SEET.” The
2 Commission determined that the ROE of comparable companies was 11% in 2009.
3 The Commission then went on to conclude that 50% of the comparable ROE “is a
4 reasonable guide for establishing an adder.”² The Commission then made an upward
5 adjustment to the adder to 60% and established a SEET threshold of 17.6%.

6 In Case Nos. 11-4571-EL-ENC and 11-4572-EL-UNC, the Commission once
7 again determined that the SEET threshold should be based upon the ROE of
8 comparable companies plus an adder – in this case 1.64 standard deviations. The
9 Commission determined that the ROE of comparable companies was 10.97% in
10 2010. After applying the adder, the Commission established a SEET threshold of
11 17.56%.

12 **Q. DO YOU HAVE A RECOMMENDATION CONCERNING HOW THE**
13 **COMMISSION SHOULD ADDRESS THE SEET ISSUE IN THIS**
14 **PROCEEDING?**

15 **A.** Yes. Based upon a guiding regulatory principle that commission decisions should
16 maintain a level of consistency that provides investors and utility managers a
17 reasonably predictable basis to make the significant investments in utility
18 infrastructure that is necessary to meet customer’s needs and expectations, this
19 Commission should confirm in this proceeding the methodology by which it intends
20 to implement the SEET test for the duration of the ESP. The Company has filed the
21 testimony of Dr. Anil Makhija in Case Nos. 12-1177-EL-UNC, 13-2249-EL-UNC,

² Opinion and Order date January 11, 2011, at pages 24 and 25.

1 13-2250-EL-UNC, and 13-2251-EL-UNC related to the methodology that should be
2 used to determine the SEET threshold as well as the results of his analysis. In
3 addition to the approach that Dr. Makhija is recommending (Recommended
4 Threshold) in that proceeding he has calculated the SEET threshold that would result
5 from the application of the method used by the Commission in their resolution of the
6 Company's 2010 SEET proceeding. These results are provided in the table below.

	2011	2012
Recommended Threshold @ 1.64 σ	22.30%	23.77%
Recommended Threshold @ 1.96 σ	24.32%	25.98%
SPDR Threshold @ 1.64 σ	16.68%	15.86%
SPDR Threshold @ 1.96 σ	17.85%	16.86%

7
8 In addition to the return on equity analysis presented by Dr. Makhija, this
9 Commission most recently authorized a return on equity for AEP Ohio of 10.2% in
10 Case No. 11-351-EL-AIR et al on December 14, 2011. Applying a 50% adder to this
11 ROE (similar to the approach used by the Commission in Case No. 10-1261-EL-
12 UNC) would result in a SEET threshold of 15.3%. In this case, Company witness
13 Dr. Avera recommends an ROE of 10.65% which would result in a SEET threshold
14 of 15.98% after applying a 50% adder.

15 While none of the SEET threshold values for 2009, 2010, 2011 or 2012 can
16 possibly include the return on equity for comparable companies for the future ESP
17 period that is the subject of this proceeding, they individually and collectively
18 support the proposition that an earned ROE below 15% cannot be the result of
19 significantly excessive earnings. The Company does not believe that a SEET

1 threshold should be set prospectively for the ESP period but if the Commission were
2 to set such a threshold in this proceeding the Company believes that a threshold of
3 15% would be reasonable under the terms of the proposed ESP.

4 **PPA RIDER**

5 **Q. CAN YOU DESCRIBE THE COMPANY'S PROPOSED PPA RIDER?**

6 A. The Company's proposed PPA rider is designed to stabilize customer rates by providing a
7 hedge against market volatility. The Company is initially proposing that its OVEC power
8 participation benefits and requirements be included in the PPA rider. Under the PPA rider
9 mechanism, the Company will have the ability to petition the Commission to allow the
10 inclusion of additional PPAs (or similar products subsequently approved by the
11 Commission) in the PPA rider throughout the ESP term. The Company has not identified
12 any additional PPAs to include in the PPA rider at this time. The PPA rider will include the
13 net benefit or cost of all revenues accruing to AEP Ohio from the sale of its OVEC
14 entitlement into the PJM market (including energy, capacity, ancillaries, etc) less all costs
15 associated with the Company's OVEC entitlement. Due to the relative stability of OVEC's
16 costs as compared to market based costs this rider should rise and fall in a manner that is
17 counter to the market and as such will increase rate stability for customers. As a result, the
18 PPA rider could be a charge or credit on customer bills.

19 **Q. PLEASE DESCRIBE OVEC AND ITS RELATIONSHIP WITH AEP OHIO.**

20 A. Ohio Valley Electric Corporation (OVEC) was organized on October 1, 1952. OVEC was
21 formed by investor-owned utilities furnishing electric service in the Ohio River Valley area
22 and their parent holding companies for the purpose of providing the large electric power
23 requirements projected for the uranium enrichment facilities then under construction by the

1 Atomic Energy Commission (AEC) near Portsmouth, Ohio. The contract to provide
2 OVEC-generated power to the federal government was terminated in 2003.

3 OVEC and the Sponsoring Companies signed an Inter-Company Power Agreement
4 (ICPA) on July 10, 1953, to support the DOE Power Agreement and provide for excess
5 energy sales to the Sponsoring Companies of power not utilized by the DOE or its
6 predecessors. Since the termination of the DOE Power Agreement on April 30, 2003,
7 OVEC's entire generating capacity has been available to the Sponsoring Companies under
8 the terms of the ICPA. The Sponsoring Companies and OVEC entered into an Amended
9 and Restated ICPA, effective as of August 11, 2011, which extends its term to June 30,
10 2040. The Amended and Restated ICPA was accepted by the FERC on May 23, 2011.
11 Ohio Power Company has a 19.93% share of the OVEC power participation benefits and
12 requirements. OVEC provides over \$40 million of economic benefit in its six county
13 region³ and over \$100 million of economic benefit in Ohio annually.

14 **Q. WHY HAS AEP OHIO RETAINED ITS SHARE OF THE OVEC POWER**
15 **PARTICIPATION BENEFITS AND REQUIREMENTS?**

16 A. As part of the Company's corporate separation plan approved by the Commission in Case
17 No. 12-1126-EL-UNC, the Company had planned to transfer its OVEC power participation
18 benefits and costs to AEP Generation. Under the ICPA, AEP Ohio must obtain consent
19 from all of the other Sponsoring Companies before AEP Ohio can transfer the contractual
20 entitlements to AEP Generation in a manner that would relieve AEP Ohio from ongoing
21 liabilities. The OVEC Sponsoring Companies, however, have withheld their required
22 consent. On October 4, 2013, AEP Ohio filed a request with the PUCO to amend its

³ The six county region is made up of Meigs, Vinton, Gallia, Jackson, Scioto and Pike counties.

1 corporate separation plan to allow the OVEC contractual entitlements to remain with AEP
2 Ohio. This request was approved by the PUCO on December 4, 2013.

3 **Q. PLEASE DESCRIBE HOW THE CAPACITY, ENERGY, AND ANCILLARIES**
4 **ETC. ASSOCIATED WITH AEP OHIO'S OVEC ENTITLEMENT WOULD BE**
5 **TREATED BY AEP OHIO.**

6 A. AEP Ohio would bid each of these generation related items – capacity, energy, and
7 ancillaries etc. – into the PJM market. All of the revenues that the Company obtains from
8 the sale of these generation related elements would be used to offset the costs billed to the
9 Company by OVEC under the ICPA.

10 **Q. WOULD THE COMPANY'S PROPOSED TREATMENT OF ITS OVEC**
11 **ENTITLEMENT HAVE ANY IMPACT ON THE AUCTIONS TO SERVE SSO**
12 **LOAD?**

13 A. No. None of the energy or capacity associated with the Company's OVEC entitlement
14 would be bid into the auction or used to offset any of the SSO load included in the auction.
15 The energy and capacity associated with the Company's OVEC entitlement will simply be
16 sold into the PJM market. This along with the nonbypassable nature of the PPA rider will
17 ensure that this element of the Company's proposed ESP will have no adverse impact on the
18 SSO auction or the ability of CRES providers to compete for customers on a level playing
19 field. This proposal allows customers to take advantage of market opportunities while
20 providing added price stability.

21 **Q. DO YOU EXPECT THAT THE PPA RIDER WILL PROVIDE A BENEFIT TO**
22 **CUSTOMERS IN THE SHORT- AND LONG-TERM?**

1 A. Yes. The primary function of the PPA rider is to provide added price stability for customers
2 through this ESP period. If market prices remain low in the 2015/16 planning year the PPA
3 rider would be a net charge to customers and if market prices increase over the remainder of
4 the ESP period the PPA rider could be a net credit to customers. Over the long-term, if the
5 PJM capacity market recovers to a sustainable level, as I would expect it to, the revenues
6 received associated with AEP Ohio's OVEC entitlement should exceed its costs.

7 **Q. HAVE YOU PROVIDED AN EXHIBIT THAT DETAILS HOW THE REVENUES**
8 **AND EXPENSES ASSOCIATED WITH COMPANY'S OVEC ENTITLEMENT**
9 **WILL BE NETTED TO DEVELOP THE ULTIMATE CHARGE OR CREDIT**
10 **THAT WILL BE INCLUDED IN CUSTOMER BILLS?**

11 A. Yes. Exhibit WAA-1 provides a detailed calculation of how the PPA rider net credit or
12 charge will be developed.

13 **Q. HOW OFTEN ARE YOU PROPOSING THAT THE PPA RIDER BE UPDATED?**

14 A. As more fully described by Company witness Moore, the Company is proposing that the
15 PPA rider be updated on an annual basis.

16 **Q. IS THE COMPANY PROPOSING THAT THE PPA RIDER HAVE AN**
17 **OVER/UNDER COMPONENT?**

18 A. Yes. As shown on Exhibit AEM-6, the PPA rider will include an over/under component to
19 true up the forecasted revenues and expenses to the actual revenues and expenses.

20 **ESTIMATE OF DEFERRED CAPACITY CHARGES**

21 **Q. WHAT IS THE CURRENT BALANCE OF THE DEFERRED CAPACITY CHARGE**
22 **REGULATORY ASSET?**

1 A. The balance of the deferred capacity charge regulatory asset as of October 31, 2013 was
2 \$248 million, including carrying charges.

3 **Q. WHAT IS THE EXPECTED LEVEL OF THE DEFERRED CAPACITY CHARGE**
4 **REGULATORY ASSET AT THE END OF THE CURRENT ESP – MAY 31, 2015?**

5 A. Based on actual deferrals and projections of customer shopping the Company has projected
6 that the balance of the deferred capacity regulatory asset will be approximately \$463 million
7 as of May 31, 2015. The actual regulatory asset balance as of May 31, 2015 will be based
8 upon the actual level of customer switching that occurs.

9 **Q. HOW IS THE COMPANY PROPOSING TO COLLECT THE DEFERRED**
10 **CAPACITY CHARGES?**

11 A. In the Commission's order in Case Nos. 11-346-EL-SSO et. al, the Commission directed the
12 Company to amortize and collect the deferred capacity charges over a period of three years
13 unless otherwise ordered by the Commission. The Company is not seeking authorization to
14 collect the deferred capacity charges in this proceeding but will be filing a separate
15 application to recover these deferred costs. Based on current estimates the Company
16 believes that a rider set at \$4/MWh implemented with the first billing cycle of June 2015
17 will allow the regulatory asset to be recovered over a period of approximately 34 months.
18 This level is consistent with the \$4/MWh charge in the RSR that will expire with the last
19 billing cycle of May 2015. I have provided an estimate of the rate necessary to recover the
20 regulatory asset balance for the purpose of allowing the Company to provide a more
21 complete view of the estimated customer bill impacts that will occur when ESP III is
22 implemented. The actual rate to be charged to recover this regulatory asset will be
23 determined in a separate proceeding.

1 **CUSTOMER SHOPPING TRENDS**

2 **Q. PLEASE DESCRIBE THE CURRENT LEVEL OF CUSTOMER LOAD THAT IS**
3 **TAKING SERVICE UNDER THE SSO AND FROM CRES PROVIDERS.**

4 A. As of the end of October 2013, approximately 42% of AEP Ohio's retail load was taking
5 service under the SSO and 58% was taking service from a CRES provider. The table below
6 shows additional detail by customer class.

	SSO	CRES
Residential	70%	30%
Commercial	20%	80%
Industrial	36%	64%

7
8 This data demonstrates that customers in all classes are taking advantage of the two
9 alternatives provided under the ESP construct.

10 **Q. PLEASE DESCRIBE THE LEVEL OF CRES PARTICIPATION IN THE**
11 **COMPANY'S SERVICE TERRITORY.**

12 A. There are currently 37 CRES providers registered and 32 CRES providers actively serving
13 customers in the Company's service territory. In addition to customers being served
14 individually by CRES providers, 93 communities have active aggregation programs.

15 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

16 A. Yes, it does.

Calculation of PPA Rider Credit/(Charge)

<u>Line</u>	<u>Description</u>	<u>Amount</u>
1	Capacity Revenues	\$
2	Energy Revenues	\$
3	Ancillary Service Revenues	\$_____
4=1+2+3	Total Revenues	\$
5	Demand Charges	\$
6	Energy Charges	\$
7	Related Transmission/PJM Charges	\$_____
8=5+6+7	Total Expenses	\$
9=4-8	Net PPA Rider Credit/(Charge)	<u>\$_____</u>

AEP OHIO EX. NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Ohio Power Company for Authority to	)	Case No. 13-2385-EL-SSO
Establish a Standard Service Offer)	
Pursuant to §4928.143, Revised Code,)	
in the Form of an Electric Security Plan)	

In the Matter of the Application of)	
Ohio Power Company for Approval of	)	Case No. 13-2386-EL-AAM
Certain Accounting Authority)	

DIRECT TESTIMONY OF
STACEY D. GABBARD
IN SUPPORT OF AEP OHIO'S
ELECTRIC SECURITY PLAN

Filed: December 20, 2013

INDEX TO DIRECT TESTIMONY OF
STACEY D. GABBARD

Personal Data.....	1
Purpose of Testimony	3
Benefits of a Purchase of Receivables Program	4
Overview of Purchase of Receivables Mechanics.....	6
Bad Debt Rider	8
Purchase of Receivables Payment Terms	10
Allowable Purchased Charges	12
Implementation and Timeline.....	13
Customer Processes.....	15
Conclusion	17

THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
STACEY D. GABBARD
ON BEHALF OF
OHIO POWER COMPANY

1 **PERSONAL DATA**

2 **Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?**

3 A. My name is Stacey D. Gabbard, and my business address is 1 Riverside Plaza, Columbus,
4 Ohio 43215.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by American Electric Power Service Corporation (AEPSC), a unit of
7 American Electric Power (AEP). AEPSC supplies administrative, planning and advisory
8 services to the AEP operating companies, including Ohio Power Company ("OPCo", "AEP
9 Ohio" or "the Company"). My position title is Manager of Customer Choice Processes and
10 Systems. I assumed this position in April, 2012. In that capacity, I am responsible for
11 business and operational support of AEP operating companies that serve customers in states
12 with deregulation. As part of this function, I am also responsible for daily Electronic Data
13 Interchange (EDI) market translation operations, representing AEP operating companies in
14 market working groups such as the Ohio EDI Working Group, and daily settlement load
15 calculation for AEP's jurisdiction within the PJM RTO. In addition, I am responsible for
16 Sarbanes – Oxley control design and execution for Choice processes, development of new
17 business process design and process improvement, and working with AEP's IT organization
18 in providing system improvements and maintenance for Choice-related systems in the four
19 states AEP serves in with deregulation.

20 **Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?**

1 A. I graduated from The University of Tulsa with a Bachelor of Science Degree in Psychology,
2 and received a Master's Degree in Business Administration with an emphasis in Finance,
3 also from The University of Tulsa. In 2004 I attended the AEP Strategic leadership
4 Program at The Ohio State University. I began my career in Oklahoma with Public Service
5 Company of Oklahoma in 1990 as a meter reader, and later a meter connect and disconnect
6 representative. I moved from field operations into Operations Analysis for Central and
7 Southwest Corporation (CSW) as a Business Analyst in 1996, supporting business process
8 design and automation of work management and large-power billing processes for Texas
9 deregulation. I was also responsible for standardization of front and back-office processes
10 in support of interqueued call centers. In 2003, after the merger between CSW and AEP, I
11 was appointed Supervisor of Other Accounts Receivables. In this position I was responsible
12 for the oversight, reporting, billing and collections of non-electric receivables for all of
13 AEP's seven operating companies. From 2004 to March of 2012, I served as Manager of
14 Special Billing & Meter Translation, where I was responsible for AEP's large power and
15 complex billings, MV90 meter translation system support and operations, Load Research
16 Operations, and national account EDI translation.

17 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE A**
18 **REGULATORY AGENCY?**

19 A. No.

20 **Q. ARE YOU SUPPORTING ANY EXHIBITS?**

21 A. Yes. I am supporting the following exhibits:

- 22 1. Exhibit SDG-01 – Table of Allowable Charges
- 23 2. Exhibit SDG-02 – Policy Document

1 3. Exhibit SDG-03 – Schedule of Implementation and Administrative Costs

2 **PURPOSE OF TESTIMONY**

3 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

4 A. In AEP Ohio's 2012 Electric Security Plan (ESP II)¹ opinion and order, the Company was
5 ordered to evaluate a Purchase of Receivables (POR) program in support of Ohio Choice.
6 The purpose of my testimony is to summarize the Companies' evaluation by providing
7 details on the benefits of a POR program without recourse and the mechanics of how it
8 would work for AEP Ohio, in concert with a bad debt rider. I have been advised by counsel
9 that AEP Ohio is not legally required to adopt a POR program, but that AEP Ohio is
10 offering to do so voluntarily as part of the proposed ESP package. Accordingly, the
11 Company reserves the right to withdraw the proposed POR program if the proposed ESP is
12 modified or rejected by the Commission.

13 **Q. WHAT IS A POR PROGRAM WITHOUT RECOURSE?**

14 A. A POR is an agreement between the Competitive Retail Electric Service (CRES) provider
15 and the utility, where the utility purchases, usually at a discounted rate, allowable
16 receivables billed on behalf of the CRES provider by the utility via consolidated billing.
17 Where POR programs are required, the discount rate is usually equal to the utility's
18 uncollectable or bad debt rate. In that context, when a utility has a bad debt rider, the
19 discount rate is usually zero, and the receivable is purchased at face value. POR programs
20 are often utilized in deregulated electric and gas markets where the utility provides
21 consolidated billing, and collects the competitive suppliers' receivables on their behalf.

¹ Order 11-346-EL-SSO et al., Section II (B) (8)

1 Under consolidated billing, the utility provides one bill to the customer, with both the
2 utility's wires-related charges, as well as the CRES provider's commodity charges. POR
3 without recourse simply means that once the utility purchases the receivable, the utility may
4 not reassign a receivable back to the CRES provider.

5
6 **BENEFITS OF A POR PROGRAM**

7 **Q. DOES A POR PROGRAM BENEFIT CUSTOMERS?**

8 A. Yes. When a POR without recourse program is set up correctly it can be a benefit to
9 customers in several ways. First, customers would most likely have more choice of CRES
10 providers and CRES provider products since POR programs attract more CRES providers to
11 the territory, and make offering services to residential customers more appealing to those
12 CRES providers that traditionally have focused their attention on other customer classes. It
13 has been AEP's observation that other utilities have reported marked increases in the
14 number of registered suppliers once a POR program was offered. For example, the 2010
15 Annual Report by the Public Service Commission of Maryland noted:

16 "The availability of POR has increased supplier participation in Maryland's Electric
17 Choice program, especially for residential and small commercial customer classes,
18 which in turn has caused the number of customers buying electricity from alternative
19 suppliers to increase..."²
20

21 Having a predictable revenue stream encourages suppliers to market to customers in all
22 customer classes, thus promoting an even more competitive Ohio Choice market. Second,
23 shopping customers can be placed on the Company's Budget or Average Monthly Payment
24 (AMP) programs for both their wires and commodity charges, both programs which
25 customers find valuable. These programs are difficult to manage for both the utility and the

² Public Service Commission Of Maryland 2010 Annual Report for Calendar Year Ending December 31, 2010, p.25

1 CRES provider under a traditional non-POR consolidated billing model. For example,
2 currently, to provide budget billing for CRES provider charges they must submit monthly
3 bill amounts via the bill-ready option, and calculate their yearly true-up independently from
4 the AEP Ohio's wires budget true-up calculation. Third, when customers switch to a CRES
5 provider, the customer only deals with one entity in regard to billing questions for
6 commodity charges. Today, explaining the available payment arrangement options, as well
7 as payment posting priority logic for CRES provider's receivables versus Company
8 receivables, is challenging for AEP Ohio Call Centers to communicate, and difficult for
9 customers to understand. Fourth, the customer receives just one bill in the mail and only
10 deals with one company if payments become past due. Fifth, customers would be free from
11 duplicative credit checks and potential adverse impacts to their credit scores as a result,
12 which promotes a more positive shopping experience for customers.

13 **Q. DOES A PURCHASE OF RECEIVABLES PROGRAM CREATE EFFECIENCIES**
14 **FOR CRES PROVIDERS?**

15 A. Yes. A purchase of receivables program creates efficiencies for CRES providers in several
16 ways:

- 17 • CRES providers are paid in a predictable time frame for the generation services
18 provided,
- 19 • CRES providers have certainty regarding the amount of incoming receivables,
- 20 • CRES providers would only need to address billing and payment issues or customer
21 questions on a limited basis,
- 22 • CRES providers would not be responsible for performing duplicative credit checks
23 or securing collateral for accounts on consolidated billing, and
24

- CRES providers would not be involved in collection of unpaid debt from customers for commodity charges,
- POR streamlines processes for both the utility and the CRES provider, promoting cost efficiencies in the market.

Ultimately, the result of offering a POR program is it makes the territory where it is offered more attractive for CRES providers to register in and offer services. More CRES providers competing for customers results in more price competition and/or product niche offerings.

Q. DOES A PURCHASE OF RECEIVABLES PROGRAM BENEFIT AEP OHIO?

A. While a purchase of receivables program does not necessarily benefit a utility, it also should not harm a utility. This is important when considering how a purchase of receivables program is established, including proper compensation to the utility for providing the services associated with the program. With that said, and as mentioned previously, a POR program often simplifies some customer services processes such as customer credit and collections calls related to consolidated billing, as well as inquiries regarding past due amounts.

OVERVIEW OF PURCHASE OF RECEIVABLES MECHANICS

Q. WILL AEP OHIO ALLOW CRES PROVIDERS TO CHOOSE WHETHER THEY PARTICIPATE IN A PURCHASE OF RECEIVABLES PROGRAM?

A. No. All CRES providers who enroll a customer in consolidated billing will be required to participate in the POR program, but will still be able to choose the dual-billing option if they prefer, on an account-by-account basis. Allowing CRES providers to enroll some consolidated accounts in POR and not others would be costly to program and maintain two

1 processes in AEP Ohio's EDI and Customer Information System (CIS). In addition,
2 providing call center scripting and customer service support for two processes is inefficient
3 and does not provide the customer with the best experience. Finally, requiring an "all-in"
4 approach prevents CRES providers from choosing non-POR consolidated billing for good-
5 paying customers, and enrolling only poor-paying customers in the POR program.

6 **Q. DOES AEP OHIO PROPOSE TO IMPLEMENT A FORMULAIC DISCOUNT**
7 **RATE OR A BAD DEBT RIDER IN THE IMPLEMENTATION OF THE**
8 **PROGRAM?**

9 A. Consistent with other Ohio POR programs, AEP Ohio proposes to implement a bad debt
10 rider with an initial POR discount rate of zero. The Company believes that a balance
11 between a stable and predictable discount rate to the CRES providers can be achieved, thus
12 promoting competition in the Ohio Electric market, while a bad debt rider ensures that the
13 Company does not incur new uncollectable debt.

14 **Q. IS IT POSSIBLE THE DISCOUNT RATE WOULD BE ANYTHING OTHER**
15 **THAN ZERO IN THE FUTURE?**

16 A. Yes. AEP Ohio could incur future costs to modify the POR program functionality not
17 already recovered in rates, as mandated and/or reviewed and approved for recovery through
18 a discount rate by the Commission.

19 **Q. WILL A CRES PROVIDER BE ABLE TO ENROLL ANY CUSTOMER IN**
20 **CONSOLIDATED BILLING?**

21 A. No. To prevent gaming, shopping customers that are already enrolled in dual billing with a
22 CRES provider, and with receivables 60 days arrears or more will not be allowed to enroll in
23 consolidated billing until the customer is in arrears 30 days or less. This prevents CRES

1 providers from moving large dual-billed customers at risk of default to the POR program to
2 avoid incurring bad debt expenses.

3 **Q. DOES AEP OHIO PLAN TO PURCHASE ALL CRES PROVIDER CHARGES**
4 **SENT TO CUSTOMERS?**

5 A. No. Only commodity related charges will be included. Non-electric related charges, such as
6 early termination fees, will be excluded from the purchase of receivables program due to
7 potential issues regarding collection. In other states, as markets mature, inclusion of early
8 termination fees in purchase of receivable programs has been problematic for both the
9 utilities and the customers. Switch volumes increase as POR is offered and new competitive
10 suppliers enter markets. Early termination fees can be disputed by the customer, which
11 becomes a collection challenge for the utility caught in the middle, and a source of
12 dissatisfaction for the customers.

13
14 **BAD DEBT RIDER**

15 **Q. WHY DOES AEP OHIO PROPOSE A BAD DEBT RIDER, AS OPPOSED TO**
16 **INTEGRATING THE BAD DEBT ASSOCIATED WITH PURCHASED**
17 **RECEIVABLES INTO THE DISCOUNT RATE?**

18 A. AEP Ohio believes there are four main reasons a bad debt rider is preferable: First, utilizing
19 a bad debt rider is commonly used in POR programs in other deregulated utility markets,
20 including Ohio, and is currently utilized by Duke Ohio. Secondly, customer bad debt can
21 vary from year to year, and when based on test-year data embedded in distribution rates, can
22 be over or under-recovered over time. Third, a bad debt rider would be used to recover bad
23 debt costs associated with both shopping customer purchased receivables, as well as default

1 standard service offer customers in one tracker that is trued-up yearly to accurately and
2 timely recover costs to the company. Finally, sharing these costs across all customers
3 prevents cross-subsidization of shopping versus non-shopping customers, and since over
4 half of AEP Ohio's customer load is now shopping and those numbers continue to increase,
5 sharing these costs in one yearly trued-up rider makes sense.

6 **Q. HOW WILL THE BAD DEBT RIDER BE STRUCTURED?**

7 **A.** Currently, \$12,221,000 of bad debt expenses is included as part of distribution rates based
8 upon the test year for the last distribution case in 2010³. The proposed rider is designed to
9 recover forecasted incremental bad debt expenses each year going forward, above the
10 amount already being recovered through distribution rates. In addition, AEP Ohio proposes
11 with the implementation of the Bad Debt Rider, that forecasted residential class late
12 payment fees proposed by witness Spitznogle will be credited to the rider, offsetting the
13 yearly revenue requirement. This incremental recovery approach will continue until the next
14 distribution rate case, at which point bad debt recovery will be 'unbundled' and recovered
15 only through this rider. Both bad debt from purchased receivables for shopping customers
16 and default standard service offer customers will be included in this rider, as well as
17 percentage of income payment plan (PIPP) installment payments not recovered through the
18 universal service fund rider (USF), or from the customer net of any unused low-income
19 credit funds.

20 **Q. CAN THE BAD DEBT RIDER BE A CREDIT?**

21 **A.** Yes. For example, if the forecasted year's bad debt experience net of forecasted residential
22 late payment fee revenue is higher than the test year bad debt recovery, only the delta

³ Case Nos. 11-351-EL-AIR, 11-352-EL-AIR, et al.

1 between the forecasted experience and test year would be in the rider for the application
2 year. On the other hand, if the forecasted year bad debt net of forecasted residential late
3 payment fee revenue experience is lower than the test year bad debt expense, the rider will
4 be a credit for customers. The rider will be trued-up each year with an application period of
5 January 1st to December 31st. AEP Ohio's long-term debt rate will be applied to the over-
6 under recovery amount carried forward to the next year. The rider will be applied based
7 upon a percentage of AEP Ohio base distribution revenue. For year-one of implementation,
8 the bad debt rider is forecasted to be set at 0.0% of AEP Ohio base distribution revenue, as
9 the incremental bad debt is forecasted at \$0.00.

10 **POR PAYMENT TERMS**

11 **Q. WHAT DOES THE COMPANY PROPOSE FOR PAYMENT TERMS ON THE**
12 **POR PROGRAM?**

13 A. As I mentioned earlier, it is important that a purchase of receivables program be beneficial
14 to CRES providers and customers and neutral to the utility involved. Payment terms should
15 allow a utility to keep working capital as neutral as possible during the program. In order to
16 determine the actual payment date, AEP Ohio will assume an equal distribution of dollars
17 billed during each month. Therefore, the Company proposes payments made monthly for
18 receivables billed and purchased the prior month. Payments will be made measured from
19 the 15th of the revenue month which receivables were billed, based upon a yearly back-
20 casted Day Sales Outstanding (DSO) value, also called "revenue lag," calculated for all AEP
21 Ohio shopping and non-shopping customers. For example, if AEP Ohio's 2014 DSO
22 calculation is forty two days, payments made to CRES providers in 2015 would be made on
23 the 27th of the following month, assuming 30 days in the revenue month. The Company's

1 DSO rate is the average rate of time it takes for customers to pay once the bill is created, and
2 since we expect the rate of shopping customers to continue to increase over time, is the best
3 forecast of customer payment behavior and working capital carrying cost exposure for the
4 Company for the following 12 months. Using a “revenue lag” approach to processing
5 payments is a commonly accepted practice in other states that require purchase of receivable
6 programs. Using a payment remittance date not based upon a DSO or “revenue lag” metric
7 may result in either adverse impacts to the Company’s working capital and resulting
8 increased costs to customers, or the Company unfairly benefitting from the program by
9 holding payments longer than it takes on average for customers to pay. It is important to
10 note that using a payment remittance date earlier than the proposed AEP Ohio DSO
11 approach will result in additional and significant costs to the company for working capital,
12 and increased costs to customers.

13 **Q. HOW IS THE DSO CALCULATED?**

14 A. The DSO calculation is the Company’s average daily accounts receivable balance, divided
15 by the average daily billings. AEP Ohio’s current DSO for 2013 is 42 days. Prior to
16 implementation the DSO will be calculated and made available to the CRES providers.

17 **Q. HOW WILL CRES PROVIDERS KNOW WHAT THE DSO IS EACH YEAR?**

18 A. Each year by January 1st, the Company will post the DSO value on its CRES provider
19 support website. The application period of the DSO will be January 1st to December 31st.

20 **Q. WHY ARE PAYMENTS MADE ONLY ONCE EACH MONTH, AS OPPOSED TO**
21 **DAILY AS CASH COMES IN FROM CUSTOMER PAYMENTS?**

22 A. Payments will be wired monthly to give the CRES provider a predictable date when they
23 will receive payment, which allows AEP Ohio to remain as working capital neutral as

possible, and also allows the Company to scrutinize payment accuracy. On average, some customer payments will come in before the outbound wire is made, and some after, as customer payments are distributed through-out the following month.

Q. WHEN WILL AEP OHIO RECEIVE TITLE OF OWNERSHIP FOR RECEIVABLES PURCHASED IN THE PROGRAM?

A. AEP Ohio will receive title of ownership for receivables purchased at time of billing.

ALLOWABLE PURCHASED CHARGES

Q. PLEASE DESCRIBE THE TYPES OF CRES PROVIDER CHARGES THAT AEP OHIO PROPOSES TO INCLUDE UNDER THE PROPOSED POR PROGRAM. CAN NEW CHARGES BE ADDED IN THE FUTURE?

A. Ohio Administrative Code⁴ currently prohibits utilities from disconnecting service for nonpayment of consolidated billed CRES provider receivables, and as such, the Company requests a waiver for receivables purchased under the proposed program. The waiver will allow disconnect of service related to purchased receivables, and will be limited to electric commodity-related charges billed on behalf of the CRES provider (Reference exhibit SDG-01). Example of such charges are transmission service charges, charges for energy, demand, transmission and or generation capacity, and applicable taxes. AEP Ohio is committed to supporting the evolving Ohio Choice Market. Therefore, the Company commits to purchase, as part of its POR program, other receivables the nonpayment of which would allow the Company to disconnect the customers' distribution service.

Q. WHY ARE OTHER NON-DISCONNECTABLE CHARGES DISALLOWED?

⁴ Ohio Administrative Code 4901:1-18-10 (D)

1 **A.** The goal of a POR program without recourse is to purchase receivables from the CRES
2 provider without charging back (after purchase) various fees that the utility cannot recover
3 through normal regulated credit and collection procedures. For the utility to have any
4 leverage with collections it must be able to disconnect the account for non-payment if the
5 customer refuses to pay. Inability to disconnect for non-payment is the very reason CRES
6 providers are unable to factor receivables, and why POR programs are implemented. If non-
7 disconnectable charges are allowed, they can be disputed by the customer and halt the
8 collection process, which ultimately would increase costs to all customers.

9 **Q. WHAT HAPPENS IF THE RECEIVABLE IS NEVER PAID AFTER DISCONNECT**
10 **FOR NON-PAYMENT?**

11 **A.** At the point of bill calculation AEP Ohio will take title of ownership of the receivable, the
12 same as if the generation and transmission charges were provided through its default
13 standard service offer. For that reason, AEP Ohio would follow the same collections and
14 recovery processes and rely upon these same tools utilized for standard service offer
15 receivables, which may also include utilizing third party collection agents, or sale of the
16 charged off receivable to a third party.

17
18 **IMPLEMENTATION AND TIMELINE**

19 **Q. WHAT IS THE EXPECTED COST TO IMPLEMENT AND MAINTAIN A**
20 **PURCHASE OF RECEIVABLES PROGRAM?**

21 **A.** To implement a fully automated purchase of receivables program is expected to cost
22 approximately \$1.5 million. Changes must be made to AEP Ohio's CIS system to track and
23 report receivables appropriately, as well as modify EDI systems to provide purchase and

1 discount data to CRES providers. The Company forecasts \$207,600 of incremental on-
2 going yearly O&M support costs associated with system and program maintenance. Upon
3 approval, AEP-Ohio will incorporate addendums to the Terms and Conditions Of Open
4 Access Distribution Service, and yearly CRES provider registration for Consolidated
5 Billing. An interim bridge agreement will be executed for participating CRES providers
6 upon implementation, and will be in effect until the CRES provider's yearly registration
7 renewal date.

8 **Q. HOW DOES AEP OHIO PROPOSE TO RECOVER THESE IMPLEMENTATION**
9 **AND ADMINISTRATIVE COSTS?**

10 A. Since AEP Ohio is voluntarily offering this service to the CRES providers, and as the CRES
11 providers will bear no risk or expense for bad debt costs in the program, the Company
12 proposes only a fair and equitable administrative fee charged yearly to those CRES
13 providers utilizing consolidated billing, based upon their current number of customers
14 registered for the consolidated billing option. For new CRES provider market entrants, a
15 forecasted number of enrolled customers will be used. The fee will have two components:
16 1) recovery of the initial capital investment over 5 years, and 2) on-going administrative
17 costs. Those fees recovered related to AEP Ohio's administrative costs will be a credit to
18 cost-of-service for customers. This fee will be charged each year as part of our registration
19 process. After five years, the fee will only be based upon the on-going administrative cost
20 component. (Reference exhibit SDG-03).

21 **Q. WHAT IS THE YEARLY PER-CUSTOMER FEE, AND HOW WAS IT DERIVED?**

22 A. The proposed yearly per-consolidated bill fee is \$0.77. The fee was derived by dividing the
23 amortized implementation costs over five years, and forecasted yearly administrative costs

1 by the total number of residential and small commercial shopping customers, which CRES
2 providers tend to register in consolidated billing.

3 **Q. ARE THERE OTHER CHANGES NECESSARY TO THE YEARLY**
4 **REGISTRATION RENEWAL PROCESS WITH CRES PROVIDERS?**

5 **A.** Yes. Due to changes in the Transmission cost recovery methodology proposed by AEP
6 Ohio witnesses Vegas and Moore, CRES providers will need to sign a Declaration of
7 Authority agreement, authorizing PJM to bill certain transmission costs to AEP Ohio, rather
8 than to them.⁵

9 **Q. WHAT IS THE LENGTH OF TIME IT WOULD TAKE BEFORE**
10 **IMPLEMENTATION COULD OCCUR?**

11 **A.** The Company expects it will take between 9 months to 1 year to complete programming of
12 a purchase of receivables program from the date of approval.

13
14 **CUSTOMER PROCESSES**

15 **Q. WILL CUSTOMERS SEE ANY CHANGES ONCE A POR PROGRAM IS**
16 **IMPLEMENTED?**

17 **A.** Yes. Customers will be able to use the Company's budget billing or average monthly
18 payment plans. Currently, many CRES providers do not offer budget plans; customers who
19 have switched would again be able to be on a budget plan for both their wires charges and
20 their generation charges on the same bill. An additional benefit is that the customer service
21 aspect of monthly billing becomes much easier to understand, in particular for customers

⁵ http://www.pjm.com/sitecore%20modules/web/~/_media/about-pjm/member-services/membership-assistant/doa-principal-agent-arrangement.ashx

1 with outstanding CRES provider receivables that switch to another CRES provider. Under a
2 POR program, these customers will not receive calls from multiple parties for outstanding
3 generation receivables.

4 **Q. DOES AEP OHIO EXPECT A CUSTOMER'S BILL FORMAT TO CHANGE**
5 **WITH THE POR IMPLEMENTATION?**

6 **A.** No. A purchase of receivables program is behind the scenes, customers will see no impact
7 on their monthly bill statement.

8 **Q. IN A PURCHASE OF RECEIVABLES PROGRAM, DOES THE UTILITY HOLD**
9 **THE DEPOSIT ON THE CUSTOMER'S FULL BILL?**

10 **A.** Yes. For customers who require a deposit, AEP Ohio would hold the entire deposit for all
11 charges on the bill as we traditionally would for a non-shopping customer, and will follow
12 the same processes and guidelines as mandated in our terms and conditions. In addition, if a
13 standard service offer customer with a deposit on their account elects to shop, and the CRES
14 provider selects consolidated billing as the billing option upon the enrollment transaction,
15 the deposit will stay on their account based upon their payment history and risk profile, as
16 opposed to refunding part of their deposit and the CRES provider billing them a deposit,
17 which is very confusing for the customer.

18 **Q. ONCE THE POR PROGRAM IS IMPLEMENTED, WOULD SOME CUSTOMERS**
19 **BE REQUIRED TO PAY AEP AN ADDITIONAL DEPOSIT?**

20 **A.** This could occur. For customers who have switched, AEP Ohio currently holds only a
21 deposit on the distribution charges. Typically, CRES providers either charge a deposit or
22 adjust their rates to cover their bad debt risk. For customers who have a deposit with a
23 CRES provider, the CRES provider would release to the customer their deposit on the

1 generation and transmission charges and AEP Ohio would calculate the deposit required on
2 the entire bill. If the CRES provider is covering their bad debt risk through their rates, over
3 time their rates should reflect a reduction in risk. In both cases, the customer is better off.
4 Customers who have a deposit with AEP Ohio and not with the CRES provider may be
5 required to pay an additional deposit to cover the additional generation and transmission
6 charges which currently are not held on their account by AEP Ohio.

7 **Q. UPON IMPLEMENTATION, WILL AEP OHIO PURCHASE ALL**
8 **OUTSTANDING CRES PROVIDER RECEIVABLES PREVIOUSLY BILLED?**

9 **A.** No. Receivables will be purchased based upon the first bill cycle after implementation.
10 Purchasing previously billed receivables will increase implementation cost, and time to
11 implement.

12 **Q. IN A POR PROGRAM, WOULD AEP OHIO BE ALLOWED TO DISCONNECT**
13 **CUSTOMERS FOR NON-PAYMENT OF CRES PROVIDER CHARGES?**

14 **A.** Yes. With the appropriate Commission waiver for receivables deemed in-program, when a
15 purchase of receivables program is implemented, all credit and disconnect procedures are
16 treated the same as a utility receivable. At the time of bill presentation AEP Ohio assumes
17 ownership of the receivable and performs the normal receivable maintenance and collection
18 efforts as if it were our own.

19 **CONCLUSION**

20 **Q. IN CONCLUSION DO YOU THINK A PURCHASE OF RECEIVABLES**
21 **PROGRAM WILL BENEFIT CUSTOMERS AND CRES PROVIDERS?**

1 A. Yes. Implementing a purchase of receivables program will ultimately support competition in
2 Ohio, streamline customer billing functionalities, and eliminate redundant functionalities
3 currently with CRES providers and the utility.

4 **Q. DOES THAT CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

5 A. Yes.

TABLE OF ALLOWABLE CHARGES

Charges allowed under the AEP Ohio Purchase of receivables program are restricted to those charges related to electric energy commodities, or charges and fees for which nonpayment can provide a basis for disconnection of service by AEP Ohio under provisions of the Ohio Administrative Code or waiver rulings by the Commission. Such charges included in the AEP Ohio Purchase of Receivables program include, either per metered value or flat fee:

- Energy
- Demand
- Network Integration Transmission Services
- Ancillary Transmission
- Transmission Capacity
- Generation Capacity
- Taxes

AEP Ohio
Purchase of
Competitive Retail Electric Service Provider
Accounts Receivable Program (POR)

GENERAL INFORMATION AND ELIGIBILITY REQUIREMENTS

CRES providers that elect either of the Company's consolidated billing options (Rate Ready or Bill Ready) for all or a portion of their customers will be required to sell their accounts receivable for such customers to the Company under the terms of the POR. CRES providers continue to have the right to issue their own bill using dual billing for all or a portion of their customers. Such CRES providers will be precluded from participating in the POR for customers receiving dual billing. AEP Ohio will purchase accounts receivable at a zero discount rate and without recourse for commodity sales by CRES providers that provide commodity service in AEP Ohio's territory.

PURCHASE PRICE AND ALLOWABLE PURCHASED CHARGES:

Accounts receivable will be purchased at face value of the CRES provider's receivable at time of billing by the Company. Charges allowed under the AEP Ohio POR program are restricted to those charges related to energy and power commodity, or charges and fees for which nonpayment can provide a basis for disconnection of service by AEP Ohio under applicable provisions of the Ohio Administrative Code or waiver rulings by the Commission. Such charges included in the AEP Ohio Purchase of Receivables program include, either per metered value or flat fee:

- Energy
- Demand
- Transmission Services
- Ancillary Transmission
- Transmission Capacity
- Generation Capacity
- Taxes

Payments:

Payments to CRES provider will be made via ACH (Automated Clearing House) based upon AEP Ohio's yearly calculated Day Sales Outstanding (DSO), calculated from the 15th of the month of billing and issuance of the 810 EDI transaction. The yearly DSO calculation will be made available in December of each year, and can be found at:

AEPOhio.com/about/b2b/suppliers/

For days where payment processing falls on a weekend or holiday, payments will be processed the next business day.

Other Considerations:

1. A yearly one-time non-refundable 0.77 per-customer fee will be applied at time of CRES provider registration with AEP Ohio as part of the registration fee, based upon the number of customers the CRES provider has enrolled in consolidated billing. The fee covers administrative costs associated with:
 - a. Yearly program audit and DSO calculation
 - b. Program-related IT implementation and support costs
 - c. Monthly processing control monitoring
 - d. For new CRES providers, the fee will be based upon estimated number of customers to be enrolled in consolidated billing for the coming year.
2. The POR shall be subject to modifications based upon Commission orders, rules, and regulations applicable to retail access.
3. CRES providers may not enroll an existing dual-billed customer in consolidated billing with AEP Ohio receivable arrears greater than 60 days.
4. AEP Ohio will assume title of ownership for CRES provider receivables at time of billing, and conduct normal credit and collection procedures based upon customer payment.

SCHEDULE OF IMPLEMENTATION AND ADMINISTRATIVE COSTS

POR System Implementation Cost Depreciation Schedule

Depreciation Rate	20.00%	Capital			Accumulated	Monthly	Monthly	Monthly
Return Component	10.86%	Expenditure	Net Book Value	Depreciation	Depreciation	Charge Rate	Charge	Return
								Charge
Year 1								
	January	1,500,000						
	February	1,500,000	1,475,000	25,000	25,000	1.667%	25,000	13,349
	March	1,500,000	1,450,000	25,000	50,000	1.667%	25,000	13,123
	April	1,500,000	1,425,000	25,000	75,000	1.667%	25,000	12,896
	May	1,500,000	1,400,000	25,000	100,000	1.667%	25,000	12,670
	June	1,500,000	1,375,000	25,000	125,000	1.667%	25,000	12,444
	July	1,500,000	1,350,000	25,000	150,000	1.667%	25,000	12,218
	August	1,500,000	1,325,000	25,000	175,000	1.667%	25,000	11,991
	September	1,500,000	1,300,000	25,000	200,000	1.667%	25,000	11,765
	October	1,500,000	1,275,000	25,000	225,000	1.667%	25,000	11,539
	November	1,500,000	1,250,000	25,000	250,000	1.667%	25,000	11,313
	December	1,500,000	1,225,000	25,000	275,000	1.667%	25,000	11,086
Year 2								
	January	1,500,000	1,200,000	25,000	300,000	1.667%	25,000	10,860
	February	1,500,000	1,175,000	25,000	325,000	1.667%	25,000	10,634
	March	1,500,000	1,150,000	25,000	350,000	1.667%	25,000	10,408
	April	1,500,000	1,125,000	25,000	375,000	1.667%	25,000	10,181
	May	1,500,000	1,100,000	25,000	400,000	1.667%	25,000	9,955
	June	1,500,000	1,075,000	25,000	425,000	1.667%	25,000	9,729
	July	1,500,000	1,050,000	25,000	450,000	1.667%	25,000	9,503
	August	1,500,000	1,025,000	25,000	475,000	1.667%	25,000	9,276
	September	1,500,000	1,000,000	25,000	500,000	1.667%	25,000	9,050
	October	1,500,000	975,000	25,000	525,000	1.667%	25,000	8,824
	November	1,500,000	950,000	25,000	550,000	1.667%	25,000	8,598
	December	1,500,000	925,000	25,000	575,000	1.667%	25,000	8,371
Year 3								
	January	1,500,000	900,000	25,000	600,000	1.667%	25,000	8,145
	February	1,500,000	875,000	25,000	625,000	1.667%	25,000	7,919
	March	1,500,000	850,000	25,000	650,000	1.667%	25,000	7,693
	April	1,500,000	825,000	25,000	675,000	1.667%	25,000	7,466
	May	1,500,000	800,000	25,000	700,000	1.667%	25,000	7,240
	June	1,500,000	775,000	25,000	725,000	1.667%	25,000	7,014
	July	1,500,000	750,000	25,000	750,000	1.667%	25,000	6,788
	August	1,500,000	725,000	25,000	775,000	1.667%	25,000	6,561
	September	1,500,000	700,000	25,000	800,000	1.667%	25,000	6,335
	October	1,500,000	675,000	25,000	825,000	1.667%	25,000	6,109
	November	1,500,000	650,000	25,000	850,000	1.667%	25,000	5,883
	December	1,500,000	625,000	25,000	875,000	1.667%	25,000	5,656
Year 4								
	January	1,500,000	600,000	25,000	900,000	1.667%	25,000	5,430
	February	1,500,000	575,000	25,000	925,000	1.667%	25,000	5,204
	March	1,500,000	550,000	25,000	950,000	1.667%	25,000	4,978
	April	1,500,000	525,000	25,000	975,000	1.667%	25,000	4,751
	May	1,500,000	500,000	25,000	1,000,000	1.667%	25,000	4,525
	June	1,500,000	475,000	25,000	1,025,000	1.667%	25,000	4,299
	July	1,500,000	450,000	25,000	1,050,000	1.667%	25,000	4,073
	August	1,500,000	425,000	25,000	1,075,000	1.667%	25,000	3,846
	September	1,500,000	400,000	25,000	1,100,000	1.667%	25,000	3,620
	October	1,500,000	375,000	25,000	1,125,000	1.667%	25,000	3,394
	November	1,500,000	350,000	25,000	1,150,000	1.667%	25,000	3,168
	December	1,500,000	325,000	25,000	1,175,000	1.667%	25,000	2,941
Year 5								
	January	1,500,000	300,000	25,000	1,200,000	1.667%	25,000	2,715
	February	1,500,000	275,000	25,000	1,225,000	1.667%	25,000	2,489
	March	1,500,000	250,000	25,000	1,250,000	1.667%	25,000	2,263
	April	1,500,000	225,000	25,000	1,275,000	1.667%	25,000	2,036
	May	1,500,000	200,000	25,000	1,300,000	1.667%	25,000	1,810
	June	1,500,000	175,000	25,000	1,325,000	1.667%	25,000	1,584
	July	1,500,000	150,000	25,000	1,350,000	1.667%	25,000	1,358
	August	1,500,000	125,000	25,000	1,375,000	1.667%	25,000	1,131
	September	1,500,000	100,000	25,000	1,400,000	1.667%	25,000	905
	October	1,500,000	75,000	25,000	1,425,000	1.667%	25,000	679
	November	1,500,000	50,000	25,000	1,450,000	1.667%	25,000	453
	December	1,500,000	25,000	25,000	1,475,000	1.667%	25,000	226
	January	1,500,000	-	25,000	1,500,000	1.667%	25,000	-
							1,500,000	400,463
Total Depreciation		1,500,000						
Total Return Charge		400,463						
Total Revenue Requirement		1,900,463						

SCHEDULE OF IMPLEMENTATION AND ADMINISTRATIVE COSTS

Description	
Investment Costs	
Total Depreciation	\$1,500,000
Total Return Charge	\$400,463
Total Revenue Requirement	\$1,900,463
Asset life (Years)	5
Annual Rate	\$380,093
Yearly On-Going Costs	
Yearly process controls	\$36,000
IT maintenance and system support	\$150,000
Payment control and revenue reporting	\$21,600
Total Yearly Incremental Administrative Costs	\$207,600
Total Yearly Rate	\$587,693
Consolidated Bill Fee Calculation	
Forecasted Switched AEP-Ohio Customers	
Residential	626,403
Small Commercial	136,600
Total Switched Non-Industrial Customers	763,003
Yearly Administration Fee per Consolidated Bill	\$0.77

AEP OHIO EX. NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Ohio Power Company for Authority to	)	Case No. 13-2385-EL-SSO
Establish a Standard Service Offer)	
Pursuant to §4928.143, Revised Code,)	
in the Form of an Electric Security Plan)	
In the Matter of the Application of)	
Ohio Power Company for Approval of	)	Case No. 13-2386-EL-AAM
Certain Accounting Authority)	

DIRECT TESTIMONY OF
DAVID M. ROUSH
IN SUPPORT OF AEP OHIO'S
ELECTRIC SECURITY PLAN

Filed: December 20, 2013

INDEX TO DIRECT TESTIMONY OF
DAVID M. ROUSH

	<u>Page No.</u>
Personal Data	1
Purpose of Testimony	2
Requested Rate Changes.....	3
Design of the Standard Service Offer Rates	4
Implementation and Customer Bill Impacts	6

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
DAVID M. ROUSH
ON BEHALF OF
OHIO POWER COMPANY

1 **PERSONAL DATA**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is David M. Roush. My business address is 1 Riverside Plaza, Columbus, Ohio
4 43215.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed as Director - Regulated Pricing and Analysis for American Electric Power
7 Service Corporation (AEPSC), a wholly owned subsidiary of American Electric Power
8 Company, Inc. (AEP). AEP is the parent company of Ohio Power Company (OPCo),
9 referred to as AEP Ohio or the Company. Columbus Southern Power Company (CSP)
10 and OPCo merged on December 31, 2011 and the surviving company is OPCo. Rate
11 Zones were maintained for the former CSP and OPCo service territories.

12 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**
13 **BACKGROUND?**

14 A. I graduated from The Ohio State University (OSU) in 1989 with a Bachelor of Science
15 degree in mathematics with a computer and information science minor. In 1999, I earned
16 a Master of Business Administration degree from The University of Dayton. I have
17 completed both the EEI Electric Rate Fundamentals and Advanced Courses. In 2003, I
18 completed the AEP/OSU Strategic Leadership Program.

1 In 1989, I joined AEPSC as a Rate Assistant. Since that time I have progressed
2 through various positions and was promoted to my current position of Director –
3 Regulated Pricing and Analysis in June 2010. My responsibilities include the oversight
4 of the preparation of cost-of-service and rate design analyses for the AEP System
5 operating companies, and oversight of the preparation of special contracts and pricing for
6 customers.

7 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN ANY REGULATORY**
8 **PROCEEDINGS?**

9 A. Yes. I have submitted testimony before the Public Utilities Commission of Ohio
10 (Commission), the Indiana Utility Regulatory Commission, the Michigan Public Service
11 Commission, the Public Service Commission of Kentucky and the Public Service
12 Commission of West Virginia regarding cost-of-service, rate design and other rates and
13 tariff related issues.

14 **PURPOSE OF TESTIMONY**

15 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

16 A. The purpose of my testimony is to discuss certain features of AEP Ohio's Electric
17 Security Plan (ESP III) filing pursuant to Am. Sub S. B. No. 221 (S.B. 221).
18 Specifically, I summarize AEP Ohio's requested rate relief as supported by a number of
19 the Company witnesses, explain the design of the Company's proposed rates and certain
20 riders, and provide the resulting rate impacts on OPCo customers by rate zone.

21 **Q. WHAT EXHIBITS ARE YOU SPONSORING?**

22 A. I am sponsoring the following exhibits:

23 Exhibit DMR-1 Summary of Proposed ESP Increases

1	Exhibit DMR-2	Example Calculation of Auction Rider Rates
2	Exhibit DMR-3	SSO Customer Typical Bills
3	Exhibit DMR-4	Shopping Customer Typical Bills

4 **REQUESTED RATE CHANGES**

5 **Q. HAVE YOU PREPARED A SUMMARY OF AEP OHIO'S REQUESTED RATE**
6 **CHANGES UNDER ESP III?**

7 A. Yes. Exhibit DMR-1 summarizes the impact of various components of AEP Ohio's
8 request based upon the information provided to me by Company witnesses. Exhibit
9 DMR-1 includes two summaries, one for Standard Service Offer (SSO) customers and
10 one for shopping customers. Exhibit DMR-1 shows the elimination of base generation
11 rates and the introduction of several riders related to the implementation of a full Auction
12 for SSO customers, the continuation of a number of riders, the introduction of new riders
13 and the modification of certain existing riders. Since AEP Ohio's actual rates that will be
14 in effect in May 2015 are not known at this time, I have used current rates and known
15 rate changes to provide a comparison to ESP III rates. For the ESP III generation rates as
16 well as current rates for shopping customers, I have used the results of the recent Duke
17 auction to estimate energy prices and the applicable PJM Reliability Pricing Model
18 (RPM) auction price to estimate capacity prices.

19 Exhibit DMR-1 does not show any estimate of any final reconciliations of
20 over/under-recovery balances in existence as of May 31, 2015 for any riders that will be
21 ending such as the Fuel Adjustment Clause (FAC) or the Transmission Cost Recovery
22 Rider (TCRR).

23

1 **DESIGN OF THE STANDARD SERVICE OFFER RATES**

2 **Q. PLEASE EXPLAIN AEP OHIO'S CHANGES TO ITS STANDARD SERVICE**
3 **OFFER RATES.**

4 A. In this case, AEP Ohio is proposing to entirely eliminate the existing generation charges
5 which were part of the transition during the current ESP period. Such charges include the
6 base generation charges included in its Standard Service Offer tariffs as well as the Fixed
7 Cost Rider and Auction Phase-In Rider.

8 **Q. PLEASE EXPLAIN HOW THE STANDARD SERVICE OFFER RATES WILL**
9 **BE DETERMINED?**

10 A. For non-shopping customers, the Standard Service Offer (SSO) rates will be determined
11 based on a competitive bid auction which will result in a bundled price for capacity,
12 energy and market-based transmission services stated as a price in \$/MWh as discussed
13 in Company witness LaCasse's testimony. Since there will be multiple auctions for a
14 particular June through May delivery year, the tranche-weighted average auction price
15 will be determined for each particular delivery year as shown on page 1 of Exhibit DMR-
16 2. Once that tranche-weighted average price is determined for a delivery year, that price
17 will be subdivided into a capacity price and an energy price. The capacity price will be
18 determined using the PJM final zonal capacity price for the delivery year as shown on
19 page 2 of Exhibit DMR-2. The energy price will be the remainder after deducting the
20 capacity price from the tranche-weighted average auction price.

21 Unique rates will then be determined for each of the following classes:
22 Residential; General Service -- demand-metered secondary, primary, and

1 subtransmission/transmission voltages; General Service non-demand metered secondary;
2 and lighting.

3 Capacity prices for each class of customers, including a gross-up for taxes, are
4 computed as shown on page 3 of Exhibit DMR-2. The capacity prices are determined
5 based upon each class's contribution to the PJM 5 Coincident Peaks (CP), and computed
6 as a rate per kWh. These are the Rider GENC rates, which will be updated annually to
7 reflect the PJM final zonal capacity price for the delivery year.

8 Finally, the energy prices for each class of customers are computed as shown on
9 page 4 of Exhibit DMR-2. These energy prices are the Rider GENE rates and have been
10 computed using the seasonal factor set forth in the auction rules, loss factors and include
11 a gross-up for taxes. The Rider GENE rates will also be updated annually to reflect the
12 results of the competitive bid auctions for the delivery year.

13 This calculation methodology is consistent with the manner in which the
14 Commission has approved the conversion of auction prices into customer rates for other
15 Ohio utilities. AEP Ohio proposes to reconcile any over- or under-recoveries related to
16 Rider GENE and Rider GENC through the Auction Cost Reconciliation Rider (ACRR) as
17 discussed by Company witness Moore, to ensure that no more, or less, than the actual
18 costs incurred are collected.

19 Since the auctions have not been conducted, the values in Exhibit DMR-2 are for
20 illustration purposes only. Exhibit DMR-2 is based upon actual load data for June 2012
21 through May 2013 based on the most recent level of shopping. For illustration only, the
22 Company has used the energy clearing price from Duke Energy's November 2013
23 auction.

IMPLEMENTATION AND CUSTOMER BILL IMPACTS

Q. WHEN WILL AEP OHIO FILE AND IMPLEMENT THE PROPOSED ESP RATES?

A. As discussed by Company witness Moore, upon approval of the proposed ESP by the Commission, AEP Ohio will file compliance tariffs to be effective for bills rendered beginning with the first billing cycle of June 2015.

Q. WHAT IMPACT WILL AEP OHIO'S ESP HAVE ON CUSTOMERS' TOTAL BILLS?

A. Upon implementation, residential customers using 1,000 kWh of electricity per month would see an estimated monthly rate decrease of \$10.80 for CSP Rate Zone customers and \$6.10 for OPCo Rate Zone customers beginning in June 2015. The following table illustrates the rate changes for select residential, commercial and industrial customers.

Columbus Southern Power Rate Zone							
Household	Summer Monthly Bills			Winter Monthly Bills			Tariff
	Current	Proposed	Change	Current	Proposed	Change	
1,000 kWh usage	\$156	\$144	-8%	\$143	\$133	-7%	R-R Bill
2,000 kWh usage	\$306	\$281	-8%	\$230	\$232	1%	R-R Bill
3,000 kWh usage	\$455	\$418	-8%	\$316	\$330	4%	R-R Bill
4,000 kWh usage	\$604	\$555	-8%	\$402	\$428	6%	R-R Bill
Small Business							
1,000 kW demand and 100,000 kWh usage	\$17,749	\$14,238	-20%	\$17,749	\$13,916	-22%	GS-2 Primary
1,000 kW demand and 300,000 kWh usage	\$37,245	\$29,876	-20%	\$37,245	\$28,910	-22%	GS-3 Primary
Industrial Business							
20,000 kW demand and 6 million kWh usage	\$507,465	\$423,228	-17%	\$507,465	\$404,268	-20%	GS-4
20,000 kW demand and 12 million kWh usage	\$832,612	\$775,112	-7%	\$832,612	\$737,192	-11%	GS-4

Ohio Power Rate Zone							
Household	Summer Monthly Bills			Winter Monthly Bills			Tariff
	Current	Proposed	Change	Current	Proposed	Change	
1,000 kWh usage	\$141	\$137	-3%	\$141	\$133	-5%	RS Bill
2,000 kWh usage	\$265	\$261	-2%	\$265	\$254	-4%	RS Bill
3,000 kWh usage	\$389	\$384	-1%	\$389	\$374	-4%	RS Bill
4,000 kWh usage	\$513	\$507	-1%	\$513	\$494	-4%	RS Bill
Small Business							
1,000 kW demand and 100,000 kWh usage	\$16,896	\$15,521	-8%	\$16,896	\$15,199	-10%	GS-2 Primary
1,000 kW demand and 300,000 kWh usage	\$35,403	\$30,715	-13%	\$35,403	\$29,749	-16%	GS-2 Primary
Industrial Business							
20,000 kW demand and 6 million kWh usage	\$584,463	\$443,698	-24%	\$584,463	\$424,738	-27%	GS-4 Transmission
20,000 kW demand and 12 million kWh usage	\$897,602	\$816,035	-9%	\$897,602	\$778,115	-13%	GS-4 Transmission

1 Exhibit DMR-3 shows the percentage increases for SSO customers at various “typical”
2 usage levels for each major tariff schedule. Exhibit DMR-4 shows the percentage
3 increases for shopping customers at various “typical” usage levels for each major tariff
4 schedule. Exhibit DMR-4 assumes that the shopping customers are currently receiving
5 and will continue to receive a 10% discount from the SSO price to compare.

6 **Q. WHAT IMPACT WOULD A \$5 PER MWH CHANGE IN THE AUCTION**
7 **CLEARING PRICE HAVE ON CUSTOMERS’ TOTAL BILLS?**

8 A. The following table illustrates the effect that a \$5 per MWh change in the auction
9 clearing price would have on residential customers using 1,000 kWh of electricity per
10 month:

Auction Price:	\$5 / MWh Lower	Baseline	\$5 / MWh Higher
CSP Rate Zone	-\$16.11 /mth	-\$10.80 /mth	-\$5.50 /mth
OP Rate Zone	-\$11.41 / mth	-\$6.10 /mth	-\$0.79 /mth

11 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

12 A. Yes it does.

Estimated ESP III Impacts on a Total Company Basis
Values in \$ per Metered MWh

SSO Customers	ESP II		ESP III		
	Current Rates & <u>Known Changes 1/</u> (Nov 2012 - Oct 2013)		Proposed <u>Rates</u> (Jun 2015 - May 2016)	Proposed <u>Rates</u> (Jun 2016 - May 2017)	Proposed <u>Rates</u> (Jun 2017 - May 2018)
Base G / Generation Capacity	25.28		12.12	5.39	8.74 2/
FAC / Generation Energy	38.42		41.40	43.68	42.54 3/
<u>Riders</u>					
DIR	2.99 1/		4.14	4.93	5.61
SSWR	-		0.09	0.15	0.19
ESRR	0.79		0.74	0.74	0.76
PPAR	-		0.00	0.00	0.00 4/
ACRR	-		0.05	0.05	0.05 5/
<u>All Other T&D & Riders</u>					
RSR	4.00 1/		4.00	4.00	4.00
PIRR	2.29		2.29	2.29	2.29
TCRR/TURR/BTCR	11.36		11.36	11.36	11.36
gridSMART (Phase 1)	0.07		-	-	-
All Other D & Riders	26.07		26.07	26.07	26.07
Total \$ /MWh	111.27		102.26	98.66	101.61
% Change over Current			-8%	-11%	-9%

Shopping Customers	ESP II		ESP III		
	Estimated <u>Rates</u> (Jan - May 2015)		Proposed <u>Rates</u> (Jun 2015 - May 2016)	Proposed <u>Rates</u> (Jun 2016 - May 2017)	Proposed <u>Rates</u> (Jun 2017 - May 2018)
Market G Capacity	11.41 2/		12.12	5.39	8.74 2/
Market G Energy	42.54 6/		42.54	42.54	42.54 6/
<u>Riders</u>					
DIR	2.99 1/		4.14	4.93	5.61
SSWR	-		0.09	0.15	0.19
ESRR	0.79		0.74	0.74	0.76
PPAR	-		0.00	0.00	0.00 4/
<u>All Other T&D & Riders</u>					
RSR	4.00 1/		4.00	4.00	4.00
PIRR	2.29		2.29	2.29	2.29
TCRR/TURR/BTCR	11.36		11.36	11.36	11.36
gridSMART (Phase 1)	0.07		-	-	-
All Other D & Riders	26.07		26.07	26.07	26.07
Total \$ /MWh	101.52		103.35	97.47	101.56
% Change over Current			2%	-4%	0%

1/ Known Rate Changes are June 2014 RSR Increase and DIR at ESP II Cap for 2014/2015

2/ RPM Capacity Prices, 2017/2018 Price estimated at average of 2015/2016 and 2016/2017 prices

3/ Energy prices resulting from Auction Blending

4/ Net cost/benefit of OVEC is shown as neutral

5/ Estimated costs to perform ESP III auctions

6/ Non-Capacity Component of Duke November 2013 Auction Price for 2014/2015, Grossed-up for losses and taxes

Calculation of Blended Competitive Bid Price
Illustration based on Duke November 2013 Auction Result and Future RPM Prices

Delivery Period: June 2015 - May 2016

<u>Line</u>	<u>Procurement Date</u>	<u>No. of Tranches</u>	<u>Delivery Period</u>	<u>Clearing Price</u>
1	Sep-14	33	June 2015 - May 2016	\$ 51.78 /MWh
2	Sep-14	17	June 2015 - May 2017	\$ 48.60 /MWh
3	Mar-15	33	June 2015 - May 2016	\$ 51.78 /MWh
4	Mar-15	17	June 2015 - May 2017	\$ 48.60 /MWh
5	Total	100		
6	Blended Competitive Bid Price			\$ 50.70 /MWh

Delivery Period: June 2016 - May 2017

<u>Line</u>	<u>Procurement Date</u>	<u>No. of Tranches</u>	<u>Delivery Period</u>	<u>Clearing Price</u>
1	Sep-14	17	June 2015 - May 2017	\$ 48.60 /MWh
2	Mar-15	17	June 2015 - May 2017	\$ 48.60 /MWh
3	Sep-15	33	June 2016 - May 2017	\$ 45.41 /MWh
4	Mar-16	33	June 2016 - May 2017	\$ 45.41 /MWh
5	Total	100		
6	Blended Competitive Bid Price			\$ 46.49 /MWh

Delivery Period: June 2017 - May 2018

<u>Line</u>	<u>Procurement Date</u>	<u>No. of Tranches</u>	<u>Delivery Period</u>	<u>Clearing Price</u>
1	Sep-16	50	June 2017 - May 2018	\$ 48.58 /MWh
2	Mar-17	50	June 2017 - May 2018	\$ 48.58 /MWh
3	Total	100		
4	Blended Competitive Bid Price			\$ 48.58 /MWh

Source Data:

<u>Delivery Period</u>	<u>Duke Nov-13 Auction Energy</u>	<u>RPM Capacity</u>			<u>All-In Price</u>
		<u>15/16</u>	<u>16/17</u>	<u>17/18</u>	
June 2015 - May 2016	40.30	11.48			51.78
June 2015 - May 2017	40.30	11.48	5.11		48.60
June 2016 - May 2017	40.30		5.11		45.41
June 2017 - May 2018	40.30			8.28	48.58

Calculation of Capacity Revenue Requirement in \$/MWh

<u>Line</u>	<u>Description</u>	<u>2015/2016</u>			<u>2016/2017</u>		<u>2017/2018</u>	
		<u>Secondary</u>	<u>Primary</u>	<u>Sub/Tran</u>	<u>Total</u>	<u>Total</u>	<u>Total</u>	<u>Total</u>
1	SSO Load - 5 CP at Meter	3,022	96	167	3,285 MW			
2	Transmission and Distribution Losses	1.0932	1.0552	1.0341				
3	5 CP at Generator (1) x (2)	3,304	102	172	3,578 MW	3,578 MW	3,578 MW	
4	Days in Period				366	365	365	
5	MW-days (3) x (4)				<u>1,309,524</u>	<u>1,305,946</u>	<u>1,305,946</u>	
6	Final Zonal Capacity Price*				\$156.42 /MW-day	\$69.81 /MW-day	\$113.12 /MW-day	
7	Capacity Revenue Requirement (5) x (6)				<u>\$ 204,834,214</u>	<u>\$ 91,173,170</u>	<u>\$ 147,723,864</u>	

<u>Line</u>	<u>Description</u>	<u>Secondary</u>	<u>Primary</u>	<u>Sub/Tran</u>	<u>Total</u>
8	Energy at Meter (MWh)	13,944,226	622,561	2,411,475	16,978,262
9	Transmission and Distribution Losses **	1.0604	1.0235	1.0031	
10	Energy for PJM Settlement (MWh) (8) x (9)	<u>14,786,513</u>	<u>637,219</u>	<u>2,418,895</u>	<u>17,842,627</u>
11	Capacity Revenue Requirement (\$/MWh) (7) / (10)			\$ 11.48	\$ 5.11

* Final Zonal Capacity Price consists of:

RPM Auction Clearing Price	\$135.72 /MW-day
Final Zonal Scaling Factor	1.07862
Forecast Pool Requirement	1.0902

Note that the 2017/2018 Capacity Price is estimated at average of 2015/2016 and 2016/2017

** Loss Factors reduced by 3% for marginal loss deration

Calculation of Class Capacity Rates

<u>Line</u>	<u>Description</u>	<u>Total</u>	<u>Residential</u>	<u>GS Non Demand</u>		<u>GS Secondary</u>	<u>GS Primary</u>	<u>GS Sub/Tran</u>	<u>Lighting</u>
				<u>Secondary</u>	<u>Demand</u>				
1	SSO Load - 5 CP at Meter	3,285	2,445	76		502	96	167	-
2	Transmission and Distribution Losses		1.0932	1.0932		1.0932	1.0552	1.0341	1.0932
3	5 CP at Generator (1) x (2)	3,578	2,673	83		549	102	172	-
4	2015/2016 Capacity Revenue Requirement on (3)	\$ 204,834,214	153,005,583	4,742,434		31,402,604	5,826,369	9,857,224	-
5	Energy at the Meter (MWh)	16,978,262	10,545,734	450,911		2,804,957	622,561	2,411,475	142,624
6	2015/2016 Capacity Rate (\$/MWh) (4) / (5)	\$	14.51	\$ 10.52		\$ 11.20	\$ 9.36	\$ 4.09	\$ -
7	Tax Gross-up*		1.00435	1.00435		1.00435	1.00435	1.00435	1.00435
8	2015/2016 Rider GENC (\$/MWh) (6) x (7)	\$	14.57	\$ 10.56		\$ 11.24	\$ 9.40	\$ 4.11	\$ -
9	2016/2017 Capacity Revenue Requirement on (3)	\$ 91,173,170	68,103,877	2,110,891		13,977,523	2,593,359	4,387,521	-
10	2016/2017 Rider GENC (\$/MWh) [(9) / (5)] x (7)	\$	6.49	\$ 4.70		\$ 5.00	\$ 4.18	\$ 1.83	\$ -
11	2017/2018 Capacity Revenue Requirement on (3)	\$ 147,723,864	110,345,706	3,420,184		22,647,164	4,201,904	7,108,906	-
12	2017/2018 Rider GENC (\$/MWh) [(11) / (5)] x (7)	\$	10.51	\$ 7.62		\$ 8.11	\$ 6.78	\$ 2.96	\$ -

* Tax Gross-up includes: CAT Tax, PUCO and OCC Assessments

Calculation of Energy and Total Rates

			2015/2016			2016/2017			2017/2018		
			RIDER GENE****	RIDER GENC	Total Charge	RIDER GENE****	RIDER GENC	Total Charge	RIDER GENE****	RIDER GENC	Total Charge
Blended Competitive Bid Price			\$ 50.70 /MWh			\$ 46.49 /MWh			\$ 48.58 /MWh		
Estimated Capacity Price			\$ 11.48 /MWh			\$ 5.11 /MWh			\$ 8.28 /MWh		
Residual Energy Price			\$ 39.22 /MWh			\$ 41.38 /MWh			\$ 40.30 /MWh		
Tax Gross-up*		1.00435									
	Rate Schedule	Season	Loss**	Factors Season***							
Residential		Summer	1.0604	1.05		\$ 43.86	\$ 14.57	\$ 58.43	\$ 46.27	\$ 6.49	\$ 52.76
		Winter	1.0604	0.97		\$ 40.52	\$ 14.57	\$ 55.09	\$ 42.75	\$ 6.49	\$ 49.24
GS Non Demand Secondary		Summer	1.0604	1.05		\$ 43.86	\$ 10.56	\$ 54.42	\$ 46.27	\$ 4.70	\$ 50.97
		Winter	1.0604	0.97		\$ 40.52	\$ 10.56	\$ 51.08	\$ 42.75	\$ 4.70	\$ 47.45
GS Secondary		Summer	1.0604	1.05		\$ 43.86	\$ 11.24	\$ 55.10	\$ 46.27	\$ 5.00	\$ 51.27
		Winter	1.0604	0.97		\$ 40.52	\$ 11.24	\$ 51.76	\$ 42.75	\$ 5.00	\$ 47.75
GS Primary		Summer	1.0235	1.05		\$ 42.33	\$ 9.40	\$ 51.73	\$ 44.67	\$ 4.18	\$ 48.85
		Winter	1.0235	0.97		\$ 39.11	\$ 9.40	\$ 48.51	\$ 41.26	\$ 4.18	\$ 45.44
GS Sub/Tran		Summer	1.0031	1.05		\$ 41.49	\$ 4.11	\$ 45.60	\$ 43.77	\$ 1.83	\$ 45.60
		Winter	1.0031	0.97		\$ 38.33	\$ 4.11	\$ 42.44	\$ 40.44	\$ 1.83	\$ 42.27
Lighting		Summer	1.0604	1.05		\$ 43.86	\$ -	\$ 43.86	\$ 46.27	\$ -	\$ 46.27
		Winter	1.0604	0.97		\$ 40.52	\$ -	\$ 40.52	\$ 42.75	\$ -	\$ 42.75
* Tax Gross-up includes: CAT Tax, PUCO and OCC Assessments											
** Loss Factors reduced by 3% for marginal loss deration											
*** For Illustration, Duke's seasonal factors shown											
***** Residual Energy Price x Tax Gross-up x Loss Factor x Seasonal Factor											
Annualized Factors for Typical Bills (4 Summer Months / 8 Winter Months)											
Residential		Annual				\$ 41.63	\$ 14.57	\$ 56.20	\$ 43.92	\$ 6.49	\$ 50.41
GS Non Demand Secondary		Annual				\$ 41.63	\$ 10.56	\$ 52.19	\$ 43.92	\$ 4.70	\$ 48.62
GS Secondary		Annual				\$ 41.63	\$ 11.24	\$ 52.87	\$ 43.92	\$ 5.00	\$ 48.92
GS Primary		Annual				\$ 40.18	\$ 9.40	\$ 49.58	\$ 42.40	\$ 4.18	\$ 46.58
GS Sub/Tran		Annual				\$ 39.38	\$ 4.11	\$ 43.49	\$ 41.55	\$ 1.83	\$ 43.38
Lighting		Annual				\$ 41.63	\$ -	\$ 41.63	\$ 43.92	\$ -	\$ 43.92

* Tax Gross-up includes: CAT Tax, PUCO and OCC Assessments

*** Loss Factors reduced by 3% for marginal loss deration

*** For illustration, Duke's seasonal factors shown

***** Residual Energy Price x Tax Gross-up x Loss Factor x Seasonal Factor

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-I)	% Increase (L = K/J)
R-R-1 Summer		0	6.38	6.61	0.23	3.61%	6.66	0.25	3.75%	7.07	0.21	3.08%
		30	10.55	10.62	0.07	0.66%	10.74	0.12	1.16%	11.08	0.33	3.11%
		70	16.12	15.96	(0.16)	-0.99%	15.92	(0.04)	-0.27%	16.42	0.50	3.13%
		120	23.08	22.64	(0.44)	-1.91%	22.39	(0.25)	-1.11%	23.09	0.70	3.14%
		200	34.21	33.33	(0.88)	-2.57%	32.75	(0.58)	-1.75%	33.78	1.03	3.15%
		300	48.13	46.70	(1.43)	-2.97%	45.70	(1.00)	-2.14%	47.14	1.44	3.16%
		500	75.96	73.42	(2.54)	-3.34%	71.59	(1.83)	-2.50%	73.85	2.26	3.16%
		700	103.90	100.15	(3.65)	-3.52%	97.48	(2.67)	-2.66%	100.57	3.08	3.16%
R-R-1 Winter		0	6.38	6.61	0.23	3.61%	6.66	0.25	3.75%	7.07	0.21	3.08%
		30	10.55	10.62	0.07	0.66%	10.74	0.12	1.12%	10.97	0.34	3.17%
		70	16.12	15.73	(0.39)	-2.42%	15.67	(0.06)	-0.36%	15.18	0.50	3.22%
		120	23.08	22.24	(0.84)	-3.64%	21.97	(0.27)	-1.23%	22.68	0.71	3.25%
		200	34.21	32.67	(1.54)	-4.50%	32.05	(0.62)	-1.90%	33.10	1.05	3.27%
		300	48.13	45.69	(2.44)	-5.07%	44.63	(1.06)	-2.31%	46.10	1.47	3.29%
		500	75.96	71.75	(4.21)	-5.54%	68.83	(1.92)	-2.68%	72.13	2.30	3.30%
		700	103.90	97.81	(6.09)	-5.87%	95.02	(2.79)	-2.86%	98.16	3.14	3.30%
		800	117.71	110.84	(6.87)	-5.84%	107.61	(3.23)	-2.91%	111.17	3.56	3.31%
		1,000	135.01	130.54	(4.47)	-3.31%	128.21	(4.33)	-3.32%	130.40	4.19	3.32%
		1,250	156.64	155.17	(1.47)	-0.94%	149.45	(5.72)	-3.69%	154.43	4.98	3.33%
		1,500	178.27	179.80	1.53	0.86%	172.70	(7.10)	-4.05%	178.47	5.78	3.34%
		2,000	221.52	229.06	7.54	3.40%	219.19	(9.87)	-4.51%	226.55	7.36	3.36%
		4,000	393.61	425.19	31.58	8.02%	404.25	(20.94)	-5.03%	417.94	13.69	3.36%
		5,000	479.66	523.25	43.59	9.09%	496.77	(26.48)	-5.06%	513.63	16.86	3.39%
RR Summer		0	6.38	6.61	0.23	3.61%	6.66	0.25	3.75%	7.07	0.21	3.08%
		30	10.67	10.73	(0.14)	-1.29%	10.86	0.13	1.19%	11.20	0.34	3.11%
		70	16.86	16.21	(0.65)	-3.86%	16.18	(0.03)	-0.21%	16.88	0.51	3.13%
		120	24.35	23.08	(1.27)	-5.22%	22.84	(0.24)	-1.02%	23.56	0.72	3.14%
		200	36.33	34.05	(2.28)	-6.28%	33.49	(0.59)	-1.64%	34.55	1.06	3.15%
		300	51.30	47.78	(3.52)	-6.86%	48.82	(0.96)	-2.01%	48.30	1.48	3.16%
		500	81.25	75.22	(6.03)	-7.42%	73.45	(1.77)	-2.35%	73.77	2.32	3.16%
		800	126.17	116.99	(9.18)	-7.27%	118.42	(2.97)	-2.56%	117.00	3.59	3.16%
		1,000	156.12	143.84	(12.28)	-7.87%	140.06	(3.78)	-2.55%	144.49	4.43	3.16%
		1,200	186.07	171.26	(14.79)	-7.95%	166.89	(4.59)	-2.68%	171.97	5.27	3.16%
		1,500	230.99	212.45	(18.54)	-8.03%	206.66	(5.79)	-2.73%	213.19	6.54	3.16%
		2,000	305.86	281.06	(24.80)	-8.11%	273.25	(7.81)	-2.78%	281.90	8.65	3.17%
		4,000	604.43	554.60	(49.83)	-8.24%	538.73	(15.87)	-2.86%	555.82	17.09	3.17%
		5,000	753.71	691.37	(62.34)	-8.27%	671.47	(19.90)	-2.88%	692.78	21.31	3.17%
		8,000	1,201.55	1,101.87	(99.68)	-8.31%	1,089.69	(31.98)	-2.90%	1,103.65	33.96	3.17%
		10,000	1,500.12	1,375.20	(124.92)	-8.33%	1,335.16	(40.04)	-2.91%	1,377.56	42.40	3.18%
RR Winter		0	6.38	6.61	0.23	3.61%	6.66	0.25	3.75%	7.07	0.21	3.08%
		30	10.67	10.63	(0.24)	-2.21%	10.75	0.12	1.15%	11.09	0.34	3.17%
		70	16.86	15.98	(0.88)	-5.22%	15.93	(0.05)	-0.29%	16.45	0.51	3.22%
		120	24.35	22.68	(1.67)	-6.86%	22.42	(0.25)	-1.13%	23.15	0.73	3.24%
		200	36.33	33.39	(2.94)	-8.09%	32.80	(0.59)	-1.78%	33.87	1.07	3.27%
		300	51.30	46.78	(4.52)	-8.81%	45.77	(1.01)	-2.17%	47.27	1.50	3.28%
		500	81.25	73.65	(7.70)	-9.48%	71.69	(1.86)	-2.52%	74.05	2.36	3.29%
		800	126.17	113.72	(12.45)	-9.87%	110.60	(3.12)	-2.74%	114.25	3.65	3.30%
		1,000	143.47	133.42	(10.05)	-7.00%	129.19	(4.23)	-3.17%	133.48	4.28	3.32%
		1,200	160.77	153.13	(7.64)	-4.75%	147.80	(5.33)	-3.48%	152.71	4.92	3.33%
		1,500	186.72	182.68	(4.04)	-2.18%	175.69	(6.99)	-3.83%	181.55	5.87	3.34%
		2,000	229.98	231.95	1.97	0.86%	222.19	(9.76)	-4.21%	229.64	7.45	3.35%
		4,000	402.07	426.07	24.00	6.47%	407.23	(20.84)	-4.97%	421.02	13.78	3.38%
		5,000	488.11	526.13	38.02	7.79%	499.78	(26.37)	-5.01%	516.71	16.93	3.39%
		8,000	746.25	820.32	74.07	9.93%	777.34	(42.98)	-5.24%	803.79	26.45	3.40%
		10,000	918.34	1,016.44	98.10	10.68%	962.38	(54.06)	-5.32%	995.17	32.79	3.41%
RR (SWH) Summer	80 gal.	500	64.09	62.28	(1.81)	-2.82%	60.03	(2.25)	-3.62%	61.93	1.91	3.18%
	80 gal.	800	109.01	103.45	(5.56)	-5.10%	99.99	(3.46)	-3.35%	103.16	3.17	3.17%
	80 gal.	1,000	138.96	130.89	(8.07)	-5.81%	126.62	(4.27)	-3.26%	130.64	4.02	3.17%
	80 gal.	1,500	213.83	199.51	(14.32)	-6.70%	193.23	(6.28)	-3.15%	199.35	6.13	3.17%
	80 gal.	2,000	288.70	268.12	(20.58)	-7.13%	259.82	(8.30)	-3.09%	268.06	8.23	3.17%
	80 gal.	4,000	587.26	541.65	(45.61)	-7.77%	525.30	(16.35)	-3.02%	541.97	16.67	3.17%
	80 gal.	6,000	885.83	815.19	(70.64)	-7.97%	790.78	(24.41)	-2.99%	815.89	25.11	3.18%
	80 gal.	8,000	1,184.39	1,088.72	(95.67)	-8.08%	1,058.25	(32.47)	-2.98%	1,089.80	33.55	3.18%
	100 gal.	500	64.09	62.28	(1.81)	-2.82%	60.03	(2.25)	-3.62%	61.93	1.91	3.18%
	100 gal.	800	103.29	99.13	(4.16)	-4.03%	95.51	(3.62)	-3.55%	99.54	3.03	3.18%
	100 gal.	1,000	133.24	126.58	(6.66)	-5.00%	122.15	(4.43)	-3.30%	126.03	3.98	3.17%
	100 gal.	1,500	205.11	185.19	(19.92)	-9.71%	186.75	(6.44)	-3.30%	194.73	5.99	3.17%
	100 gal.	2,000	282.98	263.90	(19.18)	-6.78%	255.34	(8.46)	-3.21%	263.44	8.10	3.17%
	100 gal.	4,000	581.64	537.34	(44.20)	-7.60%	520.83	(16.51)	-3.07%	537.36	16.53	3.17%
	100 gal.	6,000	880.11	810.87	(69.24)	-7.87%	786.30	(24.57)	-3.03%	811.27	24.97	3.18%
	100 gal.	8,000	1,178.67	1,084.41	(94.26)	-8.00%	1,051.78	(32.63)	-3.01%	1,085.19	33.41	3.18%
	120 gal.	500	64.09	62.28	(1.81)	-2.82%	60.03	(2.25)	-3.62%	61.93	1.91	3.18%
	120 gal.	800	97.57	94.82	(2.75)	-2.82%	91.04	(3.78)	-3.99%	93.93	2.90	3.18%
	120 gal.	1,000	127.51	122.26	(5.25)	-4.12%	117.67	(4.59)	-3.75%	121.41	3.74	3.18%
	120 gal.	1,500	202.39	190.88	(11.51)	-5.69%	184.27	(6.61)	-3.46%	190.12	5.85	3.17%
	120 gal.	2,000	277.26	259.49	(17.77)	-6.41%	250.87	(8.62)	-3.32%	258.53	7.96	3.17%
	120 gal.	4,000	575.82	533.02	(42.80)	-7.43%	516.34	(16.68)	-3.13%	532.74	16.40	3.18%
	120 gal.	6,000	874.38	806.96	(67.42)	-7.71%	781.83	(24.73)	-3.07%	806.66	24.63	3.18%
	120 gal.	8,000	1,172.95	1,080.09	(92.86)	-7.92%	1,047.30	(32.79)	-3.04%	1,080.57	33.27	3.18%
	120 gal.	10,000	1,471.51	1,353.63	(117.88)	-8.01%	1,312.78	(40.65)	-3.02%	1,354.49	41.71	3.18%

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F=E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I=H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L=K/G)
RR												
(SWM)	80 gal.	500	64.09	60.61	(3.48)	-5.43%	58.27	(2.34)	-3.86%	60.21	1.95	3.34%
Winter	80 gal.	800	109.01	100.77	(8.24)	-7.56%	97.17	(3.60)	-3.58%	100.40	3.24	3.33%
	80 gal.	1,000	138.96	127.55	(11.41)	-8.21%	123.10	(4.45)	-3.49%	127.20	4.10	3.33%
	80 gal.	1,500	187.74	179.52	(8.22)	-4.38%	172.41	(7.11)	-3.96%	178.17	5.77	3.34%
	80 gal.	2,000	230.99	228.78	(2.21)	-0.96%	218.90	(9.88)	-4.32%	226.25	7.35	3.36%
	80 gal.	4,000	403.09	424.90	21.81	5.41%	403.94	(20.96)	-4.93%	417.63	13.68	3.39%
	80 gal.	6,000	575.16	621.03	45.85	7.97%	589.00	(32.03)	-5.16%	609.02	20.02	3.40%
	80 gal.	8,000	747.27	817.15	69.88	9.35%	774.05	(43.10)	-5.27%	800.40	26.35	3.40%
	100 gal.	500	64.09	60.61	(3.48)	-5.43%	58.27	(2.34)	-3.86%	60.21	1.95	3.34%
	100 gal.	800	103.29	98.46	(4.83)	-4.61%	92.69	(3.77)	-3.91%	95.79	3.10	3.34%
	100 gal.	1,000	133.24	123.24	(10.00)	-7.51%	118.63	(4.51)	-3.74%	122.59	3.96	3.34%
	100 gal.	1,500	189.14	179.57	(9.57)	-5.06%	172.46	(7.11)	-3.96%	178.23	5.77	3.34%
	100 gal.	2,000	232.39	228.83	(3.56)	-1.53%	218.95	(9.88)	-4.32%	226.30	7.35	3.36%
	100 gal.	4,000	404.48	424.96	20.48	5.06%	404.01	(20.95)	-4.93%	417.89	13.69	3.39%
	100 gal.	6,000	576.57	621.05	44.51	7.72%	589.05	(32.03)	-5.16%	609.07	20.02	3.40%
	100 gal.	8,000	748.66	817.21	68.55	9.16%	774.11	(43.10)	-5.27%	800.46	26.35	3.40%
	120 gal.	500	64.09	60.61	(3.48)	-5.43%	58.27	(2.34)	-3.86%	60.21	1.95	3.34%
	120 gal.	800	97.57	92.15	(5.42)	-5.55%	88.22	(3.33)	-4.26%	91.18	2.96	3.36%
	120 gal.	1,000	127.51	118.92	(8.59)	-6.74%	114.15	(4.77)	-4.01%	117.97	3.82	3.35%
	120 gal.	1,500	189.74	178.79	(10.95)	-5.77%	171.65	(7.14)	-3.98%	177.39	5.74	3.35%
	120 gal.	2,000	232.99	228.05	(4.94)	-2.12%	218.14	(9.51)	-4.35%	225.47	7.33	3.36%
	120 gal.	4,000	405.08	424.18	19.10	4.72%	403.20	(20.98)	-4.95%	416.96	13.66	3.39%
	120 gal.	6,000	577.17	620.30	43.13	7.47%	588.24	(32.06)	-5.17%	608.24	19.99	3.40%
	120 gal.	8,000	749.26	816.43	67.17	8.96%	773.30	(43.13)	-5.22%	799.63	26.33	3.40%
	120 gal.	10,000	921.36	1,012.55	91.19	9.90%	958.35	(94.20)	-9.35%	991.01	32.66	3.41%
RLM												
Summer	5	500	84.26	80.64	(3.62)	-4.30%	79.08	(1.56)	-1.94%	81.57	2.49	3.15%
	5	1,500	197.83	186.31	(11.32)	-5.73%	179.53	(6.78)	-3.64%	185.24	5.70	3.18%
	5	2,500	299.06	280.16	(18.90)	-6.32%	267.73	(12.43)	-4.44%	276.28	8.54	3.19%
	10	1,000	157.40	150.02	(7.38)	-4.69%	146.47	(3.55)	-2.37%	151.10	4.63	3.16%
	10	3,000	381.46	359.22	(22.24)	-5.83%	345.18	(14.04)	-3.91%	356.17	10.99	3.18%
	10	5,000	583.87	546.40	(37.41)	-6.41%	521.12	(25.34)	-4.64%	537.79	16.67	3.20%
	20	2,000	301.46	287.40	(14.36)	-4.76%	279.52	(7.58)	-2.64%	288.38	8.84	3.16%
	20	5,000	748.67	704.59	(44.08)	-5.89%	676.03	(26.56)	-4.05%	697.60	21.57	3.19%
	20	10,000	1,153.49	1,079.07	(74.42)	-6.45%	1,027.91	(51.16)	-4.74%	1,060.83	32.92	3.20%
	30	3,000	445.06	423.73	(21.33)	-4.79%	412.11	(11.62)	-2.74%	425.17	13.06	3.17%
	30	9,000	1,115.98	1,049.96	(66.02)	-5.91%	1,008.87	(43.09)	-4.10%	1,039.02	32.15	3.16%
	30	15,000	1,725.10	1,611.58	(113.52)	-6.58%	1,534.70	(76.98)	-4.78%	1,583.87	49.18	3.20%
	40	4,000	588.66	560.36	(28.30)	-4.81%	544.71	(15.65)	-2.79%	561.98	17.27	3.17%
	40	12,000	1,483.09	1,395.33	(87.76)	-5.92%	1,337.72	(57.81)	-4.13%	1,380.44	42.73	3.19%
	40	20,000	2,289.92	2,141.49	(148.43)	-6.48%	2,038.68	(102.81)	-4.80%	2,104.11	65.43	3.21%
	50	5,000	732.26	696.98	(35.28)	-4.82%	677.30	(19.68)	-2.82%	698.78	21.49	3.17%
	50	15,000	1,850.30	1,740.70	(109.60)	-5.92%	1,668.56	(72.14)	-4.14%	1,721.87	53.30	3.19%
	50	25,000	2,856.73	2,671.30	(185.43)	-6.49%	2,542.67	(128.63)	-4.82%	2,624.35	81.68	3.21%
RLM												
Winter	5	500	84.26	78.97	(5.29)	-6.28%	77.32	(1.65)	-2.09%	79.85	2.53	3.26%
	5	1,500	192.76	181.30	(11.46)	-5.95%	174.25	(7.05)	-3.66%	180.08	5.82	3.34%
	5	2,500	287.70	271.81	(15.89)	-5.52%	258.33	(12.89)	-4.74%	267.89	8.74	3.35%
	10	1,000	148.32	139.65	(8.67)	-5.85%	135.87	(3.98)	-2.85%	140.36	4.49	3.30%
	10	3,000	344.50	328.73	(15.77)	-4.58%	313.38	(15.35)	-4.67%	323.98	10.58	3.38%
	10	5,000	533.92	509.29	(24.63)	-4.61%	482.28	(27.01)	-5.30%	498.70	16.41	3.40%
	20	2,000	256.08	246.30	(9.78)	-3.82%	237.08	(9.22)	-3.75%	244.99	7.91	3.34%
	20	6,000	647.52	623.13	(24.39)	-3.77%	591.18	(31.95)	-5.13%	611.26	20.08	3.40%
	20	10,000	1,028.36	984.25	(44.11)	-4.10%	928.98	(65.27)	-6.62%	960.74	31.75	3.42%
	30	3,000	363.39	352.29	(11.10)	-3.05%	337.83	(14.46)	-4.11%	349.16	11.33	3.35%
	30	9,000	950.54	917.53	(33.01)	-3.47%	868.38	(48.55)	-5.29%	898.57	29.59	3.41%
	30	15,000	1,518.80	1,459.21	(59.59)	-3.92%	1,375.58	(83.53)	-5.72%	1,422.78	47.10	3.42%
	40	4,000	470.89	458.27	(12.62)	-2.64%	438.57	(19.70)	-4.30%	453.32	14.75	3.36%
	40	12,000	1,253.55	1,211.93	(41.62)	-3.32%	1,146.77	(65.16)	-5.39%	1,185.87	39.10	3.41%
	40	20,000	2,008.44	1,931.37	(77.07)	-3.84%	1,819.58	(111.79)	-5.79%	1,882.02	62.44	3.43%
	50	5,000	577.99	564.26	(13.73)	-2.38%	539.32	(24.94)	-4.42%	557.49	18.17	3.37%
	50	15,000	1,566.57	1,505.33	(61.24)	-3.92%	1,424.57	(81.76)	-5.43%	1,473.18	48.61	3.41%
	50	25,000	2,498.08	2,403.53	(94.55)	-3.78%	2,263.48	(140.05)	-5.83%	2,341.27	77.78	3.44%
RS-ES	0.13											
Peak - 13%	0.87	1,000	116.07	113.00	(3.07)	-2.64%	108.03	(4.97)	-4.40%	111.60	3.57	3.31%
Off Peak - 87%		2,000	222.13	215.88	(6.25)	-2.85%	205.24	(10.34)	-4.80%	212.06	6.82	3.32%
		3,000	327.73	317.70	(10.03)	-3.06%	301.99	(15.71)	-4.94%	312.05	10.06	3.33%
		4,000	433.34	419.82	(13.52)	-3.12%	398.75	(21.07)	-5.02%	412.05	13.30	3.34%
		5,000	538.94	521.94	(17.00)	-3.15%	495.50	(26.44)	-5.07%	512.04	16.54	3.34%
		6,000	644.54	624.06	(20.48)	-3.18%	582.25	(31.81)	-5.10%	612.04	19.78	3.34%
		7,000	750.15	726.18	(23.97)	-3.20%	689.01	(37.17)	-5.12%	712.03	23.02	3.34%
		8,000	856.75	828.30	(28.45)	-3.21%	785.76	(42.54)	-5.14%	812.03	26.26	3.34%
RS-ES	0.18											
Peak - 18%	0.82	1,000	121.27	117.13	(4.14)	-3.41%	112.31	(4.82)	-4.11%	116.02	3.71	3.30%
Off Peak - 82%		2,000	232.54	223.84	(8.70)	-3.74%	213.81	(10.03)	-4.48%	220.89	7.06	3.31%
		3,000	343.34	330.08	(13.26)	-3.86%	314.54	(15.24)	-4.62%	325.29	10.45	3.32%
		4,000	454.15	436.33	(17.82)	-3.92%	415.88	(20.45)	-4.69%	428.70	13.83	3.32%
		5,000	564.96	542.57	(22.39)	-3.96%	516.91	(25.66)	-4.73%	534.11	17.20	3.33%
		6,000	675.77	648.82	(26.95)	-3.99%	617.94	(30.88)	-4.76%	638.52	20.57	3.33%
		7,000	786.57	755.06	(31.51)	-4.01%	718.97	(36.09)	-4.78%	742.92	23.95	3.33%
		8,000	897.38	861.31	(36.07)	-4.02%	820.01	(41.30)	-4.79%	847.33	27.32	3.33%
RS-ES	0.3											
Peak - 30%	0.7	1,000	133.76	127.03	(6.73)	-5.03%	122.58	(4.45)	-3.50%	126.81	4.02	3.28%
Off Peak - 70%		2,000	257.52	243.64	(13.88)	-5.39%	234.35	(9.29)	-3.61%	242.07	7.71	3.29%
		3,000	380.51	359.79	(20.72)	-5.42%	345.86	(14.13)	-3.63%	357.07	11.40	3.30%
		4,000	504.11	475.94	(28.17)	-5.59%	456.97	(18.97)	-3.98%	472.07	15.09	3.30%
		5,000	627.41	592.09	(35.32)	-5.63%	568.28	(23.81)	-4.02%	587.07	18.78	3.31%
		6,000	750.71	708.24	(42.47)	-5.66%	679.60	(28.54)	-4.04%	702.07	22.48	3.31%
		7,000	874.00	824.39	(49.61)	-5.68%	790.31	(33.48)	-4.06%	817.07	26.17	3.31%
		8,000	997.30	940.53	(56.77)	-5.69%	902.21	(38.32)	-4.07%	932.06	29.86	3.31%

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-I)	% Increase (L = K/J)
GS-1 Unmetered												
		50	12.07	11.08	(0.99)	-8.20%	11.16	0.08	0.69%	11.46	0.31	2.74%
		100	18.16	16.32	(1.84)	-10.13%	16.26	(0.06)	-0.36%	16.69	0.43	2.64%
		150	24.25	21.55	(2.70)	-11.13%	21.35	(0.20)	-0.93%	21.90	0.55	2.59%
		200	30.34	26.79	(3.55)	-11.70%	26.45	(0.34)	-1.26%	27.13	0.68	2.56%
		400	54.71	47.74	(6.97)	-12.74%	46.85	(0.89)	-1.86%	48.02	1.17	2.50%
		700	91.26	79.16	(12.10)	-13.26%	77.44	(1.72)	-2.17%	79.36	1.91	2.47%
		1,000	127.82	110.58	(17.24)	-13.49%	108.04	(2.54)	-2.30%	110.69	2.65	2.48%
		1,500	188.74	162.95	(25.79)	-13.66%	158.03	(3.92)	-2.41%	162.92	3.89	2.45%
		2,000	249.66	215.32	(34.34)	-13.75%	210.02	(5.30)	-2.46%	215.14	5.13	2.44%
		4,000	492.42	423.87	(68.55)	-13.92%	413.05	(10.82)	-2.55%	423.12	10.07	2.44%
GS-1												
		200	40.85	30.64	(10.21)	-24.99%	30.44	(0.20)	-0.64%	31.24	0.80	2.62%
		400	72.06	51.89	(20.17)	-28.11%	50.84	(0.75)	-1.45%	52.13	1.29	2.54%
		600	103.27	72.53	(30.74)	-29.77%	71.23	(1.30)	-1.79%	73.02	1.79	2.51%
		800	134.48	93.48	(41.00)	-30.49%	91.63	(1.85)	-1.98%	93.91	2.28	2.49%
		1,000	165.69	114.43	(51.26)	-30.94%	112.03	(2.40)	-2.10%	114.50	2.77	2.48%
		1,200	190.14	135.38	(54.76)	-28.80%	132.42	(2.96)	-2.18%	135.69	3.27	2.47%
		1,600	239.03	177.27	(61.76)	-25.84%	173.21	(4.06)	-2.29%	177.47	4.26	2.46%
		1,800	263.47	198.22	(65.25)	-24.77%	193.61	(4.61)	-2.33%	198.36	4.75	2.45%
		2,000	287.92	219.17	(68.75)	-23.88%	214.01	(5.16)	-2.36%	219.25	5.25	2.45%
		2,400	335.62	260.88	(75.74)	-22.50%	254.81	(6.27)	-2.40%	260.85	6.23	2.45%
		3,000	409.68	323.44	(86.24)	-21.05%	315.52	(7.92)	-2.45%	323.24	7.72	2.45%
		3,200	434.04	344.30	(89.74)	-20.68%	335.83	(8.47)	-2.46%	344.04	8.21	2.44%
		4,000	531.45	427.72	(103.73)	-19.52%	417.04	(10.68)	-2.50%	427.23	10.19	2.44%
GS-2												
		10	2,500	374.16	(93.85)	-25.03%	273.35	(7.16)	-2.55%	280.58	7.24	2.65%
		10	3,000	430.22	(113.03)	-26.27%	308.05	(9.14)	-2.88%	316.27	8.22	2.67%
		10	12,500	1,813.94	(469.25)	-25.87%	1,306.88	(37.81)	-2.81%	1,341.37	34.49	2.64%
		50	15,000	2,094.23	(566.11)	-27.03%	1,480.44	(47.68)	-3.12%	1,519.65	39.41	2.66%
		100	25,000	3,608.05	(936.74)	-26.02%	2,593.20	(76.11)	-2.85%	2,661.75	68.55	2.64%
		100	30,000	4,165.83	(1,132.45)	-27.18%	2,937.52	(95.86)	-3.16%	3,015.92	78.40	2.67%
		250	62,500	8,986.21	(2,347.22)	-26.12%	5,447.97	(191.02)	-3.48%	5,618.71	170.73	2.65%
		250	75,000	10,380.86	(2,831.51)	-27.28%	7,308.75	(240.39)	-3.18%	7,504.12	195.36	2.67%
		500	125,000	17,949.80	(4,694.58)	-26.15%	12,872.59	(382.53)	-2.99%	13,213.64	341.04	2.65%
		500	150,000	20,738.70	(5,663.28)	-27.31%	14,594.18	(481.28)	-3.19%	14,984.46	390.29	2.67%
		750	187,500	26,913.39	(7,042.14)	-26.17%	19,297.21	(574.04)	-2.99%	19,808.57	511.36	2.65%
		750	225,000	31,096.74	(8,495.01)	-27.32%	21,879.57	(722.16)	-3.20%	22,464.80	585.23	2.67%
		1,000	250,000	35,875.97	(9,388.80)	-26.17%	25,721.82	(765.55)	-2.98%	26,403.48	681.67	2.65%
		1,000	300,000	41,454.77	(10,126.75)	-24.32%	29,164.97	(863.05)	-3.20%	29,945.13	780.17	2.68%
		2,000	500,000	71,731.33	(18,779.44)	-26.18%	51,420.29	(1,631.60)	-2.99%	52,783.20	1,362.91	2.65%
		2,000	600,000	82,886.93	(22,653.74)	-27.33%	58,308.59	(1,926.80)	-3.20%	59,866.50	1,559.91	2.68%
Supplement 18												
GS-2												
		10	2,500	363.06	(82.55)	-22.74%	273.35	(7.16)	-2.55%	280.58	7.24	2.65%
		10	3,000	419.12	(101.93)	-24.32%	308.05	(9.14)	-2.88%	316.27	8.22	2.67%
		50	12,500	1,758.44	(413.75)	-23.53%	1,306.88	(37.81)	-2.81%	1,341.37	34.49	2.64%
		50	15,000	2,038.73	(510.61)	-25.05%	1,480.44	(47.68)	-3.12%	1,519.65	39.41	2.66%
		100	25,000	3,497.05	(936.74)	-26.87%	2,593.20	(76.11)	-2.85%	2,661.75	68.55	2.64%
		100	30,000	4,054.83	(1,021.45)	-25.19%	2,937.52	(95.86)	-3.16%	3,015.92	78.40	2.67%
		250	62,500	8,706.71	(2,065.72)	-23.77%	6,447.97	(191.02)	-2.88%	6,618.71	170.73	2.65%
		250	75,000	10,103.16	(2,549.12)	-25.28%	7,308.75	(240.39)	-3.18%	7,504.12	195.36	2.67%
		500	125,000	17,394.80	(4,138.68)	-23.80%	12,872.59	(382.53)	-2.99%	13,213.64	341.04	2.65%
		500	150,000	20,183.70	(5,108.26)	-25.31%	14,594.18	(481.28)	-3.19%	14,984.46	390.29	2.67%
		750	187,500	26,080.89	(7,208.64)	-27.31%	19,297.21	(574.04)	-2.99%	19,808.57	511.36	2.65%
		750	225,000	30,264.24	(8,662.51)	-28.32%	21,879.57	(722.16)	-3.20%	22,464.80	585.23	2.67%
		1,000	250,000	34,766.97	(9,279.60)	-26.43%	25,721.82	(765.55)	-2.99%	26,403.48	681.67	2.65%
		1,000	300,000	40,344.77	(10,216.75)	-25.32%	29,164.97	(863.05)	-3.20%	29,945.13	780.17	2.68%
		2,000	500,000	69,511.33	(16,559.44)	-23.82%	51,420.29	(1,531.60)	-2.99%	52,783.20	1,362.91	2.65%
		2,000	600,000	80,666.93	(20,433.74)	-25.33%	58,308.59	(1,926.80)	-3.20%	59,866.50	1,559.91	2.68%
GS-2 TOD												
		10	500	189.34	(13.97)	-7.38%	177.66	2.29	1.30%	182.27	4.62	2.60%
		10	1,000	257.82	(22.23)	-8.64%	228.02	0.79	0.35%	232.02	6.01	2.68%
		50	3,000	849.90	(76.69)	-9.01%	750.33	3.64	0.48%	777.45	19.11	2.52%
		50	6,000	1,259.40	(1,052.52)	-83.64%	1,047.16	(5.36)	-0.51%	1,074.61	27.45	2.52%
		100	9,000	2,067.17	(1,783.40)	-86.32%	1,760.11	(3.29)	-0.19%	1,805.34	45.23	2.57%
		100	12,000	2,476.67	(2,061.23)	-83.24%	2,048.94	(12.29)	-0.60%	2,102.51	53.56	2.61%
		250	15,000	4,080.98	(3,598.24)	-88.18%	3,610.17	11.93	0.33%	3,700.38	90.21	2.50%
		250	17,000	4,352.86	(3,795.67)	-87.19%	3,801.60	5.33	0.16%	3,897.37	95.77	2.52%
		500	20,000	6,752.02	(6,157.13)	-91.11%	6,209.42	52.29	0.85%	6,360.71	151.30	2.44%
		500	24,000	7,295.78	(6,551.99)	-89.81%	6,592.27	40.28	0.61%	6,754.89	162.41	2.46%
GS-2 TOD												
		10	500	195.18	(17.98)	-9.21%	179.55	2.35	1.33%	184.23	4.67	2.60%
		10	1,000	269.49	(28.91)	-10.73%	229.83	0.92	0.40%	235.95	6.12	2.68%
		50	3,000	884.91	(79.71)	-9.01%	789.76	4.05	0.51%	799.22	19.46	2.53%
		50	6,000	1,329.43	(1,074.56)	-80.83%	1,070.01	(4.55)	-0.42%	1,098.15	28.14	2.63%
		100	9,000	2,172.21	(1,796.46)	-82.71%	1,794.38	(2.06)	-0.12%	1,840.64	46.26	2.58%
		100	12,000	2,618.73	(2,105.30)	-80.37%	2,094.63	(10.67)	-0.51%	2,149.57	54.94	2.62%
		250	15,000	4,256.05	(3,653.34)	-85.84%	3,667.29	13.95	0.38%	3,759.22	91.94	2.51%
		250	17,000	4,551.27	(3,858.11)	-84.76%	3,866.32	8.21	0.21%	3,964.05	97.72	2.53%
		500	20,000	6,985.45	(6,230.59)	-89.34%	6,285.57	54.98	0.88%	6,439.16	153.59	2.44%
		500	24,000	7,575.89	(6,840.14)	-90.42%	6,883.86	43.52	0.63%	6,948.82	165.17	2.47%
GS-2 TOD												
		10	500	201.01	(17.97)	-8.94%	181.46	2.42	1.35%	186.19	4.73	2.61%
		10	1,000	281.16	(23.58)	-8.39%	233.58	1.06	0.45%	239.87	6.24	2.67%
		50	3,000	919.92	(77.73)	-8.45%	781.18	4.45	0.57%	800.98	19.80	2.54%
		50	6,000	1,399.45	(1,096.59)	-78.36%	1,092.85	(3.74)	-0.34%	1,121.68	28.53	2.64%
		100	9,000	2,277.25	(1,829.52)	-80.34%	1,828.66	(0.66)	-0.05%	1,875.95	47.29	2.59%
		100	12,000	2,756.78	(2,149.38)	-78.33%	2,140.32	(9.06)	-0.42%	2,196.64	56.32	2.63%
		250	15,000	4,431.12	(3,708.43)	-83.69%	3,724.40	15.97	0.43%	3,818.05	93.66	2.51%
		250	17,000	4,749.68	(3,920.55)	-82.55%	3,931.05	10.50	0.27%	4,030.73	99.67	2.54%
		500	20,000	7,218.87	(6,304.05)	-87.33%	6,361.72	57.67	0.91%	6,517.81	155.89	2.45%
		500	24,000	7,856.01	(6,728.29)	-85.78%	6,775.04	48.75	0.72%	6,942.96	167.92	2.48%

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F=E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I=H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-I)	% Increase (L=K/J)
GS-2												
Primary												
	50	5,000	1,047.13	868.48	(178.65)	-17.06%	868.55	0.07	0.01%	868.84	20.29	2.34%
	50	8,750	1,458.00	1,130.57	(327.43)	-22.46%	1,119.39	(11.18)	-0.99%	1,145.27	25.88	2.31%
	50	12,500	1,868.87	1,392.67	(476.20)	-25.48%	1,370.24	(22.43)	-1.61%	1,401.71	31.47	2.30%
	100	10,000	1,928.68	1,583.34	(345.34)	-18.94%	1,557.15	(6.19)	-0.40%	1,592.34	35.19	2.26%
	100	17,500	2,749.02	2,086.13	(662.89)	-24.11%	2,057.44	(28.69)	-1.38%	2,103.81	46.37	2.25%
	100	25,000	3,566.56	2,606.12	(960.44)	-26.93%	2,554.93	(51.19)	-1.96%	2,612.47	57.54	2.25%
	250	25,000	4,567.73	3,642.32	(925.41)	-20.26%	3,617.35	(24.97)	-0.69%	3,697.23	79.89	2.21%
	250	43,750	6,011.59	4,942.29	(1,069.30)	-25.25%	4,861.07	(81.22)	-1.64%	4,968.89	107.82	2.22%
	250	62,500	8,655.44	6,242.26	(2,413.18)	-27.89%	6,104.79	(137.47)	-2.20%	6,240.55	135.76	2.22%
	500	50,000	8,961.48	7,102.61	(1,858.87)	-20.74%	7,046.33	(56.28)	-0.79%	7,200.71	154.38	2.19%
	500	87,500	13,049.19	9,702.56	(3,346.63)	-25.65%	9,533.78	(168.78)	-1.74%	9,744.03	210.25	2.21%
	500	125,000	17,136.90	12,302.51	(4,834.39)	-28.21%	12,021.23	(281.28)	-2.35%	12,287.36	266.13	2.21%
	1,000	100,000	17,746.69	14,023.21	(3,723.48)	-20.99%	13,904.32	(118.89)	-0.85%	14,207.68	303.36	2.18%
	1,000	175,000	25,924.40	19,223.10	(6,701.30)	-25.85%	18,573.21	(343.89)	-1.79%	19,294.32	415.11	2.20%
	1,000	250,000	34,099.81	24,422.99	(9,676.82)	-28.36%	23,854.10	(568.89)	-2.33%	24,380.96	526.86	2.21%
	1,500	150,000	28,536.49	20,943.80	(5,592.69)	-21.08%	20,762.30	(181.50)	-0.87%	21,214.54	452.24	2.18%
	1,500	262,500	38,799.61	28,743.64	(10,055.97)	-25.92%	28,224.64	(519.00)	-1.81%	28,844.60	619.97	2.20%
	1,500	375,000	51,062.73	35,543.48	(14,519.25)	-28.43%	35,686.98	(856.50)	-2.34%	36,474.57	787.59	2.21%
	2,000	200,000	35,324.00	27,864.40	(7,459.60)	-21.12%	27,620.29	(244.11)	-0.88%	28,221.61	601.32	2.18%
	2,000	350,000	51,674.82	38,264.18	(13,410.64)	-25.95%	37,570.07	(694.11)	-1.81%	38,394.89	824.82	2.20%
	2,000	500,000	68,025.65	48,663.97	(19,361.68)	-28.46%	47,519.68	(1,144.11)	-2.35%	48,568.18	1,048.50	2.21%
	3,000	300,000	52,899.01	41,705.59	(11,193.42)	-21.16%	41,336.26	(369.33)	-0.89%	42,235.54	899.29	2.18%
	3,000	525,000	77,425.24	57,305.26	(20,119.98)	-25.99%	56,260.93	(1,044.33)	-1.82%	57,495.46	1,234.54	2.19%
	3,000	750,000	101,951.48	72,904.94	(29,046.54)	-28.49%	71,165.61	(1,719.33)	-2.36%	72,755.39	1,569.79	2.21%
Supplement 18												
GS-2												
Primary												
	50	5,000	993.63	868.48	(125.15)	-12.60%	868.55	0.07	0.01%	868.84	20.29	2.34%
	50	8,750	1,404.50	1,130.57	(273.93)	-19.50%	1,119.39	(11.18)	-0.99%	1,145.27	25.88	2.31%
	50	12,500	1,815.37	1,392.67	(422.70)	-23.28%	1,370.24	(22.43)	-1.61%	1,401.71	31.47	2.30%
	100	10,000	1,821.68	1,583.34	(238.34)	-14.18%	1,557.15	(6.19)	-0.40%	1,592.34	35.19	2.26%
	100	17,500	2,642.02	2,086.13	(555.89)	-21.04%	2,057.44	(28.69)	-1.38%	2,103.81	46.37	2.25%
	100	25,000	3,459.56	2,606.12	(853.44)	-24.67%	2,554.93	(51.19)	-1.96%	2,612.47	57.54	2.25%
	250	25,000	4,300.23	3,642.32	(657.91)	-15.30%	3,617.35	(24.97)	-0.69%	3,697.23	79.89	2.21%
	250	43,750	6,344.09	4,942.29	(1,401.80)	-22.10%	4,861.07	(81.22)	-1.64%	4,968.89	107.82	2.22%
	250	62,500	8,387.94	6,242.26	(2,145.68)	-25.59%	6,104.79	(137.47)	-2.20%	6,240.55	135.76	2.22%
	500	50,000	8,426.48	7,102.61	(1,323.87)	-15.71%	7,046.33	(56.28)	-0.79%	7,200.71	154.38	2.19%
	500	87,500	12,514.19	9,702.56	(2,811.63)	-22.47%	9,533.78	(168.78)	-1.74%	9,744.03	210.25	2.21%
	500	125,000	16,601.90	12,302.51	(4,299.39)	-25.90%	12,021.23	(281.28)	-2.29%	12,287.36	266.13	2.21%
	1,000	100,000	16,678.99	14,023.21	(2,655.78)	-15.92%	13,904.32	(118.89)	-0.85%	14,207.68	303.36	2.18%
	1,000	175,000	24,854.40	19,223.10	(5,631.30)	-22.66%	18,679.21	(343.89)	-1.79%	19,294.32	415.11	2.20%
	1,000	250,000	33,029.81	24,422.99	(8,606.82)	-26.06%	23,854.10	(568.89)	-2.33%	24,380.96	526.86	2.21%
	1,500	150,000	24,931.49	20,943.80	(3,987.69)	-15.99%	20,762.30	(181.50)	-0.87%	21,214.54	452.24	2.18%
	1,500	262,500	37,194.61	28,743.64	(8,450.97)	-22.72%	28,224.64	(519.00)	-1.81%	28,844.60	619.97	2.20%
	1,500	375,000	49,457.73	35,543.48	(12,914.25)	-26.11%	35,686.98	(856.50)	-2.34%	36,474.57	787.59	2.21%
	2,000	200,000	33,184.00	27,864.40	(5,319.60)	-16.03%	27,620.29	(244.11)	-0.88%	28,221.61	601.32	2.18%
	2,000	350,000	49,534.82	38,264.18	(11,270.64)	-22.75%	37,570.07	(694.11)	-1.81%	38,394.89	824.82	2.20%
	2,000	500,000	65,585.65	48,663.97	(17,221.68)	-26.14%	47,519.68	(1,144.11)	-2.35%	48,568.18	1,048.50	2.21%
	3,000	300,000	49,889.01	41,705.59	(7,983.42)	-16.07%	41,336.26	(369.33)	-0.89%	42,235.54	899.29	2.18%
	3,000	525,000	74,215.24	57,305.26	(16,909.98)	-22.75%	56,260.93	(1,044.33)	-1.82%	57,495.46	1,234.54	2.19%
	3,000	750,000	98,741.48	72,904.94	(25,836.54)	-26.17%	71,165.61	(1,719.33)	-2.36%	72,755.39	1,569.79	2.21%
GS-3												
Secondary												
	50	17,500	2,143.57	1,779.37	(364.20)	-16.99%	1,721.81	(57.56)	-3.23%	1,766.15	44.34	2.57%
	50	22,500	2,460.95	2,143.64	(317.31)	-12.89%	2,068.33	(77.31)	-3.61%	2,120.52	54.19	2.62%
	50	27,500	2,778.33	2,507.91	(270.42)	-9.73%	2,410.85	(97.06)	-3.87%	2,474.89	64.04	2.66%
	100	35,000	4,264.51	3,535.88	(728.63)	-17.09%	3,420.27	(115.61)	-3.27%	3,508.52	88.25	2.58%
	100	45,000	4,899.27	4,294.42	(604.85)	-12.96%	4,109.31	(155.11)	-3.64%	4,217.26	107.95	2.53%
	100	55,000	5,534.03	4,992.96	(541.07)	-9.78%	4,798.35	(194.61)	-3.90%	4,926.00	127.65	2.56%
	250	87,500	10,627.36	8,805.41	(1,821.95)	-17.14%	8,515.64	(289.77)	-3.29%	8,735.63	219.98	2.58%
	250	112,500	12,214.25	10,626.76	(1,587.50)	-13.00%	10,338.24	(388.52)	-3.66%	10,507.48	269.23	2.53%
	250	137,500	13,901.16	12,448.12	(1,353.04)	-9.80%	11,960.85	(487.27)	-3.91%	12,279.34	318.48	2.56%
	500	175,000	21,232.10	17,587.06	(3,645.04)	-17.16%	17,007.93	(580.03)	-3.30%	17,447.48	439.54	2.58%
	500	225,000	24,405.90	21,230.67	(3,175.23)	-13.01%	20,453.14	(777.53)	-3.66%	20,991.19	538.04	2.63%
	500	275,000	27,579.70	24,873.17	(2,706.53)	-9.81%	23,898.34	(975.03)	-3.92%	24,534.89	636.54	2.66%
	1,000	350,000	42,441.57	35,153.06	(7,288.51)	-17.17%	33,892.51	(1,160.55)	-3.30%	34,871.17	878.67	2.58%
	1,000	450,000	48,789.17	42,438.47	(6,350.70)	-13.02%	40,882.92	(1,555.55)	-3.67%	41,958.58	1,075.67	2.63%
	1,000	550,000	55,136.77	49,723.88	(5,412.89)	-9.82%	47,773.33	(1,950.55)	-3.92%	49,045.99	1,272.67	2.66%
	2,000	700,000	84,860.53	70,283.26	(14,577.27)	-17.18%	67,961.66	(2,321.60)	-3.30%	69,718.57	1,756.91	2.59%
	2,000	900,000	97,254.35	84,552.89	(12,701.46)	-13.06%	81,441.09	(3,111.60)	-3.68%	83,992.00	2,500.91	2.64%
	2,000	1,100,000	109,049.89	98,223.65	(10,826.24)	-9.93%	94,322.25	(3,901.60)	-3.97%	96,867.16	2,544.91	2.70%
	3,000	1,050,000	126,303.36	104,437.32	(21,866.04)	-17.31%	100,954.67	(3,482.65)	-3.33%	103,589.82	2,635.15	2.61%
	3,000	1,350,000	143,996.67	124,944.06	(19,052.61)	-13.23%	120,276.41	(4,667.65)	-3.74%	123,902.56	3,226.15	2.68%
	3,000	1,650,000	161,689.98	145,450.80	(16,239.18)	-10.04%	139,598.15	(5,852.65)	-4.02%	143,415.30	3,917.15	2.73%
	4,500	1,575,000	187,570.18	154,771.01	(32,799.17)	-17.49%	149,546.79	(5,224.22)	-3.38%	153,490.31	3,952.52	2.64%
	4,500	2,025,000	214,110.15	185,531.12	(28,579.03)	-13.35%	178,529.40	(7,001.72)	-3.77%	183,368.42	4,839.02	2.71%
	4,500	2,475,000	240,650.11	216,231.23	(24,358.88)	-10.12%	207,512.01	(8,779.22)	-4.06%	213,237.53	5,725.52	2.76%

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E+C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H+D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K+G)
Supplement 18												
GS-3												
Secondary												
	50	17,500	1,782.14	1,779.37	(2.77)	-0.16%	1,721.81	(57.56)	-3.23%	1,766.15	44.34	2.57%
	50	22,500	2,089.52	2,143.64	44.12	2.10%	2,066.33	(77.31)	-3.61%	2,120.52	54.19	2.62%
	50	27,500	2,418.90	2,507.91	89.01	3.77%	2,410.85	(97.06)	-3.87%	2,474.89	64.04	2.66%
	100	35,000	3,541.66	3,535.88	(5.78)	-0.16%	3,420.27	(115.61)	-3.27%	3,508.52	88.25	2.58%
	100	45,000	4,178.42	4,264.42	86.00	2.11%	4,109.31	(155.11)	-3.64%	4,217.26	107.95	2.63%
	100	55,000	4,811.18	4,992.96	181.78	3.78%	4,788.35	(194.61)	-3.90%	4,926.00	127.65	2.66%
	250	87,500	8,820.23	8,805.41	(14.82)	-0.17%	8,515.64	(289.77)	-3.29%	8,735.63	219.98	2.58%
	250	112,500	10,407.13	10,626.76	219.63	2.11%	10,238.24	(388.52)	-3.68%	10,507.48	269.23	2.63%
	250	137,500	11,994.03	12,448.12	454.09	3.79%	11,960.85	(487.27)	-3.91%	12,279.34	318.48	2.66%
	500	175,000	17,617.85	17,587.96	(29.89)	-0.17%	17,007.53	(580.03)	-3.30%	17,447.48	439.54	2.58%
	500	225,000	20,791.65	21,230.67	439.02	2.11%	20,453.14	(777.53)	-3.68%	20,991.19	538.04	2.63%
	500	275,000	23,965.45	24,673.37	707.92	3.79%	23,888.34	(975.03)	-3.92%	24,534.88	646.54	2.68%
	1,000	350,000	35,213.07	35,153.06	(60.01)	-0.17%	33,982.51	(1,160.55)	-3.30%	34,871.17	888.67	2.58%
	1,000	450,000	41,580.67	42,438.47	877.80	2.11%	40,882.92	(1,555.55)	-3.67%	41,958.58	1,075.67	2.63%
	1,000	550,000	47,908.27	49,723.88	1,815.61	3.79%	47,773.33	(1,950.55)	-3.92%	49,045.99	1,272.67	2.66%
	2,000	700,000	70,403.53	70,283.26	(120.27)	-0.17%	67,981.66	(2,321.80)	-3.30%	69,718.57	1,736.91	2.59%
	2,000	900,000	82,797.35	84,552.69	1,755.34	2.12%	81,441.09	(3,111.60)	-3.68%	83,592.00	2,150.91	2.64%
	2,000	1,100,000	94,592.89	98,223.85	3,630.96	3.84%	94,322.25	(3,901.60)	-3.97%	96,867.16	2,544.91	2.70%
	3,000	1,050,000	104,617.86	104,437.32	(180.54)	-0.17%	100,954.67	(3,482.65)	-3.33%	103,589.82	2,635.15	2.61%
	3,000	1,350,000	122,311.17	124,944.06	2,632.89	2.15%	120,276.41	(4,667.65)	-3.74%	123,502.56	3,226.15	2.68%
	3,000	1,650,000	140,004.46	145,450.80	5,446.32	3.89%	139,598.15	(5,852.65)	-4.02%	143,415.30	3,817.15	2.73%
	4,500	1,575,000	155,041.93	154,771.01	(270.92)	-0.17%	149,546.79	(5,224.22)	-3.38%	153,499.31	3,952.52	2.64%
	4,500	2,025,000	181,581.90	185,531.12	3,949.22	2.17%	178,529.40	(7,001.72)	-3.77%	183,368.42	4,839.02	2.71%
	4,500	2,475,000	208,121.86	216,291.23	8,169.37	3.93%	207,512.01	(8,779.22)	-4.06%	213,237.53	5,725.52	2.78%
GS-3												
Primary												
	50	17,500	2,192.15	1,807.92	(384.23)	-17.15%	1,770.49	(37.43)	-2.07%	1,809.41	38.92	2.20%
	50	22,500	2,491.41	2,154.78	(336.63)	-13.51%	2,102.35	(52.43)	-2.43%	2,148.72	46.37	2.21%
	50	27,500	2,800.66	2,501.64	(299.02)	-10.68%	2,434.21	(67.43)	-2.70%	2,488.03	53.82	2.21%
	100	35,000	4,190.32	3,433.83	(756.49)	-18.05%	3,352.64	(81.19)	-2.38%	3,425.08	72.44	2.18%
	100	45,000	4,808.83	4,127.54	(681.29)	-14.17%	4,016.35	(111.19)	-2.69%	4,103.69	87.34	2.17%
	100	55,000	5,427.34	4,821.26	(606.08)	-11.17%	4,880.07	(141.19)	-2.93%	4,782.31	102.24	2.16%
	250	87,500	10,214.83	8,311.53	(1,903.30)	-18.63%	8,099.06	(212.47)	-2.56%	8,272.07	173.01	2.14%
	250	112,500	11,781.11	10,045.82	(1,735.29)	-14.58%	9,758.35	(287.47)	-2.86%	9,968.61	210.26	2.15%
	250	137,500	13,307.39	11,780.11	(1,527.28)	-11.48%	11,417.64	(362.47)	-3.08%	11,665.15	247.51	2.17%
	500	175,000	20,255.67	16,441.05	(3,814.62)	-18.83%	16,009.77	(431.28)	-2.62%	16,350.40	340.63	2.13%
	500	225,000	23,348.23	19,909.63	(3,438.60)	-14.73%	19,328.35	(581.28)	-2.92%	19,743.48	415.13	2.15%
	500	275,000	28,440.79	23,378.21	(5,062.58)	-17.58%	22,646.93	(731.28)	-3.19%	23,136.56	489.63	2.16%
	1,000	350,000	40,337.36	32,700.06	(7,637.30)	-18.93%	31,831.19	(868.89)	-2.68%	32,507.05	675.86	2.12%
	1,000	450,000	46,522.48	39,637.24	(6,885.24)	-14.80%	38,469.35	(1,168.89)	-2.95%	39,293.21	824.86	2.14%
	1,000	550,000	52,707.60	45,674.40	(7,033.20)	-12.59%	45,105.51	(1,468.89)	-3.15%	46,079.37	973.86	2.16%
	2,000	700,000	80,500.74	65,218.14	(15,282.60)	-18.98%	63,474.03	(1,744.11)	-2.67%	64,820.35	1,346.32	2.12%
	2,000	900,000	92,588.59	78,791.07	(13,797.52)	-14.88%	76,446.96	(2,344.11)	-2.98%	78,091.28	1,644.32	2.15%
	2,000	1,100,000	104,040.17	91,765.73	(12,274.44)	-11.80%	88,821.62	(2,944.11)	-3.21%	90,763.94	1,942.32	2.19%
	4,000	1,400,000	158,276.96	127,703.72	(30,573.24)	-19.32%	124,209.16	(3,494.56)	-2.74%	126,896.41	2,687.25	2.16%
	4,000	1,800,000	181,218.12	153,653.04	(27,565.08)	-15.21%	148,958.48	(4,694.56)	-3.06%	152,241.73	3,283.25	2.20%
	4,000	2,200,000	204,159.28	179,602.36	(24,556.92)	-12.03%	173,707.80	(5,894.56)	-3.28%	177,567.05	3,859.25	2.23%
	8,000	2,800,000	312,832.85	251,478.33	(61,354.52)	-19.56%	244,482.89	(6,995.44)	-2.78%	249,851.99	5,369.10	2.20%
	8,000	3,600,000	358,515.17	303,376.97	(55,138.20)	-15.38%	293,981.53	(9,395.44)	-3.10%	300,542.63	6,561.10	2.23%
	8,000	4,400,000	404,397.49	355,275.61	(49,121.88)	-12.15%	343,480.17	(11,795.44)	-3.32%	351,233.27	7,753.10	2.26%
	10,000	3,500,000	389,810.80	313,365.84	(76,444.96)	-19.61%	304,619.75	(8,745.89)	-2.79%	311,329.78	6,710.03	2.20%
	10,000	4,500,000	447,163.70	378,236.94	(68,926.76)	-15.41%	366,493.05	(11,745.89)	-3.11%	374,693.08	8,200.03	2.24%
	10,000	5,500,000	504,516.60	443,112.24	(61,404.36)	-12.17%	428,366.35	(14,745.89)	-3.33%	438,056.38	9,990.03	2.28%
Supplement 18												
GS-3												
Primary												
	50	17,500	1,832.62	1,807.92	(24.70)	-1.35%	1,770.49	(37.43)	-2.07%	1,809.41	38.92	2.20%
	50	22,500	2,141.88	2,154.78	12.90	0.60%	2,102.35	(52.43)	-2.43%	2,148.72	46.37	2.21%
	50	27,500	2,451.14	2,501.64	50.50	2.06%	2,434.21	(67.43)	-2.70%	2,488.03	53.82	2.21%
	100	35,000	3,491.27	3,433.83	(57.44)	-1.65%	3,352.64	(81.19)	-2.38%	3,425.08	72.44	2.16%
	100	45,000	4,109.78	4,127.54	17.76	0.43%	4,016.35	(111.19)	-2.69%	4,103.69	87.34	2.17%
	100	55,000	4,728.29	4,821.26	92.97	1.97%	4,880.07	(141.19)	-2.93%	4,782.31	102.24	2.18%
	250	87,500	8,467.20	8,311.53	(155.67)	-1.84%	8,099.06	(212.47)	-2.56%	8,272.07	173.01	2.14%
	250	112,500	10,013.48	10,045.82	32.34	0.32%	9,758.35	(287.47)	-2.86%	9,968.61	210.26	2.15%
	250	137,500	11,559.76	11,780.11	220.35	1.91%	11,417.64	(362.47)	-3.08%	11,665.15	247.51	2.17%
	500	175,000	16,790.42	16,441.05	(349.37)	-1.91%	16,009.77	(431.28)	-2.62%	16,350.40	340.63	2.13%
	500	225,000	19,852.98	19,909.63	56.65	0.29%	19,328.35	(581.28)	-2.92%	19,743.48	415.13	2.15%
	500	275,000	22,945.54	23,378.21	432.67	1.89%	22,646.93	(731.28)	-3.13%	23,136.56	489.63	2.16%
	1,000	350,000	33,346.56	32,700.06	(646.50)	-1.94%	31,831.19	(868.89)	-2.68%	32,507.05	675.86	2.12%
	1,000	450,000	39,531.98	39,637.24	105.26	0.27%	38,469.35	(1,168.89)	-2.95%	39,293.21	824.86	2.14%
	1,000	550,000	45,717.10	46,574.40	857.30	1.88%	45,105.51	(1,468.89)	-3.15%	46,079.37	973.86	2.16%
	2,000	700,000	66,519.74	65,218.14	(1,301.60)	-1.96%	63,474.03	(1,744.11)	-2.67%	64,820.35	1,346.32	2.12%
	2,000	900,000	78,588.59	78,791.07	202.48	0.26%	76,446.96	(2,344.11)	-2.96%	78,091.28	1,644.32	2.15%
	2,000	1,100,000	90,059.17	91,765.73	1,706.56	1.89%	88,821.62	(2,944.11)	-3.21%	90,763.94	1,942.32	2.19%
	4,000	1,400,000	130,314.96	127,703.72	(2,611.24)	-2.00%	124,209.16	(3,494.56)	-2.74%	126,896.41	2,687.25	2.16%
	4,000	1,800,000	153,256.12	153,653.04	396.92	0.26%	148,958.48	(4,694.56)	-3.06%	152,241.73	3,283.25	2.20%
	4,000	2,200,000	178,197.28	179,602.36	3,405.08	1.93%	173,707.80	(5,894.56)	-3.28%	177,567.05	3,859.25	2.23%
	8,000	2,800,000	256,708.85	251,478.33	(5,230.52)	-2.04%	244,482.89	(6,995.44)	-2.78%	249,851.99	5,369.10	2.20%
	8,000	3,600,000	302,591.17	303,376.97	785.80	0.26%	293,981.53	(9,395.44)	-3.10%	300,542.63	6,561.10	2.23%

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E+C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H+D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K+G)
GS-4	3,000	600,000	79,366.44	48,118.51	(31,247.93)	-39.37%	48,110.71	(7.80)	-0.02%	48,184.32	73.61	0.15%
	3,000	1,200,000	112,929.21	83,089.00	(29,840.21)	-26.42%	83,015.20	(73.80)	-0.09%	83,112.81	97.61	0.12%
	3,000	1,800,000	145,443.87	117,011.38	(28,432.49)	-19.55%	116,871.58	(139.80)	-0.12%	116,983.19	121.61	0.10%
	5,000	1,000,000	117,904.99	78,381.54	(39,523.45)	-33.52%	78,329.74	(51.80)	-0.07%	78,419.35	89.61	0.11%
	5,000	2,000,000	172,096.09	134,918.84	(37,177.25)	-21.60%	134,757.04	(161.80)	-0.12%	134,888.65	129.61	0.10%
	5,000	3,000,000	226,297.19	191,456.14	(34,841.05)	-15.39%	191,184.34	(271.80)	-0.14%	191,353.95	169.61	0.09%
	8,000	1,600,000	174,140.65	122,203.92	(51,936.73)	-29.82%	122,086.12	(117.80)	-0.10%	122,196.73	113.61	0.09%
	8,000	3,200,000	280,846.41	212,663.60	(68,182.81)	-24.27%	212,369.80	(283.80)	-0.14%	212,547.41	177.61	0.08%
	8,000	4,800,000	347,552.17	303,123.28	(44,428.89)	-12.78%	302,653.48	(469.80)	-0.15%	302,895.09	241.61	0.08%
	10,000	2,000,000	211,631.09	151,418.84	(60,212.25)	-28.45%	151,257.04	(161.80)	-0.11%	151,366.85	129.61	0.09%
	10,000	4,000,000	320,013.29	264,493.44	(55,519.85)	-17.35%	264,111.64	(381.80)	-0.14%	264,321.25	209.61	0.08%
	10,000	6,000,000	428,395.49	377,568.04	(50,827.45)	-11.89%	376,966.24	(601.80)	-0.16%	377,255.85	289.61	0.08%
	15,000	3,000,000	305,357.19	224,456.14	(80,901.05)	-26.49%	224,184.34	(271.80)	-0.12%	224,353.95	169.61	0.08%
	15,000	6,000,000	467,930.49	394,088.04	(73,842.45)	-15.78%	393,486.24	(601.80)	-0.15%	393,755.85	269.61	0.07%
	15,000	9,000,000	630,503.79	563,679.94	(66,823.85)	-10.60%	562,748.14	(931.80)	-0.17%	563,157.75	409.61	0.07%
	20,000	4,000,000	399,063.29	297,493.44	(101,569.85)	-25.48%	297,111.64	(381.80)	-0.13%	297,321.25	209.61	0.07%
	20,000	8,000,000	615,847.69	523,642.84	(92,204.85)	-14.97%	522,820.04	(821.80)	-0.16%	523,190.45	369.61	0.07%
	20,000	12,000,000	832,612.09	749,731.84	(82,880.25)	-9.95%	748,530.04	(1,261.80)	-0.17%	749,059.65	529.61	0.07%
30,000	6,000,000	586,535.49	443,568.04	(142,967.45)	-24.37%	442,966.24	(601.80)	-0.14%	443,255.85	289.61	0.07%	
30,000	12,000,000	911,682.09	782,791.84	(128,890.25)	-14.14%	781,530.04	(1,261.80)	-0.16%	782,059.65	529.61	0.07%	
30,000	18,000,000	1,236,828.69	1,122,015.64	(114,813.05)	-9.28%	1,120,093.84	(1,921.80)	-0.17%	1,120,863.45	769.61	0.07%	
AL	Lamp Size											
	Mercury Vapor											
	100 WATT	43	11.38	11.27	(0.11)	-0.97%	11.69	0.42	3.75%	11.92	0.23	1.94%
	175 WATT	72	13.28	13.61	0.33	2.48%	14.12	0.51	3.78%	14.34	0.22	1.53%
	400 WATT	158	23.01	22.93	(0.08)	-0.35%	23.81	0.88	3.82%	24.06	0.26	1.08%
	POST TOP 175 WATT	72	21.14	21.88	0.74	3.50%	22.70	0.82	3.74%	23.17	0.47	2.06%
	High Pressure Sodium											
	100 WATT	40	10.95	10.18	(0.77)	-7.03%	10.56	0.38	3.75%	10.76	0.20	1.91%
	150 WATT	59	13.02	11.89	(1.13)	-8.68%	12.34	0.45	3.77%	12.54	0.20	1.62%
	200 WATT	84	16.97	15.13	(1.84)	-10.84%	15.70	0.57	3.79%	15.93	0.23	1.46%
	250 WATT	103	18.58	16.52	(2.06)	-11.09%	17.15	0.63	3.80%	17.38	0.22	1.26%
	400 WATT	167	24.62	22.48	(2.14)	-8.68%	23.34	0.86	3.83%	23.56	0.22	0.93%
	POST TOP 100 WATT	40	20.79	19.23	(1.56)	-7.50%	19.94	0.71	3.71%	20.43	0.48	2.43%
	POST TOP 150 WATT	59	22.98	20.95	(2.03)	-8.83%	21.73	0.78	3.73%	22.21	0.48	2.22%
	CUT OFF 100 WATT	40	15.35	14.80	(0.55)	-3.58%	15.35	0.55	3.72%	15.70	0.35	2.25%
	CUT OFF 250 WATT	103	25.90	22.79	(3.11)	-12.01%	23.85	0.86	3.76%	24.06	0.41	1.75%
	CUT OFF 400 WATT	167	28.82	28.33	(0.49)	-1.70%	29.40	1.07	3.79%	29.80	0.40	1.36%
	FLOODLIGHT											
	High Pressure Sodium											
	100 WATT	40	11.65	10.75	(0.90)	-7.73%	11.15	0.40	3.75%	11.37	0.22	1.97%
	250 WATT	103	20.75	16.80	(3.95)	-19.04%	17.44	0.64	3.80%	17.66	0.23	1.29%
	400 WATT	167	28.69	22.18	(6.51)	-22.69%	23.03	0.85	3.83%	23.24	0.21	0.90%
	1,000 WATT	378	70.08	38.65	(31.43)	-44.85%	40.15	1.50	3.88%	40.26	0.11	0.27%
Metal Halide												
250 WATT	100	21.85	18.17	(3.68)	-16.84%	18.86	0.69	3.79%	19.14	0.28	1.47%	
400 WATT	158	28.41	22.57	(5.84)	-20.56%	23.43	0.86	3.82%	23.68	0.25	1.05%	
1,000 WATT	378	70.01	38.57	(31.44)	-44.91%	40.07	1.50	3.88%	40.17	0.11	0.27%	
FACILITY CHARGES												
Mast Arm												
8 FT.	0	0.81	0.85	0.04	4.94%	0.88	0.03	3.68%	0.91	0.03	3.03%	
12 FT.	0	1.42	1.50	0.08	5.63%	1.55	0.05	3.66%	1.60	0.05	3.01%	
16 FT.	0	1.89	1.99	0.10	5.29%	2.06	0.07	3.67%	2.13	0.06	3.02%	
20 FT.	0	3.32	3.49	0.17	5.12%	3.62	0.13	3.67%	3.73	0.11	3.01%	
Poles												
Wood	0	3.12	3.28	0.16	5.13%	3.40	0.12	3.67%	3.50	0.10	3.01%	
Aluminum	0	17.08	17.96	0.88	5.15%	18.62	0.66	3.67%	19.18	0.56	3.01%	
Fiberglass	0	25.47	26.78	1.31	5.14%	27.76	0.98	3.67%	28.60	0.84	3.01%	
Each additional 150 foot overhead w/	0	1.01	1.06	0.05	4.95%	1.10	0.04	3.68%	1.13	0.03	3.02%	
Each additional riser pole connection	0	5.01	5.27	0.26	5.19%	5.46	0.19	3.67%	5.63	0.16	3.02%	
Each underground lateral not over 50	0	1.50	1.57	0.07	4.67%	1.63	0.06	3.67%	1.68	0.05	3.02%	
SL	High Pressure Sodium											
	100 WATT	40	11.69	12.10	0.41	3.51%	12.55	0.45	3.74%	12.81	0.26	2.09%
	150 WATT	59	14.07	14.51	0.44	3.13%	15.05	0.54	3.75%	15.34	0.28	1.87%
	200 WATT	84	18.56	19.11	0.55	2.96%	19.83	0.72	3.76%	20.18	0.35	1.78%
	250 WATT	103	21.08	21.67	0.59	2.80%	22.49	0.82	3.77%	22.86	0.38	1.68%
	400 WATT	167	26.73	27.29	0.56	2.10%	28.33	1.04	3.80%	28.69	0.37	1.30%
	CUT OFF 100 WATT	40	15.77	16.39	0.62	3.93%	17.00	0.61	3.72%	17.40	0.40	2.33%
	CUT OFF 250 WATT	103	27.58	26.50	(0.92)	-3.34%	28.57	1.07	3.74%	30.16	0.59	2.00%
	CUT OFF 400 WATT	167	37.30	38.41	1.11	2.98%	39.85	1.44	3.76%	40.57	0.71	1.79%
	Mercury Vapor											
	100 WATT	43	11.06	11.42	0.36	3.25%	11.85	0.43	3.75%	12.08	0.23	1.96%
	175 WATT	72	14.02	14.38	0.37	2.64%	14.93	0.54	3.77%	15.17	0.24	1.61%
	400 WATT	158	25.14	25.66	0.52	2.07%	26.64	0.98	3.80%	26.98	0.34	1.29%
	FACILITY CHARGES											
	Mast Arm											
	12 FT.	0	1.42	1.50	0.08	5.63%	1.55	0.05	3.66%	1.60	0.05	3.01%
	16 FT.	0	1.89	1.99	0.10	5.29%	2.06	0.07	3.67%	2.13	0.06	3.02%
	20 FT.	0	3.32	3.49	0.17	5.12%	3.62	0.13	3.67%	3.73	0.11	3.01%
	Poles											
	Wood	0	1.62	1.71	0.09	5.56%	1.77	0.06	3.68%	1.83	0.06	3.01%
	Aluminum	0	16.87	17.74	0.87	5.16%	18.39	0.85	3.66%	18.94	0.55	3.01%
	Fiberglass	0	25.14	26.44	1.30	5.17%	27.41	0.97	3.67%	28.24	0.83	3.01%
	Each additional 150 foot overhead w/	0	0.95	1.00	0.05	5.26%	1.04	0.04	3.68%	1.07	0.03	3.02%
Each additional riser pole connection	0	4.87	5.12	0.25	5.13%	5.31	0.19	3.67%	5.47	0.16	3.02%	
Each underground lateral not over 50	0	1.55	1.63	0.08	5.16%	1.69	0.06	3.67%	1.74	0.05	3.02%	
Electric Energy Rate												
100	18.14	13.08	(5.06)	-27.89%	13.58	0.50	3.83%	13.70	0.12	0.87%		
250	36.38	23.94	(12.44)	-34.19%	24.87	0.93	3.89%	24.89	0.02	0.09%		
500	66.78	42.04	(24.74)	-37.05%	43.69	1.65	3.93%	43.55	(0.14)	-0.32%		
1,000	127.58	78.24	(49.34)	-38.67%	81.33	3.09	3.95%	80.87	(0.46)	-0.57%		
2,500	309.76	186.62	(123.14)	-39.75%	194.02	7.40	3.96%	192.59	(1.43)	-0.74%		
5,000												

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E÷C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H÷D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K÷G)
RS Summer		0	5.41	5.59	0.18	3.34%	5.80	0.21	3.76%	5.97	0.18	3.08%
		30	9.55	9.58	0.03	0.35%	9.66	0.08	0.82%	9.95	0.30	3.07%
		70	15.07	14.90	(0.16)	-1.06%	14.81	(0.10)	-0.65%	15.26	0.45	3.06%
		120	21.97	21.56	(0.41)	-1.86%	21.24	(0.32)	-1.46%	21.89	0.65	3.06%
		200	33.01	32.21	(0.80)	-2.42%	31.54	(0.87)	-2.07%	32.51	0.96	3.05%
		300	46.81	45.52	(1.29)	-2.75%	44.42	(1.10)	-2.42%	45.77	1.36	3.05%
		500	74.41	72.14	(2.27)	-3.05%	70.16	(1.98)	-2.74%	72.30	2.14	3.05%
		800	115.81	112.07	(3.74)	-3.23%	108.78	(3.29)	-2.94%	112.10	3.32	3.05%
		1,000	140.67	136.81	(3.86)	-2.74%	132.57	(4.24)	-3.10%	136.62	4.04	3.05%
		1,200	165.53	161.55	(3.98)	-2.40%	156.37	(5.18)	-3.21%	161.13	4.77	3.05%
		1,500	202.82	198.66	(4.16)	-2.05%	192.06	(6.60)	-3.32%	197.91	5.85	3.05%
		2,000	264.96	260.50	(4.46)	-1.68%	251.54	(8.97)	-3.44%	258.20	7.66	3.05%
		4,000	512.62	506.97	(5.65)	-1.10%	488.54	(18.43)	-3.63%	503.44	14.91	3.05%
		5,000	636.45	630.20	(6.25)	-0.98%	607.04	(23.16)	-3.67%	625.57	18.53	3.05%
		8,000	1,007.94	999.88	(8.05)	-0.80%	962.54	(37.35)	-3.73%	991.93	29.39	3.05%
	10,000	1,255.60	1,246.35	(9.25)	-0.74%	1,199.55	(46.81)	-3.76%	1,236.18	36.63	3.05%	
	12,000	1,503.26	1,492.81	(10.44)	-0.69%	1,436.55	(56.26)	-3.77%	1,480.42	43.88	3.05%	
	15,000	1,874.75	1,862.51	(12.24)	-0.65%	1,792.05	(70.45)	-3.78%	1,846.79	54.74	3.05%	
RS Winter		0	5.41	5.59	0.18	3.34%	5.80	0.21	3.76%	5.97	0.18	3.08%
		30	9.55	9.48	(0.07)	-0.70%	9.55	0.07	0.77%	9.85	0.30	3.13%
		70	15.07	14.67	(0.40)	-2.63%	14.56	(0.11)	-0.74%	15.02	0.46	3.15%
		120	21.97	21.16	(0.81)	-3.68%	20.82	(0.34)	-1.59%	21.48	0.66	3.17%
		200	33.01	31.54	(1.47)	-4.45%	30.84	(0.70)	-2.22%	31.82	0.98	3.18%
		300	46.81	44.82	(2.29)	-4.90%	43.36	(1.16)	-2.60%	44.74	1.38	3.18%
		500	74.41	70.47	(3.94)	-5.29%	68.40	(2.07)	-2.93%	70.57	2.17	3.19%
		800	115.81	109.40	(6.41)	-5.54%	105.97	(3.44)	-3.14%	109.35	3.38	3.19%
		1,000	140.67	133.47	(7.20)	-5.12%	129.05	(4.42)	-3.31%	133.18	4.12	3.19%
		1,200	165.53	157.54	(7.99)	-4.82%	152.14	(5.40)	-3.43%	157.00	4.86	3.20%
		1,500	202.82	193.65	(9.17)	-4.52%	186.78	(6.87)	-3.55%	192.75	5.97	3.20%
		2,000	264.96	253.82	(11.14)	-4.20%	244.50	(9.33)	-3.67%	252.32	7.82	3.20%
		4,000	512.62	483.61	(19.01)	-3.71%	474.48	(19.15)	-3.88%	489.68	15.23	3.21%
		5,000	636.45	613.50	(22.95)	-3.61%	589.44	(24.06)	-3.92%	608.37	18.93	3.21%
		8,000	1,007.94	973.17	(34.77)	-3.45%	934.38	(36.79)	-3.99%	964.41	30.03	3.21%
	10,000	1,255.60	1,212.96	(42.65)	-3.40%	1,164.96	(48.61)	-4.01%	1,201.78	37.43	3.21%	
	12,000	1,503.26	1,452.73	(50.52)	-3.36%	1,394.31	(58.42)	-4.02%	1,430.14	44.84	3.22%	
	15,000	1,874.75	1,812.41	(62.34)	-3.33%	1,739.25	(73.15)	-4.04%	1,795.19	55.94	3.22%	
RS SWH Summer	80 gal.	500	62.43	63.66	1.23	1.97%	61.36	(2.30)	-3.61%	63.23	1.87	3.05%
	80 gal.	800	103.83	103.59	(0.24)	-0.23%	99.98	(3.61)	-3.48%	103.02	3.05	3.05%
	80 gal.	1,000	131.43	130.21	(1.22)	-0.93%	125.73	(4.48)	-3.44%	128.56	3.83	3.05%
	80 gal.	1,500	194.26	192.53	(1.74)	-0.89%	185.69	(6.83)	-3.55%	191.35	5.66	3.05%
	80 gal.	2,000	256.41	254.37	(2.04)	-0.79%	245.18	(9.20)	-3.62%	252.64	7.47	3.05%
	80 gal.	4,000	504.07	500.83	(3.23)	-0.64%	482.18	(18.66)	-3.73%	496.89	14.71	3.05%
	80 gal.	5,000	751.73	747.30	(4.43)	-0.59%	719.18	(28.12)	-3.76%	741.13	21.95	3.05%
	80 gal.	8,000	999.39	993.76	(5.63)	-0.56%	956.18	(37.58)	-3.78%	985.38	29.19	3.05%
RS SWH Summer	100 gal.	500	58.82	61.96	3.14	5.34%	59.60	(2.36)	-3.81%	61.41	1.81	3.04%
	100 gal.	800	99.04	100.19	1.16	1.17%	96.46	(3.74)	-3.73%	99.39	2.94	3.04%
	100 gal.	1,000	126.64	126.82	0.18	0.14%	122.20	(4.61)	-3.64%	125.92	3.72	3.05%
	100 gal.	1,500	190.84	190.07	(0.77)	-0.40%	183.15	(6.92)	-3.64%	188.73	5.58	3.05%
	100 gal.	2,000	252.99	251.92	(1.07)	-0.42%	242.63	(9.29)	-3.69%	250.02	7.39	3.04%
	100 gal.	4,000	500.65	498.38	(2.26)	-0.45%	479.63	(18.75)	-3.76%	494.26	14.63	3.05%
	100 gal.	5,000	748.31	744.84	(3.46)	-0.46%	716.64	(28.21)	-3.79%	736.51	21.87	3.05%
	100 gal.	8,000	995.97	991.31	(4.66)	-0.47%	953.64	(37.67)	-3.80%	982.75	29.12	3.05%
RS SWH Summer	120 gal.	500	58.82	61.96	3.14	5.34%	59.60	(2.36)	-3.81%	61.41	1.81	3.04%
	120 gal.	800	94.25	96.80	2.55	2.71%	92.94	(3.86)	-3.99%	95.76	2.83	3.04%
	120 gal.	1,000	121.85	123.42	1.57	1.29%	118.08	(4.74)	-3.84%	122.29	3.61	3.04%
	120 gal.	1,500	187.42	187.82	0.20	0.11%	180.61	(7.02)	-3.74%	186.10	5.50	3.04%
	120 gal.	2,000	249.57	249.47	(0.10)	-0.04%	240.09	(9.38)	-3.76%	247.40	7.31	3.04%
	120 gal.	4,000	497.23	496.93	(1.30)	-0.26%	477.09	(18.54)	-3.80%	491.64	14.55	3.05%
	120 gal.	5,000	744.89	742.39	(2.49)	-0.33%	714.09	(28.30)	-3.81%	735.89	21.79	3.05%
	120 gal.	6,000	992.55	988.85	(3.69)	-0.37%	951.09	(37.76)	-3.82%	980.13	29.04	3.05%
	120 gal.	10,000	1,240.20	1,235.32	(4.88)	-0.39%	1,168.10	(47.22)	-3.82%	1,224.38	56.28	3.05%
RS SWH Winter	80 gal.	500	62.43	61.99	(0.44)	-0.71%	59.60	(2.39)	-3.85%	61.51	1.91	3.20%
	80 gal.	800	103.83	100.52	(2.91)	-2.81%	97.16	(3.75)	-3.72%	100.27	3.11	3.20%
	80 gal.	1,000	131.43	126.87	(4.56)	-3.47%	122.21	(4.66)	-3.68%	126.12	3.91	3.20%
	80 gal.	1,500	194.26	187.52	(6.75)	-3.47%	180.41	(7.10)	-3.79%	186.19	5.78	3.20%
	80 gal.	2,000	256.41	247.59	(8.72)	-3.40%	238.14	(9.56)	-3.86%	245.76	7.63	3.20%
	80 gal.	4,000	504.07	487.47	(16.59)	-3.29%	468.10	(19.38)	-3.97%	483.13	15.03	3.21%
	80 gal.	5,000	751.73	727.26	(24.47)	-3.26%	696.06	(29.20)	-4.01%	720.49	22.43	3.21%
	80 gal.	8,000	999.39	967.04	(32.35)	-3.24%	928.02	(39.02)	-4.03%	967.96	29.83	3.21%
RS SWH Winter	100 gal.	500	58.82	60.29	1.47	2.50%	57.84	(2.45)	-4.06%	59.69	1.85	3.21%
	100 gal.	800	99.04	97.52	(1.52)	-1.53%	93.64	(3.88)	-3.95%	96.64	3.00	3.20%
	100 gal.	1,000	126.64	123.48	(3.16)	-2.50%	118.68	(4.79)	-3.88%	122.48	3.80	3.20%
	100 gal.	1,500	190.84	185.06	(5.78)	-3.03%	177.87	(7.19)	-3.89%	183.57	5.70	3.20%
	100 gal.	2,000	252.99	245.24	(7.75)	-3.06%	235.59	(9.65)	-3.93%	243.14	7.55	3.20%
	100 gal.	4,000	500.65	485.02	(15.62)	-3.12%	465.55	(19.47)	-4.01%	480.80	14.95	3.21%
	100 gal.	5,000	748.31	724.80	(23.50)	-3.14%	695.52	(29.29)	-4.04%	717.87	22.35	3.21%
	100 gal.	8,000	995.97	964.59	(31.38)	-3.15%	925.45	(36.11)	-4.05%	965.23	29.75	3.22%
RS SWH Winter	120 gal.	500	58.82	60.29	1.47	2.50%	57.84	(2.45)	-4.06%	59.69	1.85	3.21%
	120 gal.	800	94.25	94.13	(0.12)	-0.12%	90.12	(4.01)	-4.28%	93.01	2.89	3.21%
	120 gal.	1,000	121.85	120.06	(1.77)	-1.45%	115.16	(4.92)	-4.10%	118.85	3.69	3.21%
	120 gal.	1,500	187.42	182.61	(4.81)	-2.57%	175.33	(7.29)	-3.99%	180.94	5.62	3.20%
	120 gal.	2,000	249.57	242.79	(6.78)	-2.72%	233.05	(9.74)	-4.01%	240.52	7.47	3.21%
	120 gal.	4,000	497.23	482.57	(14.66)	-2.95%	463.01	(19.58)	-4.05%	477.88	14.87	3.21%
	120 gal.	5,000	744.89	722.35	(22.53)	-3.03%	692.97	(29.38)	-4.07%	715.25	22.27	3.21%
	120 gal.	6,000	992.55	962.13	(30.41)	-3.06%	922.93	(36.20)	-4.07%	952.61	29.68	3.22%
	120 gal.	10,000	1,240.20	1,201.92	(38.29)	-3.09%	1,152.90	(49.02)	-4.08%	1,189.98	57.08	3.22%
RS-TOD On-Peak 25% Off-Peak 75%		1,000	125.31	125.53	0.22	0.17%	120.83	(4.70)	-3.74%	124.64	3.81	3.15%
		2,000	239.91	239.86	(0.03)	-0.01%	230.07	(9.81)	-4.09%	237.33	7.27	3.16%
		3,000	354.05	353.78	(0.27)	-0.08%	338.85</					

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F=E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I=H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L=K/J)
RS-TOD												
On-Peak 30%		1,000	130.21	129.01	(1.20)	-0.92%	124.44	(4.57)	-3.54%	128.37	3.92	3.15%
Off-Peak 70%		2,000	249.72	246.85	(2.87)	-1.15%	237.30	(9.55)	-3.87%	244.78	7.49	3.16%
		3,000	368.76	364.23	(4.53)	-1.23%	349.69	(14.54)	-3.99%	350.74	11.05	3.16%
		4,000	487.80	481.61	(6.20)	-1.27%	462.08	(19.52)	-4.05%	476.70	14.62	3.16%
		5,000	606.85	598.99	(7.86)	-1.30%	574.48	(24.51)	-4.09%	592.66	18.18	3.17%
		6,000	725.89	716.36	(9.53)	-1.31%	686.87	(29.50)	-4.12%	708.62	21.75	3.17%
		7,000	844.93	833.74	(11.19)	-1.32%	799.26	(34.48)	-4.14%	824.58	25.32	3.17%
		8,000	963.98	951.12	(12.86)	-1.33%	911.65	(36.47)	-4.15%	940.54	28.88	3.17%
RS-TOD												
On-Peak 35%		1,000	135.12	132.48	(2.62)	-1.94%	128.06	(4.44)	-3.35%	132.09	4.03	3.16%
Off-Peak 65%		2,000	259.52	253.82	(5.71)	-2.20%	244.52	(9.29)	-3.66%	252.24	7.71	3.15%
		3,000	383.47	374.68	(8.79)	-2.29%	360.53	(14.15)	-3.78%	371.92	11.39	3.16%
		4,000	507.42	495.54	(11.88)	-2.34%	476.54	(26.47)	-5.34%	491.60	15.01	3.16%
		5,000	631.37	616.40	(14.96)	-2.37%	592.55	(23.65)	-3.87%	611.29	18.74	3.16%
		6,000	755.31	737.26	(18.05)	-2.39%	708.55	(28.71)	-3.85%	730.97	22.42	3.16%
		7,000	879.26	858.13	(21.13)	-2.40%	824.66	(33.57)	-3.91%	850.65	26.10	3.16%
		8,000	1,003.21	978.99	(24.22)	-2.41%	940.57	(38.42)	-3.92%	970.34	29.77	3.17%
RS-ES												
On-Peak 16%		1,000	115.50	118.56	3.06	2.65%	113.60	(4.96)	-4.18%	117.19	3.59	3.16%
Off-Peak 85%		2,000	220.30	225.95	5.65	2.57%	215.61	(10.34)	-4.57%	222.43	6.82	3.16%
		3,000	324.63	332.88	8.25	2.54%	317.16	(15.72)	-4.72%	327.21	10.05	3.17%
		4,000	428.96	439.81	10.85	2.53%	418.71	(21.09)	-4.80%	431.99	13.28	3.17%
		5,000	533.29	546.74	13.44	2.52%	520.26	(26.47)	-4.94%	536.78	16.51	3.17%
		6,000	637.63	653.66	16.04	2.52%	621.81	(31.85)	-4.87%	641.56	19.74	3.16%
		7,000	741.96	760.59	18.63	2.51%	723.37	(37.23)	-4.89%	746.34	22.97	3.18%
		8,000	846.29	867.52	21.23	2.51%	824.92	(42.51)	-4.91%	851.12	26.20	3.18%
RS-ES												
On-Peak 20%		1,000	120.41	122.04	1.64	1.36%	117.22	(4.83)	-3.96%	120.92	3.70	3.16%
Off-Peak 80%		2,000	230.10	232.92	2.81	1.22%	222.84	(10.08)	-4.33%	229.88	7.04	3.16%
		3,000	339.34	343.33	3.99	1.18%	328.00	(15.32)	-4.46%	338.39	10.38	3.17%
		4,000	448.58	453.74	5.16	1.15%	433.17	(20.57)	-4.53%	446.90	13.73	3.17%
		5,000	557.81	564.15	6.34	1.14%	538.33	(25.82)	-4.58%	555.40	17.07	3.17%
		6,000	667.05	674.56	7.52	1.13%	643.50	(31.07)	-4.63%	663.91	20.41	3.17%
		7,000	776.28	784.96	8.68	1.12%	748.66	(38.31)	-4.63%	772.42	23.75	3.17%
		8,000	885.52	895.39	9.87	1.11%	853.83	(41.56)	-4.64%	880.93	27.10	3.17%
RS-ES												
On-Peak 25%		1,000	125.31	125.53	0.22	0.17%	120.83	(4.70)	-3.74%	124.64	3.81	3.15%
Off-Peak 75%		2,000	239.91	239.88	(0.03)	-0.01%	230.07	(9.81)	-4.09%	237.33	7.27	3.16%
		3,000	354.05	353.76	(0.27)	-0.08%	338.85	(14.93)	-4.22%	349.57	10.72	3.16%
		4,000	468.19	467.67	(0.52)	-0.11%	447.63	(20.05)	-4.29%	461.80	14.17	3.17%
		5,000	582.33	581.57	(0.76)	-0.13%	556.41	(25.16)	-4.33%	574.03	17.63	3.17%
		6,000	696.47	695.46	(1.01)	-0.14%	665.18	(30.28)	-4.35%	686.26	21.08	3.17%
		7,000	810.61	809.36	(1.25)	-0.15%	773.96	(36.40)	-4.37%	798.50	24.53	3.17%
		8,000	924.75	923.26	(1.49)	-0.16%	882.74	(40.51)	-4.39%	910.73	27.99	3.17%
GS-1												
Unmetered		50	24.80	24.26	(0.52)	-2.08%	24.84	0.55	2.27%	25.55	0.71	2.87%
		100	30.42	28.84	(1.58)	-5.19%	29.22	0.38	1.32%	30.03	0.81	2.76%
		150	36.04	33.39	(2.64)	-7.33%	33.60	0.21	0.63%	34.51	0.90	2.69%
		200	41.65	37.95	(3.71)	-8.90%	37.99	0.04	0.11%	38.99	1.00	2.63%
		400	64.13	56.17	(7.96)	-12.41%	55.53	(0.84)	-1.19%	56.91	1.38	2.49%
		700	97.84	83.50	(14.34)	-14.55%	81.83	(1.67)	-2.00%	83.79	1.95	2.39%
		1,000	131.55	110.83	(20.71)	-15.75%	108.14	(2.69)	-2.43%	110.67	2.53	2.34%
		1,500	187.73	158.36	(31.38)	-16.70%	151.98	(4.40)	-2.81%	156.47	3.48	2.29%
		2,000	243.91	201.94	(41.98)	-17.21%	195.63	(8.11)	-3.03%	200.27	4.44	2.27%
		4,000	467.72	383.22	(84.50)	-18.07%	370.28	(12.94)	-3.38%	378.54	8.26	2.23%
		8,000	915.34	745.80	(169.54)	-18.52%	719.19	(26.61)	-3.57%	735.10	15.90	2.21%
		10,000	1,139.15	927.09	(212.06)	-18.62%	893.65	(33.44)	-3.61%	913.38	19.73	2.21%
		15,000	1,688.68	1,380.31	(318.37)	-18.74%	1,329.79	(50.52)	-3.69%	1,359.07	29.28	2.20%
		25,000	2,812.13	2,261.15	(550.98)	-19.60%	2,196.47	(64.66)	-3.71%	2,244.86	48.39	2.20%
GS-1-ES												
On-Peak 10%		500	65.97	65.26	(0.69)	-1.05%	64.30	(0.98)	-1.51%	65.87	1.57	2.44%
Off-Peak 90%		1,000	112.75	110.83	(1.93)	-1.71%	110.14	(2.69)	-2.43%	110.67	2.53	2.34%
		2,000	206.34	201.94	(4.40)	-2.13%	195.83	(6.11)	-3.03%	200.27	4.44	2.27%
		4,000	392.58	383.22	(9.35)	-2.38%	370.28	(12.94)	-3.38%	378.54	8.26	2.23%
		6,000	578.81	564.51	(14.30)	-2.47%	544.74	(19.77)	-3.50%	556.82	12.08	2.22%
		8,000	765.05	745.80	(19.25)	-2.52%	719.19	(26.61)	-3.57%	735.10	15.90	2.21%
On-Peak 15%		500	67.13	65.26	(1.85)	-2.76%	64.30	(0.98)	-1.51%	65.87	1.57	2.44%
Off-Peak 85%		1,000	115.08	110.83	(4.25)	-3.70%	108.14	(2.69)	-2.43%	110.67	2.53	2.34%
		2,000	210.99	201.94	(9.05)	-4.29%	195.83	(6.11)	-3.03%	200.27	4.44	2.27%
		4,000	401.87	383.22	(18.65)	-4.64%	370.28	(12.94)	-3.38%	378.54	8.26	2.23%
		6,000	592.76	564.51	(28.25)	-4.77%	544.74	(19.77)	-3.50%	556.82	12.08	2.22%
		8,000	783.65	745.80	(37.85)	-4.83%	719.19	(26.61)	-3.57%	735.10	15.90	2.21%
On-Peak 20%		500	68.30	65.26	(3.02)	-4.42%	64.30	(0.98)	-1.51%	65.87	1.57	2.44%
Off-Peak 80%		1,000	117.41	110.83	(6.58)	-5.60%	108.14	(2.69)	-2.43%	110.67	2.53	2.34%
		2,000	215.64	201.94	(13.70)	-6.35%	195.83	(6.11)	-3.03%	200.27	4.44	2.27%
		4,000	411.17	383.22	(27.95)	-6.80%	370.28	(12.94)	-3.38%	378.54	8.26	2.23%
		6,000	606.71	564.51	(42.19)	-6.95%	544.74	(19.77)	-3.50%	556.82	12.08	2.22%
		8,000	802.24	745.80	(56.44)	-7.04%	719.19	(26.61)	-3.57%	735.10	15.90	2.21%
GS-1												
		600	86.60	74.39	(12.21)	-14.10%	73.06	(1.33)	-1.78%	74.93	1.76	2.41%
		700	97.84	83.50	(14.34)	-14.65%	81.83	(1.67)	-2.00%	83.79	1.95	2.39%
		800	109.07	92.81	(16.46)	-15.09%	90.60	(2.01)	-2.17%	92.75	2.15	2.37%
		900	120.31	101.72	(18.59)	-15.45%	99.37	(2.35)	-2.31%	101.71	2.34	2.35%
		1,200	154.02	129.05	(24.97)	-16.21%	126.68	(3.38)	-2.62%	128.59	2.91	2.32%
		1,400	176.49	147.27	(29.22)	-16.56%	143.21	(4.06)	-2.76%	146.51	3.29	2.30%
		1,600	198.97	165.49	(33.47)	-16.82%	160.75	(4.74)	-2.87%	164.43	3.67	2.29%
		1,800	221.44	183.72	(37.72)	-17.04%	178.29	(5.43)	-2.95%	182.35	4.06	2.28%
		2,100	255.10	211.00	(44.10)	-17.29%	204.55	(6.45)	-3.08%	209.16	4.63	2.26%
		2,400	288.67	238.19	(50.48)	-17.49%	230.72	(7.48)	-3.14%	235.92	5.20	2.25%
		2,700	322.25	265.39	(56.86)	-17.64%	256.89	(8.50)	-3.20%	262.65	5.78	2.25%
		3,000	355.82	274.45	(81.37)	-22.87%	265.61	(8.84)	-3.22%	271.58	6.97	2.25%
		3,300	389.39	292.58	(96.81)	-24.86%	283.05	(9.53)	-3.26%	289.40	6.35	2.24%
		3,600	422.96	310.71	(112.25)	-26.54%	300.50	(10.21)	-3.29%	307.23	6.73	2.24%
		3,900	456.53	337.90	(118.63)	-26.00%	326.67	(11.23)	-3.32%	333.97	7.30	2.24%
		4,200	490.10	366.97	(123.13)	-25.12%	353.39	(11.58)	-3.34%	362.89	7.50	2.24%
		4,500	523.68	383.22	(140.46)	-26.83%	370.28	(12.94)	-3.38%	378.54	8.26	2.23%
		4,800	557.25	428.35	(128.90)	-23.13%	413.90	(14.65)	-3.42%	423.11	9.22	2.23%

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E+C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H+D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K+G)
GS-2- Res. Lighting		50	31.03	31.10	0.07	0.22%	31.90	0.80	2.56%	32.83	0.92	2.90%
		100	37.09	36.39	(0.71)	-1.90%	37.05	0.66	1.81%	38.09	1.04	2.82%
		150	43.16	41.68	(1.48)	-3.43%	42.19	0.51	1.23%	43.35	1.16	2.75%
		200	49.22	46.97	(2.25)	-4.58%	47.34	0.37	0.79%	48.62	1.28	2.70%
		400	73.48	68.12	(5.35)	-7.29%	67.92	(0.21)	-0.30%	69.67	1.75	2.58%
		700	109.86	99.86	(10.00)	-9.11%	98.79	(1.07)	-1.07%	101.26	2.46	2.49%
		1,000	145.25	131.60	(14.65)	-10.02%	129.66	(1.93)	-1.47%	132.84	3.18	2.45%
		1,500	206.89	184.49	(22.40)	-10.83%	181.12	(3.37)	-1.83%	185.48	4.36	2.41%
		2,000	257.53	237.38	(20.15)	-11.27%	232.57	(4.81)	-2.03%	238.11	5.54	2.38%
		4,000	509.18	448.04	(61.14)	-12.01%	437.47	(10.57)	-2.36%	447.75	10.28	2.35%
		8,000	992.47	869.34	(123.13)	-12.41%	847.25	(22.09)	-2.54%	867.01	19.76	2.33%
		10,000	1,234.12	1,080.00	(154.12)	-12.49%	1,052.15	(27.85)	-2.58%	1,076.64	24.49	2.33%
		15,000	1,838.24	1,606.63	(231.61)	-12.60%	1,580.38	(42.24)	-2.63%	1,600.72	36.34	2.32%
		25,000	3,040.87	2,654.30	(386.57)	-12.71%	2,583.26	(71.04)	-2.68%	2,643.29	60.02	2.32%
GS-2 Secondary	10	1,000	209.95	197.10	(12.85)	-6.12%	196.68	(0.41)	-0.21%	201.87	4.98	2.53%
	10	2,000	305.56	275.54	(30.02)	-9.82%	271.18	(4.36)	-1.58%	278.13	6.95	2.56%
	10	3,000	400.71	353.52	(47.18)	-11.78%	345.21	(8.31)	-2.35%	354.13	8.92	2.58%
	25	2,500	475.33	441.30	(34.02)	-7.16%	438.39	(2.91)	-0.65%	448.25	10.86	2.48%
	25	5,000	713.20	636.26	(76.93)	-10.79%	623.48	(12.79)	-2.01%	639.26	15.78	2.53%
	25	7,500	951.06	831.22	(119.84)	-12.60%	808.56	(22.66)	-2.73%	829.27	20.71	2.58%
	50	5,000	916.85	847.55	(69.30)	-7.56%	770.80	(148.75)	-16.44%	861.12	20.65	2.46%
	50	10,000	1,392.58	1,237.47	(155.12)	-11.14%	1,210.84	(2,210.84)	-2.17%	1,241.14	30.50	2.52%
	50	15,000	1,888.32	1,627.39	(260.93)	-12.90%	1,580.61	(48.58)	-2.86%	1,621.18	40.35	2.55%
	75	7,500	1,358.38	1,263.80	(94.58)	-7.00%	1,242.56	(115.82)	-9.00%	1,273.00	30.44	2.45%
	75	15,000	2,071.97	1,838.67	(233.30)	-11.26%	1,797.81	(40.87)	-2.22%	1,843.03	45.22	2.52%
	75	22,500	2,781.37	2,419.35	(362.02)	-13.02%	2,348.86	(70.49)	-2.91%	2,408.85	59.99	2.55%
	100	10,000	1,798.90	1,660.04	(138.85)	-7.73%	1,644.64	(154.21)	-8.93%	1,684.87	40.24	2.45%
	100	20,000	2,748.56	2,437.08	(311.48)	-11.33%	2,382.17	(54.91)	-2.25%	2,442.11	59.94	2.52%
	100	30,000	3,694.43	3,211.31	(483.11)	-13.08%	3,116.91	(94.41)	-2.94%	3,196.54	79.64	2.55%
	200	20,000	3,563.19	3,282.23	(280.96)	-7.89%	3,320.57	(242.62)	-7.22%	3,393.87	79.40	2.44%
	200	40,000	5,454.92	4,830.70	(624.22)	-11.44%	4,719.64	(11,471.64)	-2.30%	4,836.44	116.80	2.52%
	200	60,000	7,346.65	6,379.17	(967.48)	-13.17%	6,189.11	(190.06)	-2.95%	6,347.31	158.20	2.56%
	500	50,000	8,844.67	8,140.39	(704.28)	-7.96%	8,058.35	(82.04)	-1.01%	8,255.26	196.91	2.44%
	500	100,000	13,573.99	12,011.56	(1,562.43)	-11.51%	11,732.02	(2,741.97)	-2.33%	12,027.43	295.41	2.52%
	500	150,000	18,303.31	15,882.74	(2,420.57)	-13.22%	15,405.70	(4,897.61)	-3.00%	15,799.51	393.81	2.56%
	1,000	100,000	17,647.13	16,237.31	(1,409.81)	-7.99%	15,071.99	(1,565.32)	-1.02%	16,464.74	392.75	2.44%
	1,000	200,000	27,105.77	23,979.86	(3,125.91)	-11.53%	23,419.34	(5,686.43)	-2.34%	24,009.09	589.75	2.52%
	1,000	300,000	36,564.41	31,722.01	(4,842.39)	-13.24%	30,766.69	(5,800.32)	-3.01%	31,553.44	786.75	2.56%
	3,000	300,000	52,856.96	48,625.02	(4,231.95)	-8.01%	48,126.55	(498.47)	-1.03%	49,302.67	1,176.13	2.44%
	3,000	600,000	81,232.88	71,852.07	(9,380.82)	-11.55%	70,168.60	(1,064.28)	-1.51%	71,682.72	1,514.13	2.52%
	3,000	900,000	109,240.00	94,710.31	(14,529.69)	-13.30%	91,841.84	(2,408.16)	-2.63%	94,199.96	2,358.13	2.57%
	7,000	700,000	123,276.64	113,400.43	(9,876.21)	-8.01%	112,325.66	(1,164.77)	-1.03%	114,978.53	2,742.87	2.44%
	7,000	1,400,000	186,366.01	164,475.77	(21,890.24)	-11.75%	160,546.00	(3,820.77)	-2.39%	164,667.87	4,121.87	2.57%
	7,000	2,100,000	248,723.27	214,819.00	(33,904.27)	-13.63%	208,124.23	(40,599.04)	-19.42%	213,625.10	5,500.87	2.64%
GS-2 Primary	10	1,000	304.95	295.57	(9.38)	-3.07%	299.88	4.31	1.46%	307.60	7.72	2.57%
	10	2,000	398.50	370.41	(28.09)	-7.05%	371.71	1.31	0.35%	380.92	9.21	2.48%
	10	3,000	491.60	444.79	(46.81)	-9.52%	443.09	(1,468.61)	-0.38%	453.79	10.70	2.41%
	25	2,500	557.50	524.18	(33.32)	-5.98%	527.09	2.90	0.55%	539.68	12.59	2.39%
	25	5,000	790.24	710.13	(80.11)	-10.14%	705.53	(4,650.71)	-0.85%	721.85	16.32	2.31%
	25	7,500	1,022.98	886.07	(136.91)	-12.41%	883.97	(12,120.91)	-1.35%	904.01	20.04	2.27%
	50	5,000	977.65	904.43	(73.22)	-7.49%	905.00	0.57	0.06%	925.71	20.72	2.29%
	50	10,000	1,443.13	1,276.32	(166.81)	-11.56%	1,261.89	(14,433.24)	-1.13%	1,290.05	28.17	2.23%
	50	15,000	1,908.61	1,648.21	(260.40)	-13.64%	1,616.77	(29,433.29)	-1.79%	1,654.39	36.52	2.20%
	75	7,500	1,397.80	1,284.68	(113.12)	-8.09%	1,282.91	(1,177.11)	-0.14%	1,311.75	28.84	2.25%
	75	15,000	2,098.02	1,842.52	(255.51)	-12.69%	1,818.24	(24,227.78)	-1.32%	1,858.26	40.02	2.20%
	75	22,500	2,790.05	2,386.15	(403.90)	-14.12%	2,349.37	(46,777.71)	-1.95%	2,400.56	51.19	2.24%
	100	10,000	1,817.95	1,664.94	(153.02)	-8.42%	1,680.82	(4,411.11)	-0.25%	1,697.79	36.96	2.23%
	100	20,000	2,746.12	2,405.91	(340.21)	-12.39%	2,371.80	(34,411.11)	-1.42%	2,423.66	51.86	2.19%
	100	30,000	3,671.48	3,144.08	(527.39)	-14.36%	3,079.97	(64,111.11)	-2.04%	3,146.74	66.76	2.17%
	200	20,000	3,495.76	3,183.14	(312.62)	-8.94%	3,189.68	(13,477.11)	-0.42%	3,239.14	69.46	2.19%
	200	40,000	5,346.48	4,559.48	(786.99)	-12.85%	4,586.02	(73.47)	-1.58%	4,665.25	98.26	2.16%
	200	60,000	7,197.21	6,135.54	(1,061.67)	-14.75%	6,002.37	(133,477.11)	-2.16%	6,131.43	129.05	2.15%
	500	50,000	8,520.78	7,729.36	(791.42)	-9.29%	7,687.83	(41,553.24)	-0.54%	7,854.78	166.95	2.17%
	500	100,000	13,147.60	11,420.23	(1,727.37)	-13.14%	11,228.70	(19,513.31)	-1.68%	11,470.15	241.45	2.15%
	500	150,000	17,774.41	15,111.10	(2,663.31)	-14.98%	14,769.57	(34,533.31)	-2.25%	15,085.52	315.95	2.14%
	1,000	100,000	16,895.82	15,306.39	(1,589.43)	-9.41%	15,218.09	(86,303.30)	-0.58%	15,547.53	329.43	2.16%
	1,000	200,000	26,149.45	22,688.13	(3,461.32)	-13.24%	22,299.83	(388,303.30)	-1.71%	22,778.27	478.43	2.15%
	1,000	300,000	35,403.08	30,069.87	(5,333.21)	-15.06%	29,381.57	(688,303.30)	-2.29%	30,009.01	627.43	2.14%
	3,000	300,000	50,395.97	45,814.51	(4,581.46)	-9.49%	45,339.14	(275,337.37)	-0.60%	46,318.51	979.37	2.16%
	3,000	600,000	78,158.86	67,759.73	(10,399.13)	-13.30%	66,884.36	(1,175,337.37)	-1.73%	68,010.73	1,426.37	2.14%
	3,000	900,000	105,548.94	89,536.14	(16,012.80)	-15.17%	87,460.77	(2,075,337.37)	-2.32%	89,334.14	1,873.37	2.14%
	7,000	700,000	117,396.27	106,230.75	(11,165.52)	-9.51%	105,581.22	(649,533.30)	-0.61%	107,861.46	2,279.24	2.16%
	7,000	1,400,000	179,050.57	154,781.82	(24,268.75)	-13.55%	152,032.29	(2,749,533.30)	-1.78%	155,354.53	3,322.24	2.19%
	7,000	2,100,000	239,872.76	202,600.78	(37,271.98)	-15.57%	197,751.25	(4,849,533.30)	-2.39%	202,115.49	4,365.24	2.21%
GS-2 Subtransmission	10	1,000	843.18	856.53	13.34	1.58%	884.53	28.00	3.27%	908.53	24.00	2.71%
	10	2,000	935.56	925.10	(10.46)	-1.12%	952.99	27.89	3.02%	977.03	24.04	2.52%
	10	3,000	1,027.48	993.21	(34.27)	-3.34%	1,020.99	27.78	2.80%	1,045.07	24.08	2.36%
	25	2,500	1,013.02	990.65	(22.37)	-2.21%	1,018.49	27.84	2.81%	1,042.55	24.06	2.38%
	25	5,000	1,242.81	1,160.93	(81.88)	-6.59%	1,188.48	27.56	2.37%	1,212.65	24.15	2.03%
	25	7,500	1,472.60	1,331.21	(141.39)	-9.60%	1,358.49	27.29	2.05%	1,382.78	24.28	1.79%
	50	5,000	1,295.31	1,219.43	(75.88)	-5.86%	1,249.69	27.66	2.27%			

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K/G)
GS-TOD		250	58.48	56.16	(2.32)	-3.97%	56.12	(0.04)	-0.08%	57.65	1.53	2.73%
On-Peak 30%		500	84.07	77.77	(6.30)	-7.49%	78.35	(1.42)	-1.83%	78.33	1.88	2.60%
Off-Peak 70%		1,000	135.25	121.00	(14.25)	-10.54%	116.82	(4.18)	-3.46%	119.71	2.89	2.48%
		2,000	237.62	207.46	(30.16)	-12.69%	197.75	(39.70)	-16.88%	202.46	4.71	2.38%
		4,000	441.42	373.44	(67.99)	-15.41%	358.89	(20.75)	-5.47%	367.02	8.33	2.32%
		8,000	849.04	723.40	(125.64)	-14.80%	680.57	(42.84)	-5.92%	698.15	15.99	2.29%
		16,000	1,663.72	1,410.16	(253.56)	-15.25%	1,323.75	(340.01)	-21.27%	1,353.84	30.10	2.27%
		32,000	3,285.23	2,777.54	(507.69)	-15.45%	2,602.15	(1,683.61)	-51.55%	2,681.27	59.11	2.27%
		64,000	6,528.26	5,511.11	(1,017.15)	-15.58%	5,158.97	(3,369.29)	-51.76%	5,276.11	117.14	2.27%
		100,000	10,176.66	8,585.36	(1,591.30)	-15.63%	8,035.38	(2,141.28)	-21.39%	8,217.81	182.43	2.27%
On-Peak 40%		250	59.89	56.99	(3.30)	-5.52%	56.42	(0.17)	-0.29%	57.96	1.54	2.73%
Off-Peak 60%		500	86.88	78.55	(8.34)	-9.60%	76.86	(1.70)	-2.16%	78.85	1.99	2.59%
		1,000	140.90	122.49	(18.41)	-13.07%	117.73	(4.76)	-3.88%	120.64	2.91	2.47%
		2,000	248.91	210.36	(38.55)	-15.49%	199.48	(10.87)	-5.17%	204.22	4.73	2.37%
		4,000	464.02	385.17	(78.85)	-16.99%	367.05	(23.12)	-6.03%	370.44	8.39	2.32%
		8,000	854.23	734.78	(119.44)	-13.98%	687.18	(47.60)	-6.48%	702.88	15.70	2.28%
		16,000	1,754.09	1,433.46	(320.64)	-18.28%	1,336.88	(96.57)	-7.14%	1,367.19	30.31	2.27%
		32,000	3,465.97	2,822.82	(643.14)	-18.56%	2,628.29	(1,837.68)	-53.28%	2,687.62	59.54	2.27%
		64,000	6,889.72	5,601.57	(1,288.16)	-18.70%	5,211.10	(3,678.62)	-53.45%	5,329.09	117.99	2.26%
		100,000	10,741.45	8,727.66	(2,013.79)	-18.75%	8,115.77	(2,625.68)	-24.54%	8,300.51	183.74	2.26%
On-Peak 50%		250	61.30	57.02	(4.28)	-6.98%	56.73	(0.29)	-0.50%	58.28	1.54	2.72%
Off-Peak 50%		500	89.72	79.35	(10.37)	-11.56%	77.38	(1.96)	-2.47%	79.39	2.01	2.59%
		1,000	146.55	124.00	(22.54)	-15.38%	118.69	(5.32)	-3.62%	121.81	2.93	2.47%
		2,000	260.21	213.31	(46.90)	-17.82%	201.29	(12.03)	-5.64%	205.05	4.77	2.37%
		4,000	486.81	391.00	(95.81)	-19.68%	366.55	(25.45)	-6.84%	374.00	8.45	2.31%
		8,000	938.41	746.37	(192.04)	-20.56%	694.08	(52.29)	-7.01%	709.89	15.81	2.28%
		16,000	1,844.45	1,456.54	(387.91)	-21.03%	1,350.56	(1,059.98)	-57.53%	1,381.11	30.94	2.26%
		32,000	3,646.70	2,868.91	(777.79)	-21.33%	2,658.53	(2,113.38)	-57.44%	2,715.63	60.00	2.26%
		64,000	7,251.19	5,693.65	(1,557.53)	-21.48%	5,265.46	(4,282.20)	-58.72%	5,384.36	118.90	2.26%
		100,000	11,306.24	8,671.49	(2,634.75)	-23.33%	8,201.63	(6,698.86)	-58.95%	8,385.80	185.17	2.26%
GS-3												
Secondary	10	3,500	451.15	406.36	(44.79)	-9.93%	396.07	(10.29)	-2.53%	405.98	9.91	2.50%
	10	4,500	514.84	484.38	(30.46)	-5.93%	470.14	(14.24)	-2.94%	482.02	11.88	2.53%
	10	5,500	578.74	562.41	(16.33)	-2.82%	544.22	(18.19)	-3.23%	558.07	13.85	2.54%
	25	8,750	1,077.16	963.31	(113.85)	-10.57%	935.71	(27.60)	-2.87%	958.88	23.17	2.48%
	25	11,250	1,236.65	1,158.37	(78.27)	-6.33%	1,120.90	(37.48)	-3.24%	1,148.99	28.10	2.51%
	25	13,750	1,396.13	1,353.43	(42.70)	-3.06%	1,306.08	(47.35)	-3.50%	1,339.11	33.02	2.53%
	50	17,500	2,119.12	1,890.16	(228.96)	-10.80%	1,833.71	(56.45)	-2.99%	1,878.99	45.28	2.47%
	50	22,500	2,435.29	2,277.49	(157.80)	-6.48%	2,201.28	(76.20)	-3.35%	2,256.41	55.13	2.50%
	50	27,500	2,751.46	2,664.81	(86.65)	-3.15%	2,568.66	(95.95)	-3.60%	2,633.83	64.98	2.53%
	75	26,250	3,157.57	2,813.52	(344.05)	-10.90%	2,728.21	(95.30)	-3.05%	2,795.59	67.38	2.47%
	75	33,750	3,631.82	3,394.50	(237.32)	-6.53%	3,279.57	(114.53)	-3.39%	3,361.73	82.16	2.51%
	75	41,250	4,106.08	3,975.49	(130.59)	-3.19%	3,830.93	(144.58)	-3.64%	3,927.66	96.59	2.53%
	100	35,000	4,186.02	3,736.87	(449.15)	-10.94%	3,622.71	(114.18)	-3.09%	3,712.00	89.49	2.47%
	100	45,000	4,828.36	4,511.52	(316.85)	-6.56%	4,357.86	(153.68)	-3.41%	4,467.04	109.19	2.51%
	100	55,000	5,460.70	5,286.16	(174.54)	-3.20%	5,093.01	(193.16)	-3.85%	5,221.89	128.89	2.53%
	200	70,000	8,349.84	7,430.28	(919.56)	-11.01%	7,200.72	(2,229.56)	-3.09%	7,378.62	177.90	2.47%
	200	90,000	9,614.52	8,978.57	(635.95)	-6.60%	8,671.01	(308.56)	-3.44%	8,888.31	217.30	2.51%
	200	110,000	10,879.20	10,528.87	(350.34)	-3.22%	10,141.30	(367.56)	-3.68%	10,398.01	256.70	2.53%
	500	175,000	20,811.30	18,510.52	(2,300.78)	-11.06%	17,934.73	(5,677.91)	-3.11%	18,377.89	443.16	2.47%
	500	225,000	23,973.00	22,383.75	(1,589.25)	-6.63%	21,610.46	(773.29)	-3.45%	22,152.12	541.66	2.51%
	500	275,000	27,134.70	26,256.98	(877.72)	-3.23%	25,286.19	(970.79)	-3.70%	25,926.35	640.16	2.53%
	1,000	350,000	41,580.39	36,977.07	(4,603.32)	-11.07%	35,824.75	(1,152.82)	-3.12%	36,710.00	885.25	2.47%
	1,000	450,000	47,903.73	44,724.03	(3,179.70)	-6.64%	43,176.11	(5,459.82)	-12.84%	44,289.82	1,099.82	2.53%
	1,000	550,000	54,227.19	52,470.49	(1,756.69)	-3.24%	50,527.67	(1,942.82)	-3.70%	51,606.92	1,079.25	2.53%
	3,000	1,050,000	123,462.25	109,651.30	(13,810.95)	-11.19%	106,190.33	(3,460.97)	-3.16%	108,543.95	2,653.63	2.50%
	3,000	1,350,000	140,781.07	131,239.30	(9,541.77)	-6.78%	126,593.33	(4,645.97)	-3.54%	129,837.95	3,244.63	2.56%
	3,000	1,650,000	158,099.89	152,827.30	(5,272.59)	-3.33%	146,996.33	(6,830.97)	-3.82%	150,831.95	3,835.63	2.61%
	7,000	2,450,000	281,908.52	249,681.31	(32,227.21)	-11.43%	241,604.04	(8,077.27)	-3.24%	247,794.41	6,190.37	2.56%
	7,000	3,150,000	322,319.10	300,053.31	(22,265.79)	-6.91%	289,211.04	(10,842.27)	-3.61%	296,780.41	7,569.37	2.62%
	7,000	3,850,000	362,729.68	350,425.31	(12,304.37)	-3.39%	336,818.04	(13,607.27)	-3.86%	345,766.41	8,948.37	2.66%
GS-3												
Primary	10	3,500	541.08	495.41	(45.67)	-8.44%	492.22	(3.19)	-0.64%	503.68	11.44	2.32%
	10	4,500	603.90	569.83	(34.07)	-5.64%	563.84	(6.19)	-1.00%	576.57	12.93	2.29%
	10	5,500	666.72	644.25	(22.48)	-3.37%	636.05	(9.19)	-1.43%	649.48	14.42	2.27%
	25	8,750	1,146.69	1,022.64	(124.05)	-10.82%	1,006.79	(15.86)	-1.55%	1,028.70	21.90	2.18%
	25	11,250	1,303.74	1,208.86	(95.06)	-7.29%	1,185.33	(23.35)	-1.93%	1,210.96	25.63	2.16%
	25	13,750	1,460.79	1,394.72	(66.07)	-4.52%	1,363.88	(30.86)	-2.21%	1,393.23	29.35	2.15%
	50	17,500	2,154.63	1,899.95	(254.68)	-11.82%	1,863.01	(36.93)	-1.94%	1,902.35	39.34	2.11%
	50	22,500	2,465.93	2,269.23	(196.70)	-7.98%	2,217.30	(61.53)	-2.29%	2,284.09	46.79	2.11%
	50	27,500	2,777.23	2,638.52	(138.71)	-4.99%	2,571.58	(66.93)	-2.54%	2,625.82	54.24	2.11%
	75	26,250	3,159.07	2,773.75	(385.31)	-12.20%	2,715.73	(58.02)	-2.09%	2,772.51	56.78	2.09%
	75	33,750	3,626.02	3,327.68	(298.34)	-8.23%	3,047.16	(80.52)	-2.42%	3,151.11	67.93	2.09%
	100	41,250	4,092.37	3,881.81	(210.56)	-5.15%	3,775.59	(103.02)	-2.65%	3,885.71	79.13	2.09%
	100	35,000	4,163.51	3,847.56	(315.95)	-7.59%	3,568.45	(79.11)	-2.17%	3,642.66	74.21	2.08%
	100	45,000	4,786.11	4,386.13	(399.98)	-8.36%	4,277.02	(109.11)	-2.49%	4,366.13	89.11	2.08%
	100	55,000	5,408.72	5,124.70	(284.01)	-5.25%	4,965.59	(139.11)	-2.71%	5,089.61	104.01	2.09%
	200	70,000	8,181.27	7,142.79	(1,038.48)	-12.69%	6,979.33	(1,637.47)	-2.29%	7,123.29	143.96	2.08%
	200	90,000	9,426.48	8,619.93	(806.55)	-8.56%	8,396.47	(223.47)	-2.59%	8,570.23	173.76	2.07%
	200	110,000	10,611.89	10,097.08	(514.81)	-4.85%	9,813.61	(283.47)	-2.81%	10,017.17	203.56	2.07%
	500	175,000	20,234.55	17,628.48	(2,606.07)	-12.88%	17,211.96	(4,165.53)	-2.38%	17,565.16	353.20	2.05%
	500	225,000	23,347.58	21,321.34	(2,026.24)	-8.69%	20,734.81	(966.53)	-4.42%	21,182.51	447.70	2.08%
	500	275,000	26,460.89	25,014.19	(1,446.70)	-5.47%	24,297.87	(718.53)	-2.86%	24,799.87	502.00	2.07%
	1,000	350,000	40,323.36	35,104.84	(5,218.52)	-12.94%	34,266.34	(6,057.02)	-17.24%	34,988.27	701.93	2.05%
	1,000	450,000	48,549.41	42,493.35	(6,056.06)	-12.58%	41,352.06	(11,197.35)	-26.84%	42,202.98	850.93	2.06%
	1,000	550,000	52,775.48	49,876.06	(2,899.41)	-5.49%	48,437.75	(1,438.30)	-2.94%	49,437.69	999.93	2.06%
	3,000	1,050,000	118,484.11	103,814.75	(14,669.36)	-13.11%	101,289.37	(2,525.37)	-2.43%	103,388.24	2,098.87	2.07%
	3,000	1,350,000	136,510.88	124,320.50	(12,190.38)	-8.93%	120,896.12					

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-880
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K/G)
GS-3												
Subtransmission												
10	3,500	3,500	1,075.65	1,040.40	(35.25)	-3.28%	1,068.13	27.73	2.67%	1,092.23	24.10	2.26%
10	4,500	4,500	1,137.94	1,108.55	(29.40)	-2.58%	1,136.17	27.62	2.49%	1,160.31	24.14	2.12%
10	5,500	5,500	1,200.24	1,176.70	(23.54)	-1.96%	1,204.21	27.51	2.34%	1,228.39	24.18	2.01%
25	8,750	8,750	1,593.03	1,449.18	(143.85)	-9.03%	1,476.34	27.15	1.87%	1,500.65	24.31	1.65%
25	11,250	11,250	1,748.77	1,619.56	(129.21)	-7.39%	1,645.43	26.88	1.66%	1,670.85	24.41	1.48%
25	13,750	13,750	1,904.50	1,789.93	(114.56)	-6.02%	1,816.53	26.60	1.49%	1,841.05	24.51	1.35%
50	17,500	17,500	2,453.94	2,129.09	(324.85)	-13.24%	2,155.28	26.19	1.23%	2,179.94	24.66	1.14%
50	22,500	22,500	2,762.60	2,467.04	(295.56)	-10.70%	2,492.68	25.84	1.04%	2,517.54	24.86	1.00%
50	27,500	27,500	3,071.26	2,804.99	(266.27)	-8.67%	2,830.08	25.09	0.89%	2,855.14	25.06	0.89%
75	28,250	28,250	3,311.35	2,805.50	(505.84)	-15.28%	2,830.73	25.23	0.90%	2,856.74	25.01	0.88%
75	33,750	33,750	3,774.34	3,312.43	(461.91)	-12.24%	3,338.83	24.40	0.74%	3,362.14	23.31	0.70%
75	41,250	41,250	4,237.33	3,619.35	(617.98)	-14.58%	3,642.93	23.58	0.62%	3,665.54	22.61	0.67%
100	35,000	35,000	4,168.76	3,481.91	(686.84)	-16.48%	3,506.18	24.26	0.70%	3,531.54	25.36	0.72%
100	45,000	45,000	4,786.08	4,157.81	(628.27)	-13.13%	4,180.97	23.16	0.56%	4,206.74	25.76	0.62%
100	55,000	55,000	5,403.40	4,833.71	(569.69)	-10.54%	4,855.77	22.06	0.46%	4,881.93	26.16	0.54%
200	70,000	70,000	7,596.38	6,187.55	(1,410.83)	-18.57%	6,207.97	20.41	0.33%	6,234.73	26.76	0.43%
200	90,000	90,000	8,833.03	7,539.35	(1,293.68)	-14.65%	7,557.56	18.21	0.24%	7,585.12	27.56	0.36%
200	110,000	110,000	10,067.67	8,891.14	(1,176.53)	-11.69%	8,907.16	16.01	0.18%	8,935.52	28.36	0.32%
500	175,000	175,000	17,887.26	14,304.47	(3,582.79)	-20.03%	14,313.34	8.86	0.06%	14,344.30	30.96	0.22%
500	225,000	225,000	20,973.87	17,683.96	(3,289.92)	-15.69%	17,697.32	3.36	0.02%	17,720.28	32.96	0.19%
500	275,000	275,000	24,060.48	21,063.44	(2,997.04)	-12.46%	21,061.31	(2.14)	-0.01%	21,098.27	34.96	0.17%
1,000	350,000	350,000	35,035.40	27,832.67	(7,202.73)	-20.56%	27,822.28	(10.39)	-0.04%	27,860.24	37.96	0.14%
1,000	450,000	450,000	41,208.62	34,581.64	(6,626.98)	-16.06%	34,570.26	(21.39)	-0.06%	34,612.21	41.96	0.12%
1,000	550,000	550,000	47,381.84	41,350.61	(6,031.23)	-12.73%	41,318.22	(32.39)	-0.08%	41,364.18	45.96	0.11%
3,000	1,050,000	1,050,000	102,433.44	80,750.96	(21,682.48)	-21.17%	80,663.57	(87.39)	-0.11%	80,725.54	65.96	0.08%
3,000	1,350,000	1,350,000	119,301.72	96,376.49	(19,925.23)	-16.70%	96,256.10	(120.39)	-0.12%	99,334.07	77.96	0.08%
3,000	1,650,000	1,650,000	136,170.00	118,002.02	(18,167.98)	-13.34%	117,848.53	(153.39)	-0.13%	117,938.50	89.96	0.08%
7,000	2,450,000	2,450,000	231,912.08	181,270.10	(50,641.98)	-21.84%	181,026.71	(241.39)	-0.13%	181,150.88	121.96	0.07%
7,000	3,150,000	3,150,000	271,271.40	224,729.67	(46,541.73)	-17.16%	224,411.28	(318.39)	-0.14%	224,561.25	149.96	0.07%
7,000	3,850,000	3,850,000	310,630.72	266,188.24	(44,442.48)	-13.66%	267,793.85	(395.39)	-0.15%	267,971.82	177.96	0.07%
GS-4												
Primary												
3,000	1,200,000	1,200,000	125,445.21	111,204.54	(14,240.67)	-11.35%	108,229.17	(2,975.37)	-2.69%	110,549.54	2,320.37	2.14%
3,000	1,500,000	1,500,000	141,248.91	131,069.32	(10,179.59)	-7.21%	127,194.15	(3,875.37)	-2.96%	129,961.52	2,767.37	2.18%
3,000	1,800,000	1,800,000	157,052.61	150,934.50	(6,118.11)	-3.90%	146,159.13	(4,773.50)	-3.16%	149,373.50	3,214.37	2.20%
5,000	2,000,000	2,000,000	205,921.30	182,182.48	(23,738.84)	-11.53%	177,220.01	(4,962.45)	-2.72%	181,084.31	3,864.30	2.18%
5,000	2,500,000	2,500,000	232,260.80	215,290.76	(16,970.04)	-7.31%	208,828.31	(6,462.45)	-3.00%	213,437.61	4,609.30	2.21%
5,000	3,000,000	3,000,000	258,600.30	248,399.06	(10,201.24)	-3.94%	240,436.61	(7,962.45)	-3.21%	245,790.91	5,354.30	2.23%
6,000	3,200,000	3,200,000	325,635.43	286,649.34	(38,986.09)	-11.63%	280,706.28	(7,943.07)	-2.75%	286,886.48	6,180.20	2.20%
8,000	4,000,000	4,000,000	368,778.63	341,622.62	(27,156.01)	-7.36%	331,279.56	(10,343.07)	-3.03%	338,551.76	7,372.20	2.23%
8,000	4,800,000	4,800,000	410,921.83	394,595.90	(16,325.93)	-3.97%	387,852.84	(12,743.07)	-3.23%	390,417.04	8,564.20	2.24%
8,000	5,000,000	5,000,000	409,491.97	394,516.87	(14,975.10)	-3.65%	389,851.33	(15,865.53)	-3.93%	394,095.14	15,443.81	2.22%
20,000	10,000,000	10,000,000	914,849.97	846,950.07	(67,899.90)	-7.42%	821,084.53	(25,865.53)	-3.05%	839,508.34	18,423.81	2.24%
20,000	12,000,000	12,000,000	1,020,207.87	979,383.27	(40,824.60)	-3.99%	947,570.73	(31,865.53)	-3.25%	968,921.54	21,403.81	2.26%
50,000	20,000,000	20,000,000	2,015,633.30	1,779,165.67	(237,467.63)	-11.77%	1,729,513.68	(49,671.70)	-2.79%	1,768,115.79	38,602.81	2.23%
50,000	25,000,000	25,000,000	2,280,029.30	2,110,268.67	(169,760.63)	-7.45%	2,045,596.98	(64,671.70)	-3.06%	2,091,649.79	46,052.81	2.25%
50,000	30,000,000	30,000,000	2,543,423.30	2,441,351.67	(102,071.63)	-4.01%	2,361,579.98	(79,671.70)	-3.25%	2,415,182.79	53,602.81	2.27%
125,000	50,000,000	50,000,000	5,034,486.64	4,440,857.69	(593,628.95)	-11.79%	4,316,870.58	(124,187.10)	-2.80%	4,413,170.91	96,500.33	2.24%
125,000	62,500,000	62,500,000	5,692,974.14	5,266,565.19	(426,408.95)	-7.45%	5,106,878.08	(166,887.10)	-3.07%	5,222,003.41	115,125.33	2.25%
125,000	75,000,000	75,000,000	6,351,461.64	5,986,272.89	(365,188.75)	-5.75%	5,897,085.58	(199,187.10)	-3.27%	6,030,835.91	133,753.03	2.27%
GS-4												
Subtransmission												
3,000	1,200,000	1,200,000	108,444.90	87,196.93	(21,247.97)	-19.56%	87,093.04	(103.89)	-0.12%	87,155.00	71.96	0.08%
3,000	1,500,000	1,500,000	124,145.01	105,180.76	(18,964.25)	-15.28%	105,043.87	(136.89)	-0.13%	105,127.83	83.96	0.08%
3,000	1,800,000	1,800,000	138,765.12	123,164.59	(15,600.53)	-11.89%	122,994.70	(169.89)	-0.14%	123,090.66	95.96	0.08%
5,000	2,000,000	2,000,000	177,191.86	141,753.81	(35,438.05)	-20.00%	141,581.92	(191.89)	-0.14%	141,665.88	103.96	0.07%
5,000	2,500,000	2,500,000	203,308.71	171,726.86	(31,581.85)	-15.53%	171,479.97	(248.69)	-0.14%	171,603.93	123.96	0.07%
5,000	3,000,000	3,000,000	229,425.56	201,669.91	(27,755.65)	-12.08%	201,398.02	(301.89)	-0.15%	201,541.98	143.96	0.07%
8,000	3,200,000	3,200,000	280,312.30	223,589.13	(56,723.17)	-20.24%	223,265.24	(323.89)	-0.14%	223,417.20	151.96	0.07%
8,000	4,000,000	4,000,000	322,099.26	271,546.01	(50,553.25)	-15.69%	271,134.12	(411.89)	-0.15%	271,318.08	183.96	0.07%
8,000	4,800,000	4,800,000	363,686.22	319,502.89	(44,183.33)	-12.20%	319,003.00	(499.89)	-0.16%	319,218.96	215.96	0.07%
20,000	8,000,000	8,000,000	692,794.06	560,930.41	(131,863.65)	-20.48%	550,078.52	(851.89)	-0.15%	550,422.48	343.96	0.06%
20,000	10,000,000	10,000,000	797,261.46	670,822.61	(126,438.85)	-15.86%	668,750.72	(1,071.89)	-0.16%	670,174.68	423.96	0.06%
20,000	12,000,000	12,000,000	901,728.08	750,714.81	(151,013.27)	-16.75%	749,422.92	(1,291.89)	-0.16%	749,928.58	505.96	0.06%
50,000	20,000,000	20,000,000	1,723,999.46	1,369,283.61	(354,715.85)	-20.58%	1,367,111.72	(2,171.89)	-0.16%	1,367,935.88	823.96	0.06%
50,000	25,000,000	25,000,000	1,965,166.96	1,669,014.11	(296,152.85)	-15.03%	1,666,292.22	(2,721.89)	-0.16%	1,667,316.18	1,023.96	0.06%
50,000	30,000,000	30,000,000	2,246,335.46	1,968,744.61	(277,590.85)	-12.36%	1,965,472.72	(3,271.89)	-0.17%	1,966,696.68	1,223.96	0.06%
125,000	50,000,000	50,000,000	4,302,009.46	3,415,166.61	(886,842.85)	-20.61%	3,409,694.72	(5,471.89)	-0.16%	3,411,718.68	2,023.96	0.06%
125,000	62,500,000	62,500,000	4,954,930.71	4,164,492.86	(790,437.85)	-15.95%	4,157,645.97	(6,846.89)	-0.16%	4,160,169.93	2,523.96	0.06%
125,000	75,000,000	75,000,000	5,607,851.96	4,913,819.11	(694,032.85)	-12.36%	4,905,597.22	(8,221.89)	-0.17%	4,908,621.18	3,023.96	0.06%
GS-4												
Transmission												
3,000	1,200,000	1,200,000	107,852.22	87,196.93	(20,655.29)	-19.15%	87,093.04	(103.89)	-0.12%	87,165.00	71.96	0.

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K/G)	
ENG	30	100	41.82	43.08	1.26	3.01%	43.96	0.88	2.05%	45.25	1.29	2.93%	
	30	500	82.26	83.61	1.35	1.67%	83.41	(0.40)	-0.48%	85.73	2.32	2.79%	
	30	1,000	132.85	134.73	1.88	1.42%	132.72	(2.01)	-1.50%	136.34	3.62	2.73%	
	30	3,000	334.68	337.94	3.26	0.97%	329.49	(8.46)	-2.50%	338.29	8.80	2.67%	
	30	4,500	485.71	490.01	4.29	0.88%	476.72	(13.29)	-2.71%	489.41	12.69	2.66%	
	30	6,000	636.74	642.07	5.33	0.84%	623.96	(18.12)	-2.82%	640.53	16.58	2.66%	
	30	9,000	938.80	946.20	7.40	0.79%	918.42	(27.78)	-2.94%	942.78	24.35	2.65%	
	30	12,000	1,240.89	1,250.33	9.47	0.76%	1,212.89	(37.44)	-2.99%	1,245.02	32.13	2.65%	
	30	15,000	1,542.92	1,554.46	11.54	0.75%	1,507.36	(47.10)	-3.03%	1,547.26	39.90	2.65%	
	30	20,000	2,043.56	2,058.54	14.98	0.73%	1,995.34	(63.20)	-3.07%	2,048.20	52.86	2.65%	
	50	5,000	610.88	575.05	(34.83)	-5.70%	562.45	(13.60)	-2.36%	577.54	15.09	2.68%	
	50	7,500	862.59	829.49	(33.10)	-3.84%	807.84	(21.65)	-2.61%	829.41	21.57	2.67%	
	50	10,000	1,114.31	1,082.93	(31.38)	-2.82%	1,053.23	(29.70)	-2.74%	1,081.28	28.05	2.66%	
	50	15,000	1,617.74	1,589.81	(27.93)	-1.73%	1,544.01	(45.81)	-2.88%	1,585.02	41.01	2.66%	
	50	20,000	2,118.38	2,093.89	(24.48)	-1.16%	2,031.99	(61.91)	-2.96%	2,085.95	53.97	2.66%	
	50	25,000	2,619.01	2,597.97	(21.04)	-0.80%	2,519.97	(78.01)	-3.00%	2,586.89	66.93	2.66%	
	100	10,000	1,301.36	1,171.31	(130.05)	-9.99%	1,144.85	(26.46)	-2.26%	1,175.66	30.81	2.69%	
	100	15,000	1,804.79	1,678.19	(126.60)	-7.01%	1,635.63	(42.57)	-2.54%	1,679.40	43.77	2.68%	
	100	20,000	2,305.43	2,182.27	(123.16)	-5.34%	2,123.61	(58.67)	-2.69%	2,180.33	56.73	2.67%	
	100	30,000	3,306.70	3,190.44	(116.26)	-3.52%	3,099.56	(90.87)	-2.95%	3,182.21	82.65	2.67%	
100	40,000	4,307.06	4,198.60	(108.36)	-2.54%	4,075.52	(123.08)	-2.93%	4,184.09	108.57	2.66%		
200	20,000	2,679.53	2,359.03	(320.50)	-11.96%	2,306.84	(52.19)	-2.21%	2,369.10	62.25	2.70%		
200	30,000	3,680.80	3,367.19	(313.60)	-8.52%	3,282.80	(84.39)	-2.51%	3,370.97	88.17	2.69%		
200	40,000	4,682.06	4,375.36	(306.71)	-6.55%	4,258.76	(116.60)	-2.66%	4,372.85	114.09	2.68%		
200	50,000	6,684.60	6,391.68	(292.91)	-4.38%	6,210.68	(181.01)	-2.83%	6,376.60	165.92	2.67%		
EHS	55	15,000	1,096.26	1,324.51	228.24	20.80%	1,272.75	(51.76)	-3.91%	1,300.97	28.23	2.22%	
	150	30,000	2,186.79	2,639.69	452.90	20.71%	2,536.17	(103.52)	-3.92%	2,592.63	56.45	2.22%	
	225	65,000	4,726.68	5,708.46	981.78	20.77%	5,484.17	(224.29)	-3.93%	5,606.48	122.31	2.23%	
SS	1,000 sq ft	10	1,500	217.14	203.89	(13.26)	-6.10%	201.31	(2.58)	-1.27%	206.34	5.04	2.50%
		10	3,000	387.72	359.62	(28.10)	-7.25%	352.71	(6.91)	-1.92%	361.29	8.58	2.43%
		10	4,500	558.06	515.12	(42.94)	-7.69%	503.88	(11.23)	-2.18%	516.01	12.13	2.41%
	5,000 sq ft	20	2,000	275.47	255.95	(19.52)	-7.09%	251.93	(4.02)	-1.57%	258.15	6.22	2.47%
		20	4,000	502.60	463.28	(39.31)	-7.82%	453.49	(9.79)	-2.11%	464.44	10.95	2.41%
		20	5,000	729.72	670.62	(59.10)	-8.10%	655.06	(15.56)	-2.32%	670.73	15.67	2.39%
	10,000 sq ft	20	2,000	275.02	255.95	(20.07)	-7.27%	251.93	(4.02)	-1.57%	258.15	6.22	2.47%
		20	4,000	504.24	463.28	(40.96)	-8.12%	453.49	(9.79)	-2.11%	464.44	10.95	2.41%
		20	5,000	731.37	670.62	(60.75)	-8.31%	655.06	(15.56)	-2.32%	670.73	15.67	2.39%
		40	5,000	617.80	566.95	(50.85)	-8.23%	554.27	(12.68)	-2.24%	567.58	13.31	2.40%
		40	7,500	901.71	826.12	(75.59)	-8.38%	806.23	(19.89)	-2.41%	825.45	19.22	2.38%
		40	10,000	1,185.62	1,085.29	(100.33)	-8.46%	1,058.18	(27.10)	-2.50%	1,083.31	25.13	2.37%
	20,000 sq ft	50	10,000	1,188.91	1,085.29	(103.62)	-8.72%	1,058.18	(27.10)	-2.50%	1,083.31	25.13	2.37%
		50	15,000	1,756.72	1,603.82	(152.90)	-8.72%	1,582.09	(41.53)	-2.59%	1,599.04	36.95	2.37%
		50	20,000	2,321.73	2,119.16	(202.58)	-8.73%	2,063.20	(55.95)	-2.64%	2,111.97	48.77	2.36%
	30,000 sq ft	50	10,000	1,192.20	1,085.29	(106.92)	-8.97%	1,058.18	(27.10)	-2.50%	1,083.31	25.13	2.37%
		50	15,000	1,760.02	1,603.82	(156.39)	-8.89%	1,582.09	(41.53)	-2.59%	1,599.04	36.95	2.37%
		50	20,000	2,325.03	2,119.16	(205.87)	-8.85%	2,063.20	(55.95)	-2.64%	2,111.97	48.77	2.36%
		100	20,000	2,325.03	2,119.16	(205.87)	-8.85%	2,063.20	(55.95)	-2.64%	2,111.97	48.77	2.36%
		100	25,000	2,890.04	2,634.69	(255.35)	-8.84%	2,364.31	(70.38)	-2.67%	2,624.90	60.58	2.36%
		100	30,000	3,455.05	3,150.23	(304.82)	-8.82%	3,065.43	(64.80)	-2.69%	3,137.63	72.40	2.36%
	50,000 sq ft	100	15,000	1,766.60	1,603.82	(162.98)	-9.23%	1,582.09	(41.53)	-2.59%	1,599.04	36.95	2.37%
		100	30,000	3,461.64	3,150.23	(311.41)	-9.00%	3,065.43	(64.80)	-2.69%	3,137.83	72.40	2.36%
		200	40,000	4,591.66	4,181.30	(410.36)	-8.94%	4,067.65	(113.65)	-2.72%	4,163.69	96.04	2.36%
		200	60,000	6,851.71	6,243.44	(608.26)	-8.88%	6,072.09	(171.36)	-2.74%	6,215.40	143.32	2.36%
		300	60,000	6,851.71	6,243.44	(608.26)	-8.88%	6,072.09	(171.36)	-2.74%	6,215.40	143.32	2.36%
		300	80,000	9,111.75	8,305.58	(806.17)	-8.85%	8,076.53	(229.06)	-2.78%	8,267.12	190.59	2.36%
	100,000 sq ft	250	60,000	6,869.18	6,243.44	(624.73)	-9.10%	6,072.09	(171.36)	-2.74%	6,215.40	143.32	2.36%
		250	80,000	9,126.22	8,305.58	(820.64)	-9.01%	8,076.53	(229.06)	-2.76%	8,267.12	190.59	2.36%
		400	80,000	9,126.22	8,305.58	(820.64)	-9.01%	8,076.53	(229.06)	-2.76%	8,267.12	190.59	2.36%
		400	120,000	13,648.32	12,429.87	(1,218.45)	-8.93%	12,085.41	(344.46)	-2.77%	12,370.55	285.14	2.36%
AL	Lamp Size Mercury Vapor	7,000 Lumen	72	16.05	12.53	(3.52)	-21.90%	13.00	0.46	3.69%	13.17	0.17	1.32%
		20,000 Lumen	156	25.98	20.07	(5.92)	-22.77%	20.81	0.74	3.70%	20.96	0.15	0.70%
	High Pressure Sodium	9,000 Lumen	40	12.30	9.58	(2.73)	-22.16%	9.93	0.35	3.69%	10.11	0.18	1.78%
		22,000 Lumen	84	17.61	13.61	(4.00)	-22.69%	14.12	0.50	3.70%	14.28	0.17	1.20%
	Incandescent	2,500 Lumen	63	13.42	14.20	0.78	5.84%	14.73	0.52	3.69%	14.98	0.25	1.71%
		4,000 Lumen	98	16.17	17.15	0.98	6.04%	17.78	0.63	3.69%	18.02	0.24	1.33%
	MV Floodlight	20,000 Lumen	158	29.46	22.79	(6.66)	-22.62%	23.64	0.84	3.70%	23.87	0.23	0.97%
		50,000 Lumen	378	49.41	38.16	(11.25)	-22.77%	39.57	1.42	3.71%	39.61	0.04	0.10%
	HPS Floodlight	22,000 Lumen	84	19.49	13.58	(5.91)	-30.31%	14.08	0.50	3.70%	14.25	0.17	1.19%
		50,000 Lumen	167	25.33	19.58	(5.75)	-22.69%	20.31	0.73	3.71%	20.41	0.10	0.51%
	MH Floodlight	17,000 Lumen	100	19.14	16.81	(2.34)	-12.21%	17.43	0.62	3.70%	17.65	0.22	1.26%
		29,000 Lumen	158	22.31	19.50	(2.81)	-12.61%	20.22	0.72	3.71%	20.35	0.13	0.63%
	Post Top-MV	7,000 Lumen	72	18.59	18.48	(0.10)	-0.56%	19.16	0.68	3.68%	19.52	0.36	1.87%
	Post Top-HPS	9,000 Lumen	40	20.37	15.82	(4.55)	-22.33%	16.40	0.58	3.68%	16.78	0.37	2.27%
	Facilities Charges:												
	Underground circuit per 25 feet over 30 ft	0	0.78	0.82	0.04	5.15%	0.85	0.03	3.67%	0.88	0.03	3.01%	

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
SSO Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K/G)
SL												
	On Wood Pole											
	7,000 lumen mercury vapor	72	10.19	9.90	(0.29)	-2.89%	10.26	0.37	3.70%	10.35	0.09	0.87%
	11,000 lumen mercury vapor	100	13.03	12.46	(0.57)	-4.37%	12.93	0.46	3.71%	13.01	0.08	0.65%
	20,000 lumen mercury vapor	158	16.99	16.46	(0.43)	-2.56%	17.07	0.61	3.71%	17.10	0.03	0.19%
	50,000 lumen mercury vapor	378	33.85	35.43	1.58	4.68%	36.75	1.32	3.72%	36.70	(0.05)	-0.12%
	9,000 lumen high pressure sodium	40	9.55	7.31	(2.24)	-23.41%	7.58	0.27	3.69%	7.69	0.11	1.40%
	16,000 lumen high pressure sodium	59	11.35	8.56	(2.80)	-24.63%	8.88	0.32	3.70%	8.97	0.09	0.99%
	22,000 lumen high pressure sodium	84	14.11	10.83	(3.28)	-23.26%	11.23	0.40	3.70%	11.31	0.08	0.73%
	50,000 lumen high pressure sodium	167	20.92	16.36	(4.56)	-21.78%	16.97	0.61	3.72%	16.97	0.00	0.00%
	9,000 lumen high pressure sodium (post	40	16.38	15.90	(0.48)	-2.96%	16.48	0.58	3.68%	16.86	0.37	2.27%
	16,000 lumen high pressure sodium (post	59	20.04	17.15	(2.89)	-14.41%	17.78	0.63	3.68%	18.13	0.36	2.00%
	22,000 lumen high pressure sodium (post	84	22.70	19.42	(3.27)	-14.41%	20.14	0.72	3.69%	20.49	0.35	1.74%
	50,000 lumen high pressure sodium (post	167	32.18	24.98	(7.20)	-22.38%	25.90	0.92	3.70%	26.17	0.27	1.05%
	On Metal Pole:											
	7,000 lumen mercury vapor	72	14.21	15.05	0.84	5.89%	15.61	0.56	3.69%	15.86	0.25	1.61%
	11,000 lumen mercury vapor	100	17.57	18.62	1.05	5.99%	19.31	0.69	3.69%	19.58	0.28	1.43%
	20,000 lumen mercury vapor	158	21.73	23.08	1.35	6.22%	23.93	0.85	3.70%	24.17	0.24	1.00%
	50,000 lumen mercury vapor	378	40.08	42.70	2.62	6.54%	44.28	1.58	3.71%	44.46	0.18	0.41%
	9,000 lumen high pressure sodium	40	19.31	14.56	(4.75)	-24.60%	15.10	0.54	3.68%	15.43	0.33	2.21%
	16,000 lumen high pressure sodium	59	21.08	15.78	(5.29)	-25.12%	16.37	0.58	3.68%	16.68	0.31	1.91%
	22,000 lumen high pressure sodium	84	23.85	18.08	(5.78)	-24.22%	18.74	0.67	3.69%	19.05	0.31	1.65%
	50,000 lumen high pressure sodium	167	30.64	23.61	(7.03)	-22.94%	24.49	0.87	3.70%	24.72	0.23	0.93%
	9,000 lumen high pressure sodium (post	40	50.96	37.23	(13.73)	-26.95%	38.59	1.37	3.67%	39.64	1.04	2.70%
	16,000 lumen high pressure sodium (post	59	52.91	38.48	(14.43)	-27.28%	39.89	1.41	3.67%	40.91	1.02	2.56%
	22,000 lumen high pressure sodium (post	84	55.68	40.74	(14.94)	-26.83%	42.24	1.50	3.68%	43.25	1.02	2.41%
	50,000 lumen high pressure sodium (post	167	62.57	46.29	(16.28)	-26.02%	48.00	1.71	3.68%	48.93	0.94	1.95%
	Multiple Lamps on Metal Pole:											
	20,000 lumen mercury vapor	158	19.27	20.08	0.81	4.23%	20.83	0.74	3.70%	20.97	0.15	0.70%
	9,000 lumen high pressure sodium	40	14.40	10.92	(3.48)	-24.16%	11.33	0.40	3.68%	11.54	0.22	1.94%
	16,000 lumen high pressure sodium	59	16.20	12.16	(4.04)	-24.95%	12.61	0.45	3.69%	12.81	0.20	1.59%
	22,000 lumen high pressure sodium	84	18.95	14.45	(4.49)	-23.72%	14.99	0.53	3.69%	15.18	0.20	1.30%
	50,000 lumen high pressure sodium	167	25.77	19.99	(5.78)	-22.42%	20.73	0.74	3.71%	20.84	0.12	0.58%
	9,000 lumen high pressure sodium (post	40	30.42	22.26	(8.16)	-26.81%	23.08	0.82	3.67%	23.65	0.57	2.49%
	16,000 lumen high pressure sodium (post	59	32.24	23.50	(8.74)	-27.10%	24.36	0.86	3.68%	24.92	0.55	2.27%
	22,000 lumen high pressure sodium (post	84	35.02	25.79	(9.23)	-26.36%	26.74	0.95	3.68%	27.29	0.55	2.06%
	50,000 lumen high pressure sodium (post	167	41.91	31.33	(10.58)	-25.25%	32.48	1.16	3.69%	32.95	0.47	1.45%
	Post Top Unit:											
	7,000 lumen mercury vapor	72	14.11	14.95	0.83	5.90%	15.50	0.55	3.69%	15.75	0.25	1.60%
	9,000 lumen high pressure sodium	40	16.64	12.59	(4.05)	-24.38%	13.05	0.46	3.68%	13.32	0.27	2.08%
	9,000 lumen high pressure sodium (post	40	20.70	14.89	(5.80)	-28.06%	15.44	0.55	3.68%	15.78	0.34	2.22%
	Facilities Charges:											
	Receptacle Charge	0	2.62	2.76	0.14	5.15%	2.86	0.10	3.67%	2.94	0.09	3.01%
	Electric Energy Rate											
	100	16.94	15.78	(1.16)	-6.85%	16.36	0.58	3.70%	16.55	0.19	1.15%	
	250	29.94	27.07	(2.86)	-9.61%	28.07	1.00	3.71%	28.16	0.08	0.30%	
	500	51.62	45.88	(5.74)	-11.11%	47.59	1.71	3.72%	47.50	(0.08)	-0.19%	
	1,000	94.97	83.51	(11.46)	-12.07%	86.82	3.11	3.73%	86.18	(0.44)	-0.51%	
	2,500	224.79	196.17	(28.62)	-12.73%	203.49	7.32	3.73%	202.00	(1.49)	-0.73%	
	5,000	440.39	383.16	(57.23)	-13.00%	397.50	14.34	3.74%	394.27	(3.23)	-0.81%	
	10,000	871.59	757.14	(114.45)	-13.13%	785.53	28.39	3.75%	778.80	(6.73)	-0.86%	
	15,000	1,302.78	1,131.12	(171.66)	-13.18%	1,173.55	42.43	3.75%	1,163.33	(10.22)	-0.87%	
	20,000	1,731.18	1,502.31	(228.86)	-13.22%	1,558.77	56.47	3.75%	1,545.07	(13.71)	-0.88%	

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E+C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H+D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K+G)
R-R-1 Summer		0	6.38	6.61	0.23	3.61%	6.86	0.25	3.74%	7.07	0.21	3.08%
		30	10.31	10.44	0.13	1.26%	10.59	0.14	1.32%	10.80	0.33	3.08%
		70	15.54	15.54	-	0.00%	15.54	(0.00)	0.00%	16.02	0.48	3.08%
		120	22.09	21.92	(0.17)	-0.77%	21.74	(0.18)	-0.82%	22.41	0.67	3.08%
		200	32.56	32.13	(0.43)	-1.32%	31.86	(0.47)	-1.46%	32.64	0.98	3.08%
		300	45.66	44.89	(0.77)	-1.69%	44.06	(0.83)	-1.84%	45.42	1.36	3.08%
		500	71.84	70.42	(1.42)	-1.98%	69.87	(1.55)	-2.21%	70.99	2.12	3.08%
		700	98.03	95.94	(2.09)	-2.13%	93.87	(2.27)	-2.37%	96.68	2.89	3.08%
R-R-1 Winter		0	6.38	6.61	0.23	3.61%	6.86	0.25	3.74%	7.07	0.21	3.08%
		30	10.31	10.35	0.04	0.39%	10.46	0.13	1.28%	10.81	0.33	3.13%
		70	15.54	15.33	(0.21)	-1.35%	15.32	(0.01)	-0.09%	15.80	0.48	3.16%
		120	22.09	21.56	(0.53)	-2.40%	21.36	(0.20)	-0.93%	22.04	0.68	3.18%
		200	32.56	31.53	(1.03)	-3.16%	31.03	(0.50)	-1.59%	32.02	0.99	3.19%
		300	45.66	43.96	(1.67)	-3.66%	43.11	(0.88)	-1.99%	44.49	1.38	3.20%
		500	71.84	68.91	(2.93)	-4.08%	67.28	(1.63)	-2.36%	69.44	2.16	3.21%
		700	98.03	93.84	(4.19)	-4.27%	91.45	(2.39)	-2.54%	94.39	2.94	3.21%
		800	111.12	108.30	(2.82)	-2.53%	103.54	(2.76)	-2.60%	106.86	3.33	3.21%
		1,000	127.22	124.87	(2.35)	-1.85%	121.12	(3.75)	-3.01%	125.02	3.90	3.22%
		1,250	147.35	148.08	0.73	0.50%	143.99	(4.95)	-3.37%	147.71	4.62	3.23%
		1,500	167.48	171.29	3.81	2.27%	165.06	(6.23)	-3.63%	170.40	5.34	3.24%
		2,000	207.74	217.71	9.97	4.80%	209.01	(8.70)	-4.00%	215.79	6.78	3.24%
		4,000	367.84	402.49	34.65	9.42%	383.88	(16.61)	-4.62%	386.41	12.53	3.26%
		5,000	447.90	494.67	46.97	10.49%	471.32	(23.55)	-4.76%	486.73	15.41	3.27%
RR Summer		0	6.38	6.61	0.23	3.61%	6.86	0.25	3.74%	7.07	0.21	3.08%
		30	10.80	10.55	(0.05)	-0.47%	10.69	0.14	1.33%	11.02	0.33	3.08%
		70	16.23	15.79	(0.44)	-2.71%	15.80	0.01	0.06%	16.29	0.49	3.08%
		120	23.27	22.36	(0.91)	-3.91%	22.19	(0.17)	-0.77%	22.87	0.68	3.08%
		200	34.53	32.85	(1.68)	-4.87%	32.41	(0.44)	-1.34%	33.41	1.00	3.08%
		300	48.61	45.97	(2.64)	-5.43%	45.18	(0.79)	-1.71%	46.58	1.39	3.08%
		500	76.77	72.22	(4.55)	-5.93%	70.74	(1.48)	-2.06%	72.92	2.18	3.08%
		800	119.01	111.58	(7.43)	-6.24%	109.06	(2.52)	-2.26%	112.42	3.36	3.08%
		1,000	147.16	137.83	(9.33)	-6.34%	134.61	(3.22)	-2.33%	138.76	4.15	3.08%
		1,200	175.32	164.07	(11.25)	-6.42%	160.16	(3.91)	-2.38%	165.10	4.94	3.08%
		1,500	217.56	203.44	(14.12)	-6.49%	198.49	(4.95)	-2.43%	204.61	6.12	3.08%
		2,000	287.95	269.04	(18.91)	-6.57%	262.37	(6.67)	-2.48%	270.45	8.09	3.08%
		4,000	568.50	530.56	(38.04)	-6.69%	516.86	(13.60)	-2.56%	532.92	15.96	3.09%
		5,000	708.92	661.32	(47.60)	-6.71%	644.26	(17.06)	-2.58%	664.15	19.90	3.09%
		8,000	1,129.90	1,053.59	(76.31)	-6.75%	1,026.15	(27.44)	-2.60%	1,057.85	31.71	3.09%
		10,000	1,410.55	1,315.11	(95.44)	-6.77%	1,280.74	(34.37)	-2.61%	1,320.32	39.58	3.09%
RR Winter		0	6.38	6.61	0.23	3.61%	6.86	0.25	3.74%	7.07	0.21	3.08%
		30	10.80	10.46	(0.14)	-1.32%	10.59	0.13	1.29%	10.93	0.33	3.13%
		70	16.23	15.58	(0.65)	-4.00%	15.58	(0.00)	0.00%	16.07	0.49	3.16%
		120	23.27	21.99	(1.28)	-5.50%	21.81	(0.18)	-0.83%	22.50	0.69	3.18%
		200	34.53	32.25	(2.28)	-6.60%	31.77	(0.48)	-1.47%	32.79	1.01	3.19%
		300	48.61	45.07	(3.54)	-7.28%	44.23	(0.84)	-1.66%	45.65	1.41	3.20%
		500	76.77	70.71	(6.06)	-7.89%	69.15	(1.58)	-2.02%	71.37	2.22	3.20%
		800	119.01	105.18	(13.83)	-11.62%	106.53	(2.65)	-2.43%	109.95	3.42	3.21%
		1,000	135.11	127.75	(7.36)	-5.45%	124.11	(3.64)	-2.65%	128.10	3.99	3.22%
		1,200	151.21	146.32	(4.89)	-3.23%	141.69	(4.83)	-3.17%	146.26	4.57	3.22%
		1,500	175.36	174.17	(1.19)	-0.68%	168.05	(6.12)	-3.51%	173.49	5.43	3.23%
		2,000	215.62	220.59	4.97	2.30%	212.00	(3.59)	-1.69%	218.87	6.87	3.24%
		4,000	375.73	405.37	29.64	7.89%	386.87	(18.50)	-4.55%	399.50	12.62	3.26%
		5,000	455.78	497.75	41.97	9.21%	474.31	(23.44)	-4.71%	489.81	15.50	3.27%
		8,000	695.94	774.92	78.98	11.35%	736.61	(38.31)	-5.20%	760.74	24.13	3.28%
		10,000	858.05	959.69	103.64	12.11%	911.46	(48.21)	-5.20%	941.37	29.89	3.28%
RR (3WH) Summer	80 gal.	500	60.09	59.27	(0.82)	-1.36%	57.30	(1.97)	-3.32%	56.07	1.77	3.08%
	80 gal.	800	102.33	98.64	(3.69)	-3.61%	95.63	(3.01)	-3.05%	98.58	2.95	3.08%
	80 gal.	1,000	130.49	124.88	(5.61)	-4.30%	121.18	(3.70)	-2.96%	124.92	3.73	3.08%
	80 gal.	1,500	200.88	180.49	(10.39)	-5.17%	185.06	(5.43)	-2.85%	190.75	5.70	3.08%
	80 gal.	2,000	271.27	256.10	(15.17)	-5.59%	248.94	(7.16)	-2.80%	256.61	7.67	3.08%
	80 gal.	4,000	551.92	517.62	(34.30)	-6.21%	503.53	(14.09)	-2.72%	519.08	15.54	3.09%
	80 gal.	6,000	832.57	779.13	(53.44)	-6.42%	758.12	(21.01)	-2.70%	781.54	23.42	3.09%
	80 gal.	8,000	1,113.22	1,040.65	(72.57)	-6.52%	1,012.72	(27.93)	-2.68%	1,044.01	31.29	3.09%
	100 gal.	500	60.09	59.27	(0.82)	-1.36%	57.30	(1.97)	-3.32%	56.07	1.77	3.08%
	100 gal.	800	96.77	94.32	(2.45)	-2.53%	91.16	(3.16)	-3.36%	89.35	2.67	3.08%
	100 gal.	1,000	124.93	120.57	(4.36)	-3.49%	116.71	(3.86)	-3.20%	120.30	3.80	3.08%
	100 gal.	1,500	195.32	186.18	(9.14)	-4.68%	180.58	(5.60)	-3.01%	186.15	5.56	3.08%
	100 gal.	2,000	265.71	251.79	(13.92)	-5.24%	244.46	(7.33)	-2.91%	252.00	7.53	3.08%
	100 gal.	4,000	546.36	513.30	(33.06)	-6.05%	499.05	(14.25)	-2.78%	514.46	15.41	3.09%
	100 gal.	6,000	827.01	774.82	(52.19)	-6.31%	753.65	(21.17)	-2.73%	776.93	23.28	3.09%
	100 gal.	8,000	1,107.66	1,036.33	(71.33)	-6.44%	1,008.24	(28.09)	-2.71%	1,039.39	31.15	3.09%
	120 gal.	500	60.09	59.27	(0.82)	-1.36%	57.30	(1.97)	-3.32%	56.07	1.77	3.08%
	120 gal.	800	91.21	90.01	(1.20)	-1.32%	86.68	(3.33)	-3.70%	89.35	2.67	3.08%
	120 gal.	1,000	119.37	116.25	(3.12)	-2.61%	112.23	(4.02)	-3.46%	115.99	3.46	3.08%
	120 gal.	1,500	189.76	181.96	(7.80)	-4.11%	176.11	(5.75)	-3.16%	181.53	5.43	3.08%
	120 gal.	2,000	260.15	247.47	(12.68)	-4.87%	239.99	(7.49)	-3.02%	247.38	7.39	3.08%
	120 gal.	4,000	540.81	506.99	(33.82)	-6.25%	494.58	(14.41)	-2.83%	509.85	15.27	3.09%
	120 gal.	6,000	821.46	770.50	(50.96)	-6.20%	749.17	(21.33)	-2.77%	772.31	23.14	3.09%
	120 gal.	8,000	1,102.11	1,032.02	(70.09)	-6.36%	1,003.76	(28.26)	-2.74%	1,034.78	31.02	3.09%
	120 gal.	10,000	1,382.76	1,293.53	(89.23)	-6.45%	1,258.36	(35.17)	-2.72%	1,297.24	38.89	3.09%

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-S90
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E+C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H+D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K+G)
RR (SWH) Winter	80 gal.	500	60.09	57.77	(2.32)	-3.86%	56.72	(2.05)	-3.55%	57.52	1.80	3.23%
	80 gal.	800	102.33	99.23	(6.10)	-5.96%	93.10	(3.13)	-3.25%	96.10	3.00	3.23%
	80 gal.	1,000	130.49	121.88	(8.61)	-6.60%	112.82	(3.86)	-3.17%	121.82	3.81	3.23%
	80 gal.	1,500	175.98	171.00	(4.98)	-2.83%	154.77	(6.23)	-3.65%	170.10	5.33	3.24%
	80 gal.	2,000	216.24	217.43	1.19	0.55%	208.71	(8.72)	-4.01%	215.48	6.77	3.24%
	80 gal.	4,000	376.34	402.20	25.86	6.87%	383.58	(18.62)	-4.63%	396.11	12.52	3.26%
	80 gal.	6,000	536.45	586.97	50.52	9.42%	558.45	(28.52)	-4.86%	576.73	18.28	3.27%
	80 gal.	8,000	696.56	771.75	75.19	10.79%	733.32	(38.43)	-4.98%	757.35	24.03	3.28%
	100 gal.	500	60.09	57.77	(2.32)	-3.86%	55.72	(2.05)	-3.55%	57.52	1.80	3.23%
	100 gal.	800	96.77	91.92	(4.85)	-5.01%	86.62	(3.30)	-3.59%	91.49	2.87	3.23%
	100 gal.	1,000	124.93	117.56	(7.37)	-5.90%	113.54	(4.02)	-3.42%	117.21	3.67	3.23%
	100 gal.	1,500	177.24	171.06	(6.18)	-3.49%	164.82	(6.24)	-3.65%	170.16	5.33	3.24%
	100 gal.	2,000	217.50	217.48	(0.02)	-0.01%	208.77	(8.71)	-4.00%	215.54	6.77	3.24%
	100 gal.	4,000	377.60	402.26	24.66	6.53%	383.64	(18.62)	-4.63%	396.17	12.53	3.26%
	100 gal.	6,000	537.71	587.03	49.32	9.17%	568.51	(28.52)	-4.86%	576.79	18.28	3.27%
	100 gal.	8,000	697.82	771.80	73.98	10.60%	733.38	(38.42)	-4.96%	757.41	24.03	3.28%
	120 gal.	500	60.09	57.77	(2.32)	-3.86%	55.72	(2.05)	-3.55%	57.52	1.80	3.23%
	120 gal.	800	91.21	87.60	(3.61)	-3.96%	84.14	(3.46)	-3.95%	86.87	2.73	3.24%
	120 gal.	1,000	119.37	113.25	(6.12)	-5.13%	109.08	(4.19)	-3.70%	112.59	3.53	3.24%
	120 gal.	1,500	177.71	170.28	(7.43)	-4.18%	164.02	(6.26)	-3.68%	169.32	5.31	3.24%
	120 gal.	2,000	217.96	216.70	(1.26)	-0.58%	207.96	(8.74)	-4.03%	214.71	6.75	3.24%
	120 gal.	4,000	378.07	401.48	23.41	6.19%	382.83	(18.65)	-4.64%	395.33	12.50	3.27%
	120 gal.	6,000	538.18	586.25	48.07	8.93%	557.70	(28.55)	-4.87%	575.96	18.25	3.27%
	120 gal.	8,000	698.29	771.02	72.73	10.42%	732.57	(38.45)	-4.99%	756.58	24.01	3.28%
	120 gal.	10,000	858.39	955.80	97.41	11.35%	907.44	(48.38)	-5.06%	937.21	29.75	3.28%
RLM Summer	5	500	79.99	77.63	(2.36)	-2.95%	76.98	(1.27)	-1.64%	78.71	2.35	3.08%
	5	1,500	185.05	177.29	(7.76)	-4.19%	171.37	(5.92)	-3.34%	176.65	5.28	3.08%
	5	2,500	278.23	265.13	(13.10)	-4.71%	254.13	(11.00)	-4.15%	261.96	7.84	3.08%
	10	1,000	148.50	144.01	(4.49)	-3.02%	141.03	(4.98)	-2.07%	145.37	4.35	3.08%
	10	3,000	356.39	341.19	(15.20)	-4.26%	328.96	(12.33)	-3.62%	339.00	10.15	3.09%
	10	5,000	542.31	516.41	(25.90)	-4.78%	493.91	(22.50)	-4.36%	509.17	15.26	3.09%
	20	2,000	294.56	275.09	(19.47)	-6.61%	268.64	(6.45)	-2.35%	276.92	6.28	3.08%
	20	6,000	698.63	668.53	(30.10)	-4.31%	643.37	(25.16)	-3.76%	663.25	19.88	3.09%
	20	10,000	1,070.46	1,018.98	(51.48)	-4.81%	973.49	(45.49)	-4.46%	1,003.59	30.10	3.09%
	30	3,000	419.76	405.70	(14.06)	-3.35%	395.79	(9.91)	-2.44%	408.00	12.21	3.09%
	30	9,000	1,040.86	995.67	(45.19)	-4.32%	967.69	(37.98)	-3.81%	987.50	29.61	3.09%
	30	15,000	1,568.60	1,521.54	(47.06)	-3.00%	1,453.06	(68.48)	-4.50%	1,498.01	44.95	3.09%
	40	4,000	554.96	536.32	(18.64)	-3.36%	522.94	(13.38)	-2.50%	539.08	16.14	3.09%
	40	12,000	1,363.10	1,323.22	(39.88)	-2.92%	1,272.41	(50.81)	-3.84%	1,311.75	39.34	3.09%
	40	20,000	2,123.95	2,021.30	(102.65)	-4.83%	1,929.84	(91.46)	-4.53%	1,989.62	59.79	3.10%
	50	5,000	690.15	666.93	(23.22)	-3.37%	650.08	(18.85)	-2.53%	670.15	20.08	3.09%
	50	15,000	1,725.33	1,650.58	(74.77)	-4.33%	1,588.92	(63.64)	-3.86%	1,636.00	49.07	3.09%
	50	25,000	2,649.30	2,521.06	(128.24)	-4.84%	2,406.61	(114.45)	-4.54%	2,481.24	74.63	3.10%
RLM Winter	5	500	79.99	76.13	(3.86)	-4.83%	74.77	(1.36)	-1.78%	77.16	2.39	3.20%
	5	1,500	180.66	172.78	(7.88)	-4.36%	166.61	(5.17)	-3.57%	172.00	5.39	3.23%
	5	2,500	268.01	257.62	(10.39)	-3.88%	246.21	(11.41)	-4.43%	254.22	8.02	3.26%
	10	1,000	140.08	134.18	(5.90)	-4.21%	130.78	(3.40)	-2.54%	134.98	4.20	3.21%
	10	3,000	321.18	311.70	(9.48)	-2.95%	298.11	(13.59)	-4.36%	307.81	9.71	3.26%
	10	5,000	495.41	480.91	(14.50)	-2.93%	456.83	(24.08)	-5.01%	471.79	14.96	3.28%
	20	2,000	240.48	234.95	(5.53)	-2.30%	226.90	(8.05)	-3.43%	234.23	7.33	3.23%
	20	6,000	601.76	589.07	(12.69)	-2.11%	560.63	(28.44)	-4.83%	578.98	18.34	3.27%
	20	10,000	850.21	827.43	(22.72)	-2.68%	778.08	(49.41)	-5.33%	806.93	28.86	3.29%
	30	3,000	340.42	335.26	(5.16)	-1.52%	322.55	(12.71)	-3.79%	333.01	10.46	3.24%
	30	9,000	882.33	866.45	(15.88)	-1.80%	823.15	(43.28)	-5.00%	850.14	26.98	3.28%
	30	15,000	1,405.01	1,374.08	(30.93)	-2.20%	1,299.32	(74.76)	-5.44%	1,342.07	42.75	3.29%
	40	4,000	440.35	435.57	(4.78)	-1.09%	418.21	(17.36)	-3.99%	431.80	13.59	3.25%
	40	12,000	1,162.90	1,143.82	(19.08)	-1.64%	1,085.69	(58.13)	-5.08%	1,121.31	35.62	3.28%
	40	20,000	1,857.01	1,817.86	(39.15)	-2.11%	1,717.77	(100.08)	-5.51%	1,774.41	56.64	3.30%
	50	5,000	540.29	535.88	(4.41)	-0.82%	513.87	(22.01)	-4.11%	530.59	16.72	3.25%
	50	15,000	1,443.48	1,421.20	(22.28)	-1.54%	1,348.21	(72.99)	-5.14%	1,392.47	44.26	3.28%
	50	25,000	2,309.00	2,261.64	(47.36)	-2.05%	2,136.22	(125.42)	-5.55%	2,206.75	70.53	3.30%
RS-ES Peak - 13% Off Peak - 87%	0.13											
	0.87	1,000	108.40	107.22	(1.18)	-1.09%	102.82	(4.40)	-4.10%	106.11	3.29	3.20%
		2,000	206.79	204.01	(2.78)	-1.34%	194.63	(3.18)	-1.50%	201.07	6.24	3.20%
		3,000	304.73	300.34	(4.39)	-1.44%	286.37	(13.97)	-4.65%	295.57	9.19	3.21%
		4,000	402.68	396.67	(6.01)	-1.49%	377.82	(18.75)	-4.73%	389.08	12.15	3.21%
		5,000	500.80	493.01	(7.79)	-1.52%	469.46	(23.55)	-4.78%	484.56	15.10	3.22%
		6,000	598.53	589.34	(9.19)	-1.54%	561.01	(28.33)	-4.81%	579.06	18.05	3.22%
		7,000	696.47	685.67	(10.80)	-1.55%	652.55	(33.12)	-4.83%	673.56	21.01	3.22%
		8,000	794.40	782.00	(12.40)	-1.56%	744.10	(37.90)	-4.85%	768.06	23.96	3.22%
RS-ES Peak - 18% Off Peak - 82%	0.18											
	0.82	1,000	113.47	111.34	(2.13)	-1.88%	107.10	(4.24)	-3.81%	110.52	3.42	3.19%
		2,000	216.94	212.26	(4.68)	-2.16%	203.39	(6.87)	-3.18%	209.69	6.50	3.20%
		3,000	319.95	312.72	(7.23)	-2.26%	299.22	(13.60)	-4.32%	308.81	9.59	3.20%
		4,000	422.97	413.18	(9.79)	-2.31%	395.04	(18.14)	-4.39%	407.72	12.67	3.21%
		5,000	525.98	513.64	(12.34)	-2.35%	490.87	(22.77)	-4.43%	506.63	15.76	3.21%
		6,000	628.99	614.10	(14.89)	-2.37%	586.70	(27.40)	-4.46%	605.54	18.85	3.21%
		7,000	732.00	714.55	(17.44)	-2.38%	682.52	(32.04)	-4.48%	704.45	21.93	3.21%
		8,000	835.01	815.02	(19.99)	-2.39%	778.35	(36.67)	-4.50%	803.37	25.02	3.21%
RS-ES Peak - 30% Off Peak - 70%	0.3											
	0.7	1,000	125.65	121.25	(4.40)	-3.50%	117.38	(8.87)	-7.19%	121.11	3.74	3.18%
		2,000	241.31	232.07	(9.24)	-3.83%	223.94	(8.13)	-3.50%	231.08	7.14	3.19%
		3,000	356.50	342.43	(14.07)	-3.95%	330.04	(12.39)	-3.62%	340.58	10.54	3.19%
		4,000	471.69	452.79	(18.90)	-4.01%	436.14	(16.65)	-3.68%	450.09	13.94	3.20%
		5,000	586.88	563.16	(23.72)	-4.04%	542.25	(20.91)	-3.71%	559.59	17.34	3.20%
		6,000	702.08	673.52	(28.56)	-4.07%	648.35	(25.17)	-3.74%	669.10	20.75	3.20%
		7,000	817.27	783.88	(33.39)	-4.09%	754.45	(29.43)	-3.75%	778.60	24.15	3.20%
		8,000										

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2017 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K/G)	
GS-1		200	38.47	29.56	(8.91)	-23.16%	29.44	(0.12)	-0.42%	30.20	0.76	2.58%	
		400	67.31	49.43	(17.88)	-26.56%	48.83	(0.80)	-1.22%	50.05	1.22	2.50%	
		600	96.14	69.30	(26.84)	-27.92%	68.22	(1.08)	-1.56%	69.90	1.68	2.46%	
		800	124.97	89.17	(35.80)	-28.55%	87.61	(1.56)	-1.75%	88.74	2.14	2.44%	
		1,000	153.81	109.04	(44.77)	-29.11%	107.00	(2.04)	-1.87%	109.59	2.60	2.43%	
		1,200	176.55	128.91	(47.64)	-26.98%	126.39	(2.52)	-1.96%	129.44	3.05	2.42%	
		1,600	222.04	168.65	(53.39)	-24.05%	165.17	(3.48)	-2.07%	168.14	3.97	2.40%	
		1,800	244.78	188.53	(56.25)	-22.98%	184.56	(3.97)	-2.11%	188.99	4.43	2.40%	
		2,000	267.53	208.40	(59.13)	-22.10%	203.95	(4.45)	-2.14%	208.84	4.89	2.40%	
		2,400	312.83	247.95	(64.88)	-20.74%	242.54	(5.41)	-2.19%	248.35	5.81	2.39%	
		3,000	380.79	307.29	(73.50)	-19.30%	300.44	(8.85)	-2.93%	307.62	7.18	2.39%	
		3,200	403.44	327.07	(76.37)	-18.93%	319.73	(7.34)	-2.24%	327.38	7.64	2.39%	
		4,000	494.05	406.18	(87.87)	-17.79%	396.93	(9.25)	-2.28%	406.40	9.48	2.39%	
GS-2	10	2,500	347.70	266.87	(80.83)	-23.25%	260.70	(6.17)	-2.31%	267.44	6.74	2.58%	
Secondary	10	3,000	398.90	300.83	(98.07)	-24.59%	292.88	(7.95)	-2.64%	300.51	7.63	2.61%	
	50	12,500	1,681.62	1,276.52	(405.10)	-24.09%	1,243.65	(32.87)	-2.57%	1,275.87	32.02	2.57%	
	50	15,000	1,937.64	1,446.32	(491.32)	-25.36%	1,404.56	(41.76)	-2.89%	1,441.02	36.46	2.60%	
	100	25,000	3,343.42	2,532.98	(810.44)	-24.24%	2,486.74	(86.24)	-2.61%	2,530.37	63.62	2.58%	
	100	30,000	3,852.66	2,869.78	(982.88)	-25.51%	2,785.77	(84.01)	-2.93%	2,859.29	72.49	2.60%	
	250	62,500	8,324.63	6,298.15	(2,026.48)	-24.34%	6,131.83	(166.32)	-2.64%	6,290.25	158.42	2.58%	
	250	75,000	9,597.72	7,140.15	(2,457.57)	-25.61%	6,929.38	(210.77)	-2.95%	7,109.97	180.59	2.61%	
	500	125,000	16,626.65	12,573.45	(4,053.20)	-24.38%	12,240.29	(333.16)	-2.65%	12,556.71	316.42	2.59%	
	500	150,000	19,172.82	14,257.44	(4,915.38)	-25.64%	13,835.41	(422.03)	-2.96%	14,196.15	360.74	2.61%	
	750	187,500	24,928.56	18,848.74	(6,079.82)	-24.39%	18,348.78	(499.98)	-2.65%	18,823.18	474.42	2.59%	
	750	225,000	28,747.92	21,374.72	(7,373.20)	-25.65%	20,741.43	(633.29)	-2.96%	21,282.34	540.91	2.61%	
	1,000	250,000	33,230.68	25,124.03	(8,106.65)	-24.40%	24,457.23	(866.80)	-2.65%	25,089.64	632.42	2.59%	
	1,000	300,000	38,323.02	28,492.01	(9,831.01)	-25.65%	27,547.46	(844.55)	-2.96%	28,368.52	721.07	2.61%	
	2,000	500,000	66,438.74	50,225.20	(16,213.54)	-24.40%	48,591.10	(1,334.10)	-2.68%	50,155.51	1,264.41	2.59%	
	2,000	600,000	76,623.42	56,961.16	(19,662.26)	-25.66%	55,271.56	(1,689.60)	-2.97%	56,713.27	1,441.71	2.61%	
Supplement 18													
GS-2	10	2,500	337.89	268.87	(70.82)	-20.97%	260.70	(6.17)	-2.31%	267.44	6.74	2.59%	
Secondary	10	3,000	388.90	300.83	(88.07)	-22.65%	292.88	(7.95)	-2.64%	300.51	7.63	2.61%	
	50	12,500	1,631.60	1,276.52	(355.08)	-21.76%	1,243.65	(32.87)	-2.57%	1,275.87	32.02	2.57%	
	50	15,000	1,887.61	1,446.32	(441.29)	-23.38%	1,404.56	(41.76)	-2.89%	1,441.02	36.46	2.60%	
	100	25,000	3,243.37	2,532.98	(710.39)	-21.90%	2,465.74	(66.24)	-2.61%	2,530.37	63.62	2.58%	
	100	30,000	3,752.61	2,869.78	(882.83)	-23.53%	2,785.77	(84.01)	-2.93%	2,859.29	72.49	2.60%	
	250	62,500	8,074.51	6,298.15	(1,776.36)	-22.00%	6,131.83	(166.32)	-2.64%	6,290.25	158.42	2.58%	
	250	75,000	9,347.59	7,140.15	(2,207.44)	-23.62%	6,929.38	(210.77)	-2.95%	7,109.97	180.59	2.61%	
	500	125,000	16,126.40	12,573.45	(3,552.95)	-22.03%	12,240.29	(333.16)	-2.65%	12,556.71	316.42	2.59%	
	500	150,000	18,672.67	14,257.44	(4,415.23)	-23.65%	13,835.41	(422.03)	-2.96%	14,196.15	360.74	2.61%	
	750	187,500	24,178.29	18,848.74	(5,329.55)	-22.04%	18,348.78	(499.98)	-2.65%	18,823.18	474.42	2.59%	
	750	225,000	27,997.54	21,374.72	(6,622.82)	-23.66%	20,741.43	(633.29)	-2.96%	21,282.34	540.91	2.61%	
	1,000	250,000	32,230.18	25,124.03	(7,106.15)	-22.05%	24,457.23	(866.80)	-2.65%	25,089.64	632.42	2.59%	
	1,000	300,000	37,322.52	28,492.01	(8,830.51)	-23.66%	27,647.46	(844.55)	-2.96%	28,368.52	721.07	2.61%	
	2,000	500,000	64,437.74	50,225.20	(14,212.54)	-22.06%	48,591.10	(1,334.10)	-2.66%	50,155.51	1,264.41	2.59%	
	2,000	600,000	74,822.42	56,961.16	(17,861.26)	-23.67%	55,271.56	(1,689.60)	-2.97%	56,713.27	1,441.71	2.61%	
GS-2 TOD	10	500	182.31	172.64	(9.67)	-5.30%	175.12	2.48	1.44%	179.64	4.52	2.58%	
Secondary	10	1,000	245.95	219.78	(26.17)	-10.64%	220.96	1.18	0.54%	226.77	5.81	2.63%	
	50	3,000	809.89	738.33	(71.56)	-8.84%	743.16	4.83	0.65%	761.68	18.52	2.49%	
On-Peak	55%	50	6,000	1,190.34	1,019.80	(170.54)	-14.33%	1,016.81	(2.99)	-0.25%	1,043.08	26.27	2.58%
Off-Peak	45%	100	9,000	1,958.11	1,714.32	(243.79)	-12.45%	1,714.59	0.27	0.02%	1,758.04	43.45	2.53%
		100	12,000	2,338.56	1,995.79	(342.77)	-14.66%	1,988.24	(7.55)	-0.38%	2,039.44	51.20	2.58%
		250	15,000	3,880.96	3,516.44	(364.52)	-9.39%	3,534.29	17.85	0.51%	3,621.55	87.26	2.47%
		250	17,000	4,133.47	3,702.96	(430.51)	-10.42%	3,715.60	12.64	0.34%	3,808.03	92.42	2.45%
		500	20,000	5,448.83	6,048.06	(400.77)	-6.21%	6,108.25	60.19	1.00%	6,255.60	147.36	2.41%
		500	24,000	6,953.86	6,421.11	(532.75)	-7.65%	6,470.87	49.76	0.77%	6,628.55	157.68	2.44%
GS-2 TOD	10	500	187.73	174.48	(13.25)	-7.06%	177.03	2.56	1.46%	181.80	4.58	2.58%	
Secondary	10	1,000	256.80	223.45	(33.35)	-12.99%	224.77	1.32	0.59%	230.69	5.92	2.64%	
	50	3,000	842.45	749.35	(93.10)	-11.05%	754.58	5.23	0.70%	773.45	18.87	2.50%	
On-Peak	65%	50	6,000	1,255.46	1,041.83	(213.63)	-17.02%	1,039.65	(2.18)	-0.21%	1,066.61	26.96	2.59%
Off-Peak	35%	100	9,000	2,055.79	1,747.38	(308.41)	-15.00%	1,748.86	1.48	0.08%	1,793.35	44.49	2.54%
		100	12,000	2,468.80	2,039.86	(428.94)	-17.37%	2,033.93	(5.93)	-0.29%	2,086.51	52.58	2.59%
		250	15,000	4,043.76	3,571.53	(472.23)	-11.68%	3,591.41	19.88	0.58%	3,680.39	88.98	2.48%
		250	17,000	4,317.98	3,765.40	(552.58)	-12.80%	3,780.33	14.93	0.40%	3,874.71	94.37	2.50%
		500	20,000	5,865.90	6,121.52	(255.62)	-4.36%	6,184.40	62.88	1.03%	6,334.05	149.65	2.42%
		500	24,000	7,214.34	6,509.26	(705.08)	-9.77%	6,562.25	52.99	0.81%	6,722.69	160.44	2.44%
GS-2 TOD	10	500	193.18	176.31	(16.85)	-8.72%	178.93	2.62	1.49%	183.56	4.63	2.59%	
Secondary	10	1,000	267.65	227.13	(40.52)	-15.14%	228.88	1.45	0.64%	234.82	6.04	2.64%	
	50	3,000	875.01	780.37	(94.64)	-10.87%	766.01	5.64	0.74%	785.22	19.21	2.51%	
On-Peak	75%	50	6,000	1,320.58	1,063.87	(256.71)	-19.44%	1,062.50	(1.37)	-0.13%	1,090.15	27.65	2.60%
Off-Peak	25%	100	9,000	2,153.47	1,780.44	(373.03)	-17.32%	1,783.13	2.69	0.15%	1,828.65	45.52	2.55%
		100	12,000	2,599.04	2,083.94	(515.10)	-19.82%	2,079.82	(4.32)	-0.21%	2,133.58	53.95	2.59%
		250	15,000	4,208.57	3,826.63	(381.94)	-9.08%	3,848.52	21.89	0.60%	3,739.22	90.70	2.49%
		250	17,000	4,502.49	3,827.85	(674.64)	-14.98%	3,845.06	17.21	0.45%	3,941.39	96.33	2.51%
		500	20,000	6,882.97	6,194.98	(687.99)	-10.00%	6,280.56	65.58	1.06%	6,412.50	151.95	2.43%
		500	24,000	7,474.83	6,597.41	(877.42)	-11.74%	6,653.84	56.23	0.85%	6,816.83	163.19	2.45%

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SRO
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E+C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H+D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K+G)
GS-2 Primary												
	50	5,000	989.31	842.88	(146.43)	-14.80%	844.45	1.57	0.19%	864.00	19.55	2.31%
	50	8,750	1,364.73	1,085.78	(278.95)	-20.44%	1,077.23	(8.55)	-0.79%	1,101.81	24.58	2.28%
	50	12,500	1,740.14	1,328.68	(411.46)	-23.65%	1,310.00	(18.88)	-1.41%	1,339.61	29.61	2.26%
	100	10,000	1,813.04	1,512.15	(300.89)	-16.60%	1,508.96	(3.19)	-0.21%	1,542.66	33.70	2.23%
	100	17,500	2,562.47	1,996.55	(565.92)	-22.06%	1,973.11	(23.44)	-1.17%	2,016.87	43.76	2.22%
	100	25,000	3,309.10	2,478.15	(830.95)	-25.11%	2,434.46	(43.69)	-1.76%	2,488.27	53.82	2.21%
	250	25,000	4,278.62	3,514.35	(764.27)	-17.86%	3,496.87	(17.48)	-0.50%	3,573.03	76.16	2.18%
	250	43,750	5,145.20	4,718.34	(426.86)	-23.22%	4,650.24	(68.10)	-1.44%	4,751.55	101.31	2.18%
	250	62,500	6,011.79	5,922.34	(2,089.45)	-28.08%	5,803.61	(118.73)	-2.00%	5,930.06	126.45	2.18%
	500	50,000	6,383.26	6,846.67	(1,536.59)	-18.33%	6,805.39	(41.28)	-0.60%	6,952.32	146.93	2.16%
	500	87,500	12,116.43	9,254.67	(2,861.76)	-23.62%	9,112.13	(142.54)	-1.54%	9,309.35	197.21	2.16%
	500	125,000	15,849.59	11,682.66	(4,186.93)	-26.42%	11,418.88	(243.78)	-2.09%	11,666.38	247.50	2.17%
	1,000	100,000	16,592.54	13,511.33	(3,081.21)	-18.57%	13,422.44	(68.89)	-0.66%	13,710.90	288.46	2.15%
	1,000	175,000	24,058.67	18,327.31	(5,731.36)	-23.82%	18,035.92	(291.39)	-1.59%	18,424.95	389.03	2.16%
	1,000	250,000	31,525.20	23,143.29	(8,381.91)	-26.59%	22,649.40	(483.89)	-2.13%	23,139.01	489.61	2.16%
	1,500	150,000	24,801.83	20,175.98	(4,625.85)	-18.65%	20,039.48	(136.50)	-0.68%	20,469.47	429.99	2.15%
	1,500	262,500	36,001.32	27,399.96	(8,601.36)	-23.89%	26,959.70	(440.26)	-1.61%	27,540.56	580.85	2.15%
	1,500	375,000	47,200.82	34,623.93	(12,576.89)	-28.65%	33,879.93	(744.00)	-2.15%	34,611.64	731.72	2.16%
	2,000	200,000	33,011.11	26,840.84	(6,170.27)	-18.69%	26,656.52	(184.12)	-0.69%	27,228.05	571.52	2.14%
	2,000	350,000	47,943.77	36,472.60	(11,471.17)	-23.93%	35,883.49	(589.11)	-1.62%	36,656.18	772.67	2.15%
	2,000	500,000	62,876.43	46,104.57	(16,771.86)	-26.87%	45,110.45	(994.12)	-2.16%	46,084.28	973.82	2.16%
	3,000	300,000	49,429.67	40,169.95	(9,259.72)	-18.73%	39,880.61	(279.34)	-0.70%	40,745.20	854.59	2.14%
	3,000	525,000	71,828.66	54,617.89	(17,210.77)	-23.96%	53,731.06	(886.83)	-1.62%	54,867.37	1,156.31	2.15%
	3,000	750,000	94,227.65	69,065.84	(25,161.81)	-26.70%	67,571.51	(1,494.33)	-2.16%	69,029.54	1,458.04	2.16%
Supplement 18 GS-2 Primary												
	50	5,000	941.08	842.88	(98.20)	-10.43%	844.45	1.57	0.19%	864.00	19.55	2.31%
	50	8,750	1,316.50	1,085.78	(230.72)	-17.53%	1,077.23	(8.55)	-0.79%	1,101.81	24.58	2.28%
	50	12,500	1,691.92	1,328.68	(363.24)	-21.47%	1,310.00	(18.88)	-1.41%	1,339.61	29.61	2.26%
	100	10,000	1,716.59	1,512.15	(204.44)	-11.91%	1,508.96	(3.19)	-0.21%	1,542.66	33.70	2.23%
	100	17,500	2,469.02	1,996.55	(462.47)	-19.04%	1,973.11	(23.44)	-1.17%	2,016.87	43.76	2.22%
	100	25,000	3,212.65	2,478.15	(734.50)	-22.96%	2,434.46	(43.69)	-1.76%	2,488.27	53.82	2.21%
	250	25,000	4,037.50	3,514.35	(523.15)	-12.96%	3,496.87	(17.48)	-0.50%	3,573.03	76.16	2.18%
	250	43,750	5,904.08	4,718.34	(1,185.74)	-20.08%	4,650.24	(68.10)	-1.44%	4,751.55	101.31	2.18%
	250	62,500	7,770.66	5,922.34	(1,848.32)	-23.79%	5,803.61	(118.73)	-2.00%	5,930.06	126.45	2.18%
	500	50,000	7,901.01	6,846.67	(1,054.34)	-13.34%	6,805.39	(41.28)	-0.60%	6,952.32	146.93	2.16%
	500	87,500	11,634.18	9,254.67	(2,379.51)	-20.45%	9,112.13	(142.54)	-1.54%	9,309.35	197.21	2.16%
	500	125,000	15,367.34	11,682.66	(3,704.68)	-24.11%	11,418.88	(243.78)	-2.09%	11,666.38	247.50	2.17%
	1,000	100,000	15,628.04	13,511.33	(2,116.71)	-13.54%	13,422.44	(68.89)	-0.66%	13,710.90	288.46	2.15%
	1,000	175,000	23,094.37	18,327.31	(4,767.06)	-20.84%	18,035.92	(291.39)	-1.59%	18,424.95	389.03	2.16%
	1,000	250,000	30,560.70	23,143.29	(7,417.41)	-24.27%	22,649.40	(493.89)	-2.13%	23,139.01	489.61	2.16%
	1,500	150,000	23,395.08	20,175.98	(3,179.10)	-13.61%	20,039.48	(136.50)	-0.68%	20,469.47	429.99	2.15%
	1,500	262,500	34,594.57	27,399.96	(7,194.61)	-20.71%	26,959.70	(440.26)	-1.61%	27,540.56	580.85	2.15%
	1,500	375,000	45,754.07	34,623.93	(11,130.14)	-24.33%	33,879.93	(744.00)	-2.15%	34,611.64	731.72	2.16%
	2,000	200,000	31,082.11	26,840.84	(4,241.27)	-13.65%	26,656.52	(184.12)	-0.69%	27,228.05	571.52	2.14%
	2,000	350,000	46,014.77	36,472.60	(9,542.17)	-20.74%	35,883.49	(589.11)	-1.62%	36,656.16	772.67	2.15%
	2,000	500,000	60,947.43	46,104.57	(14,842.86)	-24.35%	45,110.45	(994.12)	-2.16%	46,084.28	973.82	2.16%
	3,000	300,000	46,536.17	40,169.95	(6,366.22)	-13.68%	39,880.61	(279.34)	-0.70%	40,745.20	854.59	2.14%
	3,000	525,000	68,935.16	54,617.89	(14,317.27)	-20.77%	53,731.06	(886.83)	-1.62%	54,867.37	1,156.31	2.15%
	3,000	750,000	91,334.15	69,065.84	(22,268.31)	-24.38%	67,571.51	(1,494.33)	-2.16%	69,029.54	1,458.04	2.16%
GS-3 Secondary												
	50	17,500	1,985.75	1,683.94	(301.82)	-15.20%	1,633.29	(50.65)	-3.01%	1,674.18	40.89	2.50%
	50	22,500	2,278.64	2,020.94	(257.70)	-11.31%	1,982.52	(68.42)	-3.39%	2,002.28	49.75	2.55%
	50	27,500	2,571.51	2,357.84	(213.57)	-8.31%	2,271.75	(86.19)	-3.66%	2,330.37	58.62	2.58%
	100	35,000	3,948.91	3,345.01	(603.90)	-15.29%	3,243.23	(101.78)	-3.04%	3,324.58	81.35	2.51%
	100	45,000	4,536.85	4,019.02	(517.83)	-11.37%	3,881.69	(137.33)	-3.42%	3,980.77	99.08	2.55%
	100	55,000	5,120.40	4,693.03	(427.37)	-8.35%	4,520.14	(172.89)	-3.68%	4,636.96	116.81	2.58%
	250	87,500	9,838.34	8,328.24	(1,510.10)	-15.35%	8,073.04	(255.20)	-3.06%	8,275.78	202.75	2.51%
	250	112,500	11,302.71	10,013.26	(1,289.45)	-11.41%	9,689.18	(344.08)	-3.44%	9,916.25	247.07	2.56%
	250	137,500	12,767.08	11,696.28	(1,068.80)	-8.37%	11,265.32	(432.96)	-3.70%	11,556.72	291.40	2.59%
	500	175,000	19,654.06	16,833.82	(3,020.44)	-15.37%	16,122.72	(510.90)	-3.07%	16,527.79	405.07	2.51%
	500	225,000	22,582.80	20,003.85	(2,579.15)	-11.42%	19,315.00	(688.65)	-3.44%	19,808.72	493.72	2.56%
	500	275,000	25,511.55	23,373.88	(2,137.68)	-8.38%	22,507.29	(866.40)	-3.71%	23,089.66	582.37	2.59%
	1,000	350,000	39,285.49	33,244.38	(6,041.11)	-15.38%	32,222.07	(1,022.31)	-3.08%	33,031.79	809.72	2.51%
	1,000	450,000	45,142.98	39,984.45	(5,158.53)	-11.43%	38,066.86	(1,377.80)	-3.45%	39,593.66	987.02	2.56%
	1,000	550,000	51,000.48	46,724.52	(4,275.96)	-8.38%	44,991.22	(1,733.30)	-3.71%	46,155.53	1,164.32	2.59%
	2,000	700,000	75,548.37	66,465.89	(9,082.48)	-15.38%	64,420.79	(2,045.10)	-3.08%	66,030.80	1,619.01	2.51%
	2,000	900,000	89,961.96	79,644.55	(10,317.41)	-11.47%	78,688.55	(2,263.41)	-3.46%	78,862.16	1,973.61	2.51%
	2,000	1,100,000	100,777.29	92,225.13	(8,552.16)	-8.49%	88,758.03	(3,467.10)	-3.76%	91,086.24	2,328.21	2.62%
	3,000	1,050,000	116,835.11	98,711.27	(18,123.84)	-15.51%	95,643.38	(3,067.89)	-3.11%	98,071.68	2,428.30	2.54%
	3,000	1,350,000	133,068.10	117,582.00	(15,476.10)	-11.53%	113,447.60	(4,134.40)	-3.52%	116,407.00	2,960.20	2.61%
	3,000	1,650,000	149,281.08	136,452.73	(12,828.35)	-8.59%	131,251.83	(5,200.90)	-3.81%	134,743.93	3,492.10	2.66%
	4,500	1,575,000	173,567.82	146,181.94	(27,165.88)	-15.68%	141,579.84	(

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K/G)
GS-3												
Primary												
	50	17,500	2,029.56	1,718.34	(311.22)	-15.33%	1,886.16	(32.18)	-1.87%	1,722.47	36.31	2.15%
	50	22,500	2,315.12	2,039.61	(275.51)	-11.90%	1,993.93	(45.68)	-2.24%	2,036.94	43.02	2.16%
	50	27,500	2,600.69	2,360.87	(239.82)	-9.22%	2,301.69	(59.18)	-2.51%	2,351.41	49.72	2.16%
	100	35,000	3,885.15	3,254.67	(830.48)	-16.23%	3,183.98	(70.69)	-2.17%	3,251.20	57.23	2.11%
	100	45,000	4,456.27	3,897.20	(559.07)	-12.55%	3,799.50	(97.70)	-2.51%	3,860.14	80.64	2.12%
	100	55,000	5,027.39	4,539.72	(487.67)	-9.70%	4,415.03	(124.69)	-2.75%	4,508.08	94.05	2.13%
	250	87,500	9,451.90	7,863.64	(1,588.26)	-16.80%	7,677.41	(186.23)	-2.37%	7,837.39	159.97	2.08%
	250	112,500	10,879.70	9,469.86	(1,409.74)	-12.96%	9,216.23	(253.73)	-2.68%	9,409.73	193.50	2.10%
	250	137,500	12,307.51	11,076.28	(1,231.23)	-10.03%	10,755.05	(321.23)	-2.90%	10,982.08	227.02	2.11%
	500	175,000	18,729.81	15,545.26	(3,184.55)	-17.00%	15,166.48	(3,563.33)	-23.50%	15,481.03	314.55	2.07%
	500	225,000	21,585.42	18,757.90	(2,827.52)	-13.10%	18,244.12	(3,341.30)	-18.32%	18,625.72	381.60	2.09%
	500	275,000	24,441.04	21,970.54	(2,470.50)	-10.11%	21,321.76	(3,119.28)	-14.66%	21,770.41	448.65	2.10%
	1,000	350,000	37,285.64	30,908.50	(6,377.14)	-17.10%	30,144.61	(7,141.03)	-23.08%	30,768.32	623.71	2.07%
	1,000	450,000	42,996.37	37,333.78	(5,662.59)	-13.17%	36,299.89	(11,036.48)	-29.52%	37,057.70	757.81	2.09%
	1,000	550,000	48,706.10	43,759.08	(4,947.02)	-10.16%	42,455.17	(1,303.89)	-2.98%	43,347.08	891.91	2.10%
	2,000	700,000	74,397.30	61,634.98	(12,762.32)	-17.15%	60,100.86	(11,534.12)	-18.89%	61,342.89	1,242.02	2.07%
	2,000	900,000	85,518.37	74,184.15	(11,334.22)	-13.25%	72,110.04	(12,074.11)	-16.28%	73,620.26	1,510.22	2.09%
	2,000	1,100,000	96,041.17	86,135.05	(9,906.12)	-10.31%	83,520.94	(2,614.11)	-3.03%	85,299.36	1,778.42	2.13%
	4,000	1,400,000	146,070.08	120,537.40	(25,532.68)	-17.48%	117,462.84	(3,074.56)	-2.55%	119,941.49	2,478.65	2.11%
	4,000	1,800,000	167,115.68	144,439.20	(22,676.48)	-13.57%	140,284.84	(4,154.36)	-2.88%	143,299.89	3,015.05	2.15%
	4,000	2,200,000	188,161.28	168,341.00	(19,820.28)	-10.53%	163,106.44	(5,234.56)	-3.11%	166,657.89	3,551.45	2.18%
	8,000	2,800,000	288,219.10	237,145.69	(51,073.41)	-17.72%	230,990.25	(6,155.44)	-2.60%	235,942.15	4,951.90	2.14%
	8,000	3,600,000	330,310.29	284,949.29	(45,361.00)	-13.73%	276,633.85	(8,315.44)	-2.92%	282,658.55	6,024.70	2.18%
	8,000	4,400,000	372,401.49	332,752.89	(39,648.60)	-10.65%	322,277.45	(10,474.44)	-3.15%	329,374.95	7,097.50	2.20%
	10,000	3,500,000	359,293.61	295,449.84	(63,843.77)	-17.77%	297,753.95	(7,695.69)	-2.60%	299,342.48	6,188.53	2.15%
	10,000	4,500,000	411,807.60	355,204.34	(56,603.26)	-13.77%	344,808.45	(10,395.89)	-2.93%	352,337.98	7,529.53	2.18%
	10,000	5,500,000	464,521.59	414,958.84	(49,562.75)	-10.67%	401,862.95	(13,095.89)	-3.16%	410,733.48	8,870.53	2.21%
Supplement 18												
GS-3												
Primary												
	50	17,500	1,714.87	1,718.34	3.47	0.20%	1,886.16	(32.18)	-1.87%	1,722.47	36.31	2.15%
	50	22,500	2,000.43	2,039.61	39.18	1.96%	1,993.93	(45.68)	-2.24%	2,036.94	43.02	2.16%
	50	27,500	2,285.99	2,360.87	74.88	3.28%	2,301.69	(59.18)	-2.51%	2,351.41	49.72	2.16%
	100	35,000	3,254.67	3,254.67	(1.08)	-0.03%	3,183.98	(70.69)	-2.17%	3,251.20	67.23	2.11%
	100	45,000	3,826.87	3,897.20	70.33	1.84%	3,799.50	(97.70)	-2.51%	3,860.14	80.64	2.12%
	100	55,000	4,398.00	4,539.72	141.72	3.22%	4,415.03	(124.69)	-2.75%	4,508.08	94.05	2.13%
	250	87,500	7,878.41	7,863.64	(14.77)	-0.19%	7,677.41	(186.23)	-2.37%	7,837.39	159.97	2.08%
	250	112,500	9,306.22	9,469.86	163.74	1.76%	9,216.23	(253.73)	-2.68%	9,409.73	193.50	2.10%
	250	137,500	10,734.02	11,076.28	342.26	3.19%	10,755.05	(321.23)	-2.90%	10,982.08	227.02	2.11%
	500	175,000	15,582.84	15,545.26	(37.58)	-0.24%	15,166.48	(3,789.78)	-24.41%	15,481.03	314.55	2.07%
	500	225,000	18,438.45	18,757.90	319.45	1.73%	18,244.12	(513.78)	-2.74%	18,625.72	381.60	2.09%
	500	275,000	21,294.06	21,970.54	676.48	3.18%	21,321.76	(548.78)	-2.95%	21,770.41	448.65	2.10%
	1,000	350,000	30,961.69	30,908.50	(53.19)	-0.17%	30,144.61	(783.89)	-2.47%	30,768.32	623.71	2.07%
	1,000	450,000	36,702.92	37,333.78	630.86	1.72%	36,299.89	(1,033.89)	-2.77%	37,057.70	757.81	2.09%
	1,000	550,000	42,414.15	43,759.08	1,344.91	3.17%	42,455.17	(1,303.89)	-2.88%	43,347.08	891.91	2.10%
	2,000	700,000	61,809.40	61,634.98	(174.42)	-0.28%	60,100.86	(1,534.12)	-2.49%	61,342.89	1,242.02	2.07%
	2,000	900,000	72,930.47	74,184.15	1,253.68	1.72%	72,110.04	(2,074.11)	-2.84%	73,620.26	1,510.22	2.09%
	2,000	1,100,000	83,453.27	86,135.05	2,681.78	3.21%	83,520.94	(2,614.11)	-3.03%	85,299.36	1,778.42	2.13%
	4,000	1,400,000	120,894.26	120,537.40	(356.86)	-0.30%	117,462.84	(3,074.56)	-2.55%	119,941.49	2,478.65	2.11%
	4,000	1,800,000	141,939.88	144,439.20	2,499.32	1.76%	140,284.84	(4,154.36)	-2.88%	143,299.89	3,015.05	2.15%
	4,000	2,200,000	162,985.48	168,341.00	5,355.52	3.29%	163,106.44	(5,234.56)	-3.11%	166,657.89	3,551.45	2.18%
	8,000	2,800,000	237,867.50	237,145.69	(721.81)	-0.30%	230,990.25	(6,155.44)	-2.60%	235,942.15	4,951.90	2.14%
	8,000	3,600,000	279,958.69	284,949.29	4,990.60	1.78%	276,633.85	(8,315.44)	-2.92%	282,658.55	6,024.70	2.18%
	8,000	4,400,000	322,049.89	332,752.89	10,703.00	3.32%	322,277.45	(10,474.44)	-3.15%	329,374.95	7,097.50	2.20%
	10,000	3,500,000	295,354.11	295,449.84	95.73	0.03%	297,753.95	(7,695.69)	-2.60%	299,342.48	6,188.53	2.15%
	10,000	4,500,000	348,968.10	355,204.34	6,236.24	1.79%	344,808.45	(10,395.89)	-2.93%	352,337.98	7,529.53	2.18%
	10,000	5,500,000	401,562.09	414,958.84	13,396.75	3.33%	401,862.95	(13,095.89)	-3.16%	410,733.48	8,870.53	2.21%
GS-4												
	3,000	600,000	72,327.03	45,414.49	(26,912.54)	-37.21%	45,413.29	(1.20)	0.00%	45,484.50	71.21	0.16%
	3,000	1,200,000	103,098.69	77,680.95	(25,417.74)	-24.65%	77,620.35	(60.60)	-0.08%	77,713.16	92.81	0.12%
	3,000	1,800,000	132,822.24	108,899.30	(23,922.94)	-18.01%	108,779.31	(119.99)	-0.11%	108,893.71	114.41	0.11%
	5,000	1,000,000	107,433.44	73,874.83	(33,558.61)	-31.24%	73,834.03	(40.80)	-0.06%	73,919.64	85.61	0.12%
	5,000	2,000,000	158,972.69	125,905.42	(33,067.27)	-19.79%	125,785.62	(139.80)	-0.11%	125,867.23	121.61	0.10%
	5,000	3,000,000	206,511.84	177,936.01	(28,575.83)	-13.84%	177,697.21	(238.80)	-0.13%	177,854.82	157.61	0.09%
	8,000	1,800,000	158,520.89	114,993.18	(43,527.71)	-27.46%	114,892.99	(100.19)	-0.09%	115,000.20	107.21	0.09%
	8,000	3,200,000	237,783.69	198,242.13	(39,541.56)	-16.65%	197,993.53	(250.60)	-0.13%	198,148.34	154.81	0.08%
	8,000	4,800,000	317,046.49	281,431.07	(35,615.42)	-11.21%	281,074.08	(446.99)	-0.16%	281,298.48	224.41	0.08%
	10,000	2,000,000	192,579.19	142,405.42	(50,173.77)	-26.05%	142,265.62	(313.57)	-0.22%	142,387.23	121.61	0.09%
	10,000	4,000,000	291,657.69	246,466.80	(45,190.89)	-15.49%	246,128.80	(337.89)	-0.14%	246,322.41	193.61	0.08%
	10,000	6,000,000	390,736.19	350,527.78	(40,208.41)	-10.29%	349,991.98	(535.80)	-0.15%	350,257.59	265.61	0.08%
	15,000	3,000,000	277,724.94	210,936.01	(66,788.93)	-24.05%	210,697.21	(238.80)	-0.11%	210,954.82	157.61	0.07%
	15,000	6,000,000	426,342.69	367,027.78	(59,314.91)	-13.91%	366,491.98	(535.80)	-0.15%	366,757.59	265.61	0.07%
	15,000	9,000,000	574,980.44	523,119.55	(51,860.89)	-9.02%	522,286.75	(832.80)	-0.16%	522,660.36	373.61	0.07%
	20,000	4,000,000	362,870.69	279,466.80	(83,403.89)	-22.98%	279,128.80	(337.89)	-0.12%	279,322.41	193.61	0.07%
	20,000	8,000,000	551,027.69	487,588.96	(63,438.73)	-11.51%	486,855.16	(733.80)	-0.15%	487,192.77	337.61	0.07%
	20,000	12,000,000	758,184.69	695,711.32	(62,473.37)	-8.24%	694,581.52	(1,129.80)	-0.16%	695,063.13	481.61	0.07%
	30,000	6,000,000	533,162.19	416,527.78	(116,634.41)	-21.88%	415,991.98	(535.80)	-0.13%	416,257.59	265.61	0.06%
	30,000	12,000,000	830,397.69	728,711.32	(101,686.37)	-12.25%	727,581.52	(1,129.80)	-0.16%	728,063.13	481.61	0

COLUMBUS SOUTHERN POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K/G)
AL	FACILITY CHARGES											
	Mast Arm											
	8 FT.	0	0.81	0.85	0.04	4.94%	0.89	0.04	4.13%	0.91	0.03	3.01%
	12 FT.	0	1.42	1.50	0.08	5.63%	1.55	0.05	3.52%	1.60	0.05	3.01%
	16 FT.	0	1.89	1.99	0.10	5.29%	2.07	0.08	3.78%	2.13	0.06	3.01%
	20 FT.	0	3.32	3.49	0.17	5.12%	3.62	0.13	3.67%	3.73	0.11	3.01%
	Poles											
	Wood	0	3.12	3.28	0.16	5.13%	3.40	0.12	3.68%	3.50	0.10	3.01%
	Aluminum	0	17.08	17.96	0.88	5.15%	18.62	0.66	3.67%	19.18	0.56	3.01%
	Fiberglass	0	25.47	26.78	1.31	5.14%	27.77	0.99	3.68%	28.50	0.84	3.01%
	Each additional 150 foot overhead w/	0	1.01	1.06	0.05	4.95%	1.10	0.04	4.01%	1.14	0.03	3.01%
	Each additional riser pole connection	0	5.01	5.27	0.26	5.19%	5.47	0.20	3.72%	5.63	0.16	3.01%
	Each underground lateral not over 50	0	1.50	1.57	0.07	4.67%	1.63	0.06	3.65%	1.68	0.05	3.01%
SL	High Pressure Sodium											
	100 WATT	40	11.50	11.93	0.43	3.74%	12.37	0.44	3.70%	12.84	0.27	2.16%
	150 WATT	56	13.78	14.25	0.47	3.41%	14.78	0.53	3.75%	15.07	0.29	1.95%
	200 WATT	84	18.15	18.75	0.60	3.31%	19.45	0.70	3.72%	19.81	0.36	1.86%
	250 WATT	103	20.58	21.22	0.64	3.11%	22.02	0.80	3.75%	22.41	0.39	1.77%
	400 WATT	167	25.91	26.57	0.66	2.55%	27.57	1.00	3.76%	27.95	0.39	1.40%
	CUT OFF 100 WATT	40	15.57	16.21	0.64	4.11%	16.81	0.60	3.72%	17.21	0.40	2.38%
	CUT OFF 250 WATT	103	27.08	28.05	0.97	3.58%	29.10	1.05	3.73%	29.70	0.60	2.07%
	CUT OFF 400 WATT	167	36.48	37.88	1.20	3.29%	39.09	1.41	3.74%	39.82	0.73	1.88%
	Mercury Vapor											
	100 WATT	43	10.85	11.29	0.38	3.50%	11.85	0.42	3.74%	11.89	0.24	2.03%
	175 WATT	72	13.67	14.08	0.41	3.00%	14.80	0.52	3.73%	14.85	0.25	1.70%
	400 WATT	158	24.36	24.98	0.62	2.55%	25.92	0.94	3.74%	26.28	0.36	1.39%
	FACILITY CHARGES											
	Mast Arm											
	12 FT.	0	1.42	1.50	0.08	5.63%	1.55	0.05	3.52%	1.60	0.05	3.01%
	16 FT.	0	1.89	1.99	0.10	5.29%	2.07	0.08	3.78%	2.13	0.06	3.01%
	20 FT.	0	3.32	3.49	0.17	5.12%	3.62	0.13	3.67%	3.73	0.11	3.01%
	Poles											
	Wood	0	1.62	1.71	0.09	5.56%	1.77	0.06	3.52%	1.82	0.05	3.01%
	Aluminum	0	16.87	17.74	0.87	5.18%	18.39	0.65	3.64%	18.94	0.55	3.01%
	Fiberglass	0	25.14	26.44	1.30	5.17%	27.41	0.97	3.66%	28.23	0.83	3.01%
	Each additional 150 foot overhead w/	0	0.95	1.00	0.05	5.26%	1.04	0.04	4.04%	1.07	0.03	3.01%
	Each additional riser pole connection	0	4.87	5.12	0.25	5.13%	5.31	0.19	3.73%	5.47	0.16	3.01%
	Each underground lateral not over 50	0	1.55	1.63	0.08	5.18%	1.69	0.06	3.84%	1.74	0.05	3.01%
	Electric Energy Rate											
	100	100	17.17	12.65	(4.52)	-26.32%	13.13	0.48	3.78%	13.26	0.13	0.99%
	250	250	33.95	22.86	(11.09)	-32.67%	23.74	0.68	3.83%	23.79	0.05	0.21%
	500	500	61.93	39.88	(22.05)	-35.60%	41.41	1.53	3.65%	41.33	(0.08)	-0.20%
	1,000	1,000	117.88	73.92	(43.96)	-37.29%	76.77	2.85	3.96%	76.43	(0.35)	-0.45%
	2,500	2,500	285.49	175.79	(109.70)	-38.43%	182.52	6.83	3.88%	181.48	(1.14)	-0.62%
	5,000	5,000	564.09	344.83	(219.26)	-38.87%	358.25	13.43	3.89%	355.80	(2.46)	-0.69%
	10,000	10,000	1,121.29	682.89	(438.40)	-39.10%	709.54	26.65	3.90%	704.43	(5.11)	-0.72%
	15,000	15,000	1,678.49	1,028.22	(650.27)	-38.74%	1,066.09	39.87	3.88%	1,060.33	(5.76)	-0.73%
	100,000	100,000	11,103.25	6,727.74	(4,375.51)	-39.41%	6,992.31	264.57	3.93%	6,939.55	(52.76)	-0.75%
	500,000	500,000	55,455.07	33,549.00	(21,906.07)	-39.50%	34,871.02	1,322.02	3.94%	34,606.49	(264.53)	-0.76%

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E÷C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H÷G)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K÷G)	
RS Summer		0	5.41	5.59	0.18	3.34%	5.80	0.21	3.76%	5.97	0.18	3.08%	
		30	8.30	9.40	0.10	1.05%	9.50	0.10	1.02%	10.13	0.64	6.72%	
		70	14.50	14.49	(0.01)	-0.09%	14.43	(0.06)	-0.39%	15.68	1.25	8.67%	
		120	21.00	20.84	(0.15)	-0.72%	20.80	(0.25)	-1.19%	22.61	2.02	9.79%	
		200	31.39	31.02	(0.37)	-1.16%	30.47	(0.55)	-1.78%	33.71	3.24	10.65%	
		300	44.38	43.73	(0.65)	-1.45%	42.80	(0.83)	-2.13%	47.58	4.78	11.16%	
		500	70.37	69.17	(1.20)	-1.70%	67.47	(1.68)	-2.45%	75.31	7.84	11.62%	
		800	109.34	107.31	(2.03)	-1.85%	104.48	(2.84)	-2.64%	116.91	12.44	11.90%	
		1,000	132.68	130.86	(1.82)	-1.37%	127.19	(3.87)	-2.80%	142.63	15.44	12.14%	
		1,200	156.01	154.41	(1.60)	-1.03%	149.91	(4.60)	-2.92%	168.35	18.45	12.36%	
		1,500	191.02	189.73	(1.28)	-0.67%	183.98	(5.75)	-3.03%	206.93	22.95	12.48%	
		2,000	249.36	248.60	(0.75)	-0.30%	240.77	(7.83)	-3.15%	271.23	30.46	12.66%	
		4,000	481.79	483.17	1.38	0.29%	487.01	(16.16)	-3.34%	527.82	60.51	12.96%	
		5,000	598.01	600.45	2.44	0.41%	598.13	(20.32)	-3.38%	655.66	75.53	13.02%	
		8,000	946.67	952.30	5.63	0.59%	919.49	(32.81)	-3.45%	1,040.08	120.59	13.11%	
	10,000	1,179.10	1,186.86	7.76	0.66%	1,145.73	(41.14)	-3.47%	1,296.36	150.63	13.15%		
	12,000	1,411.54	1,421.42	9.88	0.70%	1,371.96	(49.46)	-3.48%	1,552.64	180.68	13.17%		
	15,000	1,780.20	1,773.27	(6.93)	-0.39%	1,711.32	(69.55)	-3.48%	1,937.06	225.74	13.19%		
RS Winter		0	5.41	5.59	0.18	3.34%	5.80	0.21	3.76%	5.97	0.18	3.08%	
		30	9.30	9.31	0.01	0.08%	9.40	0.09	0.97%	10.04	0.64	6.81%	
		70	14.50	14.28	(0.22)	-1.54%	14.21	(0.07)	-0.48%	15.46	1.26	8.84%	
		120	21.00	20.48	(0.51)	-2.44%	20.22	(0.27)	-1.30%	22.24	2.03	10.02%	
		200	31.39	30.42	(0.97)	-3.10%	29.83	(0.58)	-1.92%	33.09	3.26	10.92%	
		300	44.38	42.83	(1.55)	-3.49%	41.85	(0.98)	-2.29%	46.65	4.80	11.46%	
		500	70.37	67.66	(2.70)	-3.84%	65.89	(1.78)	-2.62%	73.76	7.88	11.95%	
		800	109.34	104.91	(4.43)	-4.05%	101.94	(2.97)	-2.83%	114.44	12.49	12.26%	
		1,000	132.68	127.86	(4.82)	-3.63%	124.02	(3.83)	-3.00%	139.54	15.51	12.51%	
		1,200	156.01	150.80	(5.21)	-3.34%	145.11	(4.70)	-3.11%	164.64	18.53	12.89%	
		1,500	191.02	185.22	(5.79)	-3.03%	179.23	(5.99)	-3.24%	202.29	23.06	12.87%	
		2,000	249.36	242.59	(6.76)	-2.71%	234.44	(8.16)	-3.36%	265.04	30.61	13.06%	
		4,000	481.79	471.14	(10.65)	-2.21%	454.34	(16.81)	-3.57%	515.13	60.79	13.38%	
		5,000	598.01	585.42	(12.59)	-2.11%	564.29	(21.13)	-3.81%	640.16	75.89	13.45%	
		8,000	946.67	928.25	(18.42)	-1.95%	894.14	(34.11)	-3.67%	1,015.31	121.17	13.55%	
	10,000	1,179.10	1,156.80	(22.30)	-1.89%	1,114.05	(42.76)	-3.70%	1,265.40	151.35	13.59%		
	12,000	1,411.54	1,385.35	(26.19)	-1.86%	1,333.95	(51.40)	-3.71%	1,515.49	181.54	13.61%		
	15,000	1,780.20	1,728.18	(52.02)	-2.92%	1,663.80	(64.38)	-3.73%	1,890.82	226.82	13.63%		
RS SWH Summer	80 gal.	500	58.78	60.68	1.90	3.24%	58.67	(2.01)	-3.32%	66.24	7.57	12.90%	
	80 gal.	800	97.75	98.83	1.08	1.10%	95.67	(3.16)	-3.19%	107.84	12.17	12.72%	
	80 gal.	1,000	123.74	124.26	0.52	0.42%	120.34	(3.92)	-3.15%	136.57	15.23	12.66%	
	80 gal.	1,500	182.74	183.60	0.87	0.47%	177.52	(5.98)	-3.26%	200.38	22.76	12.81%	
	80 gal.	2,000	241.08	242.47	1.40	0.58%	234.41	(8.06)	-3.33%	264.68	30.27	12.91%	
	80 gal.	4,000	473.51	477.04	3.52	0.74%	460.65	(16.39)	-3.44%	520.96	60.31	13.09%	
	80 gal.	6,000	705.95	711.60	5.65	0.80%	686.89	(24.71)	-3.47%	777.24	90.35	13.15%	
	80 gal.	8,000	938.39	946.17	7.78	0.83%	913.13	(33.04)	-3.49%	1,033.52	120.39	13.18%	
	100 gal.	500	55.37	58.98	3.62	6.53%	56.91	(2.08)	-3.52%	64.42	7.51	13.20%	
	100 gal.	800	93.12	95.43	2.32	2.49%	92.15	(3.28)	-3.44%	104.21	12.06	13.08%	
	100 gal.	1,000	119.10	120.87	1.77	1.48%	116.82	(4.05)	-3.35%	131.94	15.12	12.94%	
	100 gal.	1,500	179.43	181.15	1.72	0.96%	175.08	(5.07)	-3.35%	197.75	22.68	12.95%	
	100 gal.	2,000	237.77	240.02	2.25	0.95%	231.87	(8.16)	-3.40%	262.05	30.19	13.02%	
	100 gal.	4,000	470.20	474.59	4.38	0.93%	458.11	(16.48)	-3.47%	518.34	60.23	13.15%	
	100 gal.	6,000	702.64	709.15	6.51	0.93%	684.34	(24.81)	-3.50%	774.82	90.27	13.19%	
	100 gal.	8,000	935.08	943.71	8.64	0.92%	910.66	(33.13)	-3.51%	1,030.90	120.32	13.21%	
	120 gal.	500	55.37	58.98	3.62	6.53%	56.91	(2.08)	-3.52%	64.42	7.51	13.20%	
	120 gal.	800	98.48	92.04	(6.44)	-6.55%	88.63	(3.41)	-3.71%	100.58	11.96	13.48%	
	120 gal.	1,000	114.46	117.47	3.01	2.63%	113.30	(4.17)	-3.55%	128.31	15.01	13.25%	
	120 gal.	1,500	176.11	178.70	2.58	1.47%	172.53	(6.17)	-3.45%	195.13	22.60	13.10%	
	120 gal.	2,000	234.45	237.57	3.12	1.33%	229.32	(8.25)	-3.47%	259.43	30.11	13.13%	
	120 gal.	4,000	466.89	472.13	5.24	1.12%	455.56	(16.57)	-3.51%	515.71	60.15	13.20%	
	120 gal.	6,000	699.33	706.70	7.37	1.05%	681.80	(24.90)	-3.52%	771.09	90.19	13.22%	
	120 gal.	8,000	931.77	941.26	9.50	1.02%	908.04	(33.22)	-3.53%	1,026.28	120.24	13.24%	
	120 gal.	10,000	1,164.20	1,175.83	11.62	1.00%	1,134.28	(41.55)	-3.53%	1,284.56	150.28	13.25%	
	RS SWH Winter	80 gal.	500	58.78	59.18	0.40	0.68%	57.08	(2.09)	-3.54%	64.69	7.60	13.32%
		80 gal.	800	97.75	96.42	(1.33)	-1.36%	93.14	(3.29)	-3.41%	105.36	12.22	13.12%
		80 gal.	1,000	123.74	121.26	(2.48)	-2.01%	117.18	(4.08)	-3.36%	132.48	15.30	13.06%
		80 gal.	1,500	182.74	179.09	(3.64)	-1.99%	172.87	(6.22)	-3.49%	195.73	22.86	13.23%
		80 gal.	2,000	241.08	236.46	(4.62)	-1.91%	228.07	(8.39)	-3.55%	258.49	30.41	13.33%
80 gal.		4,000	473.51	465.01	(8.50)	-1.80%	447.98	(17.04)	-3.86%	506.57	60.60	13.53%	
80 gal.		6,000	705.95	693.57	(12.39)	-1.75%	667.86	(25.69)	-3.70%	758.66	90.78	13.58%	
80 gal.		8,000	938.39	922.12	(16.27)	-1.73%	887.78	(34.34)	-3.72%	1,008.75	120.97	13.63%	
100 gal.		500	55.37	57.48	2.11	3.82%	55.32	(2.16)	-3.75%	62.87	7.55	13.65%	
100 gal.		800	93.12	93.03	(0.09)	-0.09%	89.62	(3.41)	-3.67%	101.73	12.11	13.52%	
100 gal.		1,000	119.10	117.86	(1.24)	-1.04%	113.55	(4.21)	-3.57%	128.85	15.19	13.37%	
100 gal.		1,500	179.43	176.64	(2.78)	-1.55%	170.33	(6.32)	-3.58%	193.11	22.79	13.38%	
100 gal.		2,000	237.77	234.01	(3.76)	-1.58%	225.53	(8.48)	-3.62%	255.86	30.33	13.45%	
100 gal.		4,000	470.20	462.56	(7.64)	-1.62%	445.43	(17.13)	-3.70%	505.95	60.52	13.59%	
100 gal.		6,000	702.64	691.11	(11.53)	-1.64%	665.34	(25.78)	-3.73%	756.04	90.71	13.63%	
100 gal.		8,000	935.08	919.67	(15.41)	-1.65%	886.24	(34.43)	-3.74%	1,006.13	120.89	13.68%	
120 gal.		500	55.37	57.48	2.11	3.82%	55.32	(2.16)	-3.75%	62.87	7.55	13.65%	
120 gal.		800	98.48	89.64	(8.84)	-9.07%	85.10	(3.54)	-3.95%	98.10	12.01	13.94%	
120 gal.		1,000	114.46	114.47	0.00	0.00%	110.13	(4.33)	-3.79%	125.22	15.08	13.70%	
120 gal.		1,500	176.11	174.19	(1.92)	-1.09%	167.78	(6.41)	-3.68%	190.49	22.71	13.53%	
120 gal.		2,000	234.45	231.56	(2.89)	-1.24%	222.99	(8.57)	-3.70%	253.24	30.25	13.57%	
120 gal.		4,000	466.89	450.11	(16.78)	-3.59%	442.69	(17.22)	-3.74%	500.43	57.74	13.09%	
120 gal.		6,000	689.33	669.66	(19.67)	-2.85%	652.69	(25.87)	-3.75%	733.42	80.63	12.37%	
120 gal.		8,000	931.77	917.21	(14.55)	-1.56%	882.69	(34.52)	-3.76%	1,003.51	120.81	13.69%	
120 gal.		10,000	1,164.20	1,145.77	(18.44)	-1.58%	1,102.60	(43.17)	-3.77%	1,253.80	151.00	13.69%	
RS-TOD		On-Peak 25%	1,000	117.99	119.80	1.81	1.53%	115.68	(4.12)	-3.44%	130.89	15.21	13.14%
		Off-Peak 75%	2,000	225.28	228.43	3.15	1.40%	219.77	(8.56)	-3.79%	249.83	30.05	13.67%
			3,000	332.10	336.80	4.50	1.36%	323.41	(13.19)	-3.92%	368.31	44.90	13.89%
			4,000	438.92	444.77	5.85	1.33%	427.04	(17.73)	-3.99%	486.79	59.75	13.99%
			5,000	545.74	552.94	7.19	1.32%	530.67	(22.27)	-4.03%	605.27	74.60	14.06%
		6,000	652.57	661.11	8.54	1.31%	634.30	(26.81)	-4.05%	723.75	89.44	14.10%	
	7,000	759.39	769.28	9.89	1.30%	737.93	(31.34)	-4.07%	842.23	104.29	14.13%		
	8,000	866.21	877.45	11.23	1.30%	841.57	(35.68)	-4.09%	960.71	119.14	14.18%		

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K/G)
RS-TOD												
On-Peak 30%		1,000	122.74	123.28	0.55	0.45%	119.30	(3.99)	-3.23%	134.61	15.32	12.84%
Off-Peak 70%		2,000	234.76	235.40	0.63	0.27%	227.00	(8.39)	-3.57%	257.28	30.28	13.34%
		3,000	346.33	347.05	0.72	0.21%	334.25	(12.80)	-3.69%	379.48	45.24	13.53%
		4,000	457.90	458.70	0.80	0.18%	441.49	(17.21)	-3.75%	501.89	60.20	13.63%
		5,000	569.48	570.35	0.86	0.16%	548.74	(21.61)	-3.79%	623.88	75.15	13.70%
		6,000	681.03	682.01	0.98	0.14%	655.09	(26.02)	-3.82%	746.10	90.11	13.74%
		7,000	792.60	793.66	1.06	0.13%	763.23	(30.43)	-3.83%	868.31	105.07	13.77%
		8,000	904.17	905.31	1.15	0.13%	870.48	(34.64)	-3.85%	990.51	120.03	13.79%
RS-TOD												
On-Peak 35%		1,000	127.48	128.77	(0.71)	-0.56%	122.91	(3.86)	-3.04%	138.34	15.43	12.55%
Off-Peak 65%		2,000	244.25	242.36	(1.89)	-0.77%	234.23	(8.13)	-3.36%	264.73	30.50	13.02%
		3,000	360.56	357.50	(3.06)	-0.85%	345.09	(12.41)	-3.47%	390.66	45.57	13.21%
		4,000	476.87	472.64	(4.24)	-0.89%	455.95	(16.68)	-3.53%	516.59	60.64	13.30%
		5,000	593.19	587.77	(5.41)	-0.91%	565.81	(20.96)	-3.57%	642.52	75.71	13.36%
		6,000	709.50	702.91	(6.59)	-0.93%	677.57	(25.24)	-3.59%	768.45	90.78	13.40%
		7,000	825.81	818.04	(7.78)	-0.94%	788.54	(29.61)	-3.61%	884.38	105.85	13.42%
		8,000	942.12	933.18	(8.94)	-0.95%	899.39	(33.79)	-3.62%	1,020.32	120.92	13.45%
RS-ES												
On-Peak 15%		1,000	108.50	112.83	4.33	3.99%	108.45	(4.38)	-3.88%	123.44	14.98	13.81%
Off-Peak 85%		2,000	206.30	214.50	8.20	3.97%	205.32	(9.16)	-4.26%	234.92	29.61	14.42%
		3,000	303.63	315.70	12.07	3.97%	301.72	(13.98)	-4.43%	345.95	44.23	14.56%
		4,000	400.97	416.90	15.93	3.97%	398.12	(18.78)	-4.50%	456.98	58.86	14.78%
		5,000	498.30	518.11	19.80	3.97%	494.53	(23.58)	-4.55%	568.01	73.48	14.86%
		6,000	595.64	619.31	23.67	3.97%	590.93	(28.38)	-4.58%	679.04	88.11	14.91%
		7,000	692.97	720.51	27.54	3.97%	687.34	(33.18)	-4.60%	790.07	102.73	14.95%
		8,000	790.31	821.71	31.41	3.97%	783.74	(37.97)	-4.62%	901.10	117.36	14.97%
RS-ES												
On-Peak 20%		1,000	113.25	116.32	3.07	2.71%	112.07	(4.25)	-3.65%	127.16	15.09	13.47%
Off-Peak 80%		2,000	215.79	221.46	5.68	2.63%	212.55	(8.92)	-4.03%	242.38	29.83	14.03%
		3,000	317.87	326.15	8.28	2.61%	312.56	(13.59)	-4.17%	357.13	44.57	14.26%
		4,000	419.95	430.84	10.89	2.59%	412.58	(18.25)	-4.24%	471.88	59.30	14.37%
		5,000	522.02	535.52	13.50	2.59%	512.60	(22.92)	-4.28%	586.64	74.04	14.44%
		6,000	624.10	640.21	16.11	2.58%	612.62	(27.59)	-4.31%	701.39	88.78	14.49%
		7,000	726.18	744.89	18.71	2.58%	712.63	(32.26)	-4.33%	816.15	103.51	14.53%
		8,000	828.26	849.58	21.32	2.57%	812.65	(36.93)	-4.35%	930.90	118.25	14.55%
RS-ES												
On-Peak 25%		1,000	117.99	119.80	1.81	1.53%	115.68	(4.12)	-3.44%	130.89	15.21	13.14%
Off-Peak 75%		2,000	225.26	228.43	3.15	1.40%	219.77	(8.66)	-3.79%	249.83	30.05	13.67%
		3,000	332.10	336.80	4.50	1.36%	323.41	(13.19)	-3.92%	368.31	44.90	13.88%
		4,000	438.92	444.77	5.85	1.33%	427.04	(17.73)	-3.99%	486.79	59.75	13.99%
		5,000	545.74	552.94	7.19	1.32%	530.67	(22.27)	-4.03%	605.27	74.60	14.06%
		6,000	652.57	661.11	8.54	1.31%	634.30	(26.81)	-4.05%	723.75	89.44	14.10%
		7,000	759.39	769.28	9.89	1.30%	737.93	(31.34)	-4.07%	842.23	104.29	14.13%
		8,000	866.21	877.45	11.23	1.30%	841.57	(35.88)	-4.09%	960.71	119.14	14.16%
GS-1												
Unmetered		50	24.36	24.02	(0.35)	-1.42%	24.59	0.57	2.37%	25.71	1.13	4.58%
		100	29.55	28.31	(1.24)	-4.19%	28.72	0.42	1.47%	30.36	1.64	5.69%
		150	34.73	32.59	(2.13)	-6.14%	32.86	0.26	0.81%	35.00	2.15	6.53%
		200	39.91	36.88	(3.02)	-7.58%	37.00	0.11	0.30%	39.65	2.65	7.16%
		400	60.64	54.04	(6.60)	-10.88%	53.54	(0.50)	-0.93%	58.23	4.69	8.77%
		700	91.73	79.77	(11.95)	-13.03%	78.36	(1.42)	-1.78%	86.11	7.75	9.89%
		1,000	122.82	105.51	(17.31)	-14.09%	103.17	(2.34)	-2.21%	113.98	10.81	10.48%
		1,500	174.63	148.40	(26.24)	-15.02%	144.83	(3.87)	-2.60%	160.44	15.61	11.01%
		2,000	226.45	191.29	(35.16)	-15.53%	185.89	(5.40)	-2.82%	206.89	21.00	11.30%
		4,000	432.80	361.92	(70.87)	-16.36%	350.41	(11.51)	-3.18%	391.80	41.39	11.81%
		8,000	845.49	703.20	(142.29)	-16.83%	679.45	(23.75)	-3.38%	761.61	82.16	12.09%
		10,000	1,051.84	873.84	(178.00)	-16.92%	843.97	(29.87)	-3.42%	946.52	102.55	12.15%
		15,000	1,567.70	1,300.43	(267.27)	-17.05%	1,255.27	(45.17)	-3.47%	1,408.78	153.51	12.23%
		25,000	2,593.84	2,148.02	(445.82)	-17.19%	2,072.27	(75.75)	-3.53%	2,327.71	255.44	12.33%
GS-1-ES												
On-Peak 10%		500	62.54	62.62	0.07	0.12%	61.81	(0.81)	-1.29%	67.52	5.71	9.24%
Off-Peak 90%		1,000	105.91	105.51	(0.40)	-0.38%	103.17	(2.34)	-2.21%	113.98	10.81	10.48%
		2,000	192.63	191.29	(1.35)	-0.70%	185.89	(5.40)	-2.82%	206.89	21.00	11.30%
		4,000	365.16	361.92	(3.24)	-0.89%	350.41	(11.51)	-3.18%	391.80	41.39	11.81%
		6,000	537.70	532.56	(5.13)	-0.95%	514.93	(17.63)	-3.31%	576.70	61.77	12.00%
		8,000	710.23	703.20	(7.03)	-0.99%	679.45	(23.75)	-3.38%	761.61	82.16	12.09%
On-Peak 15%		500	63.59	62.62	(0.97)	-1.53%	61.81	(0.81)	-1.29%	67.52	5.71	9.24%
Off-Peak 85%		1,000	108.00	105.51	(2.49)	-2.31%	103.17	(2.34)	-2.21%	113.98	10.81	10.48%
		2,000	196.82	191.29	(5.53)	-2.81%	185.89	(5.40)	-2.82%	206.89	21.00	11.30%
		4,000	373.53	361.92	(11.61)	-3.11%	350.41	(11.51)	-3.18%	391.80	41.39	11.81%
		6,000	550.25	532.56	(17.68)	-3.21%	514.93	(17.63)	-3.31%	576.70	61.77	12.00%
		8,000	726.96	703.20	(23.76)	-3.27%	679.45	(23.75)	-3.38%	761.61	82.16	12.09%
On-Peak 20%		500	64.84	62.62	(2.02)	-3.12%	61.81	(0.81)	-1.29%	67.52	5.71	9.24%
Off-Peak 80%		1,000	110.09	105.51	(4.58)	-4.16%	103.17	(2.34)	-2.21%	113.98	10.81	10.48%
		2,000	201.00	191.29	(9.71)	-4.83%	185.89	(5.40)	-2.82%	206.89	21.00	11.30%
		4,000	381.90	361.92	(19.98)	-5.23%	350.41	(11.51)	-3.18%	391.80	41.39	11.81%
		6,000	562.80	532.56	(30.24)	-5.37%	514.93	(17.63)	-3.31%	576.70	61.77	12.00%
		8,000	743.70	703.20	(40.50)	-5.45%	679.45	(23.75)	-3.38%	761.61	82.16	12.09%
GS-1												
		600	81.36	71.20	(10.17)	-12.50%	70.08	(1.11)	-1.56%	76.82	6.73	9.61%
		700	91.73	79.77	(11.95)	-13.03%	78.36	(1.42)	-1.78%	86.11	7.75	9.89%
		800	102.09	88.35	(13.74)	-13.46%	86.63	(1.72)	-1.95%	95.40	8.77	10.12%
		900	112.45	96.93	(15.52)	-13.80%	94.90	(2.03)	-2.09%	104.69	9.79	10.32%
		1,200	143.54	122.86	(20.68)	-14.55%	119.72	(2.85)	-2.40%	132.56	12.85	10.73%
		1,400	164.27	139.82	(24.45)	-14.88%	136.26	(3.58)	-2.55%	151.15	14.89	10.93%
		1,600	185.00	156.97	(28.02)	-15.15%	152.80	(4.17)	-2.66%	169.73	16.93	11.08%
		1,800	205.72	174.13	(31.59)	-15.36%	169.35	(4.78)	-2.75%	186.31	18.96	11.20%
		2,100	236.77	199.62	(36.95)	-15.61%	194.12	(5.70)	-2.85%	216.14	22.02	11.34%
		2,400	267.72	225.41	(42.30)	-15.80%	216.79	(6.62)	-2.94%	243.87	25.08	11.46%
		2,700	298.87	251.01	(47.66)	-15.96%	243.47	(7.54)	-3.00%	271.61	28.14	11.56%
		2,800	308.99	259.54	(49.45)	-16.00%	251.70	(7.84)	-3.02%	280.86	29.16	11.58%
		3,000	329.62	276.61	(53.02)	-16.08%	258.15	(8.45)	-3.06%	299.35	31.20	11.63%
		3,200	350.26	293.67	(56.59)	-16.16%	284.60	(9.07)	-3.09%	317.84	33.23	11.68%
		3,500	381.21	319.26	(61.94)	-16.25%	309.28	(9.36)	-3.13%	345.57	36.29	11.73%
		3,600	391.53	327.80	(63.73)	-16.29%	317.51	(10.29)	-3.14%	354.82	37.31	11.75%
		4,000	432.80	361.92	(70.87)	-16.36%	350.41	(11.51)	-3.18%	391.80	41.39	11.81%
		4,500	484.38	404.58	(79.80)	-16.47%	391.54	(13.04)	-3.22%	438.03	46.49	11.87%

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
Shopping Customer Typical Bills

			June 2015				June 2016				June 2017			
Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F=E/C)	to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I=H/D)	to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L=K/G)		
GS-2- Rec. Lighting														
	50		30.62	30.83	0.22	0.70%	31.65	0.82	2.66%	32.99	1.34	4.23%		
	100		36.27	36.86	0.41	-1.14%	36.55	0.69	1.94%	36.42	1.87	5.12%		
	150		41.92	40.88	(1.04)	-2.49%	41.45	0.57	1.39%	43.85	2.40	5.80%		
	200		47.57	45.90	(1.67)	-3.51%	46.34	0.44	0.96%	49.28	2.94	6.34%		
	400		70.18	65.99	(4.18)	-5.96%	65.93	(0.06)	-0.10%	71.00	5.07	7.68%		
	700		104.09	96.13	(7.96)	-7.64%	95.31	(0.82)	-0.85%	103.58	8.26	8.67%		
	1,000		138.00	126.27	(11.73)	-8.50%	124.70	(1.58)	-1.25%	136.15	11.46	9.19%		
	1,500		194.52	176.50	(18.02)	-9.26%	173.67	(2.84)	-1.61%	190.45	16.78	9.66%		
	2,000		251.03	226.73	(24.30)	-9.68%	222.63	(4.10)	-1.81%	244.74	22.11	9.93%		
	4,000		476.16	426.74	(49.45)	-10.38%	417.59	(9.14)	-2.14%	481.00	43.41	10.40%		
	8,000		926.46	826.74	(99.74)	-10.77%	807.51	(19.23)	-2.33%	893.52	86.01	10.65%		
	10,000		1,151.63	1,026.75	(124.88)	-10.84%	1,002.47	(24.28)	-2.36%	1,109.78	107.31	10.70%		
	15,000		1,714.51	1,526.76	(187.75)	-10.95%	1,489.87	(36.89)	-2.42%	1,650.43	160.57	10.78%		
	25,000		2,834.65	2,521.17	(313.48)	-11.06%	2,459.06	(62.11)	-2.46%	2,726.13	267.07	10.86%		
GS-2 Secondary														
10	1,000		200.27	191.70	(8.57)	-4.28%	191.88	(0.02)	-0.01%	205.47	13.79	7.19%		
10	2,000		288.39	264.75	(23.64)	-8.20%	261.16	(3.57)	-1.35%	285.74	24.56	9.40%		
10	3,000		376.05	337.34	(38.70)	-10.29%	330.22	(7.13)	-2.11%	365.55	35.33	10.70%		
25	2,500		451.13	427.82	(23.31)	-5.17%	425.90	(1.93)	-0.45%	458.76	32.87	7.72%		
25	5,000		670.27	609.30	(60.97)	-9.10%	598.49	(10.81)	-1.77%	658.28	59.80	9.99%		
25	7,500		889.40	790.77	(98.63)	-11.09%	771.07	(19.70)	-2.49%	857.80	86.73	11.25%		
50	5,000		868.45	820.59	(47.86)	-5.51%	815.48	(5.10)	-0.62%	880.15	64.67	7.93%		
50	10,000		1,306.73	1,183.54	(123.19)	-9.43%	1,160.86	(22.19)	-1.93%	1,279.19	118.53	10.21%		
50	15,000		1,745.00	1,546.49	(198.51)	-11.38%	1,505.84	(40.65)	-2.63%	1,678.23	172.40	11.45%		
75	7,500		1,285.77	1,213.35	(72.42)	-5.63%	1,205.07	(8.28)	-0.68%	1,301.54	96.47	8.00%		
75	15,000		1,943.18	1,767.78	(175.41)	-9.04%	1,722.84	(34.94)	-1.99%	1,900.10	177.26	10.29%		
75	22,500		2,586.40	2,298.01	(288.40)	-11.49%	2,236.40	(61.50)	-2.68%	2,484.46	258.06	11.54%		
100	10,000		1,703.09	1,606.11	(96.98)	-5.68%	1,594.66	(11.46)	-0.71%	1,722.92	128.27	8.04%		
100	20,000		2,576.84	2,329.22	(247.63)	-9.61%	2,282.21	(47.01)	-2.02%	2,518.21	236.00	10.34%		
100	30,000		3,447.80	3,049.52	(398.28)	-11.55%	2,986.96	(82.56)	-2.71%	3,310.89	343.73	11.59%		
200	20,000		3,369.57	3,174.37	(195.21)	-5.79%	3,150.20	(24.16)	-0.76%	3,405.67	255.46	8.11%		
200	40,000		5,111.48	4,614.98	(496.51)	-9.71%	4,519.71	(95.26)	-2.08%	4,990.64	470.92	10.42%		
200	60,000		6,853.39	6,055.58	(797.81)	-11.64%	5,889.22	(166.36)	-2.75%	6,575.60	686.38	11.65%		
500	50,000		8,380.82	7,870.73	(489.89)	-5.86%	7,808.44	(62.29)	-0.79%	8,445.50	637.06	8.16%		
500	100,000		12,715.40	11,472.25	(1,243.15)	-9.78%	11,232.22	(240.04)	-2.09%	12,407.92	1,175.71	10.47%		
500	150,000		17,070.17	15,073.77	(1,996.40)	-11.70%	14,655.96	(417.79)	-2.77%	16,370.35	1,714.36	11.70%		
1,000	100,000		16,619.24	15,698.00	(921.03)	-5.58%	15,572.18	(126.82)	-0.80%	16,845.23	1,273.05	8.18%		
1,000	200,000		25,388.59	22,901.04	(2,487.54)	-9.80%	22,419.72	(481.32)	-2.10%	24,770.07	2,350.35	10.48%		
1,000	300,000		34,088.14	30,104.08	(3,984.05)	-11.71%	29,267.26	(836.92)	-2.78%	32,684.91	3,417.65	11.71%		
3,000	300,000		49,852.70	47,007.09	(2,845.61)	-5.90%	46,627.12	(379.97)	-0.81%	50,444.14	3,817.03	8.19%		
3,000	600,000		76,081.35	68,616.21	(7,465.14)	-9.81%	67,169.74	(1,446.87)	-2.11%	74,218.87	7,049.93	10.49%		
3,000	900,000		101,841.19	89,856.53	(11,984.67)	-11.77%	87,343.56	(2,512.97)	-2.80%	97,624.38	10,280.83	11.77%		
7,000	700,000		116,500.02	109,625.27	(6,874.75)	-5.90%	108,737.00	(888.27)	-0.81%	117,641.97	8,904.97	8.19%		
7,000	1,400,000		174,345.77	156,925.45	(17,420.32)	-9.99%	153,548.67	(3,376.77)	-2.15%	169,994.75	16,446.07	10.71%		
7,000	2,100,000		231,459.40	203,493.51	(27,965.89)	-12.08%	197,628.24	(5,865.27)	-2.88%	221,615.42	23,987.17	12.14%		
GS-2 Primary														
10	1,000		296.54	290.51	(5.03)	-1.70%	295.12	4.61	1.59%	310.21	15.09	5.11%		
10	2,000		381.79	360.29	(21.50)	-5.63%	362.19	1.91	0.53%	386.15	23.96	6.61%		
10	3,000		467.59	429.60	(37.98)	-8.12%	428.81	(0.79)	-0.18%	461.63	32.82	7.65%		
25	2,500		533.97	511.53	(22.44)	-4.20%	515.18	3.65	0.71%	548.21	31.03	6.02%		
25	5,000		748.46	684.82	(63.64)	-8.50%	681.73	(3.10)	-0.45%	734.92	53.19	7.80%		
25	7,500		962.55	858.11	(104.83)	-10.89%	848.27	(9.85)	-1.15%	923.62	75.35	8.88%		
50	5,000		930.60	879.13	(51.47)	-5.53%	881.20	2.07	0.23%	938.79	57.59	6.54%		
50	10,000		1,359.57	1,225.71	(133.86)	-9.85%	1,214.28	(11.43)	-0.93%	1,316.20	101.92	8.39%		
50	15,000		1,788.55	1,572.30	(216.25)	-12.09%	1,547.36	(24.93)	-1.59%	1,693.60	146.24	9.45%		
75	7,500		1,327.22	1,246.73	(80.49)	-6.06%	1,247.21	0.48	0.04%	1,331.36	84.15	6.75%		
75	15,000		1,970.68	1,786.81	(184.08)	-9.36%	1,746.83	(19.77)	-1.12%	1,897.47	150.64	8.62%		
75	22,500		2,509.95	2,282.26	(227.67)	-9.06%	2,242.26	(40.02)	-1.75%	2,459.39	217.13	9.68%		
100	10,000		1,723.84	1,614.33	(109.51)	-6.35%	1,613.22	(1.11)	-0.07%	1,723.93	110.71	6.86%		
100	20,000		2,579.00	2,304.70	(274.30)	-10.64%	2,275.59	(28.11)	-1.22%	2,475.95	199.36	8.76%		
100	30,000		3,431.36	2,992.27	(439.09)	-12.80%	2,937.15	(55.11)	-1.84%	3,225.17	288.01	9.81%		
200	20,000		3,307.54	3,081.93	(225.61)	-6.82%	3,074.46	(7.47)	-0.24%	3,291.43	218.96	7.06%		
200	40,000		5,012.25	4,457.07	(555.19)	-11.06%	4,395.60	(61.47)	-1.38%	4,789.96	394.26	8.97%		
200	60,000		6,716.97	5,832.20	(884.76)	-13.17%	5,716.74	(115.47)	-1.98%	6,288.30	571.56	10.00%		
500	50,000		8,050.24	7,476.33	(573.91)	-7.13%	7,449.60	(26.53)	-0.36%	7,985.50	535.70	7.19%		
500	100,000		12,312.02	10,914.17	(1,397.85)	-11.35%	10,733.64	(1,578.38)	-14.68%	11,731.59	997.95	9.45%		
500	150,000		16,573.80	14,352.01	(2,221.79)	-13.41%	14,055.40	(2,596.53)	-20.76%	15,477.88	1,422.20	10.12%		
1,000	100,000		15,854.74	14,900.33	(1,154.41)	-7.24%	14,742.03	(58.30)	-0.39%	15,808.97	1,068.93	7.24%		
1,000	200,000		24,478.29	21,676.01	(2,802.29)	-11.45%	21,347.71	(328.30)	-1.51%	23,301.15	1,953.43	9.15%		
1,000	300,000		33,001.85	28,551.69	(4,450.16)	-13.48%	27,953.39	(5,986.30)	-21.06%	30,793.33	2,839.93	10.16%		
3,000	300,000		47,572.73	44,096.33	(3,476.41)	-7.31%	43,910.95	(165.37)	-0.42%	47,102.82	3,191.87	7.27%		
3,000	600,000		73,143.39	64,723.36	(8,420.03)	-11.51%	63,172.99	(9,969.37)	-15.54%	69,579.36	5,601.37	9.18%		
3,000	900,000		98,345.24	84,981.59	(13,363.65)	-13.59%	83,176.22	(1,805.37)	-2.12%	91,687.09	8,510.87	10.23%		
7,000	700,000		110,808.72	102,688.32	(8,120.40)	-7.33%	102,248.80	(439.53)	-0.43%	109,690.53	7,441.74	7.28%		
7,000	1,400,000		167,352.48	147,696.97	(19,655.51)	-11.74%	143,397.44	(2,329.53)	-1.68%	158,014.68	13,647.24	9.39%		
7,000	2,100,000		223,184.12	191,973.50	(31,190.62)	-13.98%	187,753.97	(4,219.53)	-2.20%	207,606.71	19,852.74	10.57%		
GS-2 Subtransmission														
10														

OHIO POWER RATE ZONE
Case No. 13-0000-EL-SSO
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K/G)
GS-TOD		250	56.99	54.85	(1.85)	-3.26%	54.89	0.05	0.08%	58.49	3.60	6.56%
On-Peak 30%		500	80.50	75.15	(5.35)	-6.64%	73.51	(1.24)	-1.68%	80.03	6.13	8.29%
Off-Peak 70%		1,000	128.11	115.76	(12.35)	-9.64%	111.94	(3.83)	-3.31%	123.11	11.17	9.98%
		2,000	223.33	196.98	(26.35)	-11.80%	187.99	(8.99)	-4.56%	209.26	21.27	11.31%
		4,000	412.85	368.50	(54.36)	-13.17%	339.18	(19.32)	-5.39%	380.64	41.46	12.22%
		8,000	791.90	681.52	(110.38)	-13.94%	641.54	(39.98)	-5.87%	723.38	81.84	12.70%
		16,000	1,549.44	1,327.00	(222.44)	-14.38%	1,245.70	(81.30)	-6.13%	1,408.31	162.61	13.08%
		32,000	3,066.67	2,610.03	(446.64)	-14.51%	2,446.06	(163.96)	-6.28%	2,770.20	324.14	13.25%
		64,000	6,071.14	5,176.08	(895.06)	-14.74%	4,846.79	(329.29)	-6.36%	5,493.99	647.19	13.35%
		100,000	9,482.41	8,062.90	(1,399.52)	-14.79%	7,547.61	(515.28)	-6.39%	8,568.24	1,010.63	13.39%
On-Peak 40%		250	58.04	55.27	(2.77)	-4.77%	55.20	(0.08)	-0.14%	58.81	3.61	6.54%
Off-Peak 60%		500	83.20	75.93	(7.27)	-8.73%	74.42	(1.52)	-2.00%	80.55	6.14	8.24%
		1,000	133.51	117.25	(16.26)	-12.18%	112.85	(4.40)	-3.75%	124.04	11.19	9.92%
		2,000	234.13	199.89	(34.25)	-14.63%	189.73	(10.16)	-5.08%	211.02	21.30	11.23%
		4,000	434.46	364.22	(70.24)	-16.17%	342.53	(21.69)	-5.95%	384.05	41.52	12.12%
		8,000	835.12	692.90	(142.22)	-17.03%	646.15	(44.74)	-6.46%	730.11	81.95	12.64%
		16,000	1,649.88	1,349.88	(300.00)	-17.95%	1,259.82	(390.06)	-23.65%	1,421.64	161.82	12.93%
		32,000	3,229.53	2,655.29	(574.24)	-17.78%	2,472.18	(183.11)	-6.90%	2,796.74	324.56	13.13%
		64,000	6,416.86	5,266.51	(1,150.35)	-17.93%	4,898.89	(367.62)	-6.98%	5,546.83	648.03	13.23%
		100,000	10,002.60	8,204.73	(1,798.47)	-17.98%	7,628.94	(575.19)	-7.01%	8,640.89	1,011.94	13.26%
On-Peak 50%		250	59.39	55.71	(3.69)	-6.21%	55.51	(0.20)	-0.35%	59.13	3.62	6.51%
Off-Peak 50%		500	85.90	76.73	(9.17)	-10.68%	74.94	(1.78)	-2.33%	81.09	6.15	8.20%
		1,000	138.91	118.76	(20.15)	-14.50%	113.90	(4.96)	-4.18%	125.01	11.21	9.85%
		2,000	244.94	202.84	(42.10)	-17.19%	191.53	(11.31)	-5.58%	212.86	21.33	11.14%
		4,000	456.07	370.05	(86.02)	-18.86%	346.13	(24.02)	-6.49%	387.81	41.68	12.02%
		8,000	878.33	704.48	(173.85)	-19.79%	656.06	(49.43)	-7.52%	737.12	81.06	12.35%
		16,000	1,722.30	1,372.55	(349.75)	-20.29%	1,272.55	(449.75)	-26.05%	1,435.55	163.00	12.81%
		32,000	3,402.39	2,701.36	(701.03)	-20.60%	2,499.40	(201.99)	-7.48%	2,824.42	325.02	13.00%
		64,000	6,782.58	5,358.56	(1,404.02)	-20.75%	4,953.21	(405.35)	-7.56%	5,502.16	548.95	13.10%
		100,000	10,542.79	8,347.91	(2,194.88)	-20.82%	7,713.75	(634.16)	-7.60%	8,727.12	1,013.37	13.14%
GS-3												
Secondary	10	3,500	422.47	387.48	(34.99)	-8.28%	378.58	(8.91)	-2.30%	419.30	40.72	10.76%
	10	4,500	481.91	460.12	(21.80)	-4.52%	447.55	(12.46)	-2.71%	469.15	51.49	11.50%
	10	5,500	541.35	532.75	(8.60)	-1.59%	516.73	(16.62)	-3.01%	578.99	62.25	12.64%
	25	8,750	1,005.47	916.12	(89.35)	-8.89%	891.98	(24.14)	-2.64%	992.64	100.20	11.23%
	25	11,250	1,154.07	1,097.70	(56.37)	-4.88%	1,064.67	(33.03)	-3.01%	1,191.80	127.13	11.94%
	25	13,750	1,302.67	1,279.28	(23.39)	-1.80%	1,237.36	(41.92)	-3.28%	1,391.42	154.06	12.45%
	50	17,500	1,975.74	1,795.79	(179.95)	-9.11%	1,746.25	(49.54)	-2.76%	1,945.57	199.33	11.41%
	50	22,500	2,270.14	2,156.14	(113.99)	-5.02%	2,088.83	(67.31)	-3.12%	2,342.02	253.19	12.12%
	50	27,500	2,564.63	2,516.50	(48.03)	-1.87%	2,431.41	(85.09)	-3.38%	2,738.47	307.06	12.53%
	75	28,250	2,842.51	2,671.95	(170.56)	-5.99%	2,597.01	(74.94)	-2.89%	2,895.47	298.46	11.49%
	75	33,750	3,384.10	3,212.48	(171.62)	-5.07%	3,110.89	(101.50)	-3.16%	3,490.14	379.26	12.19%
	75	41,250	3,825.68	3,753.02	(72.67)	-1.90%	3,624.76	(128.26)	-3.42%	4,084.81	460.05	12.69%
	100	35,000	3,909.28	3,548.11	(361.17)	-9.24%	3,447.78	(100.33)	-2.83%	3,845.37	397.59	11.53%
	100	45,000	4,498.06	4,268.83	(229.24)	-5.10%	4,132.95	(115.38)	-3.18%	4,638.27	505.32	12.23%
	100	55,000	5,086.85	4,389.54	(697.31)	-13.70%	4,818.11	(171.43)	-3.44%	5,431.16	613.05	12.72%
	200	70,000	7,776.35	7,052.76	(723.59)	-9.30%	6,850.85	(201.91)	-2.96%	7,844.97	994.11	11.59%
	200	90,000	8,963.92	8,494.19	(469.73)	-5.23%	8,221.18	(273.01)	-3.24%	9,230.76	1,009.57	12.28%
	200	110,000	10,131.49	9,935.63	(195.87)	-1.93%	9,591.51	(344.11)	-3.46%	10,816.55	1,225.03	12.77%
	500	175,000	19,377.57	17,566.72	(1,810.85)	-9.35%	17,060.06	(506.66)	-2.98%	19,043.75	1,983.68	11.53%
	500	225,000	22,321.50	21,170.30	(1,151.20)	-5.16%	20,485.89	(884.41)	-4.23%	23,008.22	2,522.33	12.31%
	500	275,000	25,265.42	24,773.88	(491.54)	-1.95%	23,911.71	(862.16)	-3.48%	26,972.70	3,060.98	12.80%
	1,000	350,000	38,712.94	35,089.99	(3,622.95)	-9.36%	34,075.42	(1,014.57)	-2.98%	38,041.72	3,966.30	11.64%
	1,000	450,000	44,600.79	42,297.14	(2,303.65)	-5.17%	40,927.07	(1,310.07)	-3.24%	46,970.57	5,043.50	12.32%
	1,000	550,000	50,468.63	49,504.29	(964.34)	-1.91%	47,718.72	(1,172.57)	-2.37%	53,889.52	6,170.90	12.81%
	3,000	1,050,000	114,859.66	109,986.66	(4,873.00)	-4.42%	100,942.33	(3,046.22)	-2.93%	112,835.11	11,892.78	11.79%
	3,000	1,350,000	130,872.07	123,968.83	(6,903.24)	-5.28%	119,845.91	(4,112.72)	-3.32%	134,974.58	15,128.68	12.62%
	3,000	1,650,000	146,884.23	143,926.70	(2,957.53)	-2.01%	138,749.48	(5,179.22)	-3.50%	157,110.06	18,360.58	13.23%
	7,000	2,450,000	261,836.42	236,468.24	(25,368.18)	-9.89%	229,358.72	(7,109.52)	-3.01%	257,116.44	27,757.72	12.10%
	7,000	3,150,000	299,198.12	283,065.06	(16,133.04)	-5.39%	273,467.06	(9,596.02)	-3.39%	308,785.88	35,318.82	12.91%
	7,000	3,850,000	335,559.81	329,561.92	(5,997.89)	-1.78%	317,575.39	(12,086.52)	-3.67%	360,415.32	42,839.92	13.49%
GS-3												
Primary	10	3,500	513.15	477.70	(35.44)	-6.91%	475.56	(2.14)	-0.45%	512.81	37.28	7.83%
	10	4,500	571.89	547.06	(24.84)	-4.31%	542.21	(4.84)	-0.89%	588.33	46.12	8.51%
	10	5,500	630.24	615.41	(14.83)	-2.19%	608.87	(7.54)	-1.22%	663.86	54.99	9.03%
	25	8,750	1,076.65	978.36	(98.29)	-9.15%	965.14	(13.22)	-1.36%	1,061.57	86.44	8.96%
	25	11,250	1,223.21	1,151.75	(71.47)	-5.84%	1,131.78	(16.97)	-1.73%	1,240.38	108.60	9.50%
	25	13,750	1,369.58	1,325.14	(44.44)	-3.25%	1,298.42	(26.72)	-2.02%	1,429.18	130.76	10.07%
	50	17,500	2,014.95	1,811.38	(203.56)	-10.10%	1,779.70	(31.68)	-1.79%	1,948.10	168.40	9.46%
	50	22,500	2,304.83	2,155.37	(149.46)	-6.49%	2,170.18	(45.19)	-2.10%	2,322.91	212.73	10.08%
	50	27,500	2,594.82	2,499.35	(95.47)	-3.68%	2,440.66	(58.68)	-2.35%	2,697.72	257.05	10.53%
	75	26,250	2,949.55	2,640.91	(308.64)	-10.48%	2,590.76	(50.15)	-1.90%	2,841.14	250.37	9.96%
	75	33,750	3,384.45	3,156.89	(227.57)	-6.72%	3,086.49	(70.40)	-2.23%	3,403.35	316.86	10.27%
	75	41,250	3,819.36	3,672.86	(146.50)	-3.84%	3,582.21	(80.65)	-2.47%	3,965.56	383.35	10.70%
	100	35,000	3,864.15	3,470.44	(413.71)	-10.65%	3,401.83	(58.61)	-1.80%	3,734.17	332.34	9.77%
	100	45,000	4,464.92	4,158.40	(306.52)	-6.85%	4,082.79	(382.13)	-9.30%	4,483.78	401.08	9.36%
	100	55,000	5,043.90	4,846.37	(197.53)	-3.92%	4,723.78	(122.61)	-2.53%	5,233.40	509.64	10.79%
	200	70,000	7,622.55	6,788.55	(834.00)	-10.94%	6,846.08	(142.47)	-2.10%	7,306.29	660.21	9.93%
	200	90,000	8,782.30	8,164.48	(617.82)	-7.03%	7,968.01	(196.47)	-2.41%	8,805.52	837.51	10.51%
	200	110,000	9,942.05	9,540.41	(401.64)	-4.04%	9,289.94	(250.47)	-2.63%	10,304.75	1,014.81	10.92%
	500	175,000	16,837.76	16,742.88	(94.88)	-0.56%	16,378.85	(364.03)	-2.17%	18,022.68	1,643.83	10.04%
	500	225,000	21,737.13	20,162.70	(1,574.43)	-7.25%	19,683.67	(499.03)	-2.47%	21,770.75	2,087.08	10.60%
	500	275,000	24,636.50	23,622.52	(1,013.98)	-4.12%	22,988.50	(634.03)	-2.68%	25,518.52	2,530.02	11.01%
	1,000	350,000	37,529.78	33,333.42	(4,196.36)	-11.18%	32,800.13	(733.30)	-2.20%	35,863.31	3,063.18	10.07%
	1,000	450,000	43,328.52	40,213.07	(3,115.45)	-7.19%	39,209.77	(1,003.30)	-2.49%	43,379.46	4,169.68	10.53%
	1,000	550,000	49,127.26	47,092.72	(2,034.54)	-4.14%	45,819.42	(1,273.30)	-2.70%	50,875.61	5,056.19	11.04%
	3,000	1,050,000	111,193.35	98,501.11	(12,692.24)	-11.34%	96,390.73	(2,210.37)	-2.24%	106,131.35	9,740.62	10.22%
	3,000	1,350,000										

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-830
Shopping Customer: Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E/C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H/D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K/G)
GS-3												
Subtransmission	10	3,800	1,048.21	1,024.82	(23.39)	-2.23%	1,052.59	27.77	2.71%	1,089.21	35.62	3.38%
	10	4,500	1,106.27	1,085.52	(17.75)	-1.60%	1,116.19	27.67	2.54%	1,155.14	38.95	3.43%
	10	5,500	1,164.34	1,152.22	(12.11)	-1.04%	1,179.79	27.57	2.39%	1,222.07	42.28	3.58%
	25	8,750	1,524.43	1,410.25	(114.18)	-7.49%	1,437.50	27.25	1.93%	1,490.80	53.10	3.69%
	25	11,250	1,889.59	1,569.90	(100.09)	-6.00%	1,596.50	27.00	1.72%	1,657.92	61.42	3.85%
	25	13,750	1,814.75	1,728.75	(86.00)	-4.74%	1,765.50	26.75	1.55%	1,825.25	69.75	3.97%
	50	17,500	2,316.74	2,051.22	(265.52)	-11.46%	2,077.81	26.36	1.29%	2,159.84	82.24	3.96%
	50	22,500	2,604.25	2,366.92	(237.33)	-9.11%	2,392.81	25.89	1.09%	2,491.70	98.89	4.13%
	50	27,500	2,891.78	2,682.62	(209.15)	-7.23%	2,708.02	25.39	0.95%	2,823.55	115.54	4.27%
	75	26,250	3,105.55	2,888.70	(416.85)	-13.42%	2,714.21	25.52	0.95%	2,825.59	111.37	4.10%
	75	33,750	3,538.82	3,162.25	(374.57)	-10.59%	3,187.02	24.77	0.78%	3,323.37	136.35	4.28%
	75	41,250	3,968.10	3,635.50	(332.30)	-8.37%	3,659.83	24.03	0.65%	3,821.15	161.32	4.41%
	100	35,000	3,894.35	3,326.17	(568.18)	-14.59%	3,350.82	24.65	0.74%	3,491.34	140.51	4.19%
	100	45,000	4,469.39	3,957.58	(511.81)	-11.45%	3,981.23	23.66	0.60%	4,155.05	173.81	4.37%
	100	55,000	5,044.42	4,588.96	(455.45)	-9.03%	4,611.64	22.67	0.49%	4,818.76	207.11	4.49%
	200	70,000	7,049.58	5,875.08	(1,174.50)	-16.55%	5,897.26	21.18	0.36%	6,154.32	257.06	4.36%
	200	90,000	8,199.85	7,138.88	(1,060.77)	-12.94%	7,158.08	19.20	0.27%	7,481.74	323.65	4.52%
	200	110,000	9,349.72	8,401.68	(948.04)	-10.14%	8,418.90	17.22	0.21%	8,809.16	390.26	4.64%
	500	175,000	16,515.25	13,525.78	(2,989.47)	-18.10%	13,536.57	10.79	0.08%	14,143.28	606.71	4.48%
	500	225,000	19,390.42	16,682.78	(2,707.65)	-13.96%	16,688.62	5.84	0.03%	17,461.63	773.21	4.63%
	500	275,000	22,265.60	19,839.78	(2,425.82)	-10.89%	19,840.67	0.89	0.00%	20,780.38	939.71	4.74%
	1,000	350,000	32,291.37	26,275.28	(6,016.09)	-16.63%	26,258.75	(6.54)	-0.02%	27,455.21	1,196.46	4.53%
	1,000	450,000	38,041.72	32,588.28	(5,453.44)	-14.33%	32,572.85	(16.44)	-0.05%	34,095.31	1,522.46	4.67%
	1,000	550,000	43,792.06	38,903.29	(4,888.79)	-11.16%	38,876.95	(26.34)	-0.07%	40,732.41	1,855.46	4.77%
	3,000	1,050,000	94,201.35	76,078.80	(18,122.55)	-19.24%	76,002.96	(75.84)	-0.10%	79,523.42	3,520.46	4.63%
	3,000	1,350,000	109,801.03	93,369.42	(16,431.61)	-14.96%	93,263.89	(105.54)	-0.11%	97,783.35	4,519.46	4.85%
	3,000	1,850,000	125,400.71	110,680.05	(14,720.66)	-11.75%	110,524.81	(135.24)	-0.12%	116,043.27	5,518.46	4.99%
	7,000	2,450,000	212,703.86	170,368.39	(42,335.48)	-19.90%	170,153.95	(214.44)	-0.13%	178,336.41	8,182.46	4.81%
	7,000	3,150,000	248,103.12	210,713.18	(38,389.94)	-15.41%	210,429.44	(283.74)	-0.13%	220,942.90	10,513.46	5.00%
	7,000	3,850,000	285,502.38	251,057.97	(34,444.41)	-12.06%	250,704.94	(353.04)	-0.14%	263,549.40	12,844.46	5.12%
GS-4												
Primary	3,000	1,200,000	116,404.01	105,131.81	(11,272.20)	-9.68%	102,516.44	(2,615.37)	-2.49%	113,686.80	11,170.37	10.90%
	3,000	1,500,000	130,979.42	123,478.61	(7,500.81)	-5.73%	120,053.23	(3,425.37)	-2.77%	133,820.10	13,820.87	11.62%
	3,000	1,800,000	145,554.82	141,825.40	(3,729.41)	-2.56%	137,590.03	(4,235.37)	-2.99%	154,079.40	16,489.37	11.98%
	5,000	2,000,000	180,852.64	172,061.24	(8,791.40)	-4.85%	167,696.79	(4,362.45)	-2.54%	186,313.09	18,614.30	11.10%
	5,000	2,500,000	215,144.97	202,639.24	(12,505.74)	-5.81%	196,926.79	(5,712.45)	-2.82%	219,973.59	23,043.80	11.70%
	5,000	3,000,000	239,437.31	233,217.23	(6,220.08)	-2.60%	226,154.78	(7,062.45)	-3.03%	253,634.08	27,479.30	12.16%
	8,000	3,200,000	302,525.58	272,455.39	(30,070.19)	-9.94%	265,472.32	(6,983.07)	-2.56%	295,525.53	29,780.20	11.22%
	8,000	4,000,000	341,363.31	321,380.18	(20,013.13)	-5.85%	312,237.12	(9,143.07)	-2.84%	349,109.32	36,872.20	11.81%
	8,000	4,800,000	380,261.05	370,304.98	(9,956.07)	-2.62%	359,001.91	(11,303.07)	-3.05%	402,966.11	43,964.20	12.25%
	20,000	8,000,000	749,217.33	674,031.39	(75,185.94)	-10.04%	656,596.45	(17,465.53)	-2.59%	731,010.28	74,443.81	11.34%
	20,000	10,000,000	846,386.67	796,343.57	(50,043.10)	-5.91%	773,478.43	(22,865.53)	-2.87%	865,682.24	92,173.81	11.92%
	20,000	12,000,000	943,556.01	893,855.05	(49,700.96)	-5.26%	890,390.41	(28,265.53)	-3.08%	1,000,294.22	109,903.81	12.34%
	50,000	20,000,000	1,855,946.70	1,677,973.47	(177,973.23)	-10.07%	1,634,301.78	(43,571.70)	-2.60%	1,820,404.59	186,102.81	11.39%
	50,000	25,000,000	2,108,870.05	1,983,753.42	(125,116.63)	-5.93%	1,926,581.73	(57,171.70)	-2.88%	2,157,009.54	230,427.81	11.96%
	50,000	30,000,000	2,351,793.40	2,269,533.37	(82,260.03)	-3.49%	2,218,861.68	(70,671.70)	-3.09%	2,493,614.49	274,752.81	12.38%
	125,000	50,000,000	4,657,770.14	4,187,827.19	(469,942.95)	-10.09%	4,078,640.08	(109,187.10)	-2.61%	4,543,890.41	465,250.33	11.41%
	125,000	62,500,000	5,265,078.51	4,952,277.06	(312,801.45)	-5.94%	4,808,339.96	(142,937.10)	-2.89%	5,385,402.78	576,062.83	11.98%
	125,000	75,000,000	5,872,386.89	5,716,726.94	(155,659.95)	-2.65%	5,540,039.83	(176,687.10)	-3.09%	6,226,915.16	686,875.33	12.40%
GS-4												
Subtransmission	3,000	1,200,000	99,546.96	81,857.31	(17,689.65)	-17.77%	81,766.62	(90.69)	-0.11%	85,786.59	4,019.96	4.92%
	3,000	1,500,000	113,998.71	98,506.24	(15,492.47)	-13.59%	98,385.85	(120.39)	-0.12%	103,404.81	5,018.96	5.10%
	3,000	1,800,000	128,451.36	115,155.16	(13,296.20)	-10.35%	115,005.08	(150.09)	-0.13%	121,023.04	6,017.96	5.23%
	5,000	2,000,000	162,360.46	132,854.45	(29,506.01)	-18.17%	132,684.56	(169.89)	-0.13%	139,368.52	6,683.96	5.04%
	5,000	2,500,000	186,448.21	160,602.66	(25,845.55)	-13.86%	160,383.27	(219.39)	-0.14%	168,732.23	8,348.96	5.21%
	5,000	3,000,000	210,535.96	188,350.87	(22,185.09)	-10.54%	188,081.98	(268.89)	-0.14%	198,095.94	10,013.96	5.32%
	8,000	3,200,000	256,562.06	209,350.15	(47,231.91)	-18.41%	209,061.46	(288.69)	-0.14%	219,741.43	10,679.96	5.11%
	8,000	4,000,000	295,122.46	253,747.29	(41,375.17)	-14.02%	253,379.40	(367.89)	-0.14%	266,723.36	13,343.96	5.27%
	8,000	4,800,000	333,662.86	298,144.42	(35,518.44)	-10.65%	297,697.34	(447.09)	-0.15%	313,705.30	16,007.96	5.38%
	20,000	8,000,000	633,468.46	515,332.97	(118,135.49)	-18.65%	514,569.08	(763.69)	-0.15%	541,233.04	26,663.96	5.18%
	20,000	10,000,000	729,819.46	626,325.81	(103,493.65)	-14.18%	625,363.92	(961.89)	-0.15%	658,687.88	33,323.96	5.33%
	20,000	12,000,000	826,170.46	737,318.65	(88,851.81)	-10.75%	736,158.76	(1,159.89)	-0.16%	776,142.72	39,983.96	5.43%
	50,000	20,000,000	1,575,694.46	1,280,280.01	(295,394.45)	-18.75%	1,278,338.12	(1,951.89)	-0.15%	1,344,562.08	66,223.96	5.21%
	50,000	25,000,000	1,816,561.98	1,557,772.11	(258,789.85)	-14.25%	1,555,325.22	(2,446.89)	-0.16%	1,638,599.18	83,273.96	5.35%
	50,000	30,000,000	2,057,439.46	1,835,254.21	(222,185.25)	-10.80%	1,832,312.32	(2,941.89)	-0.16%	1,932,236.28	99,923.96	5.45%
	125,000	50,000,000	3,931,224.46	3,192,582.61	(738,641.85)	-18.79%	3,187,760.72	(4,921.89)	-0.15%	3,354,284.68	166,523.96	5.22%
	125,000	62,500,000	4,533,418.21	3,888,387.86	(645,030.35)	-14.27%	3,880,228.47	(8,189.39)	-0.16%	4,088,377.43	208,148.96	5.36%
	125,000	75,000,000	5,135,611.96	4,580,093.11	(555,518.85)	-10.82%	4,572,696.22	(7,396.89)	-0.16%	4,822,470.18	249,773.96	5.46%
GS-4												
Transmission	3,000	1,200,000	99,012.65	81,857.31	(17,155.34)	-17.33%	81,766.62	(90.69)	-0.11%	85,786.59	4,019.96	4.92%
	3,000	1,500,000	113,453.44	98,506.24	(14,947.21)	-13.17%	98,385.85	(120.39)	-0.12%	103,404.81	5,018.96	5.10%
	3,000	1,800,000	127,894.24	115,155.16	(12,739.08)	-9.96%	115,005.08	(150.09)	-0.13%	121,023.04	6,017.96	5.23%
	5,000	2,000,000	161,471.44	132,854.45	(28,616.99)	-17.72%	132,684.56	(169.89)	-0.13%	139,368.52	6,683.96	5.04%
	5,000	2,500,000	185,539.43	160,602.66	(24,936.78)	-13.44%	160,383.27	(219.39)	-0.14%	168,732.23	8,348.96	5.21%
	5,000	3,000,000	209,607.43	188,350.87	(21,256.56)	-10.14%	188,081.98	(268.89)	-0.14%	198,095.94	10,013.96	5.32%
	8,000	3,200,000	255,159.63	209,350.15	(45,809.48)	-17.96%	209,061.46	(288.69)	-0.14%	219,741.43	10,679.96	5.11%
	8,000	4,000,000	293,668.42	253,747.29	(39,921.13)	-13.59%	253,379.40	(367.89)	-0.14%	266,723.36	13,343.96	5.27%
	8,000	4,800,000	332,177.21	298,144.42	(34,032.79)	-10.25%	297,697.34	(447.09)	-0.15%	313,705.30	16,007.96	5.38%
	20,000	8,000,000	629,912.38	515,332.97	(114,579.41)	-18.19%	514,569.08	(763.69)	-0.15%	541,233.04	26,663.96	5.18%
	20,000	1										

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-SSO
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E+C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H+D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K+G)	
EHG	30	100	41.20	42.54	1.33	3.24%	43.46	0.92	2.17%	45.63	2.17	4.99%	
	30	500	79.21	81.12	1.91	2.41%	80.91	(0.21)	-0.26%	87.63	6.73	8.31%	
	30	1,000	126.71	129.34	2.63	2.07%	127.72	(1.62)	-1.25%	140.14	12.42	9.73%	
	30	3,000	318.27	321.76	3.49	1.10%	314.49	(7.27)	-2.26%	349.71	35.21	11.20%	
	30	4,500	458.09	465.74	7.65	1.67%	454.23	(11.51)	-2.47%	506.54	52.30	11.51%	
	30	5,000	599.51	609.71	10.20	1.69%	593.97	(5.75)	-0.94%	653.36	59.39	10.00%	
	30	9,000	883.55	897.66	14.11	1.60%	873.44	(24.22)	-2.70%	977.02	103.58	11.68%	
	30	12,000	1,167.20	1,185.61	18.42	1.58%	1,152.91	(32.70)	-2.76%	1,290.68	137.77	11.95%	
	30	15,000	1,450.84	1,473.56	22.72	1.57%	1,432.39	(41.18)	-2.79%	1,604.34	171.95	12.00%	
	30	20,000	1,920.78	1,950.88	30.10	1.56%	1,895.38	(55.50)	-2.84%	2,124.30	228.92	12.08%	
	50	5,000	576.05	549.08	(26.98)	-4.68%	537.46	(11.63)	-2.12%	596.56	59.11	11.00%	
	50	7,500	812.43	789.04	(23.39)	-2.88%	770.35	(18.69)	-2.37%	857.96	87.59	11.37%	
	50	10,000	1,046.89	1,023.00	(19.80)	-1.89%	1,003.25	(25.75)	-2.50%	1,119.33	116.08	11.57%	
	50	15,000	1,521.54	1,508.92	(12.63)	-0.83%	1,469.04	(39.88)	-2.64%	1,642.09	173.05	11.78%	
	50	20,000	1,991.48	1,986.03	(5.45)	-0.27%	1,932.02	(54.01)	-2.72%	2,152.05	230.03	11.91%	
	50	25,000	2,461.42	2,463.15	1.73	0.07%	2,395.01	(68.13)	-2.77%	2,682.02	287.00	11.98%	
	100	10,000	1,225.55	1,117.38	(108.17)	-8.83%	1,094.87	(22.51)	-2.01%	1,213.71	118.84	10.85%	
	100	15,000	1,696.29	1,597.29	(101.00)	-5.95%	1,560.85	(36.44)	-2.29%	1,736.47	175.62	11.27%	
	100	20,000	2,168.23	2,074.41	(93.82)	-4.33%	2,023.94	(50.77)	-2.45%	2,256.43	232.79	11.50%	
	100	30,000	3,108.11	3,028.64	(79.46)	-2.56%	2,943.52	(79.02)	-2.61%	3,296.36	346.74	11.76%	
	100	40,000	4,047.99	3,982.88	(65.11)	-1.61%	3,875.60	(107.28)	-2.69%	4,336.28	460.69	11.89%	
	200	20,000	2,521.73	2,261.17	(270.56)	-10.73%	2,208.88	(44.29)	-1.97%	2,445.19	236.31	10.80%	
	200	30,000	3,461.61	3,205.40	(256.21)	-7.40%	3,132.86	(72.54)	-2.28%	3,485.12	352.26	11.24%	
200	40,000	4,401.49	4,159.83	(241.65)	-5.49%	4,056.84	(100.80)	-2.42%	4,525.04	468.21	11.49%		
200	60,000	6,281.24	6,068.10	(213.14)	-3.39%	5,510.79	(157.31)	-2.59%	6,604.90	694.10	11.74%		
EHS	55	15,000	1,023.80	1,244.83	220.83	21.57%	1,198.23	(46.40)	-3.73%	1,350.68	152.46	12.72%	
	150	30,000	2,037.85	2,479.94	442.09	21.69%	2,387.13	(92.81)	-3.74%	2,692.04	304.91	12.77%	
	225	65,000	4,403.99	5,362.33	958.34	21.76%	5,161.24	(201.08)	-3.75%	5,821.89	660.64	12.80%	
SS	1,000 sq ft	10	1,500	205.80	195.90	(9.90)	-4.81%	193.85	(2.04)	-1.04%	211.31	17.46	9.01%
	10	3,000	365.06	343.84	(21.22)	-5.81%	337.81	(5.84)	-1.70%	371.23	33.43	9.90%	
	10	4,500	524.09	491.15	(32.94)	-6.28%	481.53	(9.63)	-1.98%	530.92	49.40	10.26%	
	5,000 sq ft	20	2,000	260.22	245.30	(14.93)	-5.74%	241.99	(3.31)	-1.35%	264.77	22.78	9.41%
	20	4,000	472.27	441.98	(30.28)	-6.41%	433.62	(38.66)	-8.89%	477.69	44.07	10.16%	
	20	5,000	584.31	536.67	(47.64)	-8.15%	525.25	(13.42)	-2.10%	590.61	65.36	10.45%	
	10,000 sq ft	20	2,000	260.72	245.30	(15.42)	-5.91%	241.99	(3.31)	-1.35%	264.77	22.78	9.41%
	20	4,000	473.75	441.98	(31.77)	-6.71%	433.62	(38.36)	-8.96%	477.69	44.07	10.16%	
	20	6,000	685.79	636.67	(49.13)	-6.87%	625.25	(13.42)	-2.10%	630.61	55.36	10.45%	
	40	5,000	579.77	540.33	(39.45)	-6.80%	528.43	(10.89)	-2.02%	564.15	54.72	10.34%	
	40	7,500	844.83	786.18	(58.65)	-6.94%	768.97	(17.21)	-2.19%	850.30	81.33	10.58%	
	40	10,000	1,109.88	1,032.04	(77.84)	-7.01%	1,008.50	(23.53)	-2.28%	1,116.45	107.95	10.70%	
	20,000 sq ft	50	10,000	1,112.84	1,032.04	(80.81)	-7.26%	1,008.50	(23.53)	-2.28%	1,116.45	107.95	10.70%
	50	15,000	1,642.95	1,523.75	(119.21)	-7.26%	1,487.57	(36.17)	-2.37%	1,648.75	161.18	10.83%	
	50	20,000	2,170.26	2,012.66	(157.60)	-7.26%	1,963.84	(48.81)	-2.43%	2,178.25	214.41	10.92%	
	30,000 sq ft	50	10,000	1,115.81	1,032.04	(83.77)	-7.51%	1,008.50	(23.53)	-2.28%	1,116.45	107.95	10.70%
	50	15,000	1,645.92	1,523.75	(122.17)	-7.42%	1,487.57	(36.17)	-2.37%	1,648.75	161.18	10.83%	
	50	20,000	2,173.22	2,012.66	(160.57)	-7.39%	1,963.84	(48.81)	-2.43%	2,178.25	214.41	10.92%	
	100	20,000	2,173.22	2,012.66	(160.57)	-7.39%	1,963.84	(48.81)	-2.43%	2,178.25	214.41	10.92%	
	100	25,000	2,700.53	2,501.57	(198.97)	-7.37%	2,440.11	(61.45)	-2.46%	2,707.75	267.63	10.97%	
	100	30,000	3,227.84	2,990.48	(237.36)	-7.35%	2,916.38	(74.09)	-2.48%	3,237.25	320.86	11.00%	
	50,000 sq ft	100	15,000	1,651.85	1,523.75	(128.10)	-7.75%	1,487.57	(36.17)	-2.37%	1,648.75	161.18	10.83%
	100	30,000	3,233.77	2,990.48	(243.29)	-7.52%	2,916.38	(74.09)	-2.48%	3,237.25	320.86	11.00%	
	200	40,000	4,288.39	3,968.30	(320.09)	-7.46%	3,868.92	(99.37)	-2.50%	4,296.24	427.32	11.04%	
	200	60,000	6,397.62	5,923.94	(473.68)	-7.40%	5,774.00	(149.94)	-2.53%	6,414.24	640.24	11.09%	
300	60,000	6,397.62	5,923.94	(473.68)	-7.40%	5,774.00	(149.94)	-2.53%	6,414.24	640.24	11.09%		
300	80,000	8,506.85	7,879.58	(627.27)	-7.37%	7,679.08	(200.50)	-2.54%	8,532.23	853.15	11.11%		
100,000 sq ft	250	60,000	6,412.44	5,923.94	(488.50)	-7.62%	5,774.00	(149.94)	-2.53%	6,414.24	640.24	11.09%	
250	80,000	8,521.67	7,879.58	(642.10)	-7.53%	7,679.08	(200.50)	-2.54%	8,532.23	853.15	11.11%		
400	80,000	8,521.67	7,879.58	(642.10)	-7.53%	7,679.08	(200.50)	-2.54%	8,532.23	853.15	11.11%		
400	120,000	12,740.14	11,790.86	(949.28)	-7.45%	11,469.24	(301.62)	-2.56%	12,766.22	1,276.98	11.13%		
AL	Lamp Size												
	Mercury Vapor		0.04	0.04	0.00	0.00%	0.04	0.00	0.00%	0.04	(0.00)	0.00%	
	7,000 Lumen	72	15.32	12.23	(3.10)	-20.21%	12.67	0.45	3.65%	12.85	0.18	1.42%	
	20,000 Lumen	158	24.61	19.39	(5.21)	-21.19%	20.10	0.71	3.65%	20.26	0.16	0.81%	
	High Pressure Sodium												
	9,000 Lumen	40	11.81	9.40	(2.40)	-20.35%	9.75	0.34	3.66%	9.93	0.18	1.86%	
	22,000 Lumen	84	16.78	13.25	(3.52)	-21.00%	13.74	0.48	3.65%	13.92	0.18	1.30%	
	Incandescent												
	2,500 Lumen	63	13.15	13.93	0.78	5.93%	14.44	0.51	3.66%	14.70	0.26	1.79%	
	4,000 Lumen	98	15.76	16.73	0.97	6.16%	17.34	0.61	3.65%	17.59	0.25	1.43%	
	MV Floodlight												
	20,000 Lumen	158	27.99	22.12	(5.87)	-20.90%	22.83	0.81	3.65%	23.17	0.25	1.08%	
	50,000 Lumen	378	46.45	36.54	(9.91)	-21.33%	37.87	1.33	3.64%	37.96	0.08	0.22%	
	HPS Floodlight												
	22,000 Lumen	84	18.47	13.22	(5.24)	-28.39%	13.71	0.48	3.65%	13.88	0.18	1.30%	
	50,000 Lumen	167	23.93	16.87	(5.06)	-21.15%	19.56	0.69	3.65%	19.68	0.12	0.62%	
	MH Floodlight												
	17,000 Lumen	100	18.38	16.38	(2.01)	-10.94%	16.98	0.60	3.65%	17.21	0.23	1.36%	
	29,000 Lumen	158	21.25	16.82	(2.42)	-11.41%	19.51	0.69	3.65%	19.66	0.15	0.75%	
	Post Top-MV												
	7,000 Lumen	72	18.17	16.17	(2.00)	-11.00%	16.84	0.66	3.66%	19.20	0.37	1.94%	
	Post Top-HPS												
	9,000 Lumen	40	19.66	15.85	(4.01)	-20.41%	16.22	0.57	3.66%	16.60	0.38	2.32%	
	Facilities Charges:												
	Underground circuit per 25 feet over 30 ft	0	0.78	0.82	0.04	5.15%	0.85	0.03	3.67%	0.88	0.03	3.01%	

OHIO POWER RATE ZONE
Case No. 13-XXXX-EL-S&O
Shopping Customer Typical Bills

Rate Code	Level of Demand (A)	Level of Usage (B)	Current Total Bill (C)	June 2015 to May 2016 Total Bill (D)	Dollar Increase (E=D-C)	% Increase (F = E÷C)	June 2016 to May 2017 Total Bill (G)	Dollar Increase (H=G-D)	% Increase (I = H÷D)	June 2017 to May 2018 Total Bill (J)	Dollar Increase (K=J-G)	% Increase (L = K÷G)
SL												
On Wood Pole												
	7,000 lumen mercury vapor	72	9.80	9.59	(0.21)	-2.15%	9.94	0.35	3.65%	10.04	0.10	0.96%
	11,000 lumen mercury vapor	100	12.48	12.04	(0.44)	-3.56%	12.48	0.44	3.65%	12.57	0.10	0.77%
	20,000 lumen mercury vapor	158	16.08	15.78	(0.30)	-1.84%	16.36	0.57	3.64%	16.41	0.05	0.31%
	50,000 lumen mercury vapor	378	32.19	33.82	1.63	5.06%	35.05	1.23	3.64%	35.05	(0.00)	0.00%
	9,000 lumen high pressure sodium	40	9.12	7.14	(1.97)	-21.65%	7.40	0.26	3.65%	7.51	0.11	1.51%
	16,000 lumen high pressure sodium	59	10.78	8.31	(2.47)	-22.92%	8.62	0.30	3.65%	8.72	0.09	1.10%
	22,000 lumen high pressure sodium	84	13.36	10.47	(2.89)	-21.66%	10.85	0.38	3.65%	10.94	0.09	0.84%
	50,000 lumen high pressure sodium	167	19.66	15.85	(4.01)	-20.38%	16.22	0.57	3.64%	16.24	0.02	0.13%
	9,000 lumen high pressure sodium (post)	40	16.08	15.73	(0.36)	-2.21%	16.30	0.58	3.66%	16.68	0.38	2.33%
	16,000 lumen high pressure sodium (post)	59	19.41	18.90	(2.51)	-12.94%	17.51	0.62	3.66%	17.88	0.36	2.07%
	22,000 lumen high pressure sodium (post)	84	21.91	19.07	(2.84)	-12.97%	19.75	0.70	3.66%	20.12	0.36	1.82%
	50,000 lumen high pressure sodium (post)	167	30.61	24.26	(6.35)	-20.73%	25.15	0.89	3.65%	25.44	0.29	1.15%
On Metal Pole:												
	7,000 lumen mercury vapor	72	13.91	14.74	0.83	5.99%	15.28	0.54	3.65%	15.54	0.26	1.69%
	11,000 lumen mercury vapor	100	17.15	18.19	1.05	6.10%	18.86	0.66	3.65%	19.15	0.29	1.53%
	20,000 lumen mercury vapor	158	21.08	22.40	1.34	6.37%	23.22	0.82	3.65%	23.48	0.26	1.11%
	50,000 lumen mercury vapor	378	38.49	41.08	2.60	6.75%	42.58	1.50	3.64%	42.80	0.22	0.53%
	9,000 lumen high pressure sodium	40	18.59	14.39	(4.20)	-22.59%	14.92	0.63	3.66%	15.26	0.34	2.26%
	16,000 lumen high pressure sodium	59	20.22	15.53	(4.68)	-23.17%	16.10	0.57	3.66%	16.42	0.32	1.99%
	22,000 lumen high pressure sodium	84	22.82	17.72	(5.10)	-22.37%	18.37	0.65	3.65%	18.68	0.32	1.73%
	50,000 lumen high pressure sodium	167	29.10	22.90	(6.20)	-21.30%	23.74	0.84	3.65%	23.98	0.25	1.04%
	9,000 lumen high pressure sodium (post)	40	49.23	37.06	(12.17)	-24.73%	38.41	1.36	3.58%	39.46	1.05	2.72%
	16,000 lumen high pressure sodium (post)	59	51.02	38.23	(12.80)	-25.08%	39.53	1.40	3.66%	40.65	1.03	2.60%
	22,000 lumen high pressure sodium (post)	84	53.62	40.38	(13.24)	-24.69%	41.86	1.48	3.66%	42.89	1.03	2.45%
	50,000 lumen high pressure sodium (post)	167	59.99	45.58	(14.41)	-24.02%	47.25	1.67	3.66%	48.20	0.96	2.02%
Multiple Lamps on Metal Pole:												
	20,000 lumen mercury vapor	158	18.56	19.41	0.84	4.55%	20.12	0.71	3.65%	20.28	0.16	0.81%
	9,000 lumen high pressure sodium	40	13.83	10.75	(3.07)	-22.24%	11.15	0.39	3.66%	11.37	0.22	2.01%
	16,000 lumen high pressure sodium	59	15.48	11.91	(3.57)	-23.08%	12.34	0.44	3.65%	12.55	0.21	1.67%
	22,000 lumen high pressure sodium	84	18.06	14.09	(3.97)	-21.97%	14.61	0.51	3.65%	14.81	0.20	1.40%
	50,000 lumen high pressure sodium	167	24.36	19.28	(5.09)	-20.89%	19.98	0.70	3.65%	20.11	0.13	0.67%
	9,000 lumen high pressure sodium (post)	40	29.32	22.09	(7.23)	-24.66%	22.90	0.81	3.66%	23.48	0.58	2.52%
	16,000 lumen high pressure sodium (post)	59	30.99	23.25	(7.74)	-24.99%	24.10	0.85	3.66%	24.66	0.56	2.33%
	22,000 lumen high pressure sodium (post)	84	33.61	25.43	(8.17)	-24.32%	26.36	0.93	3.66%	26.92	0.56	2.12%
	50,000 lumen high pressure sodium (post)	167	39.97	30.62	(9.36)	-23.41%	31.73	1.12	3.65%	32.22	0.49	1.54%
Post Top Unit:												
	7,000 lumen mercury vapor	72	13.81	14.64	0.83	6.00%	15.17	0.53	3.65%	15.43	0.26	1.68%
	9,000 lumen high pressure sodium	40	16.00	12.42	(3.59)	-22.42%	12.87	0.45	3.66%	13.15	0.28	2.14%
	9,000 lumen high pressure sodium (post)	40	19.87	14.72	(5.15)	-25.91%	15.26	0.54	3.66%	15.61	0.35	2.28%
Facilities Charges:												
	Receptacle Charge	0	2.62	2.76	0.14	5.15%	2.86	0.10	3.67%	2.94	0.09	3.01%
Electric Energy Rate												
	100	16.35	15.35	(1.00)	-6.12%	15.91	0.56	3.65%	16.11	0.20	1.26%	
	250	28.48	26.00	(2.48)	-8.70%	26.95	0.95	3.54%	27.06	0.11	0.41%	
	500	48.69	43.75	(4.94)	-10.15%	45.34	1.59	3.54%	45.31	(0.03)	-0.08%	
	1,000	89.11	79.24	(9.87)	-11.07%	82.12	2.88	3.54%	81.80	(0.33)	-0.40%	
	2,500	210.13	185.49	(24.64)	-11.73%	192.24	6.75	3.54%	191.04	(1.20)	-0.63%	
	5,000	411.08	361.81	(49.26)	-11.98%	375.01	13.20	3.65%	372.35	(2.66)	-0.71%	
	10,000	812.96	714.45	(98.51)	-12.12%	740.54	26.10	3.65%	734.96	(5.59)	-0.75%	
	15,000	1,214.85	1,067.09	(147.76)	-12.16%	1,106.08	38.99	3.55%	1,097.97	(8.51)	-0.77%	
	20,000	1,613.93	1,416.93	(197.01)	-12.21%	1,468.81	51.89	3.66%	1,457.38	(11.43)	-0.78%	