

**BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Ohio
Edison Company, The Cleveland Electric
Illuminating Company and The Toledo
Edison Company for Authority to Provide for
a Standard Service Offer Pursuant to R.C.
4928.143 in the Form of an Electric Security
Plan

Case No. 14-1297-EL-SSO

**POST-HEARING BRIEF OF OHIO EDISON COMPANY,
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, AND
THE TOLEDO EDISON COMPANY**

PUBLIC VERSION

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I. INTRODUCTION

Ohio Edison Company (“Ohio Edison”), The Cleveland Electric Illuminating Company (“CEI”) and The Toledo Edison Company (“Toledo Edison”) (collectively, the “Companies”) initiated this proceeding on August 4, 2014, seeking approval of their fourth Electric Security Plan, entitled “Powering Ohio’s Progress,” which offers comprehensive benefits to customers, including protecting their customers against future market risks. While customers have enjoyed the benefits of relatively low and stable market-based retail prices for several years, it is widely recognized that retail prices will increase and become more volatile in the future, potentially to a significant degree.¹ When this market risk is coupled with anticipated reliability challenges arising from an increasing reliance on a volatile and interruptible generation fuel source, proactive Commission action is required.

Fortunately, the General Assembly provided the appropriate tools to address market risks in S.B. 221. Because of spiking retail electric generation rates in the mid-2000s, the Ohio legislature authorized electric distribution utilities to provide an Electric Security Plan (“ESP”) to retail customers that included, among other things, a standard service offer (“SSO”), retail rate stabilization mechanisms and economic development programs.² Thus, since 2008, Ohio’s regulatory scheme contemplates giving electric customers the best of both worlds: the benefits of favorable market-based generation pricing and protection against the risks of such pricing. The combination in an ESP of a market-based SSO, market risk protection measures, distribution

¹ See Stipulation and Recommendation filed on December 22, 2014, p. 1, as modified by the Errata filed on January 21, 2015 (“Stipulation”).

² 2008 S.B. 221 (enacting R.C. 4928.143). See Stipulation, p. 1; Hearing Tr. Vol. IV at 704.

reliability improvements and economic development programs have consistently proven to be more favorable than market-based SSO pricing alone – i.e., a Market Rate Offer or “MRO.”

During the course of an extraordinarily lengthy, thorough, and exhaustive evidentiary process with more than 4,100 discovery requests and 41 days of hearing, the Companies worked together with many interested stakeholders to expand the proposed ESP’s benefits for the Companies’ customers and the state of Ohio.³ These efforts eventually culminated in the Stipulated ESP IV now pending approval.⁴ Stipulated ESP IV provides numerous wide-ranging quantitative and qualitative benefits for the Companies’ customers and complies with all applicable statutory and regulatory criteria. The Companies, the Staff of the Public Utilities Commission (“Staff”) and numerous other Signatory Parties⁵ recommend that the Commission approve Stipulated ESP IV and authorize the Companies to employ the full scope of authority of an ESP as originally intended by the General Assembly.

A key component of Stipulated ESP IV is an eight-year Economic Stability Program that will help safeguard customers from rising market prices and retail rate volatility – the exact concerns that drove the General Assembly to enact S.B. 221 in 2008 – while helping to ensure

³ See Fifth Supplemental Testimony of Eileen M. Mikkelsen (“Mikkelsen Fifth Supp.”), p. 8.

⁴ “Stipulated ESP IV” is the fourth Electric Security Plan filed August 4, 2014, as amended by the Stipulation, the Supplemental Stipulation and Recommendation filed on May 28, 2015, the Second Supplemental Stipulation and Recommendation filed on June 4, 2015 (“Second Stipulation”), and the Third Supplemental Stipulation and Recommendation filed on December 1, 2015 (“Third Supplemental Stipulation”). See Third Supp. Stip., pp. 1-2; R.C. 4928.143(C)(1).

⁵ The “Signatory Parties” are the Companies; Staff; Ohio Power Company; Ohio Energy Group (“OEG”); City of Akron; Council of Smaller Enterprises; Cleveland Housing Network; Consumer Protection Association; Council for Economic Opportunities in Greater Cleveland; Citizens Coalition; Nucor Steel Marion Inc.; Material Sciences Corporation; The Association of Independent Colleges and Universities of Ohio; the International Brotherhood of Electrical Workers – Local 245; The Kroger Co.; Ohio Partners for Affordable Energy; EnerNOC; and Interstate Gas Supply, Inc. Stipulation, p. 1; Second Supp. Stip., p. 1; Third Supp. Stip., pp. 22-24 (including the Supplemental Signature Page of Interstate Gas Supply, Inc.). Industrial Energy Users-Ohio has indicated that it does not oppose the Stipulation. May 28, 2015 letter from Samuel Randazzo (filed May 28, 2015).

retail customers have access to generation at affordable and stable prices on a stable system. The Economic Stability Program consists of the proposed Retail Rate Stability rider (“Rider RRS”), and numerous significant benefits, including stable retail rates, a forecasted \$561 million in savings and fuel and resource diversity necessary for reliable service, which will contribute to Ohio’s economic vitality. By pairing a market-based SSO with the Economic Stability Program, Stipulated ESP IV is the quintessential electric stability plan affording retail customers market benefits while partially protecting them against market risks.

Many highly successful aspects of the Companies’ previous ESPs have been retained in the Stipulated ESP IV. For example, all of the Companies’ customers will continue to receive the benefits of market-based pricing for their retail electric generation service. Non-shopping customers will receive market-based pricing through the competitive bid process (“CBP”), under a procurement schedule designed to help mitigate and smooth out the impact of swings in the market.⁶ Shopping customers will continue to receive market-based pricing from any certified competitive retail electric service (“CRES”) provider they select. And Rider RRS will complement both procurements by smoothing out retail prices and by helping to protect customers against the impact of market risks, i.e., rapid price increases and volatility. Accordingly, the Economic Stability Program does exactly what the General Assembly intended when it created ESPs. The program will provide customers with the benefits of market-based prices while also providing retail rate stability through a long-term hedge against market risks.

⁶ Hearing Tr. Vol. V at 959:3-14 (Stein Cross); Third Supp. Stip., Section IV.G.3. and Attachment A.

To be effective, a hedge must be designed to work counter to the risk being hedged against. Rider RRS provides that counter-cyclical effect.⁷ Under an eight-year FERC-jurisdictional power purchase agreement (“PPA”), the Companies will purchase from FirstEnergy Solutions Corp. (“FES”) all of FES’s rights in the capacity of the Davis-Besse Nuclear Power Station (“Davis-Besse”), the W.H. Sammis Plant (“Sammis”) (collectively, the “Plants”), and FES’s 4.85 percent entitlement from the Ohio Valley Electric Corporation (“OVEC”) (the “OVEC interest”), together with the associated energy, ancillary services and environmental attributes.⁸ These baseload coal and nuclear plants have stable cost structures and will serve as the basis for a hedge against expected increasing and more volatile retail electric energy prices. Over the term of Stipulated ESP IV, if the anticipated price increases are realized, Rider RRS will provide customers net credits of \$561 million.⁹ If prices increase by more than the Companies’ forecast, the credit to customers should exceed \$561 million. And under a hypothetical scenario where prices stay at historically low levels (a scenario raised by some, but lacking any support in the record here), customers will nevertheless benefit from having insurance against the risk of price increases.¹⁰ As OEG witness Baron explained, “[y]ou are

⁷ Hearing Tr. Vol. XVIII at 3650:18-19 (Savage Cross); see also Direct Testimony of Steven E. Strah (“Strah Direct”), p. 4.

⁸ Co. Ex. 156 (Final Term Sheet-Revised); Hearing Tr. Vol. I at 32 (Mikkelsen Cross); Strah Direct, p. 5; Direct Testimony of Jay A. Ruberto (“Ruberto Direct”), p. 3. While this wholesale transaction between the Companies and FES is not before the Commission, the Companies, upon request, produced to the intervening parties to this proceeding a detailed final Term Sheet the Companies negotiated with FES. The Term Sheet contains all the material terms and conditions of the proposed transaction, which would be incorporated into a purchase power agreement. Hearing Tr. Vol. I at 55:21-58:12 (Mikkelsen Cross); Hearing Tr. Vol. IV at 869:13-19 (Strah Cross).

⁹ Mikkelsen Fifth Supp., p. 11. Additionally, the Plants directly and indirectly support approximately 2,700 jobs and have a combined total economic impact of approximately \$1.1 billion per year. Direct Testimony of Sarah Murley (“Murley Direct”), pp. 5, 8, 10.

¹⁰ See Hearing Tr. Vol. I at 75:10-17 (Company witness Mikkelsen explaining Rider RRS is insurance against risks of increasing and more volatile market prices in the future); Hearing Tr. Vol. IV at 844:5-845:18

betting against a bad outcome, if you don't have that bad outcome, the premium that you paid for that bet will be worth it.”¹¹ Thus, Rider RRS will proactively provide rate stability to the Companies' retail customers over the eight-year period of the Stipulated ESP IV and the Economic Stability Program.

By supporting the continued operation of the Plants through the current short-term market turmoil, the Economic Stability Program also provides reliability benefits to customers and the state of Ohio by preserving resource diversity. The future of the Plants – akin to many others – is uncertain because of financial challenges faced over the past several years and near-term market challenges.¹² In fact, over 6,500 MW of coal-fired generation has retired in Ohio since 2010, and nuclear plants across the region – valuable zero-carbon resources – are at risk of retirement.¹³ Retirements of baseload coal and nuclear plants have left the market increasingly reliant on natural gas-fired generation and the potential for price volatility and reliability concerns attendant to such reliance. For example, during both the “Polar Vortex” of 2014 and the “Siberian Express” of 2015, natural gas-fired plants disproportionately experienced forced

(Company witness Strah discussing insurance concept); Hearing Tr. Vol. XXII at 4383:3-4384:3 (OEG witness Baron in exchange with Hearing Examiner Price confirming that customers will benefit from Rider RRS insurance even if retail prices remain low); Hearing Tr. Vol. XXXVIII at 8153:7-8158:24 (OCC witness Wilson agreeing the scenario most favorable to customers in terms of continued low retail prices has no record support).

¹¹ Hearing Tr. Vol. XXII at 4384:1-3 (Baron Cross).

¹² Direct Testimony of Donald Moul (“Moul Direct”), pp. 2-4; Moul Supp., p. 1; Hearing Tr. Vol. XI at 2283:15-22 (Moul cross).

¹³ Co. Ex. 40 (Phillips Workpaper), p. 3 (showing 6,217 MW retired by mid-2015); Rebuttal Testimony of Jason Lisowski (“Lisowski Rebuttal”), p. 7 (adding 312 MW of R.E. Burger units 4-5 retired in 2010); Moul Direct, p. 4; Hearing Tr. Vol. XI at 2352:6-13 (Company witness Moul describing impact of market risks on nuclear plants regionally).

outages.¹⁴ During the Polar Vortex in particular, the Plants and other baseload units with on-site fuel capability were critical to staving off severe disruptions and load shedding; the entirety of PJM at one point had only 500 MW of synchronous reserves available (roughly 1/6 of the power the Plants provide).¹⁵ The Plants provide resource diversity advantages that should be preserved. The Economic Stability Program enhances reliability for the Companies' customers by continuing the operation of baseload, fuel-diverse generating units that have on-site fuel storage capabilities and were built to serve the Companies' load.¹⁶

In addition, the Economic Stability Program provides economic development benefits as a result of: (1) the resource diversity and reliability benefits resulting from continued operation of the Plants; and (2) the avoided transmission investment that would be required if the Plants retired.¹⁷ If the Plants were to close, PJM would require transmission upgrades that could cost up to \$1.1 billion, which could increase electric prices for the Companies' customers by between \$1.7 and \$4.1 billion. And these upgrades would just maintain (not improve upon) the reliability customers receive with the Plants in operation.¹⁸ Thus, the Economic Stability Program provides many economic benefits for customers.

¹⁴ Sierra Club Ex. 8, pp. 25-26 (Analysis of Operational Events and Market Impacts During the January 2014 Cold Weather Events, PJM Interconnection (May 8, 2014)); IGS Ex. 1, pp. 6, 22 (2015 Winter Report, PJM Interconnection (May 13, 2015)); Hearing Tr. Vol. VII at 1509:20-25 (Lisowski Cross).

¹⁵ Sierra Club Ex. 8, p. 20; Strah Direct, p. 9-10.

¹⁶ Hearing Tr. Vol. II at 416:6-11, 423:2-21 (Mikkelsen Cross); Moul Direct, pp. 5-12; Strah Direct, pp. 7-10.

¹⁷ Hearing Tr. Vol. II at 416:12-22 (Mikkelsen Cross); Strah Direct, p. 11.

¹⁸ Supplemental Testimony of Rodney L. Phillips ("Phillips Supp."), pp. 6-10; Second Supplemental Testimony of Eileen M. Mikkelsen ("Mikkelsen Second Supp."), pp. 6-11 and Attachment EMM-2. As Mr. Phillips stated, "[t]he simple fact is that increasing distance between generation and a load center increases the potential for outages on the transmission system (scheduled or unscheduled outages) to affect reliability at the load center." Phillips Supp., p. 6.

Stipulated ESP IV viewed in its totality (as required by Section 4928.143(C)(1) of the Ohio Revised Code) is more favorable in the aggregate as compared to the expected results of an MRO. Stipulated ESP IV will provide customers with a quantitative benefit of \$612.1 million nominally over eight years (\$296 million on a net present value basis), as compared to the expected results of an MRO. It also offers customers qualitative benefits that would not be available under an MRO, including:

- stable and certain retail electric service rates, including fair and open CBPs using staggered and laddered procurements and a risk sharing element that assures at least \$100 million in credits are included in Rider RRS;
- a commitment to freeze base distribution rates through the entire eight-year term of Stipulated ESP IV, except in case of emergency conditions under Section 4909.16 or if the Companies with Staff agreement file for a base distribution rate case that would go into effect prior to June 1, 2024;
- continued investment in the delivery system in support of system enhancement and reliability;
- generation resource diversity and electric system reliability;
- the avoidance of up to \$1.1 billion in transmission system upgrades that otherwise would be necessary if the Plants are retired;
- numerous economic development programs and credits;
- federal advocacy for a longer-term capacity product and other market improvements;
- a commitment to present an innovative plan to the Commission proposing the acceleration of state-of-the-art advancements in the distribution delivery business;
- a significant commitment to implement resource diversification initiatives, including an unprecedented commitment to establish a goal to reduce CO₂ emissions by at least 90% below 2005 levels by 2045, plus commitments to evaluate battery technology and to pursue further development of robust energy efficiency and renewable resources in Ohio;
- a commitment to file a case to transition to decoupled residential base distribution rates;

- retail market enhancements; and
- several provisions that provide support to low-income customers.¹⁹

Taking into account both the qualitative and quantitative benefits of Stipulated ESP IV, the evidence before the Commission conclusively demonstrates that Stipulated ESP IV is more favorable in the aggregate than the expected results of an MRO.²⁰

Stipulated ESP IV also meets each prong of the three-prong test adopted by the Commission for reviewing stipulations.²¹ First, the Signatory Parties are a diverse and experienced mix of customer classes and varied interests. Second, Stipulated ESP IV, as a package, benefits customers. It is in the public interest because it is designed to provide adequate, safe, reliable and predictably priced electric service. It also helps to protect the Companies' customers against increasing and more volatile retail prices over the next eight years. And third, Stipulated ESP IV is consistent with regulatory principles and practices in Ohio. While the rate and service stability and resulting economic development benefits that flow from Rider RRS are each sufficient in and of themselves for the Commission to approve it as a component of Stipulated ESP IV under Section 4928.143(B)(2)(d) and (i), it also satisfies the four non-binding factors outlined by the Commission in AEP Ohio's third ESP proceeding, Case

¹⁹ See, generally, Third Supp. Stip.; Mikkelsen Fifth Supp., pp. 3-6, 13; Supplemental Testimony of Eileen M. Mikkelsen ("Mikkelsen Supp."), pp. 11-12.

²⁰ Mikkelsen Fifth Supp., p. 14.

²¹ See, e.g., *In the Matter of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan*, Case No. 12-1230-EL-SSO, Opinion and Order at 24 (July 18, 2012) (citing *Indus. Energy Consumers of Ohio Power Co. v. Pub. Util. Comm.*, 68 Ohio St. 3d 559 (1994)).

No. 13-2385-EL-SSO (“AEP ESP3”).²² Specifically, the Plants: (1) have a significant financial need;²³ (2) are necessary from a reliability perspective to preserve supply diversity;²⁴ (3) are compliant with all pertinent environmental regulations and have plans to comply with pending environmental regulations;²⁵ and (4) if retired, would have a substantial negative impact on electricity prices, which would in turn have a negative impact on economic development.²⁶

As a result, Stipulated ESP IV meets all statutory criteria for approval by the Commission. Moreover, the Economic Stability Program protects the Companies’ customers and Ohio’s energy future and enhances Ohio’s economy. Stipulated ESP IV’s aggregate benefits are well-established and, accordingly, the Commission should approve Stipulated ESP IV without modification.

II. LEGAL STANDARD

Pursuant to Section 4928.141(A) of the Ohio Revised Code, each electric distribution utility is required to provide a standard service offer in accordance with Sections 4928.142 or 4928.143. Section 4928.143(C)(1) provides that the Commission:

²² *In the Matter of the Application of Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.143, in the Form of an Electric Security Plan*, Case No. 13-2385-EL-SSO, Opinion and Order at 19-26 (Feb. 25, 2015) (“AEP ESP3 Order”).

²³ Mikkelsen Second Supp., pp. 3-4; Moul Direct, p. 2; Hearing Tr. Vol. X at 2184:13-22, 2185:9-13 (Moul Cross); Hearing Tr. Vol. XI at 2395:8-15 (Moul Cross); Hearing Tr. Vol. XXXII at 6541:6-12, 6542:3-20 (Moul Rebuttal Cross); Hearing Tr. Vol. XXXIII at 6818:21-24 (Lisowski Rebuttal Cross).

²⁴ Mikkelsen Second Supp., pp. 4-5; Direct Testimony of Paul A. Harden (“Harden Direct”), p. 9; Moul Direct, pp. 6-12; Hearing Tr. Vol. IV at 874:4-10 (Strah Cross).

²⁵ Mikkelsen Second Supp., pp. 5; Supplemental Testimony of Raymond L. Evans (“Evans Supp.”), p. 2; Rebuttal Testimony of Raymond L. Evans (“Evans Rebuttal”), pp. 2-4; Hearing Tr. Vol. XII at 2536:8-16 (Harden Cross).

²⁶ Mikkelsen Second Supp., pp. 6-11; Phillips Supp., pp. 8-10; Murley Supp., pp. 6, 10; Hearing Tr. Vol. XV at 3214:25-3216:4, 3216:15-3217:2 (Murley Cross).

[S]hall approve or modify and approve an application filed under division (A) of this section if it finds that the electric security plan so approved, including its pricing and all other terms and conditions, including any deferrals and any future recovery of deferrals, is more favorable in the aggregate as compared to the expected results that would otherwise apply under section 4928.142 of the Revised Code.

The Commission considers both quantitative and qualitative factors in its analysis.²⁷ Specifically, all provisions of a proposed ESP are considered as a “total package.”²⁸ As set forth below, the total benefits of Stipulated ESP IV in the aggregate, including the quantitative and qualitative benefits, demonstrate that it is considerably more favorable in the aggregate as compared to the expected results of an MRO.

Rule 4901-1-30 of the Ohio Administrative Code provides that any two or more parties to a proceeding may enter into a written stipulation covering the issues presented in such a proceeding. The approval of a stipulation requires a Commission finding that the stipulation at issue is reasonable.²⁹ A finding of reasonableness is contingent upon a proposed stipulation satisfying each prong of the three-prong test. Specifically, a reasonable stipulation must: (1) be

²⁷ See *AEP ESP3* Order at 94; Case No. 12-1230-EL-SSO, Opinion and Order at 56 (July 18, 2012); Case No. 12-426-EL-SSO, Opinion and Order, 2013 Ohio PUC LEXIS 193 at *125 (Sept. 4, 2013). See also *In re Columbus Southern Power Co.*, 128 Ohio St. 3d 402, 2011-Ohio-958, ¶ 27 (“Moreover, while it is true that the commission must approve an electric security plan if it is ‘more favorable in the aggregate’ than an expected market-rate offer, that fact does not bind the commission to a strict price comparison. On the contrary, in evaluating the favorability of a plan, the statute instructs the commission to consider ‘pricing *and all other* terms and conditions.’ Thus, the commission must consider more than price in determining whether an electric security plan should be modified.”) (emphasis in original). See Hearing Tr. Vol. XXXVIII at 8221:25-8222:4 (OCC witness Kahal agreeing that Commission reviews qualitative factors or benefits of an ESP – and that it makes sense to do so).

²⁸ See *AEP ESP3* Order at 94.

²⁹ See, e.g., Case No. 12-1230-EL-SSO, Opinion and Order at 24 (July 18, 2012); *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and the Toledo Edison Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan*, Case No. 10-388-EL-SSO, Opinion and Order at 20 (Aug. 25, 2010).

a product of serious bargaining among capable, knowledgeable parties; (2) as a package, benefit customers and the public interest; and (3) not violate any important regulatory principle or practice.³⁰ Under its precedent, the Commission traditionally gives substantial weight to the terms of a stipulation.³¹

III. STIPULATED ESP IV IS MORE FAVORABLE THAN THE EXPECTED RESULTS OF AN MRO.

As the record in this proceeding amply demonstrates, Stipulated ESP IV is more favorable in the aggregate as compared to the expected results that would otherwise apply under an MRO. Indeed, the benefits and protections afforded to customers under Stipulated ESP IV are manifestly quantitatively and qualitatively superior to the results that would occur under an MRO. Accordingly, the Commission should approve Stipulated ESP IV without modification.

A. The Quantitative Benefits Of Stipulated ESP IV Are Over \$612 Million More Favorable Than An MRO.

Stipulated ESP IV provides a quantitative benefit of \$612.1 million on a nominal basis and \$296 million on a net present value basis to customers over the expected results of an MRO.³² These benefits are calculated under methods set by Commission precedent for determining ESP benefits under the “ESP v. MRO” test.³³

³⁰ See *Consumers’ Counsel v. Pub. Util. Comm.*, 64 Ohio St.3d 123, 126 (1992). See also *AK Steel Corp. v. Pub. Util. Comm.*, 95 Ohio St.3d 81, 82-83 (2002); Case No. 12-1230-EL-SSO, Opinion and Order at 24 (July 18, 2012) (citing *Indus. Energy Consumers of Ohio Power Co. v. Pub. Util. Comm.*, 68 Ohio St.3d 559 (1994)).

³¹ “Rule 4901-1-30, O.A.C, authorizes parties to Commission proceedings to enter into a stipulation. Although not binding on the Commission, the terms of such an agreement are accorded substantial weight.” Case No. 12-1230-EL-SSO, Opinion and Order at 24 (July 18, 2012) (citing *Consumers’ Counsel v. Pub. Util. Comm.*, 64 Ohio St.3d 123, 125 (1992) and *Akron v. Pub. Util. Comm.*, 55 Ohio St.2d 155, 157 (1978)). See also Case No. 10-388-EL-SSO, Opinion and Order at 20 (Aug. 25, 2010) (same).

³² Mikkelsen Fifth Supp., p. 12; Sierra Club Ex. 89 (Mikkelsen Nov. 30 2015 Workpaper).

³³ See, e.g., Case No. 10-388-EL-SSO, Opinion and Order at 42; 44 (Aug. 25, 2010); Case No. 12-1230-EL-SSO, Opinion and Order at 55-56 (July 18, 2012); *In the Matter of Application of Duke Energy Ohio, Inc. for*

1. The estimated quantitative benefit of the Economic Stability Program is \$561 million.

The Economic Stability Program, as implemented by Rider RRS, is estimated to result in credits to customers totaling \$561 million on a nominal basis or \$260 million on a net present value basis.³⁴ Under the proposed transaction supporting Rider RRS, the Companies will pay FES a negotiated contract price for the energy, capacity, ancillary services, and environmental attributes of the Plants, and purchase the OVEC output from FES at FES's cost.³⁵ The Companies will then offer this output into the PJM markets, and net all of the revenues against the monthly payments to FES, with the difference being passed along on a nonbypassable basis to customers through Rider RRS.³⁶ The Companies will control the offering and dispatching of this generation into the PJM markets.³⁷ The Companies project that, as natural gas prices and market prices for energy and capacity rise over the next eight years, Rider RRS will provide the Companies' customers with \$561 million in credits on their bills.³⁸

The Companies calculated the quantitative benefits of Rider RRS using forecasts of market prices for energy, capacity, ancillary services and carbon prepared by Judah Rose, the

Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications, and Tariffs for Generation Service, Case No. 11-3549-EL-SSO, Opinion and Order at 46-47 (Nov. 22, 2011).

³⁴ Mikkelsen Fifth Supp., pp. 11-12; Hearing Tr. Vol. XXXVI at 7646:17-19 (Mikkelsen Cross).

³⁵ Co. Ex. 156, Section 13 (Final Term Sheet-Revised); Hearing Tr. Vol. I at 32:18-34:22 (Mikkelsen Cross); Ruberto Direct, p. 3.

³⁶ Hearing Tr. Vol. I at 124:21-125:4 (Mikkelsen Cross); Ruberto Direct, p. 3. As Ms. Mikkelsen testified at hearing, "To the extent that there is a Commission order in the case prior to the May, 2016, base residual auction, then the companies would have control of the plants in the proposed transaction at that time to include in whatever offer strategy [for capacity] they chose to execute in that process. The same would be true for their offer strategies in the incremental auctions that would occur subsequent to the 2016 base residual auction related to the delivery year of 2019 and 2020." Hearing Tr. Vol. XXXVI at 7616:7-16.

³⁷ Co. Ex. 156, Section 15; Ruberto Direct, p. 9.

³⁸ Mikkelsen Fifth Supp., pp. 11-12.

Managing Director of ICF International and co-chair of the firm's Energy Advisory practice. ICF is a recognized world leader in the field, working with the U.S. Environmental Protection Agency ("EPA"), the Federal Energy Regulatory Commission ("FERC"), and the U.S. Department of Energy.³⁹ ICF has also worked with numerous state regulators and energy agencies and relies on the most sophisticated computer models available to generate its forecasts, including those used here.⁴⁰ Mr. Rose was the only witness at hearing to present fundamental forecasts of energy and capacity prices using methodologically-sound forecasting models.⁴¹ Using those forecasts, the Companies project that Rider RRS will result in least \$561 million in net financial benefits to customers over its proposed eight-year term.⁴²

In his testimony, Mr. Rose forecasted that market prices for energy and capacity will increase on both a nominal and real basis over the next eight years.⁴³ Specifically, using 2013 dollars, Mr. Rose projected the "all hours" AEP Dayton energy price to increase [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] from the 2009-13 average of \$34/MWh to [BEGIN CONFIDENTIAL]

³⁹ Direct Testimony of Judah L. Rose ("Rose Direct"), p. 2; Hearing Tr. Vol. VI at 1300:12-17 (J. Rose Cross).

⁴⁰ Rose Direct, p. 2; Rebuttal Testimony of Judah L. Rose ("Rose Rebuttal"), pp. 3; 7. As OCC witness Wilson admitted at hearing, ICF's modeling software, IPM, provides forecasts of least cost capacity expansion, electric dispatch and emission control strategies while meeting energy demand and environmental transmission dispatch and reliability constraints. Hearing Tr. Vol. XXII at 4538:14-19 (Wilson Cross).

⁴¹ Rose Direct, p. 2; Rose Rebuttal, pp. 3-7; Hearing Tr. Vol. VI at 1300:12-17 (J. Rose Cross); Hearing Tr. Vol. XXII at 4542:4-24 (OCC witness Wilson did no modeling or forecasting); Hearing Tr. Vol. XXII at 4544:19-4545:6 (OCC witness Wilson correcting mischaracterization of the three scenarios he relied upon as "forecasts," insisting they were not); Hearing Tr. Vol. XXXI at 6414:11-18 (Sierra Club witness Comings agreeing he did no energy price forecasts); Hearing Tr. Vol. XLI at 8641:5-8642:17 (P3/EPSCA witness Kalt agreeing he did not conduct any modeling).

⁴² Mikkelsen Fifth Supp., p. 12; Ruberto Direct, Attachment JAR-1 (Revised); Direct Testimony of Jason Lisowski ("Lisowski Direct"), Attachments JLL-1 through JLL-3; Hearing Tr. Vol. I at 42:21-24 (Mikkelsen Cross); Hearing Tr. Vol. IV at 714:7-19 (Strah Cross).

⁴³ See Rose Direct, pp. 33-44 and Attachment II; Hearing Tr. Vol. VI at 1300:3-13 (J. Rose Cross).

[END CONFIDENTIAL].⁴⁴ Mr. Rose was the only witness to base his forecasts on a fundamental analysis of market indicators showing that higher energy prices would result from: (1) higher forecast natural gas prices; (2) greater reliance on natural gas as the price setting fuel; (3) greater reliance on more costly units as demand grows and units retire; (4) electrical demand growth; (5) power plant retirements; (6) environmental regulations; (7) new FERC policies; (8) inflation; and (9) CO₂ regulation.⁴⁵

Mr. Rose also anticipated that capacity prices will increase on both a nominal and real basis. Using 2013 dollars, Mr. Rose projected the capacity price to increase [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] from the 2013-17 average of \$30/kW-yr to [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL].⁴⁶ He was the only witness to develop a capacity price forecast based on fundamental economic indicators showing that higher capacity prices would result from: (1) elimination of excess capacity due to retirements; (2) demand growth; (3) less capacity price depression from demand response; (4) less capacity imports from other regions; (5) environmental regulations; (6) rising financing and new capital costs; (7) inflation; and (8) greater natural gas infrastructure leading to higher costs in states like Ohio, where natural

⁴⁴ Rose Direct, p. 5, 36 and Attachment II. The energy price trends for the ATSI Zone region exhibit [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]. Rose Direct, p. 5, 36 and Attachment II. Mr. Rose relied on the AEP-Dayton Hub and the ATSI Zone because they were the “relevant power markets” upon which to model his forecasts: “I made these projections using detailed computer modeling of the relevant power markets (i.e., ATSI Zone and AEP Dayton, and selected nodal markets for electrical energy and the PJM RTO capacity price), and associated fuel industries. I employed highly sophisticated computer models to develop my forecasts including such widely recognized and used computer models as ICF’s IPM, General Electric’s GE-MAPS and ICF’s Gas Market Model (GMM).” Rose Rebuttal, p. 3.

⁴⁵ Rose Direct, pp. 5-6, 19-20; Hearing Tr. Vol. VI at 1287:16-1288:5 (J. Rose Cross).

⁴⁶ Rose Direct, p. 5, 40 and Attachment III.

gas is currently located, as it is shipped elsewhere.⁴⁷ Indeed, this increase in capacity prices has already begun. As Mr. Rose testified at hearing:

So, for example, the BRA, the base residual auction went from 120 to 165. The RTO price in the transition auction went from 60 to 134. We've seen increases in capacity prices around all markets with capacity, New England, New York, PJM, and MISO. That's what we forecast in 2014, that there would be significant increases, and they are afoot.⁴⁸

Company witness Lisowski used Mr. Rose's forecasts of energy, capacity and carbon prices as inputs to proprietary dispatch modeling software to project the revenues that will be derived from selling the output of the Plants and the OVEC interest into PJM markets.⁴⁹ Mr. Lisowski also forecasted the costs proposed to be included in the negotiated contract price to be paid by the Companies, using the Plants' historical actual and budgeted costs and OVEC's own 20-year cost forecast.⁵⁰ The results of Mr. Lisowski's modeling work were then verified by the Companies, aggregated and carried forward by Company witness Ruberto to his Attachment JAR-1 Revised.⁵¹ Company witness Mikkelsen then used Mr. Ruberto's attachment to calculate the benefit of Rider RRS as shown on her workpaper supporting her Fifth Supplemental Testimony.⁵² Using Mr. Rose's forecasts and Mr. Lisowski's modeling, Rider RRS is projected

⁴⁷ Rose Direct, pp. 6-8, 41-43.

⁴⁸ Hearing Tr. Vol. VI at 1196:14-23 (J. Rose Cross). *See also* Rose Rebuttal, pp. 21-22 (observing, among other recent capacity auction results, that the 2018/2019 PJM BRA saw an increase of 38 percent in capacity prices, the RTO CP capacity price for the 2016/2017 incremental transition auction increased by 123 percent, and the RTO CP capacity price for the 2017/2018 incremental transition auction increased by 27 percent).

⁴⁹ Lisowski Direct, pp. 2, 4-5.

⁵⁰ Lisowski Direct, pp. 3-4.

⁵¹ *See* Ruberto Direct, p. 6.

⁵² *See* Sierra Club Ex. 89 (Mikkelsen Nov. 30, 2015 workpaper); Hearing Tr. Vol. XXXVI at 7510:12-7511:20 (Mikkelsen Cross).

to generate credits to customers totaling \$561 million on a nominal basis (\$260 million on a net present value basis).⁵³

2. Stipulated ESP IV includes quantitative benefits relating to economic development and low income funding.

Beyond Rider RRS, Stipulated ESP IV additionally provides: (1) economic development funding in the amount of \$24 million on a nominal basis and \$16.9 million on a net present value basis; (2) low income funding in the amount of \$19.1 million on a nominal basis and \$13.5 million on a net present value basis; and (3) Customer Advisory Agency funding in the amount of \$8 million on a nominal basis and \$5.6 million on a net present value basis.⁵⁴ Importantly, the Companies will not seek to recover the costs associated with these items from customers.⁵⁵ Added together, Stipulated ESP IV thus produces a quantitative benefit over an MRO of over \$612 million on a nominal basis or \$296 million on a net present value basis.⁵⁶

3. The costs of the SSO and of the Delivery Capital Recovery rider (“Rider DCR”) are the same under Stipulated ESP IV and an MRO.

There is no quantifiable cost of Stipulated ESP IV associated with either the CBPs for SSO load or Rider DCR.⁵⁷ Because the Companies would use a CBP to procure generation under either Stipulated ESP IV or a hypothetical MRO, there is no quantifiable difference

⁵³ Mikkelsen Fifth Supp., pp. 11-12.

⁵⁴ Mikkelsen Fifth Supp., p. 12; Sierra Club Ex. 89 (Mikkelsen Nov. 30 2015 Workpaper); Hearing Tr. Vol. XXXVI at 7735:25-7736:4 (Mikkelsen Cross).

⁵⁵ Direct Testimony of Santino L. Fanelli (“Fanelli Direct”), p. 7; Mikkelsen Supp., p. 10; Hearing Tr. Vol. III at 595:16-24 (Mikkelsen Cross).

⁵⁶ Mikkelsen Fifth Supp., p. 12; Hearing Tr. Vol. I at 42:21-24 (Mikkelsen Cross).

⁵⁷ Fanelli Direct, p. 7.

relating to the SSO pricing under Stipulated ESP IV and an MRO.⁵⁸ In addition, because distribution-related capital costs would also be recovered under an MRO through a base distribution rate case, Rider DCR under Stipulated ESP IV versus such costs under an MRO are considered to be quantitatively neutral.⁵⁹

In sum, the quantitative benefits of the Stipulated ESP IV over an MRO are:

<u>Quantitative Benefit of Stipulated ESP IV</u>		
<i>(\$ in Millions)</i>	<u>Total</u>	<u>NPV</u>
Economic Development Funding	\$24.0	\$16.9
Low Income Funding	\$19.1	\$13.5
Customer Advisory Agency Funding	\$8.0	\$5.6
Retail Rate Stability Rider	<u>\$561.0</u>	<u>\$260.0</u>
Total Quantitative Benefit	\$612.1	\$296.0

B. The Qualitative Benefits Of Stipulated ESP IV Are More Favorable Than An MRO.

When evaluating the benefits of a proposed ESP, the Commission also considers its qualitative benefits.⁶⁰ Stipulated ESP IV includes numerous qualitative benefits that provide for stability and certainty of retail electric service rates, economic development, retail competition, customer optionality, grid modernization, resource diversification, low-income customer

⁵⁸ Fanelli Direct, p. 7; *see also* AEP ESP3 Order at 94.

⁵⁹ Fanelli Direct, p. 7; Case No. 12-1230-EL-SSO, Opinion and Order at 55-56 (July 18, 2012); *see also* AEP ESP3 Order at 94.

⁶⁰ *See In the Matter of the Application of The Dayton Power and Light Company for Approval of its Electric Security Plan*, Case No. 12-426-EL-SSO, Opinion and Order, 2013 Ohio PUC LEXIS 193 at *125 (Sept. 4, 2013) (“By statute, our analysis does not end with the quantitative analysis, however, as we must consider the qualitative benefits of the....ESP, in order to view the proposed plan in the aggregate.”). *See also* Case No. 12-1230-EL-SSO, Opinion and Order at pp. 55-57 (July 18, 2012); Case No. 11-346-EL-SSO, Opinion and Order at pp. 73-77 (August 8, 2012); Hearing Tr. Vol. XXIV at 4882:23-4883:4 (Kahal Cross).

assistance, continued investment in the delivery system, and system reliability.⁶¹ These benefits would not be available under an MRO.⁶²

1. Stipulated ESP IV continues provisions from the Companies' previous ESPs that the Commission has found to be beneficial to customers.

Stipulated ESP IV provides many of the qualitative benefits that the Commission previously recognized in approving the Companies' current ESP, ESP III.⁶³ Stipulated ESP IV contemplates the continuation of a base distribution rate freeze over the ESP's entire eight-year term, thereby providing rates that are relatively certain, stable and predictable.⁶⁴ The Companies also will continue to procure all of their non-shopping load through a CBP. As with the Companies' past CBPs, the CBPs under the ESP IV will stabilize and mitigate the volatility of rates in the near term through the strategic use of laddered and staggered procurements.⁶⁵ As the Commission found with regard to the same features of ESP III, "laddering of products and continuation of the distribution rate increase freeze will smooth generation prices and mitigate the risk of volatility, which is a benefit to customers."⁶⁶

⁶¹ Mikkelsen Fifth Supp., p. 13; Mikkelsen Supp., p. 11; Fanelli Direct, pp. 8-9; Hearing Tr. Vol. III at 573:18-574:8 (Mikkelsen Cross); Hearing Tr. Vol. XX at 3927:3-3928:16 (Fanelli Cross).

⁶² Mikkelsen Fifth Supp., p. 13; Mikkelsen Supp., p. 11; Fanelli Direct, pp. 8-9.

⁶³ See Case No. 12-1230-EL-SSO, Opinion and Order at 56 (July 18, 2012).

⁶⁴ Fanelli Direct, p. 9; Hearing Tr. Vol. XX at 3901:11-20 (Fanelli Cross); Hearing Tr. Vol. XXIX at 5913:10-21 (McCarter Cross); See Case No. 12-1230-EL-SSO, Opinion and Order at 56 (July 18, 2012).

⁶⁵ Direct Testimony of Eileen M. Mikkelsen ("Mikkelsen Direct"), p. 28-29; Hearing Tr. Vol. II at 426:22-427:20 (Mikkelsen Cross).

⁶⁶ Case No. 12-1230-EL-SSO, Opinion and Order at 56 (July 18, 2012).

Stipulated ESP IV also supports reliable service by continuing Rider DCR. A distribution service provision authorized under Section 4928.143(B)(2)(h),⁶⁷ Rider DCR allows the Companies to invest in infrastructure and thus provides safe and reliable service more efficiently than would be achieved through a base distribution rate case.⁶⁸ Rider DCR provides the Companies with “an opportunity to invest in their infrastructure in a more proactive ... manner than otherwise would occur.”⁶⁹ As a result, the Companies have consistently outperformed their SAIFI and CAIDI minimum reliability standards since Rider DCR has been in effect. Moreover, customers receive additional benefits from the protections afforded by the annual audit of Rider DCR.⁷⁰

Reliability and rate stability also is supported through the continuation of the Economic Load Response Program rider (“Rider ELR”), which provides credits for customers with interruptible load.⁷¹ As Company witness Mikkelsen testified at hearing, “there will be interruptible load available to the Company to call in the case of an emergency or for ATSI, the transmission operator, call in a case of a system emergency or for PJM to call in a system emergency, and that load is available to curtail in front of the firm service customers.”⁷² The

⁶⁷ See Mikkelsen Direct, pp. 9-11 (showing from a review of the reliability of the Companies’ distribution systems that customers’ and the Companies’ expectations are aligned and that the Companies are placing sufficient emphasis on and dedicating sufficient resources to distribution system reliability).

⁶⁸ Fanelli Direct, p. 9; Hearing Tr. Vol. I at 156:13-17 (Mikkelsen Cross); Case No. 12-1230-EL-SSO, Opinion and Order at 34, 56 (July 18, 2012) (approving Rider DCR in ESP III as authorized by R.C. 4928.143(B)(2)(h) and finding that it supports reliable service).

⁶⁹ Hearing Tr. Vol. XX at 3928:2-4 (Fanelli Cross).

⁷⁰ Fanelli Direct, p. 9.

⁷¹ Mikkelsen Supp., pp. 3, 11; Supplemental Testimony of Stephen J. Baron (“Baron Supp.”), pp. 9-10; Hearing Tr. Vol. III at 620:2-7 (Mikkelsen Cross).

⁷² Hearing Tr. Vol. III at 494:15-21 (Mikkelsen Cross).

Companies also will limit the additional curtailable load beyond those customers currently taking service under Rider ELR to 136,250 kW of curtailable load, a limitation that does not exist today.⁷³

Stipulated ESP IV also promotes economic development and job retention by continuing Rider ELR and the Automaker Credit Provision in Rider EDR(h), each authorized under Section 4928.143(B)(2)(i), for the entire term of the ESP. Rider ELR provides economic development benefits by allowing large customers, who must compete both nationally and globally, to secure more competitive electric rates by choosing to take a lower quality of service from their utility.⁷⁴ Rider EDR(h) provides credits for large automotive manufacturing facilities.⁷⁵ By encouraging increased production within the state, the Automaker Credit Provision provides economic development and job retention benefits to eligible automotive manufacturing facilities.⁷⁶ In addition, the Companies will continue to provide support for at-risk populations by continuing to fund the Community Connections Program.⁷⁷

⁷³ Third Supplemental Testimony of Eileen M. Mikkelsen (“Mikkelsen Third Supp.”), p. 2; Hearing Tr. Vol. III at 493:12 (Mikkelsen Cross).

⁷⁴ Baron Supp., p. 10. *See In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan*, Case No. 08-935-EL-SSO, Second Opinion and Order at 18 (Mar. 25, 2009) (recognizing as additional qualitative benefit of stipulation in the Companies’ first ESP that it provides additional benefits to interruptible industrial customers); Case No. 12-1230-EL-SSO Opinion and Order at 56 (July 18, 2012) (same).

⁷⁵ Mikkelsen Supp., pp. 3, 11-12.

⁷⁶ Mikkelsen Supp., pp. 11-12; Baron Supp., pp. 4, 16; Hearing Tr. Vol. III at 622:9-13, 622:14-623:22 (Mikkelsen Cross).

⁷⁷ Fanelli Direct, p. 9; Mikkelsen Supp., p. 10; Hearing Tr. Vol. I at 200:24-201:11, 205:6-14 (Mikkelsen Cross). *See* Case No. 10-388-EL-SSO, Opinion and Order at 26, 32 (Aug. 25, 2010) (recognizing benefit of low income funding, including funding for Community Connections program).

Lastly, as has been recognized in the Companies' prior ESP proceedings, an ESP provides flexibility compared to an MRO and thereby offers significant advantages for the Companies, customers and the general public.⁷⁸

2. The Economic Stability Program provides key qualitative benefits to the Companies' customers and the state of Ohio.

As the name implies, an ESP is supposed to provide security for customers. Indeed, the ESP statute expressly provides for stability mechanisms and economic development programs to be part of an ESP. The Economic Stability Program provides just such benefits.

The Economic Stability Program provides customers a retail rate stabilization mechanism as insurance against market risks.⁷⁹ It will help assure customers have reliable electric service at reasonable and more stable prices by supporting resource diversity in a market that will be increasingly dominated by natural gas-fired generation.⁸⁰ It also will avoid up to \$1.1 billion in potential transmission investments. And these benefits will in turn spur regional economic development.⁸¹ These are the underlying reasons the Company is seeking approval of Rider RRS as part of Stipulated ESP IV.⁸²

⁷⁸ Fanelli Direct, p. 10 (citing Case No. 12-1230-EL-SSO, Opinion and Order at 56 (July 18, 2012)).

⁷⁹ Strah Direct, pp. 3-4; Moul Direct, p. 2; Hearing Tr. Vol. I at 75:10-17 (Mikkelsen Cross) (insurance); Hearing Tr. Vol. IV at 725:12-19 (Moul Cross) (insurance); Hearing Tr. Vol. XXII at 4383:3-4384:3 (OEG witness Baron in exchange with Hearing Examiner Price confirming that customers will benefit from Rider RRS insurance even if retail prices remain low) Hearing Tr. Vol. XXX at 6248:25-6249:4 (Staff witness Chouieki stating that if Commission approves Rider RRS, it will be finding that Rider RRS is in the public interest as an insurance product).

⁸⁰ Moul Direct, pp. 6-10; Supplemental Testimony of Dr. Lawrence Makovich ("Makovich Supp."), pp. 3-4; Hearing Tr. Vol. III at 515:5-7, 515:11-19 (Mikkelsen Cross).

⁸¹ Fanelli Direct, pp. 8-9; Hearing Tr. Vol. III at 513:3-14 (Mikkelsen Cross). The "proposed economic stability program...provides certainty regarding the continued operation of the [P]lants contained in the...program, and because of that certainty, there's subsequent certainty for the State of Ohio and customers that [the] benefits associated with...stable pricing, economic development, and avoided transmission investment will continue to exist in the future under the 15-year term." Hearing Tr. Vol. XX at 3982:6-14 (Fanelli Cross).

⁸² Hearing Tr. Vol. III at 513:3-14 (Mikkelsen Cross).

a. Long-term rate stability

Rider RRS will provide customers with a long-term retail rate stability mechanism.⁸³

Rider RRS will function as a countercyclical hedge against increasing and volatile retail market prices. If prices increase as forecast, Rider RRS will soften the impact of those increases; customers will receive Rider RRS credits that far exceed the cost of this insurance. If prices do not increase as forecast, customers will insure themselves against market risk at a time when retail prices stay low. Rider RRS is analogous to car insurance – even if the car owner does not have an accident, the owner still has the twin benefits of risk protection and functioning transportation. Equivalently, Rider RRS provides risk protection to retail electric customers and, if prices defy widely-held expectations and long-term trends and do not increase significantly, customers continue to receive the benefit of historically low prices.⁸⁴

Notably, this hedge may not be available to customers once prices increase. It is the short-term market uncertainty that has made FES willing to take steps that result in transferring the significant potential long-term upside to customers and, thus, that enables the Companies to offer these stability and economic development benefits to their customers as a component of Stipulated ESP IV.⁸⁵

⁸³ Rider RRS credits or charges will be allocated to each of the Companies and each rate schedule based on demand. Rider RRS will be billed based on demand for GS, GP, GSU, and GT customers. Stipulation, p. 10. The Rider RRS rate for residential and lighting schedules will be a kWh charge. *Id.* The calculation of the revenue requirement under Rider RRS will include a reconciliation from the prior period. Direct Testimony of Joanne M. Savage (“Savage Direct”), pp. 3-4; Hearing Tr. Vol. XVIII at 3602: 17-19 (Savage Cross).

⁸⁴ Hearing Tr. Vol. XXII at 4383:3-4384:3 (OEG witness Baron confirming that customers will benefit from Rider RRS insurance even if retail prices remain low – “You are betting against a bad outcome, if you don’t have that bad outcome, the premium that you paid for that bet will be worth it.”).

⁸⁵ See Hearing Tr. Vol. XI at 2442:15-2443:7, 2446:16-24 (Company witness Moul explaining that FES’s benefit from proposed transaction was gaining protection from short-term market uncertainty in exchange for transferring significant potential upside in value to the Companies’ customers); Hearing Tr. Vol. XI at 2467:22:25

Moreover, Rider RRS includes an enhanced risk-sharing mechanism that provides up to an additional \$100 million in credits to customers for years five through eight of the Economic Stability Program.⁸⁶ This guarantees that the Companies will fund a credit if credits are not produced through the netting of contract prices paid and revenues received by the Companies at certain levels in years five, six, seven, and eight. The Companies will be financially responsible for the credits, ensuring there will be at least \$100 million in credits to the customers in Rider RRS.⁸⁷ This risk-sharing mechanism further enhances the long-term stability of retail electric rates.

Rider RRS will be recovered from all customers on a nonbypassable basis.⁸⁸ It is appropriate that all customers pay the charge of or receive the credit from this rider because both shopping and non-shopping customers will receive the hedge and other benefits of the Economic Stability Program.⁸⁹ Moreover, Rider RRS must be nonbypassable for it to function properly as a competitively neutral hedge that is available to all retail customers, shopping and non-shopping alike.⁹⁰ Customers should not be forced to choose between this benefit and the benefit of shopping with a CRES provider.⁹¹

(Company witness Moul stating that FES “gains certainty in the near term and trades that for the potential value of the customers in the long term.”).

⁸⁶ Third Supp. Stip., Section V.B.2.; Mikkelsen Fifth Supp., pp. 3-4, 11.

⁸⁷ Hearing Tr. Vol. XXXVIII at 7770: 23-7771:6, 7524:21-7525:4 (Mikkelsen Cross).

⁸⁸ Strah Direct, p. 6.

⁸⁹ Strah Direct, p. 6. As Company witness Mikkelsen testified, and as discussed further below, Rider RRS will enable several benefits, including “the avoidance of significant transmission investment, [and] the continued operation of baseload generating units that are fuel diverse with on-site fuel storage capabilities.” Hearing Tr. Vol. I at 96:4-20 (Mikkelsen Cross).

⁹⁰ Strah Direct, p. 6; Hearing Tr. Vol. IV at 822:24-823:9; 865:9-16 (Strah Cross).

⁹¹ Strah Direct, p. 6; Hearing Tr. Vol. IV at 822:24-823:9; 865:9-16 (Strah Cross).

Notably, Rider RRS offers long-term stability that cannot be achieved through staggering and laddering of the Companies' SSO supply contracts. For example, while the January 2014 Polar Vortex did not immediately impact SSO retail prices, its effects were included in SSO rates that went into effect June 1, 2014 and June 1, 2015.⁹² Indeed, between the October 22, 2013 and January 28, 2014 auctions, the bid price for equivalent 12-month products increased by 10 percent and the bid price for equivalent 24-month products jumped by 14 percent.⁹³

Nor can the long-term stability of Rider RRS be matched by shopping with a CRES provider for a fixed price contract. No CRES provider is offering the Companies' customers a fixed price contract of longer than 36 months.⁹⁴ Further, shopping customers with expiring CRES contracts will see changes in retail pricing between CRES contracts. For instance, the average CRES offer for a twelve-month fixed price, full requirements product in the Companies' service territory increased by 32 percent in the first four full months after the Polar Vortex.⁹⁵

b. Resource diversity and reliability

The Economic Stability Program will secure the reliability of the Companies' electric service by supporting resource diversity. The coal-fired and nuclear generating assets that will support the Economic Stability Program provide an important source of generation resource

⁹² Rebuttal Testimony of Eileen M. Mikkelsen ("Mikkelsen Rebuttal"), p. 4.

⁹³ See Co. Ex. 109C and 109D (Letter Notifications of CBP Auction Results from CRA International); Hearing Tr. Vol. IV at 706:14-22 (Strah Cross). The 12-month product increased from a clearing price of \$50.91/MWh to \$55.83/MWh, while the 24-month product increased from a clearing price of \$59.99/MWh to \$68.31/MWh. These products were for the same time periods and, thus, the price of capacity would have had no impact.

⁹⁴ Strah Direct, p. 13.

⁹⁵ Mikkelsen Rebuttal, p. 4; Hearing Tr. Vol. XXXIII at 6911:4-5 (Mikkelsen Cross).

diversity, but they are economically stressed without the Economic Stability Program.⁹⁶ The Plants, which are baseload nuclear and coal plants capable of running continuously for prolonged periods, were built to serve the Companies' customers.⁹⁷ Sammis, located in Jefferson County, Ohio, is a 2,220 MW⁹⁸ coal plant with state-of-the-art pollution controls, generating an average of 34,100 MWh of electricity per day in any season, or enough electricity to serve approximately 1.8 million households.⁹⁹ To put this in perspective, all of Ohio's solar resources as of April 2014 would take more than 146 days to equal a single day of production by the Sammis facility.¹⁰⁰ Davis-Besse, located in Oak Harbor, Ottawa County, Ohio, is a 908 MW nuclear facility with zero emissions that can generate enough electricity to serve approximately 715,000 households.¹⁰¹ The Plants have significant onsite fuel storage that enables them to continue

⁹⁶ Hearing Tr. Vol. III at 515:11-19 (Mikkelsen Cross); Moul Direct, p. 4.

⁹⁷ Hearing Tr. Vol. III at 635:23-636:6 (Mikkelsen Cross).

⁹⁸ This does not include five emergency diesel units at Sammis which produce a total of 13 MWs. Harden Direct, p. 5.

⁹⁹ Co. Ex. 156, Section 4; Moul Direct, p. 9; Harden Direct, p. 5.

¹⁰⁰ Moul Direct, p. 9.

¹⁰¹ Harden Direct, p. 2. *See* Moul Direct, p. 12; Direct Testimony of Lael Campbell ("Campbell Direct"), p. 7 ("Preserving nuclear facilities like Davis-Besse should be a priority for the state of Ohio and the country. Nuclear generation is the largest and most reliable form of clean generation, providing almost 65 percent of the nation's carbon-free electricity, . . ."); Hearing Tr. Vol. XI at 2448:18-21 (Moul Cross).

In August 2010, FirstEnergy Nuclear Operating Company filed with the United States Nuclear Regulatory Commission ("NRC") a License Renewal Application for Davis-Besse's operating license. Davis-Besse's License Renewal Application requested renewal of Davis-Besse's operating license for a period of 20 years beyond the April 22, 2017 expiration of the current license term. Harden Direct, p. 4. On December 8, 2015, the NRC issued the renewed facility operating license for Davis-Besse. 80 Fed. Reg. 77380 (Dec. 14, 2015). The replacement of Davis-Besse's reactor pressure vessel head in 2011 and the replacement of steam generators in 2014 have enhanced the safe, efficient and reliable operation of Davis-Besse and will enable it to operate through the 20-year renewal of its operating license. Harden Direct, pp. 4-5; Hearing Tr. Vol. XI at 2385:16-2386:10 (Moul Cross).

running through all conditions, including extreme weather events which have interrupted the operation of natural gas plants.¹⁰²

Sufficient generation resource diversity safeguards reliable electric service during periods of peak demand, such as the 2014 Polar Vortex.¹⁰³ During the 2014 Polar Vortex, natural gas interruptions and outages accounted for approximately half of all outages in PJM, even though gas-fired generation comprised less than a third of the capacity in the PJM footprint.¹⁰⁴ Over 7,000 megawatts of gas-fired generation continued to suffer from interruptions during the extreme winter weather events of 2015, known as the Siberian Express.¹⁰⁵ The risk of increasing reliance on natural-gas fired generation in PJM will only worsen as more gas-fired generation is added and as more coal-fired and nuclear generation is retired.¹⁰⁶ The “dash to gas,” combined with the premature retirement of baseload generation with onsite fuel storage capabilities have – and will – pose serious reliability challenges for Ohio unless generation resource diversity is preserved in this state.¹⁰⁷ These challenges and uncertainties are further exacerbated because Ohio is already a substantial net importer of power.¹⁰⁸ A secure electric system requires a

¹⁰² Hearing Tr. Vol. I at 96:7-20 (Mikkelsen Cross).

¹⁰³ Moul Direct, pp. 7-9; Hearing Tr. Vol. III at 512: 5-16 (Mikkelsen Cross).

¹⁰⁴ Sierra Club Ex. 8, p. 25 (Analysis of Operational Events and Market Impacts During the January 2014 Cold Weather Events, PJM Interconnection (May 8, 2014)).

¹⁰⁵ IGS Ex. 1, p. 6 (2015 Winter Report, PJM Interconnection (May 13, 2015)).

¹⁰⁶ See Moul Direct, pp. 7-8 (quoting Comments Submitted on Behalf of the Public Utilities Commission of Ohio at 7-8, Technical Conference on Winter 2013-2014 Operations and Market Performance in Regional Transmission Organizations and Independent System Operators, FERC Docket No. AD14-8-000 (May 15, 2014)); Moul Supp., pp. 7-8.

¹⁰⁷ See Moul Direct, p. 9 (quoting Comments Submitted on Behalf of the Public Utilities Commission of Ohio at 8, Technical Conference on Winter 2013-2014 Operations and Market Performance in Regional Transmission Organizations and Independent System Operators, FERC Docket No. AD14-8-000 (May 15, 2014)); Moul Supp., pp. 7-8; Rebuttal Testimony of Donald Moul (“Moul Rebuttal”), p. 7.

¹⁰⁸ Co. Ex. 49, Errata Sheet of Raymond L. Evans (“Evans Errata”), pp. 6-7.

balanced mix of diverse generation fuels (*e.g.*, coal, nuclear, gas, wind and solar), as well as diverse assets of different classes (*e.g.*, baseload, intermediate and peaking).¹⁰⁹

Given the growing role of natural gas-fired generation in PJM, the Plants also provide fuel type and generation class diversity, which can lower the risk of higher and more volatile electric prices.¹¹⁰ Because the Economic Stability Program ensures the continued operation of essential baseload coal and nuclear assets with significant on-site fuel storage capabilities located close to the Companies' load,¹¹¹ it will help maintain fuel diversity in a market that will increasingly be dominated by natural gas-fired generation. When natural gas prices inevitably increase from their current historic lows and drive retail energy prices higher, non-natural gas-fired resources, such as the Plants, can blunt the impact of those energy price increases.¹¹²

c. Avoided transmission costs

Keeping the Plants in operation also will help avoid up to \$1.1 billion in transmission system upgrades that would otherwise be necessary if the Plants are shuttered. Avoiding these costs would prevent the equivalent of an increase in electric prices between \$1.7 billion and \$4.1 billion associated with such investment.¹¹³ Premature retirement of the Plants will result in increased imports of electricity traveling further distances to reach Ohio,¹¹⁴ and cause numerous

¹⁰⁹ Moul Direct, p. 6; Makovich Supp., p. 5

¹¹⁰ Moul Direct, pp. 6-10; Makovich Supp., pp. 3-4; Hearing Tr. Vol. III at 515:5-7, 515:11-19 (Mikkelsen Cross).

¹¹¹ Hearing Tr. Vol. I at 96:7-20 (Mikkelsen Cross); see also Hearing Tr. Vol. I at 112:10-21, 154:4-6 (Mikkelsen Cross); Hearing Tr. Vol. IV at 874:4-10 (Strah Cross).

¹¹² Makovich Supp., pp. 12-13.

¹¹³ Phillips Supp., p. 8; Hearing Tr. Vol. XV at 3240:16-24, 3263:10-13 (Phillips Cross). See Mikkelsen Second Supp., pp. 7-8 and Attachment EMM-2.

¹¹⁴ Evans Errata, pp. 6-7.

PJM reliability criteria violations.¹¹⁵ To address these violations, upgrades to the transmission system will be required,¹¹⁶ resulting in significant additional costs for the Companies' customers.¹¹⁷ The recent premature retirement of other baseload generation in the Companies' service territories has already increased customers' prices because costly transmission upgrades were required to address reliability concerns caused by those retirements.¹¹⁸ If additional baseload generation in Ohio is retired in the near future, customers will have to pay for additional costly transmission upgrades to relieve overloads and maintain adequate voltage levels across the transmission system. These new transmission costs could exceed \$1 billion.¹¹⁹ These upgrades would only maintain reliability, not improve it. Even with such upgrades, outages would still be more likely to occur because "the simple fact is that increasing distance between generation and a load center increases the potential for outages on the transmission system."¹²⁰

¹¹⁵ Co. Ex. 37, Direct Testimony of Gavin L. Cunningham, adopted by Rodney L. Phillips ("Phillips Direct"), pp. 4-5 and Attachment GLC-1; Hearing Tr. Vol. XVI at 3349:10-19 (Phillips Cross).

¹¹⁶ Phillips Supp., pp. 5-6.

¹¹⁷ Phillips Supp., pp. 9-10; Hearing Tr. Vol. XVI at 3285:16-25 (Phillips Cross); Mikkelsen Second Supp., p. 9.

¹¹⁸ Phillips Direct, p. 3; Phillips Supp., p. 10; Hearing Tr. Vol. XV at 3241:10-3243:7 (Phillips Cross).

¹¹⁹ Phillips Supp., pp. 9-10; Hearing Tr. Vol. XVI at 3285:16-25 (Phillips Cross).

¹²⁰ Phillips Supp., p. 6. As Company witness Philips testified at hearing:

What I am referring to [on page 6 of my Supplemental Testimony] ... is that currently in Ohio that means we have not enough generators to supply the load, which means then you are relying on generators out of the territory to provide that. So one of the benefits that the generators provide is when they are closer to load, they have the reactive support. They provide -- they can react quicker to when you have system disturbance, that type of thing. So we are already short of generators in Ohio, and as we have more generators retire, you are losing that ability of those generators to provide those same reliability features that we talked about that are providing reactive support being close to loads, and when we do have disturbance, they can provide support that's needed.

Hearing Tr. Vol. XVI at 3293:19-3294:18 (Phillips Cross); *see also* Hearing Tr. Vol. XVI at 3306:10-16 (Phillips Cross).

Keeping the requisite baseload generation in operation in Ohio will avoid the need for such costly transmission upgrades and the attendant risks to reliability.

d. Economic development

The Economic Stability Program will support economic development. In light of the historically low level of revenues received by FES for the last several years from the Plants' operation and projected for the next few years (as a result of forecasted low energy prices), FES may not be financially able to bear the short-term losses associated with the Plants. This is so despite the fact that market prices are expected to rise over the long term.¹²¹ In the absence of the Economic Stability Program, the future of these financially challenged plants is uncertain.¹²² The consequences of closure could be significant as the Plants support approximately 2,700 jobs¹²³ and have a combined total economic impact of approximately \$1.1 billion per year.¹²⁴

As discussed above, the Commission's approval of Rider RRS will ensure that the Plants continue to support retail rate stability by (1) acting as a hedge against future increases in natural gas prices and the increases in retail rates that would result; and (2) providing reliability and fuel diversity benefits, thereby stabilizing retail rates. Approval of Rider RRS also will prevent the equivalent of an increase in electric prices between \$1.7 billion and \$4.1 billion associated with transmission upgrades.¹²⁵ This retail rate stability and reliability resulting from Rider RRS is an

¹²¹ Moul Direct, p. 2; Hearing Tr. Vol. X at 2184:13-22, 2185:9-13 (Moul Cross); Hearing Tr. Vol. XI at 2395:8-15 (Moul Cross); Hearing Tr. Vol. XXXII at 6541:6-12, 6542:3-20 (Moul Rebuttal Cross); Hearing Tr. Vol. XXXIII at 6818:21-24 (Lisowski Rebuttal Cross).

¹²² See Moul Direct, pp. 2, 4.

¹²³ Murley Direct, pp. 5, 8; Supplemental Direct Testimony of Sarah Murley ("Murley Supp."), pp. 3-4, 8.

¹²⁴ Murley Supp., p. 11.

¹²⁵ Phillips Supp., p. 8; Mikkelsen Second Supp., pp. 7-8 and Attachment EMM-2.

important consideration for Companies looking to locate, maintain or expand operations in the Companies' service territories.¹²⁶ Thus, the stability and reliability provided by the Economic Stability Program will support economic development.

e. Environmental compliance

Continued operation of the Plants provides environmental benefits to the region. Davis-Besse is a zero-carbon resource that is well positioned to play a significant role in Ohio's efforts to meet future U.S. EPA carbon reduction standards.¹²⁷ Likewise, because of the significant investment in Sammis' state-of-the-art control technologies, it is fully compliant with all existing environmental regulations and will comply with pending environmental regulations.¹²⁸ Because Sammis is well-controlled, it is a valuable asset for Ohio's compliance with future carbon reduction standards.¹²⁹

3. Stipulated ESP IV provides additional qualitative benefits to the Companies' customers and the state of Ohio.

In addition to all the qualitative benefits provided through the Economic Stability Program and the programs continued from previous ESPs, Stipulated ESP IV provides a number of other qualitative benefits including: (1) grid modernization; (2) resource diversification; (3) rate design; (4) customer optionality; and (5) market enhancements. The benefits are more fully described below.

¹²⁶ Strah Direct, p. 11; Hearing Tr. Vol. II at 429:20-25 (Mikkelsen Cross).

¹²⁷ Moul Direct, p. 8; Hearing Tr. Vol. IV at 877:3-6 (Strah Cross).

¹²⁸ Harden Direct, pp. 9-12; Evans Supp., pp. 2-3; Hearing Tr. Vol. XI at 2280:16-23 (Moul Cross).

¹²⁹ Evans Supp., pp. 10-11.

a. Grid modernization

Under Stipulated ESP IV, the Companies will propose a series of potentially significant grid modernization initiatives. Proposed initiatives include, for example, Advanced Metering Infrastructure (“AMI”), Distribution Automation Circuit Reconfiguration, VOLT/VAR control and optimization, engaging Staff to attempt to remove any barriers for distributed generation, consulting with Staff regarding net-metering tariffs, and a business plan to evaluate full smart meter implementation.¹³⁰ These ground-breaking initiatives should generate customer savings, promote customer choice, and further enhance retail competition in the state of Ohio.¹³¹

b. Resource diversification

Stipulated ESP IV contains a significant commitment by the Companies to seek to expand resource diversification in the state of Ohio.¹³² To that end, FirstEnergy Corp. will strive to reduce CO₂ emissions by 90 percent from 2005 levels by 2045.¹³³ This goal – easily one of the most aggressive in the industry – potentially would reduce carbon emissions by over 80 million tons.¹³⁴ Moreover, the Companies also intend to pursue the following resource diversification measures: (1) evaluate investment in battery technology;¹³⁵ (2) reactivate, and seek to expand significantly in 2017, all previously suspended EE/PDR programs; (3) strive to achieve over 800,000 MWh of energy savings annually, subject to customer opt-outs;¹³⁶ (4) work

¹³⁰ Third Supp. Stip., Section V.D.1-2.

¹³¹ Third Supp. Stip. at 3.

¹³² Third Supp. Stip., Section V.E.

¹³³ Third Supp. Stip., Section V.E.1.

¹³⁴ Third Supp. Stip., Section V.E.1.

¹³⁵ Third Supp. Stip., Section V.E.2.

¹³⁶ Third Supp. Stip., Section V.E.3.a, .b.

with EnerNOC to implement a 3-year customer engagement pilot program to empower small/medium and industrial customers to make smart energy choices;¹³⁷ and (5) subsequent to confirmation from Staff, seek to procure up to 100 MW of wind or solar energy from Ohio-sited renewable energy facilities.¹³⁸ These significant commitments to the goal of resource diversification provide numerous potential qualitative benefits by dramatically lowering CO₂ emissions, increasing energy savings, and fostering the development of renewable resources in Ohio.

c. Rate design

Stipulated ESP IV provides for the Companies to file a case before the Commission to transition to a proposed straight fixed variable (“SFV”) cost recovery mechanism for residential customers’ base distribution rates.¹³⁹ This qualitatively benefits customers by giving the Commission and interested parties a proposed decoupling mechanism to evaluate, an opportunity they would not have absent Stipulated ESP IV.

Importantly, the proposed rate design under Stipulated ESP IV supports gradualism in rates and benefits economic development and job retention. For example, the slower phase down of the Rider EDR(d) provisions will allow customers taking service under this provision to experience a more gradual transition to market-based pricing.¹⁴⁰ The change to the rate design of the Delta Revenue Recovery rider (“Rider DRR”) promotes economic development and job retention by allocating Rider DRR based on a percentage of base distribution revenue collected

¹³⁷ Third Supp. Stip., Section.V.E.3.c.

¹³⁸ Third Supp. Stip., Section V.E.4.

¹³⁹ Third Supp. Stip., Section V.F.1.

¹⁴⁰ Mikkelsen Supp., p. 12; Hearing Tr. Vol. I at 177:1-17 (Mikkelsen Cross).

from that rate schedule.¹⁴¹ Allocating costs under Rider DRR to rate schedules based on the percentage of base distribution revenue collections should result in less costs being allocated to the Companies' large industrial customers, thereby encouraging economic development. The Companies' proposal to file a case to transition to a residential SFV mechanism would also be cognizant of the principle of gradualism.¹⁴²

The Companies' bill impact study reflecting the impact of the first Stipulation is included in the record as OCC Exhibit 16.¹⁴³ The Companies conducted an additional analysis to incorporate a reduction in the return on equity ("ROE") in the Term Sheet and to include the incremental 61,250 kW of ELR load included in the Second Stipulation, and that analysis "showed across all companies and all rate schedules that the typical bill rate impacts were less than the typical bill rate impacts that were included in the typical bills that were introduced into the record as OCC Exhibit 16."¹⁴⁴ According to Ms. Mikkelsen, "[t]he vast majority of the rate impacts that were reflected in the typical bill analysis are moderate in nature. The residential class, which is by far our largest population of customers, showed on average across the company typical bill-expected impacts of 3 percent or less as a result of the stipulation."¹⁴⁵ A small number of low-load-factor, low-hours-used customers (i.e., commercial and industrial

¹⁴¹ Mikkelsen Supp., p. 4, Third Supp. Stip., Section G.4.a.iv.

¹⁴² Third Supp. Stip., Section V.F.3.

¹⁴³ See Hearing Tr. Vol. XX at 3945:17-3946:23 (Fanelli Cross).

¹⁴⁴ Hearing Tr. Vol. XXXVI at 7660:22-7661:1 (Mikkelsen Rebuttal Cross).

¹⁴⁵ Hearing Tr. Vol. XXXVI at 7661:2-8.

customers), the study showed, could experience more significant impacts than expected.¹⁴⁶ Ms.

Mikkelsen recommended a process for mitigating those impacts:

I think those impacts could be mitigated by a determination on behalf of the Commission that for the calendar year 2016, the summer billing periods would be considered to be July, August, and September, that the Commission could suggest that the companies phase out EDR(c) such that maybe two-thirds of the credit is implemented in year one of the ESP, one-third in year two, going to zero in year three, and then I think the companies could work with the staff in order to come up with a mutually agreeable phase-in plan for this very select group of low-hours-use, low-load-factor customers who are seeing the more significant increases as a result of the typical bill analysis.¹⁴⁷

d. Customer optionality

Stipulated ESP IV includes at least three provisions that promote customer optionality. First, the extension of time-differentiated time-of-day pricing options under Rider GEN, the Experimental Critical Peak Pricing Rider and the Experimental Real Time Pricing Rider¹⁴⁸ will enhance customers' opportunities to lower their electric bills¹⁴⁹ and understand the benefits of time-differentiated pricing.¹⁵⁰

Second, the establishment of a Rider NMB Pilot Program provides an alternative means for customers to obtain and pay for services otherwise provided under the Non-Market-Based

¹⁴⁶ Hearing Tr. Vol. XXXVI at 7661:17-7662:21.

¹⁴⁷ Hearing Tr. Vol. XXXVI at 7661:24-7662:13.

¹⁴⁸ Mikkelsen Supp., pp. 4, 12.

¹⁴⁹ Mikkelsen Supp., p. 12.

¹⁵⁰ Mikkelsen Supp., p. 12.

Services Rider (“Rider NMB”).¹⁵¹ This pilot will explore whether certain customers could benefit from obtaining these services directly from PJM or indirectly from a CRES provider.

Third, the Stipulated ESP IV includes a Commercial High Load Factor Experimental Time-of-Use rate that will provide qualifying high load factor customers an opportunity to reduce their peak usage, reduce their overall energy bills and learn about time-of-use rates.¹⁵² In addition, Stipulated ESP IV includes updates to the Companies’ tariffs to provide clarity to customers, remove inconsistencies, and make the Companies’ tariffs more user-friendly.¹⁵³

e. Market enhancements

Stipulated ESP IV benefits the competitive retail market by eliminating perceived barriers to competition and enhancing the information available to CRES providers in the Companies’ service territories through the establishment of a supplier web portal.¹⁵⁴ Stipulated ESP IV will have no: (1) minimum stay provisions for customers electing to return to the Companies’ Standard Service Offer; (2) minimum default service charges; (3) standby charges; and (4) shopping credit caps.¹⁵⁵ Further, the Companies will delete existing language referring to minimum stays, minimum notice requirements for customers returning to the Companies’ SSO service, and references for time requirements for selecting a new CRES provider.¹⁵⁶

¹⁵¹ Mikkelsen Third Supp., p. 2.

¹⁵² Fourth Supplemental Testimony of Eileen M. Mikkelsen (“Mikkelsen Fourth Supp.”), p. 2.

¹⁵³ Application, p. 16; Mikkelsen Direct, p. 23; Third Supp. Stip., Sections V.H.1 and V.H.2.

¹⁵⁴ Fanelli Direct, p. 9; Hearing Tr. Vol. XX at 3940:11-20 (Fanelli Cross).

¹⁵⁵ Hearing Tr. Vol. V at 1059:3-1060:5 (Smialek Cross); Application, Attachment 3.

¹⁵⁶ Direct Testimony of Marybeth Smialek (“Smialek Direct”), p. 10.

Additionally, the Companies' modifications to Rider ELR support the competitive retail market by now allowing these customers to shop.¹⁵⁷

In sum, Stipulated ESP IV affords quantitatively and qualitatively superior results compared to those that would be achieved under a hypothetical MRO.

IV. STIPULATED ESP IV SATISFIES ALL THREE PARTS OF THE COMMISSION'S TEST FOR APPROVAL OF A STIPULATION.

Stipulated ESP IV is the result of serious bargaining among capable, knowledgeable parties; as a package, benefits customers and the public interest; and does not violate any regulatory principle or practice.¹⁵⁸ As the Signatory Parties have declared:

The Stipulated ESP IV is supported by adequate data and information; represents a just and reasonable resolution of issues in this proceeding; violates no regulatory principle or precedent; is the product of lengthy, serious bargaining among knowledgeable and capable Signatory Parties in a cooperative process; and undertaken by the Signatory Parties representing a wide range of interests to resolve the aforementioned issues. The Stipulated ESP IV represents the culmination of this exhaustive process and is an accommodation of the diverse interests represented by the Signatory Parties. It is entitled to careful consideration by the Commission.¹⁵⁹

That careful consideration should demonstrate that Stipulated ESP IV more than satisfies the Commission's test for approval of a stipulation.

¹⁵⁷ Mikkelsen Supp., p. 11; Hearing Tr. Vol. II at 237:22-238:1 (Mikkelsen Cross).

¹⁵⁸ See, e.g., *Consumers' Counsel v. Pub. Util. Comm.*, 64 Ohio St.3d 123, 126 (1992); *AK Steel Corp. v. Pub. Util. Comm.*, 95 Ohio St.3d 81, 82-83, 765 (2002); Case No. 12-1230-EL-SSO, Opinion and Order, p. 24 (July 18, 2012) (citing *Indus. Energy Consumers of Ohio Power Co. v. Pub. Util. Comm.*, 68 Ohio St. 3d 559 (1994)).

¹⁵⁹ Third Supp. Stip., p. 4.

A. Stipulated ESP IV Is The Product Of Serious Bargaining Among Capable And Knowledgeable Parties.

Stipulated ESP IV is the result of serious bargaining among capable and knowledgeable parties.¹⁶⁰ The Companies began discussions with interested parties even before the Companies filed their Application in August 2014.¹⁶¹ All intervenors were provided an opportunity to participate in discussions with the Companies and in the settlement process.¹⁶²

Company witness Mikkelsen testified, “The Companies circulated the draft stipulation to the parties that were actively engaged at that time in discussions.”¹⁶³ As Ms. Mikkelsen noted, extensive discussions were conducted with capable and knowledgeable parties:

The companies have had numerous meetings with the signatory parties both to explain the original application as well as to negotiate the terms of the stipulation[,] and it is throughout that process that I become aware of how familiar the signatory parties are not only with the application but with the terms and conditions of the stipulation.¹⁶⁴

¹⁶⁰ Mikkelsen Supp., p. 7.

¹⁶¹ Mikkelsen Supp., p. 5.

¹⁶² Mikkelsen Supp., p. 5; Hearing Tr. Vol. II at 303:19-304:8 (Mikkelsen Cross); Third Supp. Stip. at 5 n.1 (“The Companies made reasonable efforts to meet with all interested parties to this proceeding to engage in meaningful settlement discussions.”).

¹⁶³ Hearing Tr. Vol. I at 115:7-15 (Mikkelsen Cross). See also Hearing Tr. Vol. XXXIX at 8258-8261, 8270-8272 (Rubin Cross) (Counsel at the Office of Consumers’ Counsel sent a draft of the Third Supplemental Stipulation to OCC witness Rubin).

¹⁶⁴ Hearing Tr. Vol. I at 215:12-18 (Mikkelsen Cross). See also Hearing Tr. Vol. I at 216:1-7 (Mikkelsen Cross) (“Again, we met with all of the signatory parties and had numerous discussions which included explaining the original application, responding to the questions about elements of the original application, followed by negotiations with respect to terms and conditions that were included ultimately in the stipulations agreed to by the signatory parties.”).

Following those discussions, the Companies engaged in negotiations that resulted in the initial Stipulation and Recommendation, which subsequently was modified three times, culminating in Stipulated ESP IV.¹⁶⁵

The diverse Signatory Parties to Stipulated ESP IV are: the Companies; Staff; the International Brotherhood of Electrical Workers – Local 245; City of Akron; Council of Smaller Enterprises; Cleveland Housing Network; Consumer Protection Association; Council for Economic Opportunities in Greater Cleveland; Citizens Coalition; The Association of Independent Colleges and Universities of Ohio; Ohio Power Company; Ohio Energy Group; Nucor Steel Marion Inc.; Material Sciences Corporation; The Kroger Co.; EnerNOC; Ohio Partners for Affordable Energy and Interstate Gas Supply, Inc.¹⁶⁶ Industrial Energy Users-Ohio indicated that it does not oppose Stipulated ESP IV.¹⁶⁷ These parties represent a diverse group of interests including large industrial customers, a public utility, small and medium-sized businesses, mercantile customers, a CRES provider, an energy management solutions provider, colleges and universities, low-income residential customers, organized labor, a large municipality, and Staff representing all customers and the public interest.¹⁶⁸

¹⁶⁵ Hearing Tr. Vol. I at 216:15-23 (Mikkelsen Cross) (“We have met -- again, if included with the definition of stipulation is the application, we did meet with the parties and describe all the elements of the original application. We negotiated with the parties for modifications to the application, and then all signatory parties were made aware of what those modifications were, and when there was an agreement to the set of modifications, we executed the stipulation.”); *see also* Mikkelsen Supp., p. 5; Mikkelsen Third Supp., p. 3; Mikkelsen Fourth Supp., p. 3.

¹⁶⁶ Stipulation, p. 1; Second Supp. Stipulation, p. 1; Third Supp. Stip., pp. 22-24 (including the Supplemental Signature Page of Interstate Gas Supply, Inc.). *See* Mikkelsen Fifth Supp., p. 2.

¹⁶⁷ May 28, 2015 letter from Samuel Randazzo (filed May 28, 2015).

¹⁶⁸ Mikkelsen Supp., pp. 7, 9; Mikkelsen Fifth Supp., pp. 2-3, 8.

The Signatory Parties are capable and knowledgeable parties that have a long history of participating in Commission proceedings, including prior MRO and ESP cases.¹⁶⁹ Each Signatory Party is more than capable as each was, and continues to be, represented by experienced and competent counsel.¹⁷⁰

The Signatory Parties are also very knowledgeable about all aspects of Stipulated ESP IV. To that end, the Signatory Parties have had the opportunity to participate in and review the extensive written discovery and depositions that have occurred in this proceeding. Indeed, over the past sixteen months, the Companies have responded to over 4,100 discovery requests, and produced witnesses for over 25 days of depositions.¹⁷¹ Further, the Companies, Staff, and the intervening parties then participated in 35 days of evidentiary hearings from August through October, 2015, which generated over 7,400 pages of hearing transcript.¹⁷² Moreover, many of the provisions in Stipulated ESP IV were litigated in the Companies' prior ESP and MRO cases.¹⁷³

Further, the Signatory Parties and the Companies engaged in serious bargaining through a series of negotiations to arrive at the provisions set forth in Stipulated ESP IV.¹⁷⁴ As a result, the Signatory Parties are very familiar and knowledgeable about the various components of Stipulated ESP IV.¹⁷⁵ In turn, the various provisions and components of Stipulated ESP IV

¹⁶⁹ Mikkelsen Supp., p. 7; Hearing Tr. Vol. I at 214:1-6 (Mikkelsen Cross).

¹⁷⁰ Mikkelsen Supp., p. 7; Mikkelsen Fifth Supp., p. 8.

¹⁷¹ Mikkelsen Fifth Supp., p. 8.

¹⁷² Mikkelsen Fifth Supp., p. 8.

¹⁷³ Mikkelsen Fifth Supp., p. 8.

¹⁷⁴ Hearing Tr. Vol. I at 215:1-8; 12-18; 216:1-7; 15-23 (Mikkelsen Cross).

¹⁷⁵ Mikkelsen Supp., pp. 5, 7.

reflect the Signatory Parties' and the Companies' bargained-for compromise on issues and concerns regarding the proposed ESP.¹⁷⁶ Stipulated ESP IV thus satisfies the first prong of the Commission's stipulation review and approval test, i.e., that the stipulation is the product of serious bargaining among capable and knowledgeable parties.

B. Stipulated ESP IV Benefits Customers And Is In The Public Interest.

Stipulated ESP IV provides a variety of significant benefits to customers and is in the public interest.¹⁷⁷ Each quantitative and qualitative benefit of Stipulated ESP IV discussed in Section III above is a customer benefit that is in the public interest. Thus, this prong of the Commission's test is satisfied simply by recognizing the many quantitative and qualitative benefits afforded customers and the state of Ohio by the package of provisions that make up Stipulated ESP IV. As Company witness Mikkelsen testified:

Customers will benefit from this Third Supplemental Stipulation because it is designed to provide adequate, safe, reliable and predictably priced electric service. The Third Supplemental Stipulation supports economic development and job retention; continues the regulatory principle of gradualism to stabilize rates and helps transition customers to fully market based prices; supports competitive markets; encourages energy efficiency and peak demand reduction; protects at-risk populations through low income programs; provides benefits to large industrial customers that will allow them to better compete in the global marketplace; and supports federal advocacy for improvements in the capacity market; CO₂ emission reductions; grid modernization; and resource diversification.¹⁷⁸

Reduced to its most common denominator, the value of Stipulated ESP IV is easy to grasp. The Stipulated ESP IV ensures customer access to market-based retail rates while insuring customers

¹⁷⁶ Mikkelsen Supp., p. 5.

¹⁷⁷ Mikkelsen Supp., p. 8; Mikkelsen 5th Supp. p. 10.

¹⁷⁸ Mikkelsen Fifth Supp., p. 10.

against future risks. It also offers economic development, resource diversity and reliability benefits, among others. And the Third Supplemental Stipulation enhances these substantial benefits to customers by “placing the State of Ohio, the Companies, and their customers on the right path for the next eight years through a comprehensive, balanced, and forward-looking plan for the future.”¹⁷⁹ Of course, these are the same benefits that make Stipulated ESP IV better than an MRO. Thus, what follows expands upon the discussion from Section III above.

1. The Economic Stability Program will benefit customers and is in the public interest.

a. Rider RRS provides valuable insurance to customers against the risk of increasing and more volatile energy prices.

Rider RRS is designed to serve as a hedge against the risk of increasing and more volatile retail energy prices over the long-term as forecast by Company witness Rose.¹⁸⁰ As Company witness Mikkelsen testified at hearing, “The Companies’ proposal is, again, for Commission approval of a retail rate stabilization mechanism that will help insulate the Companies’ customers from volatile and increasing market prices.”¹⁸¹ Rider RRS will be set annually based on the forecasted difference between market revenues from the sale of the Plants and the OVEC interest’s output and costs of the PPA, subject to true-up.¹⁸² The revenue requirement for Rider RRS will be derived based on the difference for the upcoming year between payments by the

¹⁷⁹ Third Supp. Stip., p. 2.

¹⁸⁰ Hearing Tr. Vol. I at 75:10-17 (Mikkelsen Cross); Hearing Tr. Vol. XVIII at 3650:18-19 (Savage Cross). *See also* Strah Direct, p. 4 (“Rider RRS, as proposed, will provide a mitigation mechanism for price increases and volatility that retail consumers are expected to experience”).

¹⁸¹ Hearing Tr. Vol. I at 96:7-10 (Mikkelsen Cross).

¹⁸² Savage Direct, p. 3; Mikkelsen Direct, p. 14-15.

Companies to FES under a negotiated contract,¹⁸³ and the projected market revenues from selling the output of the Plants and the OVEC interest into PJM markets.¹⁸⁴ The negotiated contract price will include, among other things, O&M expenses, fuel, income taxes, and a return of and on capital investment.¹⁸⁵ Because the Companies will sell the output into PJM markets, Rider RRS would not displace any load for the Companies' SSO customers or involve direct transactions with shopping customers regarding the output from the Plants.¹⁸⁶

(1) The hedge provided by Rider RRS benefits both SSO and shopping customers.

The Economic Stability Program will mitigate price volatility through a long-term stabilizing effect not available to customers in today's retail CRES market or through SSO service. To be sure, customers currently have the ability to shop with the CRES provider of their choice or to receive SSO service through the Companies' CBP process.¹⁸⁷ Yet, no CRES provider in the Companies' service area is offering on the Commission's Apples-to-Apples website any contract for longer than 36 months.¹⁸⁸ Indeed, as of September 11, 2015, according to the Apples-to-Apples website, there were only four 36-month CRES contracts in the

¹⁸³ These payments will be the negotiated contract price set forth in the Revised Term Sheet. Co. Ex. 156, Section 13.

¹⁸⁴ Savage Direct, p. 3.

¹⁸⁵ Co. Ex. 156, Section 13; Hearing Tr. Vol. I at 34:23-35:2 (Mikkelsen Cross); Direct Testimony of Tyler Comings ("Comings Direct"), Ex. TFC-11.

¹⁸⁶ Hearing Tr. Vol. I at 37:5-18 (Mikkelsen Cross); Hearing Tr. Vol. XVIII at 3650:18-3651:1 (Savage Cross); Hearing Tr. Vol. XXIV at 4878:20-4879:5 (Kahal Cross); Hearing Tr. Vol. XXIV at 5086:19-5087:12 (Scarpignato Cross); Hearing Tr. Vol. XXV at 4909:4-19 (Haugen Cross); Hearing Tr. Vol. XXVI at 5201:24-5202:22 (Campbell Cross); Hearing Tr. Vol. XXVI at 5332:19-23 (Bennett Cross); Hearing Tr. Vol. XXVIII at 5620:1-11 (Kalt Cross); Hearing Tr. Vol. XXXI at 6416:22-6417:3 (Comings Cross).

¹⁸⁷ Strah Direct, p. 10.

¹⁸⁸ Strah Direct, p. 13. And, indeed, no CRES provider is offering the opportunity of an eight-year hedge. Hearing Tr. Vol. XXVI at 5333:6-10 (Bennett Cross). See also Hearing Tr. Vol. XXII at 4527:21-25 (Wilson Cross).

Companies' service territories for shopping customers to choose from.¹⁸⁹ Once a shopping customer's CRES contract expires, the customer is fully exposed to market volatility. Even with respect to fixed-priced CRES contracts, the customer's retail electric price includes a risk premium associated with anticipated wholesale market price volatility that CRES providers "bake into" subsequently available fixed-price retail contract offers.¹⁹⁰ Thus, moving from one fixed-priced contract to another, a customer may experience price volatility. Such price volatility can be significant and, as the record evidence demonstrates, may range upwards of 25 percent from one CRES fixed-price contract term to the next.¹⁹¹ Unanticipated extreme weather events, such as the 2014 Polar Vortex, can exacerbate such volatility even further. For example, the average CRES offer for a 12-month fixed price, full requirements product in the Companies' service territory increased by 32 percent in the first four full months after the Polar Vortex.¹⁹²

Additionally, customers who take service under a variable price contract with a CRES provider based on Day-Ahead or Real Time Locational Marginal Pricing ("LMP") with a retail adder have experienced a "significant increase in volatility for the last two planning years compared to the first two planning years the Companies were in PJM."¹⁹³

¹⁸⁹ Hearing Tr. Vol. XXX at 6288:20-6289:20 (Choueiki Cross).

¹⁹⁰ Mikkelsen Rebuttal, p. 5; Hearing Tr. Vol. XXXIV at 7052:8-7053:15 (Mikkelsen Rebuttal Cross).

¹⁹¹ Hearing Tr. Vol. XXV at 4954:10-4956:10, 4958:1-4959:6 (Haugen Cross); Co. Ex. 82 (Sept. 2013 Apples-to-Apples chart); Co. Ex. 83 (June 2014 Apples-to-Apples chart); Hearing Tr. Vol. XXVI at 5243:1-5244:21 (Campbell Cross); Co. Ex. 105 (March 2014 Apples-to-Apples chart); Co. Ex. 106 (March 2015 Apples-to-Apples chart).

¹⁹² Mikkelsen Rebuttal, p. 4; Hearing Tr. Vol. XXXIV at 7146:7-10 (Mikkelsen Rebuttal Cross correcting 35 percent to 32 percent). *See also* Co. Ex. 150 (Rider GEN tariff sheet).

¹⁹³ Mikkelsen Rebuttal, p. 3. The Companies' Rider ELR customers have also experienced significant increases in retail rate volatility with their Economic Buy Through ("EBT") hours increasing from 194 hours in 2011/2012 and 2012/2013 to 687 hours for 2013/2014 and 2014/2015. Mikkelsen Rebuttal, p. 3 ("Under [the EBT] provision whenever the Day-Ahead LMP exceeds 1.5 times the average auction clearing price for the delivery year,

Rider RRS provides a type of retail rate volatility mitigation benefit that laddering and staggering SSO CBPs does not.¹⁹⁴ To begin, the majority of the Companies' customers are shopping, and Rider RRS offers long-term stability to all customers. In contrast, staggering and laddering of the Companies' SSO supply contracts provides benefits to a narrower class of non-shopping customers.¹⁹⁵

Further, using the example of the Companies' CBP auction results for the delivery period June 2013 through May 2014, Company witness Mikkelsen showed that, while staggering and laddering play a role in mitigating retail rate volatility, Rider RRS would have provided an additional benefit for customers.¹⁹⁶ Rider RRS would have done so by capturing the actual value of increasing and volatile 2013/2014 LMPs that exceeded the weighted average clearing price, and provided customers additional value.¹⁹⁷

Moreover, SSO pricing is not immune to the impacts of extreme weather events. For instance, although the January 2014 Polar Vortex did not immediately impact SSO retail prices, its effects were reflected in SSO rates that went into effect June 1, 2014 and June 1, 2015.¹⁹⁸ These rates reflected significantly increased auction clearing prices for the Companies' SSO load

the Rider ELR customers are notified and have the option to curtail load to their firm service level or buy through for all MWhs in excess of their firm load levels at the Day-Ahead LMP." *Id.*).

¹⁹⁴ Hearing Tr. Vol. XXX at 6281:5-10 (Choueiki Cross); Hearing Tr. Vol. XXX at 6282:10-6285:21 (Choueiki Cross). Notably, "Rider RRS is not a substitute for staggering or laddering, or vice versa. Rather, Rider RRS complements those strategies by providing a different type of mitigation benefit to a broader range of customers." Mikkelsen Rebuttal, p. 6.

¹⁹⁵ Mikkelsen Rebuttal, p. 6.

¹⁹⁶ Mikkelsen Rebuttal, pp. 6-7.

¹⁹⁷ Mikkelsen Rebuttal, pp. 6-7.

¹⁹⁸ Mikkelsen Rebuttal, p. 4.

from pre-Polar Vortex levels.¹⁹⁹ SSO customers also experienced some volatility from the results of the Companies' recent CBP auctions, where bid prices for 12-month products have fluctuated from prices as low as \$50.91/MWh in October 2013 to as high as \$73.82/MWh in October 2014.²⁰⁰ Thus, whether customers choose to shop or remain on the SSO, all customers are exposed to the long-term risk of increases and volatility in the retail price of power.²⁰¹

In this light, Rider RRS offers the unique opportunity of an eight-year hedge against such increasing retail prices and volatility. As noted, Rider RRS is expected to result in a modest near-term charge while customers enjoy the benefits of low retail prices, but would then provide a credit commensurate with increasing retail prices. Company witness Savage initially calculated that Rider RRS would result in a charge of approximately \$2.00 per month for a typical residential customer during the first three years of the Economic Stability Program, and would produce credits reaching \$2.80 per month in the remaining five years.²⁰² Because the costs used in Ms. Savage's calculation have been reduced as a result of the reduction of the negotiated ROE in the Term Sheet (from 11.15 percent to 10.38 percent), the projected charges would be lower and projected credits would be higher under Rider RRS. Rider RRS thus provides a form of "financial insurance against increasing and volatile market prices in the future."²⁰³

¹⁹⁹ See Co. Ex. Nos. 109B through 109D (Letter Notifications of CBP Auction Results from CRA International).

²⁰⁰ See Co. Ex. Nos. 109A through 109F.

²⁰¹ As OCC witness Wilson admitted, nonshopping customers can experience rather large price changes from one ESP to another and shopping customers may experience price changes from one CRES contract to another. Hearing Tr. Vol. XXII at 4528:9-16 (Wilson Cross).

²⁰² Savage Direct, p. 5; Co. Ex. 44 (Savage Errata), Attachment JMS-4 (Revised).

²⁰³ Hearing Tr. Vol. I at 75:4-17 (Mikkelsen Cross); Mikkelsen Rebuttal at 5.

(2) The Rider RRS hedge would promote economic development.

The hedging effect of proposed Rider RRS also would promote economic development in the Companies' service territories. Indeed, price stability is an important consideration for businesses' siting decisions.²⁰⁴ Major companies that are considering locating or expanding in the Companies' service territories are making long-term, multi-million dollar investments and require pricing stability in their budget projections.²⁰⁵ Not surprisingly, industrial and commercial customers prefer less price volatility because price volatility complicates budgeting and planning.²⁰⁶ Thus, representatives of those industrial and commercial customers, both large and small, and individual companies have stipulated that Rider RRS will have the effect of stabilizing or providing them certainty regarding their retail electric service and also is an economic development program.²⁰⁷ The greater the degree of rate certainty provided to those

²⁰⁴ Strah Direct, p. 11; Hearing Tr. Vol. IV at 877:9-878:7 (Strah Cross).

²⁰⁵ Strah Direct, p. 11; Hearing Tr. Vol. IV at 877:9-878:7; 796:7-20 (Strah Cross). Indeed, as Company witness Mikkelsen testified:

[W]hat I would say to you is I have received, in the very recent past, history calls -- calls -- a number of calls from a number of our customers, large customers, when we had a rate reduce to a level that they didn't expect and it triggered, in their mind, this lack of certainty, predictability, stability relative to the rate. And yes, I did field a number of questions from our industrial customers about that rate reduction, sir.... The calls that I took were trying to raise questions about the lack of stability, certainty, and predictability about the rate and impress upon me the importance of those attributes to the customers. (Hearing Tr. Vol. II at 430:7-431:3.)

²⁰⁶ Rose Direct, p. 8. Price volatility also increases the costs of financial hedging due to the increase in collateral requirements. *Id.*

²⁰⁷ Stipulation, pp. 15-16 (Ohio Energy Group, COSE, Nucor Steel Marion, Inc., Material Sciences Corp. as signatories).

companies, the greater the odds of landing new capital investment and employment in the region.²⁰⁸

(3) Rider RRS will have stable costs.

Rider RRS will work effectively as a retail rate stabilization mechanism because the costs of Sammis and Davis-Besse reflected as part of the negotiated price under the Final Term Sheet are not expected to be volatile over the next eight years. Notably, the largest cost components of Davis-Besse are labor and depreciation, which are not subject to volatile swings.²⁰⁹ The largest cost component of Sammis – fuel – is not expected to materially increase over the next eight years, and the Companies’ cost forecast conservatively assumes coal costs will increase.²¹⁰ Given the stability of Sammis’s and Davis-Besse’s costs, Rider RRS is designed to work effectively as a hedge against future natural gas price volatility.²¹¹ When market prices are high, Rider RRS will result in a credit to customers to mitigate the impact of the high market prices. And when market prices are low and Rider RRS operates as a charge to customers, customers already will be benefitting from low market prices and will have the added assurance of Rider RRS as a hedge against future market price increases and volatility, as well as the many other qualitative benefits of Rider RRS, such as preserved system reliability through generation resource diversification, promotion of economic development through more stable electric rates, and avoided transmission upgrade expense.

²⁰⁸ Strah Direct, p. 11.

²⁰⁹ Moul Rebuttal, p. 4.

²¹⁰ Moul Rebuttal, p. 4.

²¹¹ Moul Rebuttal, pp. 4-5; Hearing Tr. Vol. XXXII at 6542:21-6543:12, 6557:25-6558:14, 6616:13-18 (Moul Rebuttal Cross).

In addition to stable plant costs supporting the hedge, the Companies and FES negotiated a fixed 11.15 percent return on equity (“ROE”), which was further reduced to 10.38 percent coincident with a recently approved ROE in the ATSI Zone.²¹² The Companies also negotiated a hypothetical 50/50 capital structure in determining the weighted average cost of capital instead of using FES’s actual capital structure of 65 percent equity and 35 percent debt.²¹³ As Company witness Lisowski testified, “using a 50/50 debt cost structure reduces ... [any forecasted] cost to customers.”²¹⁴ Because the Companies succeeded in having FES agree to a hypothetical 50/50 capital structure, FES’s effective return will be only 9.03 percent.²¹⁵ Importantly, because this low effective ROE is fixed for the entire eight-year term of Rider RRS, it provides certainty for customers if interest rates rise from their current historic lows over this period.²¹⁶ The significant risk of a potential increased cost of equity over the eight-year period remains with FES.

²¹² Sierra Club Ex. 1; P3/EPSCo Ex. 8 (e-mails between Companies and FES); Co. Ex. 156, p. 13 (Final Term Sheet-Revised).

²¹³ Direct Testimony of Steve Staub (“Staub Direct”), pp. 10-11; Hearing Tr. Vol. I at 35:20-36:1 (Mikkelsen Cross); Hearing Tr. Vol. XVIII at 3621:23-3622:8 (Savage Cross).

²¹⁴ Hearing Tr. Vol. VIII at 1665:24-1666:3 (Lisowski Cross).

²¹⁵ Ruberto Direct, p. 8; Staub Direct, pp. 10-11; Hearing Tr. Vol. I at 35:20-36:1 (Mikkelsen Cross); Hearing Tr. Vol. XVIII at 3621:23-3622:8 (Savage Cross); Co. Ex. 156, p. 13. As explained in the Mikkelsen November 30, 2015 Workpaper (Sierra Club Ex. 89), applying the negotiated ROE of 10.38% to FES’s assumed 50/50 capital structure results in a weighted average cost of capital (“WACC”) of 7.46%:

$$10.38\% * 50\% \text{ Hypothetical Equity} + 4.54\% \text{ Cost of Debt} * 50\% \text{ Hypothetical Debt} = 7.46\% \text{ WACC}$$

Applying this 7.46% WACC to FES’s actual capital structure of 65% Equity and 35% Debt (Staub Direct, p. 10) results in an effective ROE of 9.03%:

$$(7.46\% \text{ WACC} - (4.54\% \text{ Cost of Debt} * 35\% \text{ Equity})) / 65\% \text{ Equity} = 9.03\% \text{ ROE.}$$

²¹⁶ Hearing Tr. Vol. XXII at 4723:9-12 (Woolridge Cross) (admitting that ROE is fixed for entire term of Economic Stability Program).

The effective 9.03 percent ROE compares favorably to the 11.15 percent ROE the Commission approved in AEP Ohio's recent capacity proceeding, Case 10-2929-EL-UNC.²¹⁷ Indeed, Staff witness Choueiki agreed that an even-higher ROE of 9.6 percent²¹⁸ would be below the average ROE allowed for regulated utilities for any year in the past 20 years.²¹⁹ Further, Exelon Generation, an intervenor here, obtained similar relief for its Ginna nuclear facility in New York, receiving over \$17 million in monthly payments calculated using an ROE of 10.7 percent.²²⁰

b. The Companies negotiated an outcome beneficial to customers.

The proposed transaction between the Companies and FES was the subject of extensive due diligence and negotiations conducted at arm's length.²²¹ After being approached by FES regarding the proposed transaction, the Companies put together a multi-disciplinary team with experience in regulated generation, transmission, legal, rates, and accounting (the "EDU Team").²²² The EDU Team was responsible for evaluating the FES proposal and, in the end, it concluded that the proposed transaction would benefit the Companies' customers.²²³

²¹⁷ Staub Direct, pp. 3-5; Hearing Tr. Vol. XXII at 4716:20-22 (Woolridge Cross). See also, *In the Matter of the Commission Review of the Capacity Charges of Ohio Power Company and Columbus Southern Power Company*, Case No. 10-2929-EL-UNC, Opinion and Order at 34 (July 2, 2012) ("[W]ith respect to the appropriate return on equity, we find that AEP-Ohio's recommendation of 11.15 percent is reasonable and should be adopted.").

²¹⁸ Prior to the reduction of the negotiated ROE coincident with negotiations of the Third Supplemental Stipulation, the negotiated ROE was 11.15%, which when applied to FES's actual capital structure resulted in an effective ROE of 9.6%. Tr. Vol. XIII at 2801:21-2803:13 (Ruberto Cross).

²¹⁹ Hearing Tr. Vol. XXX at 6301:6-10 (Choueiki Cross).

²²⁰ Hearing Tr. Vol. XXVI at 5231:24-5232:23 (Campbell Cross).

²²¹ Hearing Tr. Vol. XIII at 2788:1-7 (Ruberto Cross).

²²² Hearing Tr. Vol. XIII at 2766:2-7 (Ruberto Cross); Sierra Club Ex. 52 (Response to OCC Set 1-INT-19).

²²³ Ruberto Direct, p. 10.

The EDU Team engaged in an extensive due diligence and analysis process to determine whether the proposal could benefit customers.²²⁴ The value of the Rider RRS hedge to the Companies' customers depends in part on the level and stability of cost components included in the negotiated contract price. Therefore, as part of this due diligence process, the EDU Team obtained cost information and operational data on the Plants and the OVEC interest from FES, verified the levels of projected costs, and benchmarked those costs against industry data.²²⁵ The Plants' projected costs were based on cost projections provided by Plant personnel, including projected O&M expenses and capital expenditures.²²⁶ OVEC costs were based on a twenty-year forecast prepared by OVEC, which includes projections for fuel, O&M and capital. The EDU Team also benefitted from the expertise of Company witness Rose, who was retained by the Companies to forecast market prices.²²⁷ Mr. Rose's projections included energy, capacity and carbon prices, as well as Sammis fuel costs. FES provided Davis-Besse fuel costs. Mr. Rose's projections and FES's and OVEC's projected costs were used to project the Plants' and the OVEC interest's output, costs and market revenues.²²⁸ In addition to using forecasts, the EDU Team also examined the last five years of historical data and compared it to public data from 2013 FERC Form 1 reports for comparable coal and nuclear plants:

From a cost perspective, we compared costs with publicly available FERC Form 1 data of similar-type generation to the extent it was available publicly to get an understanding of whether

²²⁴ Ruberto Direct, pp. 4-5; Hearing Tr. Vol. XIII at 2761:14-2762:1, 2762:14-24, 2767:22-2768:22, 2787:14-2788:7, 2885:3-20 (Ruberto Cross).

²²⁵ Ruberto Direct, p. 5; Hearing Tr. Vol. XIII at 2887:16-2888:12 (Ruberto Cross); Sierra Club Ex. 37C.

²²⁶ *See generally*, Lisowski Direct, p. 3; Ruberto Direct, pp. 4-5.

²²⁷ Hearing Tr. Vol. XIII at 2788:23-2789:2 (Ruberto Cross).

²²⁸ Ruberto Direct, p. 5; Hearing Tr. Vol. XIII at 2764:4-9 (Ruberto Cross).

the costs that Mr. Lisowski had generated seemed to be in line with what other similar-type plants were. And when we saw those were very similar, we felt confident that the numbers were reasonable.²²⁹

As Company witness Ruberto testified at hearing, these forecasts and cost data were reasonable to rely upon, and the amount by which projected market prices consistently exceeded projected variable costs enabled the EDU Team to independently corroborate revenue projections FES provided to the Companies during the negotiation process:

From a revenue perspective, using Mr. Rose's forecasts we were able to look at the variable costs and the projected market prices. Given what we saw was the market prices were pretty comfortably above variable cost for most of the term of the agreement and the model produced results that showed the units would run pretty much full time, so given we know the market prices and variable costs, we would believe that the model should show the unit would run most of the time, and, indeed, the model did produce those results. So from that perspective we were comfortable that the revenue was properly identifying the operation of the unit.²³⁰

The EDU Team also toured Sammis and Davis-Besse to review plant operations, met with plant personnel, and observed the condition of the Plants.²³¹ Further, the EDU Team requested the Companies' transmission planning group to perform a study to identify impacts on the transmission system if the Plants retired, and the costs of transmission upgrades necessary to remedy violations.²³² In addition, the EDU Team consulted Company witness Sarah Murley for an analysis of the Plants' local and regional economic impacts.²³³

²²⁹ Hearing Tr. Vol. XIII at 2773:19-2774:15 (Ruberto Cross); see also Hearing Tr. Vol. XIII at 2774: 8-15 (Ruberto Cross).

²³⁰ Hearing Tr. Vol. XIII at 2773:19-2774:15 (Ruberto Cross).

²³¹ Ruberto Direct, p. 4; Hearing Tr. Vol. XIV at 2988:17-2990:17 (Ruberto Cross).

²³² Hearing Tr. Vol. XIII at 2791:5-9, 2791:19-2793:19 (Ruberto Cross). The process employed for the transmission study utilized the same process that PJM employs. Specifically, as Mr. Phillips explained, "What we did is when we did this process is two key things to make sure you get it correct. One, you get the models from

As part of its analysis, the EDU Team used the Plants and the OVEC interest's projected market revenues and costs over the proposed term of Rider RRS to project the year-by-year customer impacts of Rider RRS on both a nominal and NPV basis.²³⁴ The EDU Team projected a nominal benefit to customers of over \$2 billion over the initially proposed 15-year term of Rider RRS, or \$770 million NPV.²³⁵ As a result of the Third Supplemental Stipulation's reduction of the term of Rider RRS to eight years, the Companies' modified calculations projected a nominal benefit to customers of \$561 million, or \$260 million NPV.²³⁶

The EDU Team also determined that the Plants would appropriately support the hedge against market prices even if market prices turned out to be different than the forecast provided by Company witness Rose. As noted, projected market prices consistently exceed projected Plant variable costs by a comfortable margin. Further, Company witness Ruberto explained the relative stability of the Plants' costs:

The EDU team did look at the approximately \$2 billion benefit over the 15 years and considered what if market prices were different, what if costs were different. Our feeling on costs were costs are much more predictable. Costs are fairly consistent. A lot

PJM, and, two, is they have a -- what they call their manual 14B that lays out the process you follow when you run their -- the different studies and things you did. So, A, we used their model and we followed those procedures to make sure we kept standard with that. So when you look at those procedures, when you do a generation deactivation, you study [gen deliv], you study N-1-1, and you study load deliverability." Hearing Tr. Vol. XVI at 3403:24-3404:10 (Phillips Cross). At hearing, Mr. Phillips explained why it is important not to alter the PJM models, e.g., by adding proposed generation facilities that PJM chose not to include. "We were following the PJM procedure, and we were following to make sure that our process would match the same results PJM would get. So we used their base cases, and we would not add those because that would be changing the process that PJM would be using." Hearing Tr. Vol. XV at 3265:5-10 (Phillips Cross).

²³³ Hearing Tr. Vol. XIII at 2790:25-2791:5 (Ruberto Cross).

²³⁴ Ruberto Direct, Attachment JAR-1 (Revised); Hearing Tr. Vol. XIII at 2896:12-24 (Ruberto Cross).

²³⁵ Ruberto Direct, Attachment JAR-1 (Revised); Mikkelsen Supp., p. 11; Hearing Tr. Vol. I at 42:21-24 (Mikkelsen Cross); Hearing Tr. Vol. IV at 714:7-19 (Strah Cross).

²³⁶ Sierra Club Ex. 89 (Mikkelsen November 30, 2015 Workpaper); Mikkelsen Fifth Supp., p. 12.

of features in a cost projection will follow inflation, salaries, and wages. There are a lot of things in costs that are much more predictable. We recognized a market forecast is a forecast. Inherent in any forecast can be changes. We did recognize there is going to be variances in those forecasts, but given the magnitude of the benefits and the confidence we have in Mr. Rose's forecast, we felt that the benefits would remain.²³⁷

The EDU Team also negotiated robust protections for customers. The Companies have the right to audit the costs charged to the Companies.²³⁸ FES's Operating Work at the Plants is required to be governed by Good Utility Practice as defined in the Final Term Sheet.²³⁹ The Companies further have the authority to review and comment upon FES's capital improvements plan and scheduled outage program, which should benefit customers on both the cost and revenue sides of this transaction.²⁴⁰ The Companies will work cooperatively with FES on what the capital investment will be for the Plants.²⁴¹ Once capital improvements are in use, however, those investments are subject to Good Utility Practice as Operating Work and the Companies will not pay for operating work in the contract price that is not in conformance with Good Utility Practice.²⁴²

²³⁷ Hearing Tr. Vol. XIII at 2769:16-277:-5 (Ruberto Cross).

²³⁸ Co. Ex. 156, Section 18; Ruberto Direct, p. 9; Hearing Tr. Vol. XIII at 2878:10-14; 2879:16-25 (Ruberto Cross); Hearing Tr. Vol. XXIV at 4879:8-19 (Kahal Cross) (admitting to audit rights and consultation on capital projects); Hearing Tr. Vol. XXX at 6301:18-23 (Choueiki Cross) (same).

²³⁹ Co. Ex. 156, Section 11; Ruberto Direct, p. 9; Hearing Tr. Vol. XIII at 2850:11-16; 2892:2-9 (Ruberto Cross); Hearing Tr. Vol. XIV at 3003:16-25; 3000:10-3001:19; 3003:5-13; 3003:14-25 (Ruberto Cross); Hearing Tr. Vol. XXI at 4066:4-8 (Chriss Cross); Hearing Tr. Vol. XXI at 4233:19-4234:3 (Cole Cross); Hearing Tr. Vol. XVIII at 5620:19-23 (Kalt Cross); Hearing Tr. Vol. XXXI at 6418:7-10 (Comings Cross).

²⁴⁰ Co. Ex. 156, Section 12; Ruberto Direct, p. 9; Hearing Tr. Vol. XIII at 2779:1-2782:11 (Ruberto Cross); Hearing Tr. Vol. XXX at 6301:11-17 (Choueiki Cross). Further, customers would be under no obligation to pay approved capital costs after the end of the PPA, even if such costs were amortized beyond the term of the PPA. Hearing Tr. Vol. XXI at 4064:19-4065:10 (Chriss Cross); Hearing Tr. Vol. XXVIII at 5620:24-5621:7 (Kalt Cross).

²⁴¹ Hearing Tr. Vol. XIV at 3000:17-3001:2 (Ruberto Redirect).

²⁴² Hearing Tr. Vol. XIV at 3000:24-3001:19 (Ruberto Redirect).

In addition, FES has incentives to incur only reasonable capital expenditures at the Plants. FES must pay for any capital expenditure up front. Also, although depreciation for a capital expenditure would extend beyond the eight-year term of the Economic Stability Program, the Companies' agreement to pay for the depreciation does not.²⁴³ Notably, FES will not be allowed to use accelerated depreciation without the Companies' consent.²⁴⁴ As a result, FES has its own independent motivation for not incurring unreasonable capital expenditures at the Plants.

The Companies also control the strategy offering the output of the Plants and the OVEC interest into the PJM markets.²⁴⁵ As Company witness Ruberto, who has extensive experience offering generation into PJM,²⁴⁶ explained at hearing:

What our intent would be is to participate in the capacity market which, of course, is one revenue piece within PJM. Additionally the day-ahead market is generally where most generation is marketed in PJM, and I would expect we would do that. There is additionally some real-time market participation for any generating unit simply because its output may be more or less than what you cleared in the day-ahead market. So I would view it as actively managing all three of those components. And on a daily basis my group would be responsible to make those offers into the market in a manner to maximize those revenues for the company.²⁴⁷

Thus, the extensive due diligence conducted by the Companies supports the conclusion that Rider RRS will benefit customers and is in the public interest.

²⁴³ Hearing Tr. Vol. XIII at 2781:21-2782:11 (Ruberto Cross).

²⁴⁴ Hearing Tr. Vol. XXVIII at 5621:15-20 (Kalt Cross).

²⁴⁵ Ruberto Direct, p. 9; Hearing Tr. Vol. XIV at 3032:19-3033:21 (Ruberto Cross); Hearing Tr. Vol. XXXVI at 7616:7-16 (Mikkelsen Cross).

²⁴⁶ Hearing Tr. Vol. XIII at 2742:7-2743:13 (Ruberto Cross).

²⁴⁷ Hearing Tr. Vol. XIII at 3033:9-21 (Ruberto Cross).

c. The Economic Stability Program benefits customers and is in the public interest because it enhances reliability by preserving and promoting generation resource diversity.

Continued operation of the Plants supports reliability by maintaining generation resource diversity. This diversity benefits all customers, both shopping and non-shopping alike. Generation resource diversity includes both “fuel” and “asset” diversity. “Fuel diversity” means having a mix of resources (*e.g.*, coal, nuclear, gas, wind, and solar) comprising the generation fuel mix. “Asset diversity” means having a mix of assets of different classes (*e.g.*, baseload, intermediate, and peaking).²⁴⁸

Fuel diversity protects customers from challenges to reliability caused by overreliance on any one type of fuel supply. Fuel diversity and asset diversity recognize that different types of generation assets have different strengths and weaknesses. For example, coal and nuclear assets provide affordable and reliable baseload power supply and provide critical operational and retail reliability benefits. Maintaining adequate generation resource diversity means that the strengths of each type of resource can be maximized.²⁴⁹ However, as Company witness Moul explained, baseload coal and nuclear generation facilities such as the Plants – the backbone of the electric power system – are increasingly retiring prematurely:

The PJM Market Monitor’s market data shows that 24,933 megawatts of fossil-fuel capacity is planning to retire. Another 14,597 megawatts of fossil-fuel generation is at risk of retirement due to net revenue inadequacy in the PJM markets. This represents approximately 8% of PJM installed generation capacity in 2014. These primarily are coal units which have not covered their avoidable costs since 2009. In addition, although this 14,597 megawatt figure does not include the amount of nuclear units that

²⁴⁸ Moul Direct, p. 6.

²⁴⁹ See Moul Direct, p. 6.

are at risk of retirement, the data demonstrates that total PJM market revenues are not covering the total annualized costs of nuclear units in any part of PJM. A significant portion of the nuclear fleet is at risk of retirement in the near future due to poor market conditions and, in fact, several nuclear plants are either being closed or on the verge of closure.²⁵⁰

As this Commission has observed, these retired plants are being increasingly replaced with natural gas plants.²⁵¹

The Commission is well aware of the need to preserve resource diversity, particularly in the case of the increased reliance on gas-fired generation in PJM.²⁵² But, as evidenced by Company witness Makovich's testimony, the generation resource diversity provided by the Plants is not being adequately compensated in the PJM market.²⁵³ The Commission must take an interest in resource diversity that lies exclusively within its jurisdiction.²⁵⁴

d. The Economic Stability Program protects customers from potentially catastrophic reliability issues related to over-reliance on natural gas-fired generation.

Maintaining adequate generation resource diversity is important to avoid potential catastrophic issues that may occur with reliance on a single class of generation, such as natural

²⁵⁰ Moul Direct, p. 4 (footnotes omitted). And, once a generation facility retires, the megawatts it produced are likely gone forever. Moul Direct, p. 5.

²⁵¹ Moul Direct, p. 7 (quoting Comments Submitted on Behalf of the Public Utilities Commission of Ohio at 7-8, Technical Conference on Winter 2013-2014 Operations and Market Performance in Regional Transmission Organizations and Independent System Operators, FERC Docket No. AD14-8-000 (May 15, 2014)).

²⁵² Hearing Tr. Vol. XXX at 6278:12-6279:20 (Choueiki Cross). *See also* Moul Direct, pp. 7-8 (quoting Comments Submitted on Behalf of the Public Utilities Commission of Ohio at 7-8, Technical Conference on Winter 2013-2014 Operations and Market Performance in Regional Transmission Organizations and Independent System Operators, FERC Docket No. AD14-8-000 (May 15, 2014)).

²⁵³ Makovich Supp., pp. 3-4, 12-15.

²⁵⁴ Hearing Tr. Vol. X at 2217:2-12 (Moul Cross).

gas.²⁵⁵ As several intervenor witnesses recognized at hearing, “the overwhelming percent of generation additions [in PJM] have been gas-fired.”²⁵⁶ In turn, significant quantities of nuclear and coal baseload generation are retiring.²⁵⁷ This circumstance poses serious reliability challenges. A system overly reliant on gas-fired generation fails when gas resources become unavailable.²⁵⁸ Gas-fired units do not have significant supplies of fuel stored onsite, relying instead on a “just-in-time” system of fuel delivery that requires problem-free scheduling and the uninterrupted operation of thousands of miles of gas pipelines and storage facilities.²⁵⁹ Reliability issues with gas-fired generation thus arise when the pipeline system suffers a mechanical failure.²⁶⁰

Generation assets fueled by interruptible gas supplies have increasingly entered the PJM market.²⁶¹ Such gas generation is not intended or designed to replace baseload coal and nuclear units.²⁶² Gas-fired generation is not adequate to handle the total load or to provide continuous service for prolonged periods.²⁶³ The 2014 Polar Vortex provides a dramatic illustration. During

²⁵⁵ Moul Direct, pp. 7-8.

²⁵⁶ Hearing Tr. Vol. XXIV at 4875:20-22 (Kahal Cross); Hearing Tr. Vol. XXIV at 5017:3-7 (Bowring Cross); Hearing Tr. Vol. XXIV at 5101:19-22 (Scarpignato Cross); Hearing Tr. Vol. XXII at 4574:23-4575:3 (Wilson Cross).

²⁵⁷ Moul Direct, p. 4. As numerous witnesses agreed, the vast majority of retirements occurring in PJM in the last few years have been coal-fired generation, thereby further diluting the available generation resource diversity in PJM. *See* Hearing Tr. Vol. XXIV at 4874:14-19 (Kahal Cross); Hearing Tr. Vol. XXIV at 5016:21-5017:2 (Bowring Cross); Hearing Tr. Vol. XXIV at 5101:15-18 (Scarpignato Cross); Hearing Tr. Vol. XXII at 4574:18-22 (Wilson Cross).

²⁵⁸ Moul Direct, p. 7.

²⁵⁹ Moul Supp., p. 8; Hearing Tr. Vol. XI at 2255:11-23 (Moul Cross).

²⁶⁰ Moul Direct, p. 8.

²⁶¹ Strah Direct, p. 8.

²⁶² Strah Direct, p. 8.

²⁶³ Strah Direct, p. 8; Hearing Tr. Vol. IV at 756:17-757:11 (Strah Cross).

this extreme cold spell, many gas plants were unable to operate.²⁶⁴ Indeed, in its report regarding the Polar Vortex, PJM specifically noted:

...[N]atural-gas-fired generators accounted for 47 percent of the unavailable megawatts ... [F]or a frame of reference, in PJM, gas fired plants represent 29 percent of total generation (in megawatts), and coal-fired plants represent 41 percent.²⁶⁵

Hence, interruptions caused by, and outages of, gas-fired generation were disproportionate to the quantity of natural gas generation that comprises the PJM generation mix.²⁶⁶ This, in turn, caused substantial difficulties in PJM, including the potential for severe service disruptions and load shedding (commonly referred to as “rolling blackouts”).²⁶⁷ At one point, the entirety of PJM had only 500 MW of synchronous reserves available.²⁶⁸

Moreover, as the 2015 Siberian Express demonstrated, the 2014 Polar Vortex was not an isolated aberration. Indeed, in its 2015 Winter Report, PJM once again found that gas-fired units were disproportionately responsible for the forced outages that occurred:

Despite more natural gas, LNG and storage, there were just as many, if not more, restrictions issued by the pipelines...On the morning of Feb. 20, forced outages from gas totaled 7,420 MW, or 29.9 percent of total forced outages. In comparison, at the Jan. 7, 2014, peak, 9,300 MW of gas-fired capacity was out of service

²⁶⁴ Strah Direct, p. 8; Hearing Tr. Vol. IV at 875:16-19; 762:15-763:19; 762:3-14 (Strah Cross); Hearing Tr. Vol. VII at 1509:20-25 (J. Rose Cross).

²⁶⁵ Sierra Club Ex. 8, p. 25 (Analysis of Operational Events and Market Impacts During the January 2014 Cold Weather Events, PJM Interconnection (May 8, 2014)).

²⁶⁶ Indeed, the 9,300 MW of “natural gas interruption” was specifically noted by PJM in its report on the 2014 Polar Vortex. *See* Sierra Club Ex. 8, p. 26. *See also* Hearing Tr. Vol. XXIV at 5101:23-5102:2 (Scarpignato Cross) (admitting disproportionate contribution of gas-fired generation to reliability issues during 2014 Polar Vortex); Hearing Tr. Vol. XXII at 4575:16-21 (Wilson Cross) (admitting same); Hearing Tr. Vol. XXVIII at 5638:21-5639:5 (Kalt Cross) (admitting same).

²⁶⁷ Strah Direct, p. 9; Hearing Tr. Vol. IV: 762:15-763:19 (Strah Cross); Hearing Tr. Vol. VI at 1222:7-9 (J. Rose Cross).

²⁶⁸ Sierra Club Ex. 8, p. 20; Hearing Tr. Vol. IV at 764:22-765:10 (Strah Cross).

because of natural gas unavailability, or about 25 percent of the total outages.²⁶⁹

Thus, from a percentage of total outage caused by interruptions perspective, natural gas fared *worse* in 2015 as compared to 2014.²⁷⁰ The combination of extreme weather events and increasing baseload generation retirements will likely lead to continued reliability challenges in PJM for the foreseeable future. On the other hand, underscoring the importance of generation assets with onsite fuel storage, baseload nuclear and coal-fired plants with onsite-fuel supplies ran relatively reliably during the winters of 2014 and 2015.²⁷¹ Indeed, Both Sammis and Davis-Besse ran during the Polar Vortex.²⁷² The danger of relying on interruptible gas generation to replace baseload coal and nuclear units is thus readily apparent.²⁷³

²⁶⁹ IGS Ex. 1, p. 6 (2015 Winter Report, PJM Interconnection (May 13, 2015)). *See also* IGS Ex. 1, p. 22, Figures 21 and 22 (showing that 30 percent of forced outages on February 20, 2015 were due to natural gas while 24 percent of forced outages were due to natural gas on January 7, 2014). The report noted some small incremental improvements between 2014 and 2015, but as the 2015 outage rate for gas demonstrates the underlying reliability issues were not alleviated. IGS Ex. 1, p. 5. Indeed, PJM noted that such improvements were “short-term” and the recent Capacity Performance product was deemed “inadequate” as a “long-term solution.” IGS Ex. 1, p. 6.

²⁷⁰ Indeed, as Mr. Rose testified at hearing, “Furthermore, when you look at the gas versus the coal outages [for 2015], take a look at the denominator, not just the numerator. There is, as I indicated, more total outages for gas plants over less gas plants. They should have had much less. In fact, they had more.” Hearing Tr. Vol. VII at 1509:20-25 (J. Rose Cross).

²⁷¹ The continued operation of reliable baseload generating like the Plants is particularly essential to prevent the shedding of retail load, which tends to reach peak demand “during extreme weather events.” Hearing Tr. Vol. XI at 2380: 3-10 (Moul Cross).

²⁷² Hearing Tr. Vol. II at 408:22-409:4 (Mikkelsen Cross).

²⁷³ Resource diversity is also important for non-generation reliability purposes. Having a diverse asset mix means that the Plants can continue to play a critical role in providing ancillary service needed to maintain grid reliability and integrate variable resources. Intermittent resources cannot provide those services. Similarly, resource diversity allows nuclear and renewable resources to continue to provide generation with zero-carbon production. These assets will be an important part of Ohio’s effort to comply with future EPA carbon regulations. *See* Moul Direct, pp. 7-8.

Moreover, natural gas infrastructure in Ohio is stressed²⁷⁴ and gas pipelines are prone to failure in a way that the transmission system or electricity grid is not. As PJM observed in its State of the Market Report for the first quarter of 2014, “The replacement of older steam units by units burning natural gas could significantly affect future congestion, the role of firm and interruptible gas supply, and natural gas supply infrastructure.”²⁷⁵ Further, as Company witness Moul testified at hearing:

a pipeline typically doesn’t have the defense and depth that an electric grid or transmission system does. There is one pipeline coming to a plant, so a mechanical failure anywhere on that system could render that plant incapable of performing and expose it to potential penalties.²⁷⁶

Further, simply requiring that natural gas transportation be “firm” does not equate to guaranteed physical deliverability.²⁷⁷ A “firm” supply contract is no substitute for a coal or nuclear facility’s

²⁷⁴ Hearing Tr. Vol. XI at 2312:4-12 (Moul Cross). As Company witness Rose testified at hearing, even with new infrastructure build “the amount of increase might not be enough to solve the problem, which is most of the gas power plants have been built with nonfirm transportation.” Hearing Tr. Vol. VI at 1215:20-23. “[N]atural gas infrastructure will need to be built in Ohio over the coming decades to support new gas-fired plants in Ohio. This is a difficult process, as evidenced by the inability of the Avon Lake power plant owned by NRG Energy to quickly build a gas pipeline to support its conversion to natural gas.” Moul Rebuttal, p. 7.

²⁷⁵ Co. Ex. 75, p. 365 (PJM State of Market Report Q1 2014). *See also* Co. Ex. 76, p. 402 (PJM State of Market Report Q2 2015) (same).

²⁷⁶ Hearing Tr. Vol. X at 2216:10-16 (Moul Cross).

²⁷⁷ Even if supply is “firm,” it simply means that there is a contractual obligation not to interrupt or curtail. As Company witness Moul testified at hearing, “When I look at, for example, the 2015 PJM Winter Report, I see gas interruptions during those emergency times of about 30 percent of natural gas plants being unable to get their gas supply. And while some of them were behind the local distribution company, the LDC, there’s a fair number of those that were on the interstate pipeline with day-ahead reserves. So by its very nature, just because you have a contract doesn’t mean the contract can’t be breached.” Hearing Tr. Vol. X at 2215:25-2216:9 (Moul Cross). Moreover, “it also depends [whether the firm transportation supplier] is behind the local delivery company or not because under a local delivery company...human needs [have] a higher priority than generation, so that would not be uninterruptible.” Hearing Tr. Vol. XI at 2338:4-18 (Moul Cross). *See also* Hearing Tr. Vol. VI at 1216:5-14 (J. Rose Cross); Hearing Tr. Vol. VII at 1500:9-18 (J. Rose Cross); Hearing Tr. Vol. XI at 2344:21-2345:4 (Moul Cross).

onsite fuel supplies.²⁷⁸ As such, a sufficiently diverse generation system would include both generation subject to fuel disruption such as natural gas, as well as generation assets with onsite fuel storage capabilities, such as the Plants. Simply put, gas-fired generation, while having a place in the generation mix, simply is not a suitable reliability substitute for baseload generation with onsite fuel capabilities like the Plants.²⁷⁹

In light of the reliability issues arising from the increased amount of gas-fired generation in PJM, the Economic Stability Program will ensure “the continued operation of baseload generating units that are fuel diverse with onsite fuel storage capabilities,” thereby mitigating the effects of severe weather events like the Polar Vortex and enhancing the reliability of Ohio’s distribution grid.²⁸⁰ It is beyond dispute that such enhanced reliability benefits both customers and the public interest.²⁸¹ As Company witness Moul testified at hearing:

[M]ost of the PJM queue is natural gas-fired generation that is susceptible to interruptions during peak demand times, particularly in the winter; whereas, the plants that we’re offering which go back to the value of resource diversity provide in the case of the Sammis plant 30 days of fuel on site that’s controlled at the site. In the case of Davis-Besse, up to two years of fuel in the reactor core after refueling that’s available without interruption to provide reliable power 24/7. So the reliability value of a natural gas plant that has an interruptible fuel supply isn’t equivalent to that of a coal plant like Sammis or that of Davis-Besse.²⁸²

²⁷⁸ Hearing Tr. Vol. X at 2215:21-2216:9 (Moul Cross).

²⁷⁹ See Moul Direct, pp. 6-7.

²⁸⁰ Hearing Tr. Vol. I at 96:7-20 (Mikkelsen Cross); see also Hearing Tr. Vol. I at 112:10-21; 154:4-6 (Mikkelsen Cross); Hearing Tr. Vol. IV at 874: 4-10 (Strah Cross).

²⁸¹ As City of Cleveland witness Cole admitted at hearing, electric generation reliability is important for retail customers. Hearing Tr. Vol. XXI at 4200:15-18 (Cole Cross).

²⁸² Hearing Tr. Vol. X at 2195:11-25 (Moul Cross); Hearing Tr. Vol. XI at 2255:11-23 (Moul Cross). Further, as coal and nuclear retirements accelerate, there is no guarantee that the gas generation projects currently in the PJM generation queue will even come online. “Of the projects that have completed the queue process, 87.6

For good reason, the Commission has thus acknowledged that resource diversity is beneficial to customers. Specifically:

It is the responsibility of the PUCO to carry out the policy of the state of Ohio to ensure the diversity of electricity resources. The benefits of energy diversity to security, affordability, and reliability are well documented.²⁸³

The Commission has also recently observed that “fuel diversity is extremely important” because:

[With] a significant portion of the retiring megawatts being replaced by natural gas resources, we cannot afford to forget about protecting our current resources that help in hedging against any unforeseen natural gas curtailments.²⁸⁴

These concerns are well founded²⁸⁵ and the Commission certainly has a role to play to ensure that such reliability concerns are addressed.²⁸⁶ As the record for this proceeding demonstrates, in terms of reliability, it is simply not feasible for renewables and natural gas to supplant Ohio’s coal and nuclear baseload generation assets with onsite fuel capabilities.²⁸⁷

percent of the MW that entered the queue withdrew at some point in the future.” Co. Ex. 76, p. 397 (State of the Market Report for PJM Q2 2015). *See also* Co. Ex. 75, p. 361 (State of the Market Report for PJM Q1 2014) (“The queue contains a substantial number of projects that are not likely to be built.”).

²⁸³ Comments On The U.S. EPA Carbon Paper Submitted On Behalf Of The Public Utilities Commission Of Ohio (Dec. 16, 2013) (available at <http://www.naruc.org/Publications/Public%20Utilities%20Commission%20of%20Ohio.pdf>) (quoted in Moul Direct, pp. 6-7). As OEC/EDF witness Roberto admitted at hearing, “The Public Utilities Commission needs to take into account the goals of the state of Ohio, and diversity and reliability of the supply are included in those goals.” Hearing Tr. Vol. XXI at 4168:4-7 (Roberto Cross).

²⁸⁴ Comments Submitted on Behalf of the Public Utilities Commission of Ohio at 7-8, Technical Conference on Winter 2013-2014 Operations and Market Performance in Regional Transmission Organizations and Independent System Operators, FERC Docket No. AD14-8-000 (May 15, 2014) (quoted in Moul Direct, pp. 7-8).

²⁸⁵ Echoing these concerns, Company witness Moul testified at hearing: “What I do know is if Davis-Besse and Sammis were retired, the generation mix in Ohio would be more dominated and supply stacked by gas-fired generation, and you would have a reduction obviously in nuclear as well as coal generation in the state of Ohio.” Hearing Tr. Vol. X at 2194:14-23 (Moul Cross).

²⁸⁶ Hearing Tr. Vol. XXIV at 4894:1-5 (Kahal Cross); Hearing Tr. Vol. XXIV at 5038:18-23 (Bowring Cross).

²⁸⁷ Hearing Tr. Vol. XVII at 3482:20-21 (Makovich Cross); *see also* Hearing Tr. Vol. III at 515:11-19 (Mikkelsen Cross). Further, as Company witness Rose testified, “[M]ost of the gas power plants have been built

Indeed, “the continued operation of baseload fuel diverse generating plants with onsite fuel storage capabilities that were built and designed to serve the load of the Companies would provide increased assurance for the reliability of the customers on the [C]ompanies’ delivery system.”²⁸⁸

e. The generation resource diversity provided by the Plants further contributes to retail rate stability.

Generation resource diversity also contributes to retail rate stability by providing opportunities to take advantage of lower overall fuel costs.²⁸⁹ Separate from the inherent nature of each type of generating asset, having a variety of assets is itself extremely beneficial as fuel costs vary over time.²⁹⁰ If a majority of generation in PJM were produced by natural gas plants, then a change in the price of natural gas would have a significant impact on the price of

with nonfirm transportation. And that creates volatility, because in the event there is very high demand for gas, the interruptible power plants are knocked off and they don’t get gas supply.” Hearing Tr. Vol. VI at 1215:19-1216:1 (J. Rose Cross).

²⁸⁸ Hearing Tr. Vol. III at 635:23-636:6 (Mikkelsen Cross). *See also* Hearing Tr. Vol. III at 515:5-7 (Mikkelsen Cross). Further, the mandate for Ohio and its neighbors to comply with the U.S. EPA’s Clean Power Plan (“CPP”) could also pose future reliability challenges. As Company witness Evans observed:

Ohio is a net importer of electricity, and its reliance on imports from other states has been growing recently because U.S. EPA mandates and economic factors have caused a number of Ohio units to retire. Because Ohio is a net importer of electricity, reliability in Ohio is vulnerable to decisions made by other states when implementing [e.g.] their CPP compliance plans.... Indeed, according to the U.S. EPA modeling for the CPP, reliable baseload generation will be further reduced in those states from which Ohio currently imports electricity... [R]eliable baseload plants in Ohio that are modeled to survive CPP – like Sammis and Davis-Besse – will play an increased role in ensuring grid reliability and stability for Ohio. (Evans Errata, pp. 6-7.)

²⁸⁹ Moul Direct, p. 6.

²⁹⁰ “A diverse portfolio is the best available tool for power generation cost risk management. Other risk management tools such as fuel contracts and financial derivatives complement fuel and technological diversity in power generation but fall far short of providing a cost-effective substitute for power supply diversity.” Makovich Supp., Attachment LM-2, p. 20 (The Value of US Power Supply Diversity, IHS Energy (July 2014)).

electricity.²⁹¹ This would lead to higher wholesale and retail prices if and when natural gas prices rose, which in all likelihood they will.²⁹²

There can be no dispute that natural gas (unlike coal) is an extremely volatile commodity historically subject to wide price fluctuations. As Company witness Rose testified:

[Natural gas] is the most volatile commodity traded in the United States...it...[is]...two and a half times more volatile than the S&P 500 and more volatile than oil prices. So it's extremely volatile. It moves dramatically. It's extremely volatile and underlies the volatility of natural gas relative to, for example, coal.²⁹³

Thus, the question is not “if” but “when” today’s historically low natural gas prices will increase and increase significantly. Natural gas prices have nowhere to go but up.²⁹⁴ Natural gas consumption in the United States has increased essentially every year since 1950 (except during the 1970s).²⁹⁵ And, it increased approximately 10 percent between 2010 and 2014²⁹⁶ and 15 percent between 2008 and 2015 despite the Great Recession.²⁹⁷ Further, as Mr. Rose testified at hearing, “[O]ur forecast is that natural gas demand over 10 years is going to increase by a third[:]

²⁹¹ Moul Direct, p. 7; *See also* Hearing Tr. Vol. XXV at 4939:9-13 (Haugen Cross).

²⁹² Hearing Tr. Vol. XXVIII at 5635:3-9 (Kalt Cross) (admitting that natural gas prices can directly impact wholesale energy prices in PJM).

²⁹³ Hearing Tr. Vol. VI at 1168:8-21 (J. Rose Cross). “Of the most highly traded commodities on the NYMEX....the natural gas price volatility was 57%, and the average of the eight other most highly traded commodities was 28.5%.” Rose Rebuttal, p. 30. *See also* Hearing Tr. Vol. XXIV at 4891:2-5 (Kahal Cross); Makovich Supp., p. 4.

²⁹⁴ Spot prices for natural gas (at Henry Hub) in December 2015 achieved a 16-year low. Hearing Tr. Vol. XXXIX at 8290:3-10 (Sierra Club witness Comings agreeing that mid-December price was a 16-year low and that he would not use it); Hearing Tr. Vol. XXXVIII at 8121:21-24 (OCC witness Wilson stating that “the low prices experienced in December should be considered to be a very short-term condition”); Co. Ex. 167, pp. 9-10 (U.S. Energy Information Administration Short Term Energy Outlook, January, 2016) (natural gas prices are forecast to rise through much of 2016).

²⁹⁵ *See* Co. Ex. 63 (Energy Information Administration, U.S. Natural Gas Consumption [1950-2014] (downloaded Sept. 30, 2015)).

²⁹⁶ *See* Co. Ex. 63.

²⁹⁷ Rose Rebuttal, p. 36.

... the largest increase in a 10-year period ever.”²⁹⁸ There is thus no reason to believe that natural gas consumption will not continue to increase well into the future.

Concomitantly, natural gas drilling is at “the lowest drilling level ever recorded.”²⁹⁹ The “decrease in gas-directed well drilling has been 75% to 80% since 2011, and the decrease has recently accelerated with well drilling approaching 200 wells versus 800 to 1,000 wells in the 2010 to 2011 period.”³⁰⁰

Increased natural gas consumption and record low levels of natural gas drilling translate into significant future increases in the price of natural gas from today’s historically low and unsustainable prices. This prospect has not gone unnoticed. Indeed, the natural gas “reference cases” employed by the Energy Information Administration (“EIA”) for both its 2014 and 2015 Annual Energy Outlook (“AEO”) reports project that natural gas prices will increase

²⁹⁸ Hearing Tr. Vol. VI at 1214-25-1215:3 (J. Rose Cross); Rose Rebuttal, p. 29.

²⁹⁹ Hearing Tr. Vol. VI at 1227:5-9 (J. Rose Cross). Moreover:

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Hearing Tr. Vol. VII (CONF.) at 1445:25-1446:23 (J. Rose Cross).

³⁰⁰ Rose Rebuttal, p. 32. *See also* Rose Rebuttal, p. 33, Figure 2 (US Oil and Gas Rig Count (sourced from Baker Hughes data compilation)); Hearing Tr. Vol. XXXV at 7458:16-19 (J. Rose Rebuttal Cross).

significantly between 2016 and 2024, which includes the entire term of the Economic Stability Program.³⁰¹

If there is a diverse mix of fuel types, then one type of generation can be substituted for another when fuel costs change significantly.³⁰² If, as projected, natural gas prices rise significantly, then gas-fired generation can be replaced with, for example, typically more price stable coal-fired generation.³⁰³ This portfolio diversity effect protects customers from rapidly changing fuel costs which would otherwise occur without generation resource diversity, leading to more stable and lower retail prices overall.³⁰⁴

The Commission is well aware of this fact. As the Commission has observed:

The ‘dash to gas’ scenario causes concern to economic regulators because the more dependent a system is on one specific fuel type, the more risk and volatility there exists for [customers].³⁰⁵

Despite the clear benefits of resource diversity, as the Commission has recognized, the Ohio generation mix is becoming increasingly focused on natural gas.³⁰⁶ This will make Ohio more reliant on natural gas as fuel for power plants, exposing the market even more to natural gas

³⁰¹ See Co. Ex. 65 (EIA Forecasts of U.S. Natural Gas Prices).

³⁰² Makovich Supp., p. 13.

³⁰³ As OCC witness Wilson admitted at hearing, coal is generally a more stably priced fuel and gas as a driver of electric prices could potentially make energy prices more volatile. Hearing Tr. Vol. XXII at 4522:20-25 (Wilson Cross).

³⁰⁴ Moul Direct, p. 7; Makovich Supp., p. 13; Hearing Tr. Vol. XXI at 4205:21-25 (Cole Cross); Hearing Tr. Vol. XXV at 4941:25-4942:4 (Haugen Cross); Hearing Tr. Vol. XXVIII at 5643:2-7 (Kalt Cross).

³⁰⁵ Moul Direct, p. 9 (quoting Comments on the U.S. EPA Carbon Paper Submitted on Behalf of The Public Utilities Commission of Ohio, p. 8 (Dec. 16, 2013)).

³⁰⁶ See Moul Direct, pp. 7-8 (quoting Comments Submitted on Behalf of the Public Utilities Commission of Ohio at 7-8, Technical Conference on Winter 2013-2014 Operations and Market Performance in Regional Transmission Organizations and Independent System Operators, FERC Docket No. AD14-8-000 (May 15, 2014)). Further, as noted in the 2014 PJM report regarding the Polar Vortex, gas-fired generation disproportionately contributed to the reliability crisis. See Sierra Club Ex. 8, pp. 25-26.

prices as the marginal clearing price for power,³⁰⁷ as well as to the higher risk created by units reliant on interruptible sources of supply.

f. The Economic Stability Program benefits customers by avoiding the need for costly transmission system upgrades that the retirement of the Plants would otherwise require.

If Rider RRS is not approved and the Plants close, the loss of over 3,000 MW of baseload generation would have a negative impact on the stability of the transmission system. The Plants serve essential functions as part of the generation and transmission systems, and their retirement is expected to cause violations of PJM's reliability standards. This would necessitate substantial transmission upgrades. When generation plants cease operations, transmission upgrades are often needed to enable the flow of power from existing and planned generation sources to the load previously served by the retired plants consistent with reliability standards.³⁰⁸ The removal of a large baseload generating plant from the transmission grid affects the real and reactive power flow across the grid, potentially adversely affecting reliability.³⁰⁹ Indeed, "reactive power does not travel well over transmission lines," thereby increasing the likelihood of forced outages.³¹⁰ This can be shown through the inability of the system to withstand unexpected disturbances, transmission line overloads, and voltage issues (up to and including a voltage

³⁰⁷ As PJM found in its 2014 Polar Vortex report, "Natural gas scheduling issues caused most of the \$597 million in out-of-market make-whole (uplift) charges for January 2014." Sierra Club Ex. 8, p. 5.

³⁰⁸ Phillips Direct, p. 2; Hearing Tr. Vol. XVI at 3293:19-3294:18 (Phillips Cross). As PJM has recently observed, "Fundamentally, transmission delivers power from point of generation to point of consumption. An area that cannot meet its load-serving requirement from internally generated power – whether an individual locational deliverability area (LDA) or the PJM area as a whole – *must import it*. Transmission lines become more heavily loaded to the degree that generation is removed from an area and not replaced with the same quantity megawatt at the same location. If either or both location and quantity differ from that originally there, transmission flows are altered." ELPC Ex. 17, p. 56 (emphasis added) (2015 RTEP Process Scope and Input Assumptions White Paper).

³⁰⁹ Phillips Direct, pp. 2-3; Hearing Tr. Vol. XVI at 3293:19-3294:18 (Phillips Cross).

³¹⁰ Hearing Tr. Vol. XXV at 5152:19-5153:3 (Lanzalotta Cross).

collapse), if transmission upgrades are not made in response to the retirement of a baseload generation unit.³¹¹

For example, as a result of the recent retirements of 2,400 megawatts in Ohio by FES and GenON Energy Inc., 38 separate transmission system upgrades were required to maintain reliability.³¹² These upgrades cost close to \$1 billion. Approximately 89 percent of that cost was borne by Ohio customers, with approximately 82 percent being allocated to customers of the Companies.³¹³

For this case, a team led by former Company witness Gavin Cunningham³¹⁴ used power flow models developed by PJM and the process prescribed by PJM Manual 14B to identify the transmission impacts if the Plants retired. To perform the detailed transmission reliability impact study, the Companies used an independent consultant (a former PJM employee who is an expert at conducting these transmission studies for PJM) to replicate PJM's modeling methodology to ensure that the Companies' results would parallel PJM's results.³¹⁵ The analysis included a generation deliverability study to determine if the transmission system would be capable of delivering the system generating capacity at peak load. The analysis also included a load

³¹¹ Phillips Direct, p. 3; Phillips Supp., pp. 5-7; Hearing Tr. Vol. XV at 3254:9-3256:23 (Phillips Cross); Hearing Tr. Vol. XXIV at 4896:1-15 (Kahal Cross).

³¹² Phillips Direct, p. 3; Hearing Tr. Vol. XV at 3241:16-3243:7 (Phillips Cross). As a recent PJM report found, "Deactivation of the generation along Lake Erie will require significant transmission upgrades to resolve thermal and voltage violations in and around the City of Cleveland which has historically been constrained due to voltage limitations." Sierra Club Ex. 60, p. 6 (PJM TEAC Report). Further, "the ability to import power into the Cleveland area has historically been limited by voltage problems. Deactivation of the generation in and around Cleveland will exacerbate these voltage limitations." *Id.*, p. 7.

³¹³ Phillips Direct, p. 3; Phillips Supp., p. 10; Hearing Tr. Vol. XV at 3237:18-3239:5 (Phillips Cross).

³¹⁴ Because Company witness Gavin Cunningham retired, Company witness Rodney Phillips adopted the Direct Testimony of Gavin L. Cunningham and the accompanying Exhibit GLC-1. Phillips Supp., p. 4.

³¹⁵ Hearing Tr. Vol. XV at 3245:19-3246:19, 3252:8-3253:4, 3256:5-19 (Phillips Cross); Third Supp. Stip., Section V.I.1.

deliverability study to ensure that the transmission system is adequate to deliver each load area's requirements from the aggregate of system generation.³¹⁶ The study identified 26 reliability problems caused by the Plants' retirement.³¹⁷

The Companies further calculated the cost of transmission upgrades necessary to meet minimum reliability criteria.³¹⁸ Using the appropriate PJM per-mile costs and Eastern Interconnection Planning Collaborative ("EIPC") cost multipliers, the Companies calculated a conservative lower range of costs as well as a higher range of costs. For the lower range, the Companies conservatively assumed all the violations identified through the transmission impact analysis would be resolved through re-conductoring.³¹⁹ In this conservative re-conductoring scenario, applying the appropriate EIPC multiplier to the PJM per-mile costs yielded a lower range of costs of \$436.5 million.³²⁰

To calculate an upper range of costs, the Companies assumed that all the necessary transmission upgrades were accomplished through rebuilding the overloaded facilities instead of merely re-conductoring them. In this scenario, the estimated cost of the upgrades approximates \$1.1 billion. The upper range was necessary because the conservative re-conductoring scenario does not reflect the realities of transmission planning. More specifically, the 26 violations identified cannot be resolved exclusively through the least-cost solution of re-conductoring.³²¹

³¹⁶Phillips Direct, p. 4.

³¹⁷ Phillips Direct, Att. GLC-1.

³¹⁸ Phillips Direct, pp. 4-6; Hearing Tr. Vol. XV at 3226:9-25 (Phillips Cross); Hearing Tr. Vol. XVI at 3402:6-3403:18; 3403:19-3404:12 (Phillips Cross).

³¹⁹ Under this conservative assumption, there is no need to rebuild facilities or build new facilities.

³²⁰ Phillips Supp., p. 4.

³²¹ Phillips Supp., pp. 9-10; Hearing Tr. Vol. XVI at 3285:16-25 (Phillips Cross).

Thus, practical experience demonstrates that some of the impacted facilities will need to be rebuilt.³²²

Company witness Phillips concluded the costs of the necessary transmission upgrades would fall within a range between \$436.5 million and \$1.1 billion. As noted, the necessary upgrades could not be accomplished entirely through rebuilding.³²³ Practical experience indicates that PJM and transmission owners will develop a solution that consists of new facilities, as well as a combination of re-conductoring and rebuilding of existing facilities. For these reasons, Mr. Phillips concluded the ultimate resolution of the transmission violations caused by retirement of Sammis and Davis-Besse would be closer to the upper end of \$1.1 billion than the lower end cost estimate of \$436.5 million. Because the need for the transmission upgrades would be largely driven by the Companies' load, a significant portion of these costs would be borne by the Companies' customers.³²⁴ The Economic Stability Program thus enables

³²² Phillips Supp., p. 8. Notably, the upper range calculation did not assume that it would be necessary to build new facilities (as opposed merely to rebuilding or reconductoring existing ones). Transmission planning analyzes whether the construction of new facilities, such as new lines or substations, would provide better alternatives for solving the identified reliability issues. A solution consisting entirely of re-conductors or rebuilt facilities would require a large number of facilities to be out of service at one time, creating potential reliability risks and congestion costs. Therefore, new facilities may be necessary. New facilities would be more expensive and increase the total costs of upgrades. *Id.*, pp. 8-9.

³²³ Phillips Supp., pp. 8-10; Hearing Tr. Vol. XVI at 3285:16-25 (Phillips Cross).

³²⁴ Phillips Direct, p. 3; Ruberto Direct, p. 8; Phillips Supp., pp. 8, 10; Hearing Tr. Vol. XXV at 5152:3-9 (Lanzalotta Cross) (the Companies' customers would bear "some portion" of such costs). Further, Sierra Club witness Lanzalotta agreed that under an RMR agreement, customers would have to pay for any new transmission upgrades required as well as for the extra generation secured under the RMR contract at issue. Hearing Tr. Vol. XXV at 5153:24-5154:3 (Lanzalotta Cross). *See also* Sierra Club Ex. 60, p. 2 (PJM TEAC Report) ("The cost of transmission upgrades to mitigate criteria violations caused by generation deactivation is allocated to load.").

“the avoidance of significant transmission investment”³²⁵ and the increase in electric prices between \$1.7 billion and \$4.1 billion associated with such investment.³²⁶

g. The Plants will continue to provide significant environmental compliance benefits.

U.S. EPA’s Clean Power Plan (“CPP”) will regulate CO₂ emissions under Section 111(d) of the Clean Air Act.³²⁷ U.S. EPA estimates that the CPP will reduce national power sector emissions 32% below 2005 levels by 2030.³²⁸ Each state is required to devise a plan to meet CO₂ emission rate standards. In assessing each state’s options for reducing emissions from the state’s 2012 fossil emission rate, U.S. EPA used assumptions for each of three “Building Blocks:”

- Building Block No. 1: Improved coal plant heat rates to increase unit efficiency;
- Building Block No. 2: Re-dispatch/fuel switching based on a glide path increasing to a maximum of 75% of net summer capacity for natural gas combined cycle units; and
- Building Block No. 3: Re-dispatch/fuel switching as a result of increased renewable energy, based on incremental generation above 2012 levels stemming from an assessment of regional technical potential.³²⁹

The Building Blocks are used to calculate uniform national emission rates for affected electric generating units, and those uniform rates are used to derive state goals.³³⁰

³²⁵Hearing Tr. Vol. I at 96:11-12 (Mikkelsen Cross). *See also* Hearing Tr. Vol. XV at 3240:16-24 (Phillips Cross).

³²⁶ Mikkelsen Second Supp., pp. 7-8 and Attachment EMM-2.

³²⁷ Evans Errata, p. 1.

³²⁸ Evans Errata, p. 1.

³²⁹ Evans Errata, p. 1.

³³⁰ Evans Errata, p. 1.

The 111(d) rule allows states to choose between: (a) a rate-based approach to compliance, whereby the average emission rate of a state must be less than or equal to the best system of emission reduction (“BSER”)³³¹ target developed for that particular state; and (b) a mass-based approach.

Company witness Evans examined both U.S. EPA’s modeling of the proposed rule’s rate-based approach and U.S. EPA’s modeling of the final rule’s rate-based approach to identify the modeled outcomes for the Plants.³³² He determined that “Sammis is a valuable asset for Ohio’s compliance with the CPP, through the term of the Economic Stability Program and beyond, according to the U.S. EPA’s modeling.”³³³ According to that modeling, the operation of Sammis, combined with investment in the other Building Blocks, represents “Ohio’s least-cost strategy for complying with the CPP.”³³⁴ Likewise, Davis-Besse, as a zero-carbon resource, would have a critical role to play in Ohio’s future CPP compliance plans. “Carbon emissions in Ohio likely would increase if Davis-Besse is retired” and replaced by natural gas-fired generation.³³⁵

³³¹ See 42 U.S. Code § 7411(g)(4)(B).

³³² Evans Errata, p. 2.

³³³ Evans Errata, p. 2.

³³⁴ Evans Errata, p. 3. “U.S. EPA assumes Sammis will be running continuously throughout the Economic Stability Program and beyond.” Evans Errata, p. 5.

³³⁵ Evans Errata, p. 6. “In addition, nuclear uprates will create Emission Reduction Credits (“ERCs”) under the CPP. ERCs provide Davis-Besse with an additional source of revenue...to benefit customers under the Economic Stability Program.” Evans Errata, p. 6. As City of Cleveland witness Cole admitted at the hearing, if the CPP results in some form of carbon tax, the value of Davis-Besse would increase. Hearing Tr. XXI at 4221:2-10 (Cole Cross).

Further, as noted below, the Plants are also compliant with all existing and pending environmental regulations.³³⁶ Indeed, Sammis is well-positioned to meet U.S. EPA’s recently finalized Effluent Limitation Guidelines (“ELGs”) for fly ash, bottom ash, and flue gas desulfurization.³³⁷ Such current and future environmental compliance benefits will likely be foregone, however, if Rider RRS is not approved.

h. Rider RRS would be subject to rigorous Commission oversight with full information sharing and incorporates a risk-sharing mechanism.

In its *AEP ESP3* Order, the Commission expressed concern regarding proper monitoring of cost-recovery under PPA-related riders. The Companies welcome rigorous Commission oversight of all costs and revenues included in Rider RRS. As Company witness Mikkelsen testified, “The Companies, as proposed, would make an annual filing for Rider RRS, which would be available for the Commission review and approval.”³³⁸ In the first review, Staff will have from April 1 to May 31 to review the annual Rider RRS filing for mathematical errors, consistency with Commission approved rate design, and incorporation of prior audit findings.³³⁹ In the second after-the-fact review, Staff will have the opportunity to audit the reasonableness of the actual costs (excluding Legacy Costs that were available for review in this proceeding) and to confirm that the actual costs and actual market revenues included in Rider RRS are not

³³⁶ Harden Direct, pp. 9-12. *See* Section IV.C.2.c., *infra*.

³³⁷ Evans Rebuttal, p. 2.

³³⁸ Hearing Tr. Vol. I at 58:22-59:8 (Mikkelsen Cross). *See also* Hearing Tr. Vol. XXIV at 4879:8-15 (Kahal Cross); Hearing Tr. Vol. XXVI at 5198:16-22 (Campbell Cross).

³³⁹ Mikkelsen Direct, p. 15.

unreasonable.³⁴⁰ Although the Commission will have no authority to direct the Companies' offers of capacity into the PJM capacity market, the revenues generated from the PJM market will be subject to after-the-fact Commission review.³⁴¹ This review process will ensure that Rider RRS is calculated appropriately and only reasonable costs are recovered.³⁴² The Companies also commit to full information sharing regarding the Plants with the Commission and Staff as part of this process.³⁴³ In addition, pursuant to a reasonable request, the Companies will provide Staff with FES's fleet information on any cost component to assist Staff as it conducts its reasonableness review of Rider RRS.³⁴⁴

Notably, the Companies, not their customers, would be responsible for amounts disallowed for recovery through Rider RRS because the Commission deemed those costs unreasonable.³⁴⁵ As Company witness Ruberto testified, "The costs that the Company pays to FES, the revenues the Companies receive through PJM are both subject to the PUCO's audit process."³⁴⁶ As Company witness Mikkelsen testified, if there were "a determination that either the underlying costs or the underlying revenues are unreasonable, then . . . the financial risk of

³⁴⁰ "All nonlegacy costs are available for a review by the Commission staff in order to assure that those costs are not unreasonable." Hearing Tr. Vol. I at 54:20-22 (Mikkelsen Cross). *See also* Hearing Tr. Vol. I. at 68:4-16 (Mikkelsen Cross); Mikkelsen Direct, p. 15; Hearing Tr. Vol. XXXVI at 7622:1-8 (Mikkelsen Cross).

³⁴¹ Mikkelsen Fifth Supp., p. 4; Tr. Vol. XIV at 3002:14-16 (Ruberto Cross); Tr. Vol. XXXVI at 7617:14-23 (Mikkelsen Cross).

³⁴² Hearing Tr. Vol. I. at 68:4-16 (Mikkelsen Cross); Hearing Tr. Vol. XXIV at 5036:21-24 (Bowring Cross); Hearing Tr. Vol. XXVI at 5385:20-5387:14 (K. Rose Cross).

³⁴³ Hearing Tr. Vol. I at 82:24-84:11 (Mikkelsen Cross).

³⁴⁴ Third Supp. Stip., Section V.B.3.a. *See* Hearing Tr. Vol. XXXVI at 7517:5-10 (Mikkelsen Cross). The reasonableness of a Staff request ultimately will be determined by the Commission. *See* Hearing Tr. Vol. XXXVI at 7519: 11-17 (Mikkelsen Cross).

³⁴⁵ Mikkelsen Supp., p. 12; Hearing Tr. Vol. I at 60:7-61:4 (Mikkelsen Cross); Hearing Tr. Vol. II at 448:2-21; (Mikkelsen Cross); Third Supp. Stip., Section V.B.3.a.

³⁴⁶ Hearing Tr. Vol. XIV at 3002:14-16 (Ruberto Cross).

those unreasonable determinations would be transferred from the companies' customers to the company.”³⁴⁷ Potentially disallowed costs also include those associated with performance requirements in PJM's markets offset by any performance bonuses.³⁴⁸

As an added protection to customers, Rider RRS also incorporates an additional risk-sharing mechanism that potentially provides up to \$100 million in credits to customers through this mechanism for Years 5 through 8 of the Economic Stability Program.³⁴⁹ Beginning in Year 5 of the Economic Stability Program, customers could receive a credit of \$10 million in the aggregate through this mechanism.³⁵⁰ As Company witness Mikkelsen testified at hearing, “What this provision does is guarantee that if credits are not produced at a certain level in years five, six, seven, and eight, the companies will make a credit pursuant to this provision in order to ensure that whether it's by the company funded credit or the credit that occurs naturally through Rider RRS, there will be at least \$100 million in credits to the customers in Rider RRS.”³⁵¹ The Companies would be financially responsible for any credits paid under this provision.³⁵²

Specifically, the risk-sharing credit begins in Year 5 at \$10 million and increases in increments of \$10 million per year through Year 8 for a total of \$100 million dollars.³⁵³ For example, in Year 5, if Rider RRS produces an aggregate credit of \$6 million the Companies must

³⁴⁷ Hearing Tr. Vol. I at 60:7-61:4 (Mikkelsen Cross); Hearing Tr. Vol. XXXVI at 7622:8-11 (Mikkelsen Cross).

³⁴⁸ Third Supp. Stip., Section V.B.3.a.; Hearing Tr. Vol. XXXVI at 7709:5-23 (Mikkelsen Cross).

³⁴⁹ Mikkelsen Fifth Supp., pp. 3-4; Hearing Tr. Vol. XXXVI at 7523:13-17 (Mikkelsen Cross); Hearing Tr. Vol. XXXVII at 7770:18-20 (Mikkelsen Cross).

³⁵⁰ Third Supp. Stip., Section V.B.2.; Hearing Tr. Vol. XXVII at 7772:12-17 (Mikkelsen Cross).

³⁵¹ Hearing Tr. Vol. XXXVII at 7770:23-7771:6 (Mikkelsen Cross).

³⁵² Hearing Tr. Vol. XXXVI at 7524:21-7525:4 (Mikkelsen Cross).

³⁵³ The potential credits are as follows: Year 5 = \$10 million; Year 6 = \$20 million; Year 7 = \$30 million; Year 8 = \$40 million. *See* Third Supp. Stip., Section V.B.2.

provide an additional \$4 million to ensure that a minimum credit of \$10 million is paid to Customers.³⁵⁴ If Rider RRS produces a credit of \$15 million in Year 5, the Companies are under no obligation to provide an additional credit to customers. Conversely, were Rider RRS to produce a charge of \$12 million in Year 5, the risk-sharing mechanism would reduce this charge to \$2 million.³⁵⁵ Thus, the risk-sharing mechanism incorporated into Rider RRS as part of Stipulated ESP IV provides customers with even greater enhanced rate certainty and stability.

2. Stipulated ESP IV benefits customers and the public interest by continuing the successful CBP process approved by the Commission in ESP III with slight modifications.

Stipulated ESP IV continues the CBP process approved by the Commission in ESP III.³⁵⁶ The Companies will procure the necessary generation supply for all SSO customers, including Percentage of Income Payment Plan (“PIPP”) customers, via a descending-clock CBP auction.³⁵⁷ All SSO customers will receive retail generation service based on market prices.³⁵⁸

Like the Companies’ previous ESP CBPs, the proposed CBPs will be open, competitive and fair. The CBPs will follow the same rules and procedures that have proven to be successful in the Companies’ current ESP.³⁵⁹ The CBP process is designed to obtain a competitive outcome

³⁵⁴ Third Supp. Stip., Section V.B.2.

³⁵⁵ Third Supp. Stip., Section V.B.2.

³⁵⁶ Direct Testimony of Bradley A. Miller (“Miller Direct”), pp. 5-6; *see also* Case No. 12-1230-EL-SSO, Opinion and Order at 42-43 (July 18, 2012).

³⁵⁷ Application, p. 6; Direct Testimony of Edward B. Stein (“Stein Direct”), p. 9; Hearing Tr. Vol. V at 959:3-14 (Stein Cross); Third Supp. Stip., Section V.G.3. The Companies’ PIPP load will be served in compliance with R.C. 4928.54. Third Supp. Stip., Section V.G.3.

³⁵⁸ “The physical provision of energy and capacity to the nonshopping customers would occur through the competitive bid process and be delivered to the SSO customers.” Hearing Tr. Vol. I at 108:10-13 (Mikkelsen Cross); Mikkelsen Direct, p. 28.

³⁵⁹ Mikkelsen Direct, p. 28.

for the auction products available in the auction.³⁶⁰ CRA International, an independent and experienced auction manager, will implement the auctions.³⁶¹ And the entire process is overseen by an auction monitor retained by the Commission.³⁶²

As with the Companies' past CBPs, the proposed CBPs also will help to stabilize and mitigate the volatility of rates in the near term through the use of the well-recognized procurement strategies of laddering and staggering.³⁶³ Under Stipulated ESP IV, the CBPs will seek a mix of one-, two-, and three-year products using a schedule shown below:³⁶⁴

³⁶⁰ Mikkelsen Direct, p. 28; Miller Direct, p. 17.

³⁶¹ Mikkelsen Direct, p. 28; Miller Direct, p. 4.

³⁶² Mikkelsen Direct, p. 28.

³⁶³ Hearing Tr. Vol. V at 959:3-14 (Stein Cross).

³⁶⁴ Stein Direct, p. 7; Third Supp. Stip., Section V.G.3.

Stipulated ESP IV SSO PROCUREMENT SCHEDULE:

			Term Begin /End	Product Delivery							
				Jun-16 May-17	Jun-17 May-18	Jun-18 May-19	Jun-19 May-20	Jun-20 May-21	Jun-21 May-22	Jun-22 May-23	Jun-23 May-24
Procurement	Scheduled Date	Tranches Procured	Term (Years)								
1	TBD	17	3								
		17	2								
		16	1								
2	TBD	17	3								
		17	2								
		16	1								
3	Oct-16	16	1								
4	Jan-17	16	1								
5	Oct-17	17	3								
		16	2								
6	Jan-18	17	3								
		16	2								
7	Oct-18	17	1								
8	Jan-19	17	1								
9	Oct-19	17	2								
		16	1								
10	Jan-20	17	2								
		16	1								
11	Oct-20	17	3								
		16	1								
12	Jan-21	17	3								
		16	1								
13	Oct-21	17	2								
		16	1								
14	Jan-22	17	2								
		16	1								
15	Oct-22	16	1								
16	Jan-23	16	1								

This schedule enables the Companies to “ladder in” procurements at various times to help smooth out market prices for customers over the eight-year term of Stipulated ESP IV.³⁶⁵ Laddering or staggering procurements in this fashion is a well-accepted technique for mitigating near-term price volatility. Indeed, in ESP III, the Commission found that laddering procurements benefits customers by mitigating price volatility during the typical 3-year ESP term.³⁶⁶

³⁶⁵ Stein Direct, p. 7; Mikkelsen Direct, p. 29; Hearing Tr. Vol. V at 959:2-15 (Stein Cross). The Commission has approved the use of these procurement strategies. *See, e.g.*, Case No. 12-1230-EL-SSO, Opinion and Order at 32 (July 18, 2012).

³⁶⁶ Case No. 12-1230-EL-SSO, Opinion and Order at 32 (July 18, 2012).

In addition, the Companies propose to modify two provisions of the Master Standard Service Offer Supply Agreement (“MSA”) to further benefit customers.³⁶⁷ First, the Companies will assume the responsibility to pay certain unpredictable and nonhedgeable PJM costs that are currently the responsibility of SSO suppliers and CRES providers.³⁶⁸ This change will remove the need for SSO suppliers and CRES providers to add a risk premium to their respective bids and service prices for the costs that will be included in Rider NMB.³⁶⁹ This should reduce costs charged to customers.

Second, the Companies propose to modify the Independent Credit Requirement (“ICR”) to a volume-based mechanism that will be based directly on the load served and the time left until the expiration of an SSO supplier’s contract. This modification will keep the Companies whole in the event of an SSO supplier default. It also will allow for more transparency of the market exposure between SSO suppliers and the Companies.³⁷⁰

3. Stipulated ESP IV benefits customers and the public interest by continuing Rider GCR, approved by the Commission in ESP III, with slight modifications.

Stipulated ESP IV also will continue the Generation Cost Reconciliation rider (“Rider GCR”). The terms and conditions of Rider GCR, however, will be modified to provide customers with additional stability and certainty. The proposed modification will make costs recovered under the rider bypassable unless the balance of the rider exceeds 10 percent of the

³⁶⁷ The MSA governs the terms of the services provided by the winning bidders of the CBP process. Stein Direct, p. 3.

³⁶⁸ Stein Direct, p. 12.

³⁶⁹ Stein Direct, p. 16; Hearing Tr. Vol. V at 998:22-999:5 (Stein Cross).

³⁷⁰ Stein Direct, pp. 6-7; Hearing Tr. Vol. V at 951:5-11 (Stein Cross).

applicable generation expense in two consecutive quarters during the term of Stipulated ESP IV.³⁷¹ Rider GCR had previously set this threshold lower at five percent during the applicable time period.³⁷²

4. Stipulated ESP IV benefits customers and the public interest by helping to ensure reasonably priced and reliable distribution service.

a. The distribution rate freeze benefits customers.

Stipulated ESP IV anticipates the continuation of the Companies' commitment to freeze distribution base rates through the entire eight-year term of Stipulated ESP IV, with an exception for emergency conditions under Section 4909.16.³⁷³ As a result, the distribution portion of customer rates will be stabilized for another eight years.³⁷⁴ Such distribution base rate freezes have been recognized as a benefit that provides certainty, predictability, and stability for customers.³⁷⁵ Indeed, as Company witness Fanelli testified at hearing, the Companies have the

³⁷¹ Mikkelsen Supp., p. 3.

³⁷² Hearing Tr. Vol. XVIII at 3609:16-20 (Savage Cross).

³⁷³ Application, p. 13; Mikkelsen Direct, p. 6. The Third Supplemental Stipulation also makes clear that "the Companies are not precluded with Staff agreement to file for a base distribution rate case that would go into effect prior to June 1, 2024." Third Supp. Stip., Section V.G.1. Further, consistent with the provisions of ESP III, the Companies seek to continue the provision to recover incremental taxes. Mikkelsen Direct, p. 6. Under this provision, the Companies reserve the right to file a separate application with the Commission should new or incremental taxes arise that could not be recovered elsewhere. Mikkelsen Direct, p. 7. The incremental tax provision was originally contained in the stipulation for the Companies' second ESP, Case No. 10-388-EL-SSO, and approved by the Commission in that case. *See* Case No. 10-388-EL-SSO, Opinion and Order at 47 (Aug. 25, 2010). In light of the Companies' agreement to freeze base distribution rates, the incremental tax provision enables the Companies to seek recovery of costs related to new or incremental taxes should they arise; the Companies otherwise would be precluded from recovery of those costs. The incremental tax provision will continue for the entire ESP IV period. Third Supp. Stip., Section V.J.

³⁷⁴ Mikkelsen Fifth Supp., p. 3.

³⁷⁵ Case No. 12-1230-EL-SSO, Opinion and Order at 56 (July 18, 2012); Mikkelsen Direct, pp. 5-6; Fanelli Direct, p. 9; Hearing Tr. Vol. XX at 3901:11-20 (Fanelli Cross); Hearing Tr. Vol. XXIX at 5913:10-21 (McCarter Cross).

lowest delivery rates in the state, which further demonstrates the benefits of the contemplated distribution base rate freeze.³⁷⁶

b. Rider DCR provides for prudent investments in the Companies' delivery system.

By continuing Rider DCR, Stipulated ESP IV also provides for important and timely investments in the Companies' distribution infrastructure. Rider DCR allows the Companies to recover related taxes and a return on and of incremental plant in service associated with distribution, sub-transmission, general and intangible plant that was not included in the Companies' last base distribution rate case, Case No. 07-551-EL-AIR.³⁷⁷ The return earned on such plant is based on a cost of debt of 6.54 percent and a return on equity of 10.5 percent.³⁷⁸ The net capital additions included for recognition under Rider DCR reflect gross plant in service not included in the Companies' last distribution rate case less growth in accumulated depreciation reserve and accumulated deferred income taxes associated with plant in service since the Companies' last distribution rate case.³⁷⁹ Rider DCR also provides the Companies with the opportunity to recover property taxes, Commercial Activity Tax, and income taxes associated with these capital additions.³⁸⁰

³⁷⁶ Hearing Tr. Vol. XX at 3901:14-18 (Fanelli Cross).

³⁷⁷ Mikkelsen Direct, p. 11. Cost recovery for ESP provisions regarding distribution service is permitted under R.C. 4928.143(B)(2)(h). *See also* Case No. 12-1230-EL-SSO, Opinion and Order at 33-34 (July 18, 2012).

³⁷⁸ Mikkelsen Direct, p. 11; Hearing Tr. Vol. XXXVI at 7575:22-7576:7 (Mikkelsen Cross).

³⁷⁹ Mikkelsen Direct, p. 11.

³⁸⁰ Hearing Tr. Vol. I at 156:13-17 (Mikkelsen Cross); Mikkelsen Direct, p. 11.

Rider DCR will continue as a mechanism to enable the Companies to make timely and proactive investments in their distribution delivery systems.³⁸¹ These investments will benefit all of the Companies' customers by helping to maintain the Companies' delivery systems and service reliability.³⁸² Indeed, as Company witness Fanelli testified at hearing, under Rider DCR, the "timeliness of recovery and Commission review, from the [C]ompanies' perspective, also allows the [C]ompanies an opportunity to invest in their infrastructure in a more proactive or economic manner than otherwise would occur."³⁸³

Indeed, the evidence shows that the enhancements provided through Rider DCR have been successful. The Companies have consistently outperformed the minimum reliability standards that were approved in Case No. 09-759-EL-ESS. In fact, the Companies' reliability performance has improved for each Company in years that Rider DCR has been in place.³⁸⁴ As Company witness Mikkelsen testified at hearing in describing the metrics for 2010-13:

What is interesting to note is the improvement in the Companies' reliability metrics since Rider DCR was approved. If I look across all three of the Ohio utilities across both reliability metrics, each and every one of those improved over the pre-DCR period.³⁸⁵

³⁸¹ Hearing Tr. Vol. I at 154:4-6 (Mikkelsen Cross). As OCC witness Effron recognized at hearing, Rider DCR provides the Companies with an incentive to replace, as opposed to attempt to simply maintain, their aging distribution infrastructure. Hearing Tr. Vol. XXI at 4125:10-14 (Effron Cross).

³⁸² Hearing Tr. Vol. XXIV at 4900:7-14 (Kahal Cross).

³⁸³ Hearing Tr. Vol. XX at 3927:25-3928:4 (Fanelli cross).

³⁸⁴ Mikkelsen Rebuttal, p. 12.

³⁸⁵ Hearing Tr. Vol. XXXIV at 7111:16-22 (Mikkelsen Rebuttal Cross).

Specifically, each Company has a System Average Interruption Frequency Index (“SAIFI”) and a Customer Average Interruption Duration Index (“CAIDI”) reliability standard.³⁸⁶ Each of the Companies’ SAIFI and CAIDI “scores” are shown in Table 1 below.³⁸⁷

Table 1. SAIFI and CAIDI Indices for the Companies

Ohio Edison						
Index	2010	2011	2012	2013	2014	Minimum Standard
SAIFI	0.89	0.86	0.85	0.71	0.70	1.11
CAIDI	102.53	113.76	105.83	100.78	108.89	114.37
CEI						
Index	2010	2011	2012	2013	2014	Minimum Standard
SAIFI	0.98	1.18	0.96	0.86	1.03	1.30
CAIDI	114.98	116.87	107.35	99.55	103.23	135.00
Toledo Edison						
Index	2010	2011	2012	2013	2014	Minimum Standard
SAIFI	0.61	0.64	0.61	0.52	0.51	1.00
CAIDI	92.01	106.71	91.88	100.87	104.54	112.33

This table demonstrates that the Companies have consistently outperformed (*i.e.*, been lower than) their minimum reliability standards since Rider DCR has been in effect.³⁸⁸ Indeed,

³⁸⁶ Hearing Tr. Vol. II at 252:6-10 (Mikkelsen Cross). SAIFI represents the average number of interruptions per customer while CAIDI represents the average time required to restore service per interrupted customer. Mikkelsen Direct, p. 9.

³⁸⁷ Mikkelsen Direct, p. 9; Staff Ex. 4, Prefiled Testimony of Jacob Nicodemus (“Nicodemus Direct”), p. 9.

³⁸⁸ Hearing Tr. Vol. II at 252:11-13 (Mikkelsen Cross); Mikkelsen Direct, p. 9.

Staff witness Nicodemus observed in his direct testimony that “the Companies beat all of their reliability standards by margins ranging from 5 to 49 percent.”³⁸⁹ Thus, the Companies are properly emphasizing and dedicating sufficient resources to support and enhance the reliability of their distribution systems.³⁹⁰

Moreover, the evidence demonstrates that customers’ reliability expectations are aligned with the Companies’ expectations and performance. As explained in Company witness Mikkelsen’s Direct Testimony, the Companies conducted a customer perception survey in 2013. A total of 2,400 randomly selected customers were interviewed – 1,200 residential customers and 1,200 commercial customers.³⁹¹ The survey results showed improved customer perception on reliability compared to a similar survey conducted in 2008.³⁹² These results demonstrate that customers perceive distribution reliability to be improving and that customers have experienced fewer interruptions than in the past.³⁹³ Further, the Companies’ CAIDI results show alignment with customer expectations: when asked, 81 percent of residential customers and 74 percent of commercial customers responded that “reducing the length of time it takes to restore power after an outage” was the most important thing that the Companies could do to improve service.³⁹⁴ Thus, as Staff witness Nicodemus noted, “Based on the Companies successful performance

³⁸⁹ Nicodemus Direct, p. 10.

³⁹⁰ Mikkelsen Direct, pp. 9-10.

³⁹¹ Mikkelsen Direct, p. 10.

³⁹² Mikkelsen Direct, p. 10. Overall, there were fewer residential customers and commercial customers who reported that they “experienced an interruption in electric service, such as flickering or dimming lights, being without power, etc. in the past year” compared to the 2008 survey. Of those who experienced an outage, almost 80 percent consider the number of interruptions they experienced reasonable.

³⁹³ Mikkelsen Direct, p. 10.

³⁹⁴ Mikkelsen Direct, pp. 10-11.

against their reliability standards and results of their reliability surveys, Staff believes that the Companies' reliability expectations are consistent with those of their customers.”³⁹⁵

Under Stipulated ESP IV, Rider DCR will be subject to caps on the revenue that the Companies may recover under the rider.³⁹⁶ The Companies propose that these caps will be increased from the current levels to allow the Companies to maintain the same high level of reliability that is reflected in their CAIDI and SAIFI scores under ESP III. The caps also should be increased to ensure that the Companies and their customers' reliability expectations remain aligned.³⁹⁷

To that end, the proposed annual aggregate Rider DCR revenue caps across all three Companies during Stipulated ESP IV will increase annually in the following increments: \$30 million for the period from June 1, 2016 through May 31, 2019; \$20 million for the period June 1, 2019 through May 31, 2022; and \$15 million for the period June 1, 2022 through May 31, 2024.³⁹⁸ For the first three years of Stipulated ESP IV, the \$30 million annual aggregate revenue cap increases are consistent with the actual average annual Rider DCR revenue requirement increase since the Companies' last base distribution rate case (which had a date certain of May 31, 2007).³⁹⁹ In the later years, the aggregate increases of \$20 million for Years 4 through 6, and

³⁹⁵ Nicodemus Direct, p. 10.

³⁹⁶ Hearing Tr. Vol. I. at 162:7-16 (Mikkelsen Cross); Mikkelsen Direct, p. 13.

³⁹⁷ See also *AEP ESP3* Order at 47 (approving increase in rate caps of AEP Ohio's infrastructure modernization rider, Rider DIR).

³⁹⁸ Third Supp. Stip., Section V.G.2.

³⁹⁹ Fanelli Direct, p. 3. As Company witness Fanelli testified at hearing, “the [C]ompanies' revenue requirements have increased at an average of 30 million per year, and that's why we're proposing to put those more in line under the ESP IV time period.” Hearing Tr. Vol. XX at 3964:11-14 (Fanelli Cross). See also Hearing Tr. Vol. XX at 3967:5-9 (Fanelli Cross).

\$15 million for Years 7 and 8, are below this average. Further, “if the revenue requirements are below these cap levels, the [C]ompanies only recover their revenue requirement.”⁴⁰⁰

Combined with all of the other distribution-related provisions of Stipulated ESP IV, the record shows that these proposed Rider DCR revenue caps are reasonable.⁴⁰¹ As Company witness Mikkelsen testified, “Investments made and recovered under Rider DCR do promote the enhanced reliability of the Companies’ distribution system.”⁴⁰² These increases will allow the Companies to continue to make the requisite infrastructure investments in their distribution system in a timely and economic fashion, subject to Commission review, to promote the safe and reliable provision of electric service throughout the term of Stipulated ESP IV. Rider DCR thus benefits all customers, while enabling timely recovery of the costs of those investments.⁴⁰³

Because of the passage of time, certain existing provisions of Rider DCR are no longer applicable and should be eliminated. Under ESP III, the inclusion of certain capital additions in Rider DCR depended upon there being “no net job losses at the Companies or with respect to FirstEnergy Service Company employees who provide support for distribution services provided by the Companies and are located in Ohio ... as a result of involuntary attrition as a result of the

⁴⁰⁰ Hearing Tr. Vol. XX at 3954:12-18 (Fanelli Cross).

⁴⁰¹ Hearing Tr. Vol. II at 252:6-10 (Mikkelsen Cross). Indeed, when asked about the reasonableness of the proposed annual spending caps for Rider DCR, Company witness Fanelli testified: “The continuation of the base distribution rate freeze was a factor that I took into consideration when making the determination that the proposed caps are reasonable. The Companies currently have the lowest delivery rates in the state, and continuation of those base distribution rates at that low level will continue to provide rate certainty and stability for customers.” Hearing Tr. Vol. XX at 3901:11-20 (Fanelli Cross). *See also* Hearing Tr. Vol. XX at 3956:25 – 3958:14.

⁴⁰² Hearing Tr. Vol. III at 613:3-8 (Mikkelsen Cross).

⁴⁰³ Fanelli Direct, p. 4.

merger between FirstEnergy Corp. and Allegheny Energy, Inc.”⁴⁰⁴ The Companies, as indicated, propose to eliminate this provision.⁴⁰⁵

The record evidence demonstrates that this provision should be eliminated for three reasons. First, the merger occurred in February 2011, nearly five years ago, and any changes or adjustments in organizational structure and staffing necessitated by the merger transition are now complete.⁴⁰⁶ Second, an external auditor chosen by Staff has reviewed this issue as part of the three Rider DCR audits conducted so far and no concerns with staffing reductions resulting from the merger were identified.⁴⁰⁷ Third, each year, the Companies’ customers continue to pay audit costs associated with a provision of Rider DCR that no longer serves any useful purpose. Thus, customers will benefit if this provision is eliminated because doing so will lower Rider DCR auditing costs related to this provision accordingly.⁴⁰⁸

The tariff filing and auditing schedule currently in effect for Rider DCR will be continued throughout the term of Stipulated ESP IV. Specifically, the first quarterly filing for Rider DCR rates during Stipulated ESP IV will be made on or about March 31, 2016, with the corresponding rates to be effective on June 1, 2016. Thereafter, the quarterly filings will be made on or about June 30, September 30, December 31, and March 31 of each year of the Stipulated ESP IV term, with rates effective on September 1, December 1, March 1, and June 1, respectively.⁴⁰⁹ As is the

⁴⁰⁴ Mikkelsen Direct, p. 12.

⁴⁰⁵ Mikkelsen Direct, p. 12.

⁴⁰⁶ Mikkelsen Direct, p. 13.

⁴⁰⁷ Mikkelsen Direct, p. 13.

⁴⁰⁸ Mikkelsen Direct, p. 13.

⁴⁰⁹ Mikkelsen Direct, p. 12.

current practice, the quarterly filings will be based on estimated balances as of August 31, November 30, February 28, and May 31, respectively, with any reconciliations between actual and forecasted information being recognized in the following quarter.⁴¹⁰

Cost recovery under Rider DCR will continue to be subject to annual audits over the term of Stipulated ESP IV,⁴¹¹ with such audits conducted in the same manner as they are today under ESP III.⁴¹² Specifically, the audit shall include a review to confirm that the amounts sought to be recovered are not unreasonable.⁴¹³ The annual DCR audit is quite extensive and includes: (1) a review of projects and work orders for plant-in-service; (2) a review of depreciation rates; (3) a review of an explanation of the difference between the timing of plant-in-service dates and estimated completion dates; (4) a review of actual versus budgeted cost variances; and (5) field visits to ensure that assets are used and useful.⁴¹⁴

As is the current practice, audits will be conducted following the Companies' Rider DCR filings on December 31 of each year during the term of the ESP.⁴¹⁵ The annual audit "allows for a detailed and granular review of specific capital investments that have been made in the past year over that audit period."⁴¹⁶ The expense for the audit will be paid by the Companies and be fully recoverable through Rider DCR.⁴¹⁷ To date, even with the thorough review of the auditor

⁴¹⁰ Mikkelsen Direct, p. 12.

⁴¹¹ Third Supp. Stip., Section V.G.2.

⁴¹² Mikkelsen Direct, p. 13; Hearing Tr. Vol. II at 255:12-13 (Mikkelsen Cross); Hearing Tr. Vol. XXIX at 5883:13-5884:18 (McCarter Cross).

⁴¹³ Mikkelsen Direct, p. 15; Hearing Tr. Vol. XXIV at 4900:15-24 (Kahal Cross).

⁴¹⁴ Hearing Tr. Vol. XXIX at 5883:17-5884:18 (McCarter Cross).

⁴¹⁵ Mikkelsen Direct, p. 12.

⁴¹⁶ Hearing Tr. Vol. XX at 3927:21-24 (Fanelli Cross).

⁴¹⁷ Mikkelsen Direct, p. 12.

and Staff, the Commission's audits of Rider DCR have not uncovered any significant issues with the Companies' recovery of projected costs associated with reasonable distribution infrastructure investments.⁴¹⁸

c. Proposed Rider GDR will benefit customers by allowing timely, uniform, and consistent cost-recovery for costs associated with legislative or governmental directives.

As noted, Stipulated ESP IV also provides for proposed Rider GDR that will permit timely recovery of future costs related to implementing programs required by legislative or governmental directives.⁴¹⁹ The amounts approved by the Commission to be recovered through this rider will be non-bypassable and will enable the Companies to recover government-mandated costs over which the Companies would have no control.⁴²⁰ Examples of the types of government-mandated costs for which the Companies could seek recovery include those associated with: (1) environmental remediation of former manufactured gas plant sites; (2) physical and cyber-security protection for distribution infrastructure; and (3) implementation of directives arising from the Retail Market Investigation.⁴²¹

Given the forward-looking nature of ESPs and the proposed eight-year term of Stipulated ESP IV, it is appropriate to establish a cost recovery mechanism now for possible future charges incurred because of governmental actions or directives. Rider GDR will allow for the recovery of such costs in a uniform and consistent manner subject to Commission review and approval.⁴²²

⁴¹⁸ Hearing Tr. XXIX at 5898:5-5899:12 (McCarter Cross).

⁴¹⁹ Hearing Tr. Vol. I at 180:7-11 (Mikkelsen Cross).

⁴²⁰ Direct Testimony of Branden S. McMillen ("McMillen Direct"), p. 4.

⁴²¹ Hearing Tr. Vol. I at 128:7-11 (Mikkelsen Cross); McMillen Direct, p. 4; Mikkelsen Direct, pp. 24-25.

⁴²² Hearing Tr. Vol. XXIV at 4905:10-19 (Kahal Cross).

In Stipulated ESP IV, the Companies are specifically requesting deferral authority and recovery of the costs associated with the supplier web portal and bill logos through Rider GDR.⁴²³ Subsequently, should any other unanticipated, and currently unknown, government-mandated costs occur, the Companies will have to seek Commission approval to recover specific eligible costs incurred.⁴²⁴ Thus, any such cost recovery under Rider GDR will be subject to Commission review and approval.⁴²⁵

Further, the Rider GDR revenue requirement will be based on actual costs incurred and not yet recovered including capital costs, non-capital costs, the cumulative regulatory asset or liability balance, and applicable taxes.⁴²⁶ The revenue requirement for capital costs will include a return on and of net plant in service and accumulated deferred income tax balances based on the weighted average cost of capital from the Companies' most recent base distribution rate case, and associated taxes. The revenue requirement for non-capital costs will reflect actual costs incurred.⁴²⁷ Importantly, costs included for recovery in Rider GDR will be tracked separately and also will be incremental to costs being recovered elsewhere.⁴²⁸ Rider GDR will be updated and reconciled on a semi-annual basis, with revised tariff sheets being filed no later than June 1 and December 1 for each year of Stipulated ESP IV. Unless otherwise ordered by the

⁴²³ Smialek Direct, pp. 7, 8; Hearing Tr. Vol. V at 1079:9-15, 1081:13-16, 1101:8-23 (McMillen Cross).

⁴²⁴ Mikkelsen Direct, pp. 25-26; Hearing Tr. Vol. III at 600:18-20 (Mikkelsen Cross); Hearing Tr. Vol. XXVI at 5298:12-17 (Pearce Cross).

⁴²⁵ Hearing Tr. Vol. XXIV at 4905:10-19 (Kahal Cross); Mikkelsen Direct, p. 24.

⁴²⁶ McMillen Direct, p. 3.

⁴²⁷ McMillen Direct, p. 3.

⁴²⁸ McMillen Direct, p. 3.

Commission, the filed tariff rates will become effective on the subsequent January 1 and July 1 of the relevant year, respectively.⁴²⁹

d. Modifying Rider DUN benefits customers by allowing for efficient recovery of net metering expenses.

The Companies also propose to recover the costs associated with providing credits for excess generation to net metering customers in the Companies' nonbypassable Distribution Uncollectible Rider ("Rider DUN").⁴³⁰ The Companies seek to collect these costs under a distribution rider because in Case No. 12-2050-EL-ORD, the Commission determined that net metering service is a non-competitive distribution service. The inclusion of these credits in Rider DUN will allow the Companies to recover the costs related to providing credits to net-metering customers when their generation produces more kilowatt hours of electricity than the Companies supply to the customer in a given billing period.⁴³¹ Currently, the Companies are not recovering these distribution costs and have been subsidizing the net metering customers.⁴³² Including these costs in Rider DUN allows the Companies to recover an otherwise uncollectable distribution cost and benefits the Companies' customers by promoting the efficient recovery of expenses associated with excess net metering customer generation.

⁴²⁹ McMillen Direct, p. 3.

⁴³⁰ Mikkelsen Direct, p. 26.

⁴³¹ Mikkelsen Direct, p. 26.

⁴³² Mikkelsen Direct, p. 26.

5. Stipulated ESP IV's grid modernization provision will empower consumers by proposing initiatives that further promote customer choice in Ohio.

Stipulated ESP IV also benefits customers through its grid modernization provision. This provision details several potential grid modernization initiatives that would further promote customer choice in the Companies' service territories.⁴³³ Examples of such potential initiatives include Advanced Metering Infrastructure ("AMI"), Distribution Automation Circuit Reconfiguration, VOLT/VAR, engaging Staff to attempt to remove any barriers for distributed generation, consulting with Staff regarding net-metering tariffs, and full deployment of advanced smart meters.⁴³⁴ These initiatives, if implemented, should lead to customer savings and promote retail competition in the state of Ohio.⁴³⁵ The grid modernization provision is an important step to advance and modernize the distribution delivery business throughout the Companies' service territories.⁴³⁶

Within ninety days of the filing of Stipulated ESP IV, the Companies will file a grid modernization business plan with the Commission.⁴³⁷ All interested parties will then be able to "participate in the vetting of that business [plan] in order to inform the Commission's decision..."⁴³⁸ This plan will highlight future grid modernization initiatives for Commission consideration and approval. Specifically, the plan will include a timeline for the Companies to

⁴³³ Third Supp. Stip., Section V.D.

⁴³⁴ Third Supp. Stip., Section V.D.1.

⁴³⁵ Third Supp. Stip., p. 3.

⁴³⁶ Third Supp. Stip., p. 3.

⁴³⁷ Third Supp. Stip., Section V.D.2; Mikkelsen Fifth Supp., p. 4; Hearing Tr. Vol. XXXVI at 7584:23-7585:2 (Mikkelsen Cross).

⁴³⁸ Hearing Tr. Vol. XXXVI at 7624:14-16 (Mikkelsen Cross).

achieve full advanced smart meter implementation with data capabilities, including transferability, as well as a decoupling mechanism (discussed below).⁴³⁹ The plan also will contain a provision certifying that any data would be customer-owned and only available to CRES providers and other third parties certified by the Commission and upon written authorization by the customer.⁴⁴⁰ This data will be provided in hourly intervals, or intervals less than an hour, and will be “bill quality,” *i.e.*, the data will have undergone the Validate, Estimate, and Edit (“VEE”) process.⁴⁴¹ The Companies will work with CRES providers to ensure that such bill-quality AMI data can be used for billing purposes.⁴⁴²

The Companies will recover costs associated with any approved grid modernization project through Rider AMI. Cost recovery would commence within three months after Commission approval of the project and would be calculated based on a forward-looking formula rate.⁴⁴³ This forward-looking formula rate would be reconciled for actual costs and revenues as compared to forecasted costs and revenues.⁴⁴⁴ The return on equity initially will be set at 10.38 percent, which is “the equivalent to the current FERC-approved ATSI ROE,”⁴⁴⁵ and will follow the ATSI ROE as adjusted in the future with an additional 50 basis point adder.⁴⁴⁶

⁴³⁹ Third Supp. Stip., Section V.D.2.a; Mikkelsen Fifth Supp., p. 4; Hearing Tr. Vol. XXXVII at 7853:20-7854:10 (Mikkelsen Cross).

⁴⁴⁰ Third Supp. Stip., Section V.D.2.c.

⁴⁴¹ Third Supp. Stip., Section V.D.2.c.

⁴⁴² Third Supp. Stip., Section V.D.2.c.

⁴⁴³ Third Supp. Stip., Section V.D.3.

⁴⁴⁴ Third Supp. Stip., Section V.D.3.

⁴⁴⁵ Hearing Tr. Vol. XXXVI at 7631:18-19 (Mikkelsen Cross). This ROE will track the FERC-approved ATSI ROE and be adjusted up or down accordingly. *See id.* at 7631:19-21.

⁴⁴⁶ Third Supp. Stip., Section V.D.3; Hearing Tr. Vol. XXXVI at 7631:13-23 (Mikkelsen Cross).

The cost of debt will be set at the embedded long-term cost of debt in existence at the time the rider is updated, and likewise, the capital structure will be based upon the actual capital structure in existence at the time the rider is updated.⁴⁴⁷ All costs incurred will be recovered under Rider AMI, subject to quarterly updates and reconciliations.⁴⁴⁸ During this quarterly process, the Companies will credit any operational savings that are produced by the investment and accrue to them, *e.g.*, reduced meter reading expenses, against costs.⁴⁴⁹ Subsequent to Commission approval of any grid modernization initiatives, the Companies will provide semi-annual updates to the Commission regarding the progress of those initiatives.⁴⁵⁰

6. Stipulated ESP IV benefits customers with its significant commitments to resource diversification.

As part of Stipulated ESP IV, the Companies are making an unprecedented commitment to the promotion of future resource diversity in Ohio. As set out in the Third Supplemental Stipulation:

- CO₂ Reduction Goal: FirstEnergy Corp. will establish a goal to reduce CO₂ emissions by 90 percent from their 2005 levels by 2045. FirstEnergy Corp. will strive to attain this goal even if the U.S. EPA's Clean Power Plan is overturned by court order. This goal, among the most aggressive targets in the industry, potentially would reduce CO₂ emissions by over 80 million tons.⁴⁵¹ The Companies agree to file a report every five years to apprise the Commission as to the then-status of carbon reductions.

⁴⁴⁷ Third Supp. Stip., Section V.D.3.

⁴⁴⁸ Third Supp. Stip., Section V.D.3.

⁴⁴⁹ Third Supp. Stip., Section V.D.3.

⁴⁵⁰ Third Supp. Stip., Section V.D.4.

⁴⁵¹ Third Supp. Stip., Section V.E.1.

- Battery Technology: The Companies will evaluate investing in battery resources and technology contingent upon Commission approval of cost recovery for such investments.⁴⁵²
- Robust EE Offerings: In 2017, the Companies will reactivate all of their EE/PDR programs that were previously suspended and will expand, in accordance with best utility practices, EE/PDR offerings through the end of the eight-year term of Stipulated ESP IV.⁴⁵³ Through this expansion, the Companies will strive to achieve over 800,000 MWh of energy savings annually (subject to customer opt outs).⁴⁵⁴ The submitted EE/PDR plan will be subject to Commission review and approval. Further, in their next EE/PDR Portfolio Plan filing, the Companies will seek Commission approval to implement, in conjunction with EnerNOC, a 3-year, white-labeled, customer engagement pilot program.⁴⁵⁵ This program will engage small/medium commercial and industrial customers through a customized software program that will empower customers to make smart energy choices in a timely fashion, targeted to those customers' specific lines of business.⁴⁵⁶ The Companies will recover all costs associated with their EE/PDR programs, including internal labor dedicated to such programs, through Rider DSE. Cost-effective EE programs will be eligible for shared savings, with after-tax annual cap increased from \$10 to \$25 million.⁴⁵⁷
- Increase in Renewable Resources: To the extent that Staff finds it helpful to comply with a federal or state law or rule, and such law or rule has not led to the development of new renewable energy resources, the Companies will seek to procure at least 100 MW of wind or solar energy sourced in Ohio, thereby diversifying Ohio's energy portfolio.⁴⁵⁸ Doing so would complement the Economic Stability Program by providing additional diverse generation in Ohio. The Companies would procure the proposed 100 MW of wind or solar energy at issue for a period not to exceed the term of Stipulated ESP IV.⁴⁵⁹ This possible procurement would be based upon an all-in

⁴⁵² Third Supp. Stip., Section V.E.2; Hearing Tr. Vol. XXXVII at 7775:22-7776:8 (Mikkelsen Cross).

⁴⁵³ As Company witness Mikkelsen testified, "FirstEnergy has a long history of supporting energy efficiency in its service territories. The reactivation of these programs in the companies' service territory would assist customers in using their energy efficiency more wisely and assist the companies in achieving the state-mandated benchmarks." Hearing Tr. Vol. XXXVII at 7873:4-10.

⁴⁵⁴ Third Supp. Stip., Section V.E.3.b; Mikkelsen Fifth Supp., p. 4.

⁴⁵⁵ Third Supp. Stip., Section V.E.3.c; Mikkelsen Fifth Supp., p. 4.

⁴⁵⁶ Third Supp. Stip., Section V.E.3.c; Mikkelsen Fifth Supp., p. 4.

⁴⁵⁷ Third Supp. Stip., Section V.E.3.d.

⁴⁵⁸ Third Supp. Stip., Section V.E.4; Mikkelsen Fifth Supp., p. 4.

⁴⁵⁹ Third Supp. Stip., Section V.E.4; Hearing Tr. Vol. XXXVI at 7540:4-11; 15-23 (Mikkelsen Cross). "Once the staff asks the Companies, they are obligated to file." Hearing Tr. Vol. XXXVI at 7543:18-19 (Mikkelsen Cross).

price (energy and renewable energy credits (“RECs”)) and sold into the market. The Companies would recover any associated costs through a new non-bypassable rider, Ohio Renewable Resources Rider (“Rider ORR”).⁴⁶⁰ Rider ORR would be a placeholder rider initially set at zero.⁴⁶¹

- **Carbon Reduction Emissions Plan:** Beginning by November 1, 2016, the Companies will file a report with the Commission that details the progress of their resource diversification efforts. The Companies subsequently will file such reports every five years until 2045.⁴⁶²

Thus, the Companies’ implementation of resource diversification initiatives will benefit customers and the state of Ohio through a potential significant reduction in carbon emissions, the reactivation of the Companies’ EE/PDR programs, and the potential procurement of additional renewable energy from solar and/or wind resources.⁴⁶³

7. Stipulated ESP IV benefits customers through the potential transition to a Straight Fixed Variable cost recovery mechanism.

The Companies will file an Application for Tariff Approval (“ATA”) case with the Commission by April 3, 2017, for consideration of a transition to an SFV cost recovery mechanism for residential customers’ base distribution rates.⁴⁶⁴ Interested parties will have an opportunity to provide input regarding the merits and details of an SFV rate design. In that ATA proceeding, the Companies will propose that the resulting SFV mechanism would be phased in over a period of three years, beginning on January 1, 2019, thereby comports with the principle

⁴⁶⁰ Third Supp. Stip., Section V.E.4; Hearing Tr. Vol. XXXVII at 7777:3-9 (Mikkelsen Cross).

⁴⁶¹ Third Supp. Stip., Section V.E.4.

⁴⁶² Third Supp. Stip., Section V.E.5.

⁴⁶³ Third Supp. Stip., Section V.E.1-5; Mikkelsen Fifth Supp., p. 4; Hearing Tr. Vol. XXXVI at 7532:24-7533:4 (Mikkelsen Cross) (reactivation of EE/PDR programs).

⁴⁶⁴ Mikkelsen Fifth Supp., p. 13.

of gradualism.⁴⁶⁵ The Companies will further propose that the SFV mechanism be set to reflect 25 percent fixed costs and 75 percent variable costs in Year 1, 50 percent fixed and 50 percent variable in Year 2, and culminate in 75 percent fixed and 25 percent variable in Year 3.⁴⁶⁶ Until the SFV mechanism is implemented, the Companies will continue to recover lost distribution revenue as they do now.⁴⁶⁷ Subsequent to any implementation, the Companies would recover lost distribution revenue associated with the variable portion of the base distribution rate. All other riders would continue and revenue would be decoupled to the level of weather adjusted base distribution revenue, lost distribution revenue, and kWh sales as of the twelve month period ending on September 30, 2018.⁴⁶⁸

8. Stipulated ESP IV benefits customers and the public interest by helping to ensure reasonably priced and reliable transmission service.

a. Stipulated ESP IV continues the Companies' commitment not to recover certain legacy transmission expansion costs.

Stipulated ESP IV will continue the Companies' commitment not to seek recovery from retail customers for certain legacy PJM Regional Transmission Expansion Plan ("RTEP") costs. The Companies initially made this commitment in Case No. 10-388-EL-SSO ("ESP II") as part of a broader understanding that the Companies' customers would pay transmission expansion charges arising from the Midwest ISO ("MISO").⁴⁶⁹ The commitment provided that retail

⁴⁶⁵ Third Supp. Stip., Section V.F.3.

⁴⁶⁶ Third Supp. Stip., Section V.F.1.b.i-iii.

⁴⁶⁷ Third Supp. Stip., Section V.F.2.

⁴⁶⁸ Third Supp. Stip., Section V.F.2.

⁴⁶⁹ Mikkelsen Direct, p. 17.

customers would not pay at least \$360 million of these costs.⁴⁷⁰ This commitment was intended to offset the transmission expansion charges that customers would otherwise have to pay, up to \$360 million.⁴⁷¹ The Companies also agreed not to seek recovery through retail rates for MISO exit fees or PJM integration fees.⁴⁷²

As of the start of hearings, the Companies had made payments of over \$124 million in legacy RTEP costs without seeking recovery from retail customers.⁴⁷³ The Companies also have absorbed \$35 million in MISO exit fees and PJM integration related costs.⁴⁷⁴

As part of Stipulated ESP IV, the Companies seek to preserve the intent of the original commitment by counting MISO transmission expansion costs that are determined not to be eligible for inclusion in the ATSI formula rate toward the \$360 million.⁴⁷⁵ Otherwise, retail customers would avoid not only \$360 million in PJM expansion costs, but also the additional amounts for MISO transmission expansion that they would have paid for but for the move from MISO to PJM.⁴⁷⁶ Such an outcome would be inconsistent with the original agreement.

⁴⁷⁰ Mikkelsen Direct, p. 17.

⁴⁷¹ Mikkelsen Direct, p. 17; Hearing Tr. Vol. I at 169:13-25 (Mikkelsen Cross). In the Companies' ESP II case, the Companies made a commitment that certain transmission expansion costs would not be recovered from the Companies' retail customers until \$360 million of such costs had been paid for by the Companies or through May 31, 2016 – whichever was longer.

⁴⁷² Mikkelsen Direct, p. 18; Hearing Tr. Vol. I at 27:21-22 (Mikkelsen Cross).

⁴⁷³ Mikkelsen Direct, p. 17; Hearing Tr. Vol. I at 171: 5-8 (Mikkelsen Cross)

⁴⁷⁴ Mikkelsen Direct, p. 18; Hearing Tr. Vol. I at 27:21-22 (Mikkelsen Cross).

⁴⁷⁵ Mikkelsen Direct, p. 18. The Federal Energy Regulatory Commission has not yet made a final determination regarding whether these costs are eligible for inclusion in the ATSI formula rate. *See* PJM Interconnection, LLC, FERC Docket No. ER11-2814-004.

⁴⁷⁶ Mikkelsen Direct, p. 19.

Nevertheless, customers will continue to receive the same benefit of not having to pay \$360 million in costs related to transmission expansion.⁴⁷⁷

b. Stipulated ESP IV benefits customers by lowering costs associated with non-market based charges.

Rider NMB currently recovers costs associated with non-market based charges that are billed by PJM and which otherwise would have been included in the SSO product for non-shopping customers or the CRES price for shopping customers.⁴⁷⁸ Rider NMB, as a non-bypassable rider, has been in existence since 2011.⁴⁷⁹ The Companies propose to update Rider NMB to have the Companies, rather than SSO suppliers and CRES providers, pay certain non-market based PJM billing line items.⁴⁸⁰ The Companies will recover these charges through Rider NMB. Doing so ultimately will result in lower overall costs for customers.

Specifically, the Companies propose to be charged directly for, and fully recover, the following additional PJM line items and charges:

- PJM Billing Line Item 1250 – Meter Correction (charges or credits levied on the Companies for errors in tie-line generation or metering)
- PJM Billing Line Items 1218 and 2218 – Planning Congestion Uplift (charges or credits associated with allocations to load-serving entities for any revenue deficient transmission rights of financial transmission rights that remain at the end of the Planning Period).
- PJM Billing Line Items 1260 and 2260 – Emergency Energy (costs associated with energy purchased from outside PJM during an emergency which are similar to uplift costs).

⁴⁷⁷ Mikkelsen Direct, p. 18.

⁴⁷⁸ Stein Direct, p. 12.

⁴⁷⁹ Stein Direct, p. 12.

⁴⁸⁰ Stein Direct, p. 12; Hearing Tr. Vol. V at 940:6-11 (Stein Cross).

- PJM Billing Line Items 1375, 1376, 1378, 2375, 2376, and 2378 – Balancing Operating Reserves, Balancing Operating Reserve for Load Response and Reactive Services (costs associated with dispatching generation and/or demand response out of merit to meet regional transmission operation conditions which are non-market based costs related to uplift costs for reliability purposes).⁴⁸¹

As Company witness Stein testified at hearing, the Companies established criteria to determine whether a charge is “non-market based” and, further, if it is “feasible” to recover that charge under Rider NMB.⁴⁸² To determine whether a charge is non-market based, the Companies considered: (1) marketability – whether there is a market or exchange where the related “product” or service may be bought or sold; (2) controllability – “whether there is something at PJM that I can either elect or select in their various systems, which are called PJM e-Suites” to control or minimize exposure to risk associated with the charge or cost; and (3) predictability – whether “there is a historical level of charge that has not varied much over an extended period of time that can be used to predict the future amount of that charge.”⁴⁸³ In addition, a non-market based charge is feasible for direct transfer to the Companies (and recovery from customers) if there is a means to effectuate such a transfer.⁴⁸⁴

At hearing, Company witness Stein provided an explanation as to why, for example, PJM Billing Line Item 1218 – Planning Period Congestion satisfies these criteria:

This is why [PJM Billing Line Item 1218] met the four criteria that the Companies use to evaluate this. Planning period congestion uplift is simply a one-time allocation of a pot of dollars once a year at the end of the planning year to those holding financial transmission rights or auction revenue rights that may not have

⁴⁸¹ Stein Direct, pp. 13-15; Hearing Tr. Vol. V at 941:15-943:9 (Stein Cross).

⁴⁸² Hearing Tr. Vol. V at 941:18-21 (Stein Cross).

⁴⁸³ Hearing Tr. Vol. V at 941:23-942:8 (Stein Cross).

⁴⁸⁴ Hearing Tr. Vol. V at 942:8-11 (Stein Cross).

been collected what they expected to collect from the market. When looking at the four criteria I used for this particular charge type, there is no market or means to purchase this product anywhere. There is no amount of selections of FTRs or ARRs that I could have that would affect the level of this charge, and there's no way to predict its future level based on history since it's only done once a year. And there's not a lot of information from PJM in that annual disbursement of funds that lets you build how next year's behavior for that charge will occur.⁴⁸⁵

Mr. Stein similarly discussed the rationale for including PJM Billing Line Items 1375 to

1378:

I will walk through the companies' description of how we arrived at placing this rider into -- this charge into rider NMB. For these charges there is -- there is no market for them. There is no product on exchange anywhere. For controllability there's no amount of elections I can make to control the level of charges that may be seen by them, and what I mean by that is you -- the pot of dollars that balancing operating reserves comes from is -- is a function of PJM during times of extreme stress on the system. They will dispatch generation out of merit. Those costs can become very high very quickly. They are not an LMP, and while -- while suppliers may be able to control their day-ahead versus real-time deviation, which is the denominator of that charge, if everybody controlled their deviation, then you're all -- then all the suppliers would still get a very large share of those expenses.⁴⁸⁶

From the perspective of the companies' third test, which is predictability, suppliers are unable to predict emergencies or times of extreme stress on the PJM system a day before they are going to occur. They can't forecast how much generation PJM is going to dispatch out of merit. So I don't think they are using their -- their forecast or a look into what that may be to determine how much load they are going to put in the day-ahead schedule.⁴⁸⁷

⁴⁸⁵ Hearing Tr. Vol. V at 942:17-943:9 (Stein Cross).

⁴⁸⁶ Hearing Tr. Vol. V at 946:25-947:18 (Stein Cross).

⁴⁸⁷ Hearing Tr. Vol. V at 948:21-949:5 (Stein Cross).

These proposed changes to Rider NMB should reduce the risk premium added by SSO suppliers and CRES providers to bids and service prices.⁴⁸⁸ For example, certain SSO suppliers recently increased their bids due to the 2014 Polar Vortex.⁴⁸⁹ By relieving SSO suppliers and CRES providers from having to pay these non-market, uncontrollable, and unpredictable charges, the proposed changes to Rider NMB also seek to ensure that customers only pay the non-market based costs (or receive credits) on a dollar-for-dollar basis without any risk adders or markups.⁴⁹⁰ These changes thus will benefit customers by resulting in lower overall costs.

9. Stipulated ESP IV benefits customers and the public interest by promoting economic development in Ohio.

Stipulated ESP IV includes economic development provisions that will help stimulate the economy of the Companies' territories and the development and retention of jobs in the region. Some of these provisions will be funded through the Companies' Economic Development Rider ("Rider EDR"); others will be funded through contributions from the Companies' shareholders. Stipulated ESP IV's economic development benefits include:

- Economic Development and Job Retention: Over the eight-year term of Stipulated ESP IV, the Companies will provide a total of \$24 million (\$3 million per year) in economic development and job retention funding.⁴⁹¹ The Companies will fund this commitment without recovery from customers.⁴⁹² Further,

⁴⁸⁸ Stein Direct, p. 16; Hearing Tr. Vol. V at 996:20-997:3; 1002:11-18 (Stein Cross).

⁴⁸⁹ Hearing Tr. Vol. V at 973:24-974:9; 996:8-997:3 (Stein Cross).

⁴⁹⁰ Stein Direct, p. 16; Hearing Tr. Vol. V at 972:24-973:7; 990:4-17; 998:22-999:12 (Stein Cross).

⁴⁹¹ Third Supp. Stip., Section V.I.2; Mikkelsen Fifth Supp., p. 12; Hearing Tr. Vol. XXXVI at 7734:4-7736:6 (Mikkelsen Cross).

⁴⁹² Mikkelsen Direct, p. 16; Hearing Tr. Vol. I at 166:7-15 (Mikkelsen Cross); Mikkelsen Fifth Supp., p. 12.

FirstEnergy Corp. will maintain its corporate headquarters and nexus of operations in Akron, Ohio for the duration of Rider RRS.⁴⁹³

- The Economic Development Rider – Automaker Provision (Rider EDR(h)): This credit will continue to transition automakers to market based pricing, and consistent with gradualism will be limited to \$0.01 per kWh for kWh usage exceeding the automakers' Baseline Usage.⁴⁹⁴ This provision will continue throughout the term of Stipulated ESP IV.⁴⁹⁵
- The Economic Development Rider – Interruptible Credit Provision (Rider EDR(b)): In order to promote economic development and job retention benefits in the Companies' service territory and to promote Ohio's effectiveness in the global economy consistent with state policy, this rider will continue over the term of Stipulated ESP IV.⁴⁹⁶
- The Economic Development Rider – Transmission (Rate GT) Provision (Rider EDR(d)): For customers taking service on the Companies' General Service – Transmission tariff ("Rate GT"), this rider will be phased out gradually. This modification will help ease the transition for these customers to market-based pricing.⁴⁹⁷
- Rider DRR – Delta Revenue Recovery Rider: This rider will be modified to provide that costs recovered through Rider DRR will be allocated to rate schedules on a percentage of distribution revenue collected from that rate schedule.⁴⁹⁸
- Time-of-Use Rate: Consistent with the Commission's recent order in *AEP ESP3*, the Companies will continue to offer the Generation Service Time-Of-Day Option

⁴⁹³ Third Supp. Stip., Section V.I.3. The Companies assessed the economic development impact of ESP IV is based upon an analysis conducted by an independent third party. Upon request, the Companies will provide an electronic copy of this analysis. Third Supp. Stip., Section V.I.1.

⁴⁹⁴ Mikkelsen Supp., p. 3; Hearing Tr. Vol. II at 277:18-278:18 (Mikkelsen Cross).

⁴⁹⁵ Third Supp. Stip., Section V.G.4.a.ii.

⁴⁹⁶ Mikkelsen Supp., p. 3; Mikkelsen Rebuttal, p. 18

⁴⁹⁷ Mikkelsen Supp., p. 3; Hearing Tr. Vol. I at 176:17-178:1 (Mikkelsen Cross). Rider EDR(d) will be modified as follows: (a) The charge for June 1, 2016 through May 31, 2017, will be \$8.00 per kVA of billing demand; (b) The charge for June 1, 2017 through May 31, 2018, will be \$6.00 per kVA of billing demand; (c) The charge for June 1, 2018 through May 31, 2019, will be \$4.00 per kVA of billing demand. Subject to final reconciliation, there will be no charge or credit effective June 1, 2019. All dollars collected will be returned to Rate GT customers via the Rider EDR(d) credit. Third Supp. Stip., Section V.G.4.a.iii.

⁴⁹⁸ Mikkelsen Supp., p. 4.

during Stipulated ESP IV.⁴⁹⁹ Further, the Experimental Critical Peak Pricing Rider (“Rider CPP”) and the Experimental Real Time Pricing Rider (“Rider RTP”) will continue to be offered for the term of Stipulated ESP IV. Also, the Commercial High Load Factor Time-of-Use rate proposal, detailed in the Second Supplemental Stipulation, will continue throughout the term of Stipulated ESP IV as well. In addition to providing economic benefits, these provisions provide stability and certainty regarding retail electric service and allow customers an opportunity to learn about time differentiated rates and other rate provisions.⁵⁰⁰

- Rider NMB Pilot Program: Under Stipulated ESP IV, the small-scale pilot program included in the Supplemental Stipulation that provides an alternative means for customers to obtain and pay for services otherwise provided through Rider NMB will be expanded to include up to five additional Rate GT customers who otherwise would not be eligible to participate in the program.⁵⁰¹

10. Stipulated ESP IV benefits customers and the public interest by enhancing the competitive retail market.

The success of the competitive balance provided by the current ESP and previous ESPs is demonstrated by the fact that the Companies’ territories have the highest shopping levels in the State.⁵⁰² Stipulated ESP IV will continue the factors that led to this exceptional level of shopping.⁵⁰³ Further, in order to promote the competitive retail market, Rider ELR customers will, for the first time, be able to shop during the Stipulated ESP IV period.⁵⁰⁴

In addition, Stipulated ESP IV will provide retail market enhancements that further support the development of the retail market. These enhancements are consistent with the

⁴⁹⁹ Mikkelsen Supp., p. 4; *AEP ESP3* Order at 40.

⁵⁰⁰ Mikkelsen Supp., p. 4; Hearing Tr. Vol. III at 542:17-523:14 (Mikkelsen Cross).

⁵⁰¹ Third Supp. Stip., Section V.H.6; Hearing Tr. Vol. XXXVI at 7654:22-7655:3 (Mikkelsen Cross)

⁵⁰² Mikkelsen Direct, p. 29.

⁵⁰³ Mikkelsen Direct, p. 30; Hearing Tr. Vol. I at 39:11-18 (Mikkelsen Cross).

⁵⁰⁴ Mikkelsen Supp., p. 3.

Commission's rules and address items identified in the Commission's retail market investigation in Case No. 12-3151-EL-COI.⁵⁰⁵

The Companies will develop and implement a web-based system to provide customer information to CRES providers.⁵⁰⁶ The proposed web-based system will provide customer eligibility lists, "real-time" information and Electronic Data Interchange ("EDI") enrollment information for customers who authorize its release.⁵⁰⁷ The Companies also will provide CRES providers with the opportunity to include their logos on utility consolidated bills.⁵⁰⁸

In addition, under Stipulated ESP IV, the Companies propose to modify their electric service regulations contained in the Companies' tariffs and the Companies' supplier tariff.⁵⁰⁹ The Companies will remove existing language related to minimum stays, any minimum notice requirement for customers that return to SSO service, and references to time requirements for selecting a new CRES provider.⁵¹⁰ For the supplier tariff, the Companies also will update the information included on the Customer Information List contained in the tariff, add a reference to the Companies' website for information related to partial payment priority, and add a section regarding the requirements for CRES providers for placing logos on the Companies' bills.⁵¹¹

⁵⁰⁵ Mikkelsen Direct, p. 19.

⁵⁰⁶ Smialek Direct, p. 4; Hearing Tr. Vol. V at 1039:4-11; 1046:21-1047:9 (Smialek Cross).

⁵⁰⁷ Smialek Direct, p. 6; Hearing Tr. Vol. V at 1049:19-1050:3 (Smialek Cross).

⁵⁰⁸ Smialek Direct, p. 7; Hearing Tr. Vol. V at 1051:25-1052:8 (Smialek Cross).

⁵⁰⁹ Application, p. 8. Further, under ESP IV the Companies will incorporate the three revisions to these regulations as detailed in the Prefiled Testimony of Staff witness Nicodemus. *See* Nicodemus Direct, pp. 2-6 and Attachments 1-3.

⁵¹⁰ Smialek Direct, pp. 9-11; Application, p. 8; Hearing Tr. Vol. V at 1059:3-10 (Smialek Cross).

⁵¹¹ Smialek Direct, p. 11.

These modifications will benefit customers by providing better clarity regarding the Companies' current practices.⁵¹²

11. Stipulated ESP IV benefits customers and the public interest by supporting low-income customers.

Low-income customers will benefit from Stipulated ESP IV to the extent that all other customers will benefit. All customers will enjoy reliable power at market-based prices, regardless of whether they shop.⁵¹³ These benefits include the retail rate stability that the Economic Stability Program will provide customers and the contemplated base distribution rate freeze.⁵¹⁴

In addition, low-income customers will benefit from programs under Stipulated ESP IV that provide funding to these customers. The Companies will continue to provide funding for the Community Connections program but at the increased level of \$6 million per year.⁵¹⁵ The Companies also will provide in the aggregate \$1.39 million per year for the term of Stipulated ESP IV to the Cleveland Housing Network, the Council for Economic Opportunities in Greater Cleveland and the Consumer Protection Association for a Fuel Fund Program to assist low-income customers in paying their electric bills in CEI's service territory.⁵¹⁶ In addition, the

⁵¹² Smialek Direct, p. 10.

⁵¹³ Mikkelsen Direct, p. 30.

⁵¹⁴ Mikkelsen Direct, p. 30; Hearing Tr. Vol. I at 44:4-11 (Mikkelsen Cross); Hearing Tr. Vol. II at 427:12-20 (Mikkelsen Cross).

⁵¹⁵ Mikkelsen Direct, p. 30; Hearing Tr. Vol. I at 165:14-25 (Mikkelsen Cross); Third Supp. Stip., Section V.H.5. This funding shall continue to be fully recoverable through Rider DSE. The Companies will pay OP&E an administrative fee equal to 5% of the program funding and the Cleveland Housing Network will be allocated \$1.7 million of the annual Community Connections funding for each year of ESP IV. Third Supp. Stip., Section V.H.5.

⁵¹⁶ Mikkelsen Supp., p. 5; Hearing Tr. Vol. I at 200:24-201:11, 205: 6-14 (Mikkelsen Cross); Mikkelsen Fifth Supp., p. 11.

Companies will provide \$1 million per year during the term of Stipulated ESP IV to fund a fuel fund to be administered by OPAE.⁵¹⁷

Further, the Companies will provide \$8 million to the Citizens Coalition over the term of Stipulated ESP IV for its use in establishing a Customer Advisory Agency. This agency will provide assistance to all residential customers in the three service territories of the Companies with questions related to shopping to help ensure the preservation and growth of the competitive market in Ohio.⁵¹⁸ The Customer Advisory Agency will be established as a pilot program for the initial three years of Stipulated ESP IV. Subsequently, the Companies will evaluate the program and should the Companies determine that the program's costs outweigh its benefits the contributions for the final five years will be made to fund the fuel fund in CEI's service territory.⁵¹⁹

12. Stipulated ESP IV benefit customers and the public interest by providing numerous other benefits.

Stipulated ESP IV will provide numerous other benefits, including: (1) continuing certain interruptible service offerings; (2) providing support for several EE/PDR reduction programs; (3) allowing for the timely recovery of costs related to compliance with renewable mandates; (4) allowing for the recovery of lost distribution revenues; (5) supporting advocacy for PJM market enhancements; (6) continuing certain adjustments in the calculation of the SEET; and (7) updating the Companies' Electric Service Regulations, partial service tariffs, and other riders.

⁵¹⁷ Third Supp. Stip., Section V.I.4; Mikkelsen Fifth Supp., p. 11.

⁵¹⁸ Mikkelsen Supp., p. 5; Hearing Tr. Vol. II at 232:12-233:5 (Mikkelsen Cross); Mikkelsen Fifth Supp., p. 11; Hearing Tr. Vol. XXXVI at 7734:4-7736:9.

⁵¹⁹ Third Supp. Stip., Section V.G.4.c.ii.

Interruptible Service Offerings: Stipulated ESP IV will continue the Companies' interruptible service offerings through Rider ELR.⁵²⁰ In line with previous findings by the Commission, interruptible tariff provisions such as Rider ELR benefit all customers by providing system reliability and stability.⁵²¹ Indeed, the availability of interruptible load during an emergency, such as an extreme weather event, may help prevent the need to resort to load-shedding, a clear benefit to both firm and non-firm customers.⁵²² Interruptible riders such as Rider ELR also benefit customers by promoting economic development and encouraging job retention.⁵²³

Participation in Rider ELR is voluntary and limited to customers who are currently taking service under Rider ELR plus up to 136,250 kW of additional curtailable load from customers who have historically been eligible for Rider ELR but who are not currently taking service under the rider, a limitation that does not exist today.⁵²⁴ Under Stipulated ESP IV, Rider ELR will be available to both shopping and non-shopping customers to promote the competitive retail

⁵²⁰ Mikkelsen Supp., p. 3. Importantly, Rider ELR is being continued, but not expanded. The only customers eligible under Rider ELR as proposed in the Stipulation are those customers who were previously taking service under Rider ELR or who notified the Companies in May 2015 of those customers' desire to take service under the rider. Hearing Tr. Vol. XXX at 6161:17-6162:24 (Scheck Cross).

⁵²¹ Mikkelsen Supp., p. 3; Hearing Tr. Vol. III at 494:2-495:2. Staff witness Scheck stated that the Commission had made this specific finding in its Opinion and Order in the Companies' third ESP proceeding, Case No. 12-1230-EL-SSO. Hearing Tr. Vol. XXX at 6167:18-6168:25 (Scheck Cross). *See also* Case No. 12-1230-EL-SSO, Opinion and Order at 37 (July 18, 2012). As Mr. Scheck further stated at hearing, the Commission recently made similar findings regarding Duke's and Ohio Power Company's interruptible programs. *See* Hearing Tr. Vol. XXX at 6138:2-6144:20 (Scheck Cross) (admitting that the Commission had found that Duke's and AEP's interruptible programs benefited all customers in the EDUs' service territories.) *See also* Case No. 11-346-EL-SSO, Opinion and Order at 26 (Aug. 8, 2012); *AEP ESP3* Order at 40; *Duke ESP4* Order at 77-78.

⁵²² Hearing Tr. Vol. XXX at 6131:3-23; 6154:24-6155:7; 6156:2-7 (Scheck Cross).

⁵²³ Mikkelsen Supp., p. 3; Hearing Tr. Vol. III at 491:22-492:15 (Mikkelsen Cross); Hearing Tr. Vol. XXX at 6171:12-6172:6 (Scheck Cross).

⁵²⁴ Mikkelsen Supp., p. 3; Hearing Tr. Vol. III at 492:16-493:15 (Mikkelsen Cross); Hearing Tr. Vol. II at 259:13-260:16 (Mikkelsen Cross); Hearing Tr. Vol. XXX at 6162:5-24 (Scheck Cross).

market.⁵²⁵ Rider ELR will begin with service rendered June 1, 2016 and expire at the end of Stipulated ESP IV.⁵²⁶ The Interruptible Credit Provisions (Rider ELR and Rider EDR(b)) will also continue until the expiration of Stipulated ESP IV.⁵²⁷

Support for EE/PDR Programs: Stipulated ESP IV also will provide support to several energy efficiency and peak demand reduction programs.⁵²⁸ During Stipulated ESP IV, the Companies will provide funding to the City of Akron (\$300,000), COSE (\$540,000), and AICUO (\$400,000) for their respective energy efficiency programs.⁵²⁹ Additionally, the Companies will pay up to \$1 million each in administrator compensation to AICUO and COSE upon submission of a mercantile or utility-sponsored C&I application and receiving Commission approval for specific projects.⁵³⁰ Further, the Companies will perform 800 ASHRAE Level II energy efficiency audits for COSE commercial and industrial customers over the term of Stipulated ESP IV.⁵³¹

Renewables: All costs for the Companies' compliance with renewable energy requirements will continue to be recovered through Rider AER.⁵³² The Companies will continue to meet their renewable energy requirements through the acquisition of RECs following a request

⁵²⁵ Mikkelsen Supp., p. 3; Hearing Tr. Vol. II at 237:19-238:1 (Mikkelsen Cross).

⁵²⁶ Third Supp. Stip., Section V.G.4.a.i. Consistent with its recovery under ESP III, the Rider ELR credit will be recovered through Rider DSE. *Id.*

⁵²⁷ Third Supp. Stip., Section V.G.4.a.i.

⁵²⁸ Mikkelsen Supp., p. 4; Hearing Tr. Vol. I at 185:2-22 (Mikkelsen Cross). These programs are in addition to those approved by the Commission in Case No. 12-2190-EL-POR.

⁵²⁹ Stipulation, pp. 10-11; Third Supp. Stip., Section V.G.4.b; Mikkelsen Fifth Supp., p. 5. The Companies will recover these monies through Rider DSE. Third Supp. Stip. Section V.G.4.b.i.

⁵³⁰ Third Supp. Stip., Section V.G.4.b.ii.

⁵³¹ Third Supp. Stip., Section V.G.4.b.iii; Mikkelsen Fifth Supp., p. 5.

⁵³² Direct Testimony of Meghan C. Jurica ("Jurica Direct"), p. 5; Stein Direct, p. 11; Hearing Tr. Vol. XVIII at 3635: 2-6 (Savage Cross).

for proposal (“RFP”) process.⁵³³ The Companies will use a portfolio approach to obtain RECs by using existing long-term purchases and layering in a mix of short-term purchases to ensure the most cost-effective means of acquiring RECs.⁵³⁴

The rate design of Rider AER, however, will be modified so that estimated costs are recovered within the quarter that they are expected to be incurred. Any actual over-recovery or under-recovery will be included in subsequent filings.⁵³⁵ In Stipulated ESP IV, the Companies also seek to eliminate the loss differentiation of Rider AER. As a result, each operating company will have a single Rider AER charge that is applied to each kWh consumed for all non-shopping customers of that company.⁵³⁶ These modifications follow the specific recommendations made in the financial audit report in Case No. 11-5201-EL-RDR.⁵³⁷

Lost Distribution Revenues: In connection with the Companies’ commitment to freeze base distribution rates over the eight-year term of Stipulated ESP IV, the continued recovery of lost distribution revenue will appropriately balance the interests of customers with the interests of the Companies’ shareholders.⁵³⁸ Such a balancing makes the contemplated base distribution rate freeze contained in the Stipulated ESP IV possible.

Federal Advocacy: Stipulated ESP IV also requires the Companies to engage in advocacy at the federal level to promote market enhancements such as a longer term capacity

⁵³³ Jurica Direct, p. 5 (Company witness Jurica’s testimony was adopted by Company witness Savage (Hearing Tr. Vol. XVIII at 3629:14-17)); Stein Direct, p. 11.

⁵³⁴ Stein Direct, p. 11.

⁵³⁵ Jurica Direct, p. 5.

⁵³⁶ Jurica Direct, p. 5.

⁵³⁷ Jurica Direct, p. 5.

⁵³⁸ Mikkelsen Direct, p. 8.

product or similar market improvements.⁵³⁹ Prior to making any filings related to such advocacy, the Companies will inform Staff of their intentions.⁵⁴⁰ In addition, during the eight-year term of Stipulated ESP IV, the Companies will provide the Commission with a public, quarterly update regarding the Companies' take on the state of wholesale electricity markets.⁵⁴¹

SEET Calculation: Stipulated ESP IV continues specific adjustments in the calculation of the Companies' annual statutorily required SEET filings. Specifically, the Companies' SEET calculation takes into account specific adjustments recognized in the Companies' current ESP III. That is, for each year during the period of ESP III, adjustments are made to exclude: (1) the impact of a reduction in equity resulting from any write-off of goodwill; (2) the impact of deferred carrying charges; and (3) the impact associated with any additional liability or write-off of regulatory assets due to implementing the Companies' ESP III or ESP II cases.⁵⁴² In Stipulated ESP IV, the Companies propose to broaden the first adjustment specified to include impacts caused by a reduction in equity that results from a Commission order.⁵⁴³ The Companies also propose that the third adjustment be updated to address write-offs of regulatory assets that occur during the term of Stipulated ESP IV.⁵⁴⁴ Regarding the second adjustment, pursuant to Stipulated ESP IV the determination of whether to exclude the impact of deferred carrying charges will be made at the time of the Companies annual SEET filings.⁵⁴⁵ The

⁵³⁹ Third Supp. Stip., Section V.C.1.

⁵⁴⁰ Third Supp. Stip., Section V.C.1.

⁵⁴¹ Third Supp. Stip., Section V.C.2.

⁵⁴² Fanelli Direct, pp. 10-11.

⁵⁴³ Fanelli Direct, p. 11.

⁵⁴⁴ Fanelli Direct, p. 11.

⁵⁴⁵ Third Supp. Stip., Section V.H.4.

Companies' proposed adjustments are consistent with adjustments approved in the Companies' prior ESPs, and benefit customers by better balancing the interests of the Companies with the interests of customers.⁵⁴⁶

Updates to Electric Service Regulations, Riders and Partial Service Tariffs: Stipulated ESP IV also contains "non-substantive" updates and changes to the Companies' Electric Service Regulations and various riders.⁵⁴⁷ These updates and changes are intended "to clarify the language or to remove inconsistencies that exist within a rider. The proposed changes to these riders are, in essence, 'clean up' changes to improve the usability of the riders."⁵⁴⁸ These changes will benefit customers by providing them with clarification regarding the Companies' tariffs and make these regulations and riders more user-friendly. The Companies will also file amended partial service tariffs that minimize risks to other non-shopping customers. These amended partial service tariffs will reflect the fact that the Companies no longer own generation and source generation for their non-shopping customers via a competitive bid process.⁵⁴⁹ Additionally, on a going-forward basis, the Companies will use the long-term cost of debt approved in Case No. 07-551-EL-AIR as the carrying charge rate for all riders that solely have a debt-based carrying charge.⁵⁵⁰

Stipulated ESP IV thus manifestly benefits the public interest and satisfies the second prong of the Commission's three-prong test for stipulations.

⁵⁴⁶ Fanelli Direct, p. 10-11; Hearing Tr. Vol. XX at 4008: 1-19 (Fanelli Cross).

⁵⁴⁷ Mikkelsen Direct, p. 23. These updates and changes are shown in the redlined documents attached to the Companies' Application as Attachments 2, 3, and 5.

⁵⁴⁸ Mikkelsen Direct, p. 23.

⁵⁴⁹ Third Supp. Stip., Section V.H.1.

⁵⁵⁰ Third Supp. Stip., Section V.H.3.

C. Stipulated ESP IV Does Not Violate Any Important Regulatory Principal Or Practice And Furthers State Policies And Goals.

Several of the provisions in Stipulated ESP IV are similar or identical to the provisions in ESP III that the Commission determined did not violate any important regulatory principle or practice.⁵⁵¹ And the Commission already has determined that retail stability riders like Rider RRS do not violate any important regulatory principle or practice.⁵⁵² In addition, like the current ESP III, the provisions of Stipulated ESP IV are consistent with state policy as set forth in Section 4928.02. Therefore, Stipulated ESP IV satisfies the third prong of the Commission’s test for reviewing stipulations.

1. The Economic Stability Program is authorized under Ohio law.

Under Ohio law, the Companies are required to “provide consumers . . . a standard service offer of all competitive retail electric services necessary to maintain essential electric service to consumers, including a firm supply of electric generation service.”⁵⁵³ The Companies may comply with this requirement through a Commission-approved ESP containing provisions relating to the supply and pricing of electric generation service.⁵⁵⁴ In addition to the SSO, an ESP may include provisions falling within nine separate categories.⁵⁵⁵ An ESP provision, such

⁵⁵¹ See Case No. 12-1230, Opinion and Order at 57 (July 18, 2012).

⁵⁵² AEP ESP3 Order at 11-19. See also *In the Matter of Application of Duke Energy Ohio, Inc. for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan, Accounting Modifications, and Tariffs for Generation Service*, Case No. 14-841-EL-SSO, Opinion and Order at 42-47 (April 2, 2015) (“*Duke ESP4 Order*”).

⁵⁵³ R.C. 4928.141(A). Pursuant to R.C. 4928.14, when a competitive supplier fails to provide retail electric generation service, shopping customers default to the SSO until they choose an alternative supplier

⁵⁵⁴ R.C. 4928.143(A), (B)(1).

⁵⁵⁵ See R.C. 4928.143(B)(2)(a) through (i).

as the Economic Stability Program, is duly authorized by statute if it falls within the ambit of one of those categories.⁵⁵⁶

Specifically, Section 4928.143(B)(2) provides, in relevant part:

(B) Notwithstanding any other provision of Title XLIX of the Revised Code to the contrary except division (D) of this section, divisions (I), (J), and (K) of section 4928.20, division (E) of section 4928.64, and section 4928.69 of the Revised Code:

* * *

(2) The plan may provide for or include, without limitation, any of the following:

* * *

(d) Terms, conditions, or charges relating to limitations on customer shopping for retail electric generation service, bypassability, standby, back-up, or supplemental power service, default service, carrying costs, amortization periods, and accounting or deferrals, including future recovery of such deferrals, as would have the effect of stabilizing or providing certainty regarding retail electric service;

* * *

(i) Provisions under which the electric distribution utility may implement economic development, job retention, and energy efficiency programs, which provisions may allocate program costs across all classes of customers of the utility and those of electric distribution utilities in the same holding company system.

As the Commission has recognized, “the statutory language is extremely broad, and affords the Commission considerable latitude in authorizing allowable charges.”⁵⁵⁷

⁵⁵⁶ *In re Application of Columbus Southern Power Co.*, 128 Ohio St.3d 512, 2011-Ohio-1788, 947 N.E.2d 655, ¶ 33.

⁵⁵⁷ *See* Second Merit Brief Submitted on Behalf of Appellee, the Public Utilities Commission of Ohio, Ohio Supreme Court Case No. 2013-0521 (Oct. 21, 2013). Historically, the Commission has approved electric security plans with rate stability provisions that fit within the language of R.C. 4928.143(B)(2)(d).

- a. **The Commission has previously ruled that ESP provisions like the Economic Stability Program are authorized under Ohio law.**

In *AEP ESP3*, the Commission considered a proposal similar to the Economic Stability Program in which the utility sought approval of a purchase power agreement cost-recovery rider (the “AEP PPA rider”) structurally similar to Rider RRS.⁵⁵⁸ In that case, several parties argued that the Commission was not legally authorized to approve such a rider. The Commission rejected those arguments. Specifically, the Commission held that cost-recovery riders related to PPAs were authorized pursuant Section 4928.143(B)(2)(d) if the rider mechanism under consideration met the following three statutory conditions: (1) the rider is “a term, condition, or charge;” (2) it “relate[s] to one of the enumerated types of terms, conditions, and charges;” and (3) it will “have the effect of stabilizing or providing certainty regarding retail electric service.”⁵⁵⁹

In *AEP ESP3*, the Commission found that the first statutory condition was met because the AEP PPA rider would consist of a charge to customers under the ESP.⁵⁶⁰ The Commission also found that the AEP PPA rider satisfied the third statutory condition because the rider would

⁵⁵⁸ *AEP ESP3* Order at 11-19. See also *Duke ESP4* Order at 42-47.

⁵⁵⁹ *AEP ESP3* Order at 20. See also *Duke ESP4* Order at 43.

⁵⁶⁰ *AEP ESP3* Order at 20. See also *Duke ESP4* Order at 43. Of note, the Commission has previously found that similar “stability” riders approved for other electric distribution utilities are also terms, conditions or charges. See, e.g., *In the Matter of the Application of The Dayton Power and Light Company for Approval of its Electric Security Plan*, Case No. 12-426-EL-SSO, Opinion and Order at 20-21 (Sept. 4, 2013) (“*DP&L ESP2 Order*”) (approving stability charges pursuant to Section.143(B)(2)(d) as part of an ESP application); *In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan*, Case No. 11-346-EL-SSO, Opinion and Order at 31-32 (Aug. 8, 2012) (same); *In the Matter of Application of Duke Energy Ohio, Inc. for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications, and Tariffs for Generation Service*, Case No. 11-3549-EL-SSO, Opinion and Order at 47 (Nov. 22, 2011) (same).

act to stabilize or provide certainty regarding retail electric service, i.e., “there is no question that the PPA rider would produce a credit or charge based on the difference between the wholesale market prices and ... [the] costs [of the generating plants at issue], offsetting, to some extent, the volatility in the wholesale market.”⁵⁶¹

The Commission addressed the second statutory condition at length.⁵⁶² The Commission held that the proposed AEP PPA rider was “a financial limitation on customer shopping for retail electric generation service.”⁵⁶³ The Commission further held that the AEP PPA rider would limit the financial consequences of a customer’s decision to shop:

[T]he effect of the PPA rider is that the bills of all customers would reflect a price for retail electric generation service that is approximately 5 percent based on the cost of service of the OVEC units and 95 percent based on the retail market. Effectively, then, the proposed PPA rider would function as a financial restraint on complete reliance on the retail market for the pricing of retail electric generation service.⁵⁶⁴

⁵⁶¹ *AEP ESP3* Order at 21. *See also Duke ESP4* Order at 44 (“The PSR...is intended to mitigate, by design, the effects of market volatility, providing customers with more stable pricing and a measure of protection against substantial increases in market prices.”). Similarly, in *AEP Ohio’s* second ESP proceeding, the Commission approved *AEP Ohio’s* proposed nonbypassable Retail Stability Rider because it “promotes stable retail electric service prices and ensures customer certainty regarding retail electric service.” Case No. 11-346-EL-SSO, Opinion and Order at 31 (Aug. 8, 2012). As the Commission noted, “an ESP may include terms, conditions, or charges relating to limitations on customer shopping for retail electric generation that would have the effect of stabilizing retail electric service or provide certainty regarding retail electric service.” Case No. 11-346-EL-SSO, Opinion and Order at 31 (Aug. 8, 2012). Notably, the phrase “retail electric service” includes service provided by CRES providers. *Id.* *See also* Hearing Tr. Vol. XXVI at 5381:9-13 (K. Rose Cross) (agreeing that R.C. 4928.143(B)(2)(d) allows the Commission to award a stability charge to stabilize customer rates).

⁵⁶² *AEP ESP3* Order at 21-22.

⁵⁶³ *AEP ESP3* Order at 22.

⁵⁶⁴ *AEP ESP3* Order at 22. The fact that there was no impact on the physical supply of generation was immaterial. Of note, the Commission did not reach *AEP Ohio’s* additional argument that the AEP PPA rider related to “default service” and thereby satisfied the second statutory requirement on that basis as well. *See id.* *See also Duke ESP4* Order at 45.

Thus, the Commission has previously determined that purchase-power related cost-recovery riders such as Rider RRS are authorized under Ohio law.

b. The Economic Stability Program is authorized by Section 4928.143(B)(2)(d).

Rider RRS, as provided for in the Economic Stability Program, satisfies the three statutory conditions set forth at Section 4928.143(B)(2)(d).

(1) Rider RRS is a term, condition or charge.

Rider RRS, as contained in the Economic Stability Program, is clearly a “term, condition or charge.” In the near term it is projected to be a charge, and over the long term a credit, on customers’ bills.⁵⁶⁵ Thus, as with the AEP PPA rider, Rider RRS readily satisfies the first statutory condition.

(2) Rider RRS relates to limitations on customer shopping, to bypassability, and to default service.

Rider RRS meets the second statutory condition on three grounds. First, Rider RRS operates as a financial limitation on the consequences of customer shopping. Second, Rider RRS relates to bypassability. Third, Rider RRS relates to default service.

As with the AEP PPA Rider, Rider RRS imposes a financial limitation on the consequences of customer shopping.⁵⁶⁶ Pursuant to the proposed transaction, the Companies would purchase the output of the Plants. The Companies would then offer this output into the PJM market. Subsequently, the Companies would net all of the revenues from these sales against the Companies’ costs, with the difference passed along to customers through Rider RRS.

⁵⁶⁵ Hearing Tr. Vol. I at 43:18-44:11 (Mikkelsen Cross).

⁵⁶⁶ Rider RRS does not in any way limit a customer’s ability to shop and does not negatively impact retail competition or POLR auctions. Third Supp. Stip., Section V.L.2.

The Companies project that in the near term a charge, and in the long term a credit, would appear on customers' bills. Following *AEP ESP3*, this charge or credit "would function as a financial restraint on complete reliance on the retail market for the *pricing* of retail electric generation service."⁵⁶⁷ Although shopping customers will not see any constraint on their shopping activity or ability to shop, Rider RRS will financially hedge – in a manner that promotes stability – the price volatility that customers experience as a result of shopping for retail electric generation service. Therefore, Rider RRS satisfies the second statutory condition.⁵⁶⁸

Rider RRS is nonbypassable and, thus, also relates to bypassability. As the Commission explained when approving a nonbypassable stability charge for DP&L in Case No. 12-426-EL-SSO, the charge relates to bypassability because it benefits both SSO and shopping customers.⁵⁶⁹

As the Commission Staff wrote when supporting DP&L's Service Stability Rider:

It is clear that the Commission has wide powers to approve mechanisms to stabilize or provide certainty regarding retail electric service. It is equally clear that these mechanisms can include non-bypassable charges and deferrals. **The statute simply says this.**⁵⁷⁰

Rider RRS, likewise, benefits both SSO and shopping customers. The plain meaning of the words used in division (B)(2)(d) is that a nonbypassable charge relates to bypassability.

⁵⁶⁷ *AEP ESP3* Order at 22 (emphasis added).

⁵⁶⁸ As stated in the Third Supplemental Stipulation, "Rider RRS may operate as a financial limitation on the consequences of shopping but does not in any way limit a customer's ability to shop, and does not negatively impact retail competition or POLR auctions." Third Supp. Stip., Section V.L.2.

⁵⁶⁹ *DP&L ESP2* Order at 21.

⁵⁷⁰ Case No. 12-426-EL-SSO, Post-Hearing Brief Submitted on Behalf of the Staff of the Public Utilities Commission of Ohio at 5 (May 20, 2013) (emphasis added).

In addition, Rider RRS also meets another statutory condition because it relates to “default service,” i.e., the Companies’ proposed SSO.⁵⁷¹ Rider RRS does so by virtue of the fact that it operates as a rate-stability and price mitigation mechanism to reduce the impact on SSO customers of increasing SSO pricing.⁵⁷² Specifically, Rider RRS relates to the Companies’ proposed SSO because the rider is designed to mitigate the long-term risk of wholesale market price increases that will be incorporated directly into the SSO via the competitive procurement process.⁵⁷³ As explained by Company witness Strah:

The Companies have been using a competitive procurement process of SSO load for years. In addition, customers have the ability to shop with the CRES provider of their choice. While the availability of all of these sources of competition provides choices for customers, they nevertheless expose retail customers to long-term risk if wholesale market prices rise. The Economic Stability Program provides a valuable cost-based retail rate stabilization mechanism to protect against that risk and provides a level of security to retail customers without interfering with the current retail market design.⁵⁷⁴

⁵⁷¹ See R.C. 4928.14 (stating that when a competitive supplier fails to provide retail electric generation service, shopping customers default to the SSO until they choose an alternative supplier).

⁵⁷² In similar vein, the Commission found in AEP Ohio’s second ESP proceeding, Case No. 11-346-EL-SSO, that AEP Ohio’s stability charge related to default service because it allowed SSO customers to have rate stability that would not have occurred absent the stability charge. See Case No. 11-346-EL-SSO, Entry on Rehearing at 15-16 (Jan. 30, 2013).

⁵⁷³ In an appeal pending before the Ohio Supreme Court, the Commission contended in its merit brief that “default service” is not limited strictly to provider-of-last-resort service but generally includes the SSO: “A standard service offer is a default service that must be offered to current and future non-shopping customers during the entire ESP term.” Supreme Court Case No. 2013-0521, Commission Second Merit Brief at 19 (Oct. 21, 2013).

⁵⁷⁴ Strah Direct, p. 10. Indeed, as Company witness Mikkelsen testified, “Rider RRS relates to default service inasmuch as it is a retail rate stability mechanism for our standard service offer customers which provides a rate stabilization mechanism for their SSO generation supply.” Hearing Tr. Vol. III at 598:21-599:2 (Mikkelsen Cross).

Thus, the Economic Stability Program, as implemented by Rider RRS relates to the SSO offered to both current and future non-shopping customers, *i.e.*, “default service,” and satisfies the second statutory condition on that ground as well.

(3) Rider RRS would have the effect of stabilizing or providing certainty regarding retail electric service.

As noted, in *AEP ESP3*, the Commission found that mitigation of SSO price increases satisfied a third statutory condition, *i.e.*, that a provision falling under Section 4928.143(B)(2)(d) would have the effect of stabilizing retail electric service.⁵⁷⁵ As the Commission held, “[a]t its core, the PPA rider is expected to move in the opposite direction of wholesale market prices, causing a rate stabilization effect.”⁵⁷⁶ So too with Rider RRS here. The Economic Stability Program, as implemented by Rider RRS, is designed to have the effect of stabilizing rates and providing rate certainty regarding retail electric service through acting as a counter-cyclical hedge to protect customers against wholesale market volatility over the long run. Specifically, as retail prices increase due to the corresponding increase in wholesale prices, retail customers will

⁵⁷⁵ *AEP ESP3* Order at 19-23. *See also In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan*, Case No. 11-346-EL-SSO, 2012 Ohio PUC LEXIS 738 at *77 (Aug. 8, 2012) (approving RSR mechanism pursuant to R.C. 4928.143(B)(2)(d) because it “promotes stable retail electric service prices and ensures customer certainty regarding retail electric service”); *In the Matter of the Application of Columbus Southern Power Company for Approval of an Electric Security Plan*, Case No. 08-917-EL-SSO, 2011 Ohio PUC LEXIS 1326 at *9 (Dec. 14, 2011) (holding that, in the context of approving a mechanism to recover environmental carrying charges pursuant to R.C. 4928.143(B)(2)(d), “the presence of lower cost units in the PJM market will tend to lower current and future PJM energy market prices and contribute to stabilizing prices for the benefit of the Companies’ customers”).

⁵⁷⁶ *AEP ESP3* Order at 21. *See also Duke ESP4* Order at 44 (“The PSR ... is intended to mitigate, by design, the effects of market volatility, providing customers with more stable pricing and a measure of protection against substantial increases in market prices.”).

be provided price stability through a credit on their bills.⁵⁷⁷ Rider RRS thus is intended to operate counter to wholesale market prices and thereby would have the effect of stabilizing what customers pay for retail electric service.⁵⁷⁸

The record in this proceeding demonstrates this. As Company witness Steven Strah explained:

The Economic Stability Program, which includes Rider RRS, will promote stability and certainty in several ways: (1) by providing a valuable retail rate stabilization mechanism against a market increasingly supplied by interruptible gas generation; (2) by keeping baseload generating plants open in the face of extensive planned retirements in the near future; (3) by promoting sufficient generation resource diversity; (4) by providing a cost-based retail rate stabilization mechanism against the larger fluctuations and forecasted increases in the retail market; and (5) by providing a retail rate stabilization mechanism for the benefit of customers.⁵⁷⁹

Rider RRS will provide retail electric service customers with a net expected \$561 million credit over the term of the program.⁵⁸⁰ It will thereby function as a rate-stabilization mechanism to mitigate the effects on retail prices of wholesale market volatility and promote retail rate certainty.⁵⁸¹

⁵⁷⁷ Hearing Tr. Vol. I at 43:18-44:11 (Mikkelsen Cross). The Companies can include items in their ESP provisions, such as hedges, that have the effect of stabilizing retail rates. *See* Hearing Tr. Vol. XXIV at 4885:4-8 (Kahal Cross).

⁵⁷⁸ Hearing Tr. Vol. I at 44:4-11; 96:7-11 (Mikkelsen Cross); Hearing Tr. Vol. XXII at 4523:1-4 (Wilson Cross); Strah Direct, p. 7.

⁵⁷⁹ Strah Direct, p. 7.

⁵⁸⁰ Mikkelsen Fifth Supp., p. 12.

⁵⁸¹ Hearing Tr. Vol. I at 42:21-24 (Mikkelsen Cross). Notably, the Companies need not show that the Economic Stability Program is necessary to stabilize retail electric service, only that it would have a stabilizing effect. *See In re Columbus Southern Power Co.*, 2014 Ohio LEXIS 256, 2014-Ohio-462, ¶ 28. In addition, the Ohio Supreme Court has approved a charge under R.C. 4928.143(B)(2)(d) that supported continued operation of low-cost generating facilities. *In re Columbus Southern Power Co.*, 2014 Ohio LEXIS 256, 2014-Ohio-462, ¶ 31. Indeed, the Ohio Supreme Court has specifically held that an EDU's "ability to provide generation power at a cost

The Economic Stability Program, as implemented by Rider RRS, thus meets the third statutory condition. Therefore, Rider RRS satisfies all three statutory conditions and is authorized under Ohio law.

c. The Economic Stability Program is also authorized under Section 4928.143(B)(2)(i).

Pursuant to Section 4928.143(B)(2)(i), an ESP may also include provisions under which an EDU may implement economic development programs.⁵⁸² The Economic Stability Program falls within this statute by supporting economic development. In particular, the mitigation of long-term retail price increases, which is projected to provide a customer benefit of over \$560 million over the term of the Economic Stability Program,⁵⁸³ will benefit Ohio's economy and lead to job retention and creation. Similarly, as discussed above, the resource diversity resulting from the Economic Stability Program will provide a measure of rate stability by offering protection against future over-reliance on interruptible and more volatile natural gas-fired generation.⁵⁸⁴ The Economic Stability Program also will avoid transmission upgrades that could increase retail electric prices for the Companies' customers by between \$1.7 and \$4.1 billion.⁵⁸⁵

The rate stabilizing and cost avoidance effects of the Economic Stability Program will spur economic development in Ohio. As explained by Company witness Strah:

that was below the market rate for purchased power at that time" satisfies the third statutory condition. *In re Columbus Southern Power Co.*, 138 Ohio St.3d 448, 2014-Ohio-462, 8 N.E.3d 863, ¶ 32.

⁵⁸² R.C. 4928.143(B)(2)(i).

⁵⁸³ Hearing Tr. Vol. I at 42:21-24 (Mikkelsen Cross); Mikkelsen Fifth Supp., p. 12.

⁵⁸⁴ Moul Direct, pp. 6-10; Makovich Supp., pp. 3-4; Hearing Tr. Vol. III at 515:5-7, 11-19 (Mikkelsen Cross).

⁵⁸⁵ Phillips Supp., pp. 6-10; Mikkelsen Second Supp., pp. 6-11 and Attachment EMM-2.

By tempering future rate increases and volatility, Rider RRS will promote economic development. Price stability is an important consideration in site location analysis. When major companies consider locating or staying in Ohio, or existing companies consider expansion, they are making long term, multi-million dollar investments, and require pricing stability in their budget projections. The greater the degree of certainty about energy costs that we can provide these companies, the greater our odds of landing new capital investment and employment in the State of Ohio.⁵⁸⁶

Thus, the Economic Stability Program helps support economic development and job retention across the Companies' service territories by providing Ohio's current and future businesses with a greater degree of pricing certainty.

In addition, the Plants themselves are engines of economic development. As Company witness Murley testified, the Plants have economic impacts that cycle through the economy as a whole, thereby creating new business opportunities.⁵⁸⁷ For every \$1 million of power produced at Sammis, there is an additional \$180,000 in economic activity.⁵⁸⁸ And for every \$1 million of power Davis-Besse produces, it produces an additional \$390,000 in economic activity.⁵⁸⁹ The Plants provide high paying jobs with benefits to thousands of workers.⁵⁹⁰ Indeed, the Plants have a total economic impact of over \$1.1 billion annually.⁵⁹¹ The Economic Stability Program

⁵⁸⁶ Strah Direct, p. 11.

⁵⁸⁷ Murley Direct, p. 3.

⁵⁸⁸ Murley Supp., p. 4.

⁵⁸⁹ Murley Supp., p. 9.

⁵⁹⁰ Murley Supp., p. 11; Hearing Tr. Vol. XV at 3145:24-3146:6 (Murley Cross).

⁵⁹¹ Murley Supp., p. 11.

assures continued operation of the Plants and their continued positive impact on economic development.⁵⁹²

Hence, the Economic Stability Program is authorized under Section 4928.143(B)(2)(i).⁵⁹³

2. The Economic Stability Program satisfies the criteria established by the Commission in the AEP ESP3 Order.

In *AEP ESP3*, the Commission determined that hedges supported by a PPA, such as the AEP PPA rider, were authorized under Ohio law. The Commission further determined that a properly designed hedge that truly stabilizes rates could be approved under Section 4928.143(B)(2)(d).⁵⁹⁴ The record here shows that Rider RRS will provide a significant hedge against increasing and more volatile electric prices over the next eight years.

In the *AEP ESP3* Order, the Commission further set out non-binding factors that it may consider in determining whether to authorize recovery of costs through a rider like Rider PPA. These four factors focus on the generating plants proposed to support such a rider.⁵⁹⁵ The four plant-specific factors are to be considered if the net benefits of the proposed hedge, standing alone, are insufficient to establish that the rider would have the effect of stabilizing retail electric service. In such a case, other facts and circumstances relating to the stability and certainty of retail electric service become relevant. The four factors that the Commission may consider in deciding to approve cost recovery are: (1) the financial need of the generating facility that is the

⁵⁹² Moul Direct, pp. 2-5; Hearing Tr. Vol. X at 2202: 9-22 (Moul Cross); Hearing Tr. Vol. XX at 3987:14-18 (Fanelli Cross).

⁵⁹³ As summarized in the Third Supplemental Stipulation, “Rider RRS is a term, condition or charge that relates to bypassability and default service as would have the effect of stabilizing or providing certainty regarding retail electric service, and is an economic development and job retention program.” Third Supp. Stip., Section V.L.2.

⁵⁹⁴ *AEP ESP3* Order at 25.

⁵⁹⁵ *AEP ESP3* Order at 25.

subject of the PPA; (2) the necessity of the generating facility, in light of future reliability concerns, including supply diversity; (3) a description of how the generating facility is compliant with all pertinent environmental regulations and its plan for compliance with pending environmental regulations; and (4) the impact that a closure of the generating facility would have on electric prices and the resulting effect on economic development within the state.⁵⁹⁶ As the record demonstrates, in addition to providing significant financial benefits to customers, Rider RRS satisfies all of these criteria.

a. The Plants have a significant financial need.

The economic viability of the Plants is in doubt.⁵⁹⁷ Revenues have been at historic lows and are insufficient to cover the Plants' costs, and thus to continue to operate the Plants, and make necessary investments.⁵⁹⁸ FES may not be financially able to bear short-term losses even if long-term projections of market prices show significant increases.⁵⁹⁹ Thus, "[b]ased on a weak balance sheet caused by historical losses, and near-term forecasts of the Plants, FES has identified these Plants to be financially at-risk of closure prior to the end of their useful lives."⁶⁰⁰

The Plants [**BEGIN CONFIDENTIAL**].[**END**
CONFIDENTIAL] Specifically, from 2009 through 2014 [**BEGIN CONFIDENTIAL**]

⁵⁹⁶ AEP ESP3 Order at 25.

⁵⁹⁷ Moul Direct, p. 2; Hearing Tr. Vol. X at 2184:13-22, 2185:9-13 (Moul Cross); Hearing Tr. Vol. XI at 2395:8-15 (Moul cross); Hearing Tr. Vol. XXXII at 6541:6-12, 6542:3-20 (Lisowski Rebuttal Cross); Hearing Tr. Vol. XXXIII at 6818:21-24 (Lisowski Rebuttal Cross).

⁵⁹⁸ Moul Direct, p. 3; Hearing Tr. Vol. XI at 2267:2-17 (Moul Cross).

⁵⁹⁹ Moul Direct, pp. 2, 4; Hearing Tr. Vol. VIII at 1718:1-12; 1721: 16-19; 1722:6-14 (Lisowski Cross); Hearing Tr. Vol. X at 2202: 19-22 (Moul Cross).

⁶⁰⁰ Lisowski Rebuttal, p. 5.

[END CONFIDENTIAL] each exclusive of interest and return on investment.⁶⁰¹ During the same period, the Plants [BEGIN CONFIDENTIAL]

⁶⁰² [END CONFIDENTIAL] Even with additional capacity revenues from the capacity performance product auctions, the Plants are still at risk.⁶⁰³ In light of all of these factors, the recent and projected near term losses show the future of the Plants is in doubt despite the fact that energy prices are projected to increase in the near future.⁶⁰⁴

The Plants' recent performance is indicative of industry trends. PJM recently reported that 24,933 MW of generation are planned to retire.⁶⁰⁵ Another 14,597 MW of fossil-fuel generation is at risk of retirement due to net revenue inadequacy in the PJM markets.⁶⁰⁶ This represents approximately eight percent of PJM installed generation capacity in 2014.⁶⁰⁷ This figure does not include nuclear units, though data suggests those plants are at risk of retirement as well.⁶⁰⁸ In fact, several nuclear units currently are at risk of closure or are being closed.⁶⁰⁹ As

⁶⁰¹ Moul Supp., pp. 2-3 (CONF.).

⁶⁰² Lisowski Rebuttal, pp. 3-4 (CONF.).

⁶⁰³ Moul Rebuttal, p. 5.

⁶⁰⁴ Moul Direct, pp. 3-4; Hearing Tr. Vol. XXXII at 6541:6-12; 6542:3-20 (Lisowski Rebuttal Cross).

⁶⁰⁵ Moul Direct, p. 4.

⁶⁰⁶ Moul Direct, p. 4.

⁶⁰⁷ Moul Direct, p. 4.

⁶⁰⁸ Moul Direct, p. 4.

⁶⁰⁹ Moul Direct, p. 4. Indeed, according to Exelon, several of its nuclear generation facilities located in Illinois are at risk of closure. *See* Hearing Tr. Vol. XXVI at 5213:10-17, 5215:1-5217:9 (Campbell Cross).

shown through this data, there are significant near-term issues in the market which are causing substantial retirements.⁶¹⁰

FES has already shown that it has not been immune from this industry-wide trend. For example, FES recently was forced to retire several plants because they were losing money and were projected to continue to do so in the near term.⁶¹¹ This was the case even though these assets “had a long-term future value that was expected to be in excess of [their] book value at that time.”⁶¹² In 2013, FES announced plans to deactivate two additional coal-fired plants with a total capacity of 2,080 MW.⁶¹³ One of these generating facilities, the Hatfield’s Ferry plant, is notable here because it was similarly situated to Sammis.⁶¹⁴ Just as with Sammis, the Hatfield’s Ferry plant had invested in state-of-the-art scrubbing technology.⁶¹⁵ Likewise, both plants had large coal-fired supercritical units located on a river that provided for lower coal transportation costs.⁶¹⁶ Both were deregulated power plants located in PJM.⁶¹⁷ Nonetheless, based upon the magnitude of historical losses, and anticipated near-term losses, FES had no choice but to deactivate the Hatfield’s Ferry generating facility even though it had a long-term net present

⁶¹⁰ Hearing Tr. Vol. XI at 2352:3-13.

⁶¹¹ Moul Direct, p. 4; Lisowski Rebuttal, pp. 5-6; Hearing Tr. Vol. XXXII at 6544:3-6545:22 (Moul Rebuttal Cross). *See also* Lisowski Rebuttal, p. 7, Figure 1 (Competitive Generation Plants Deactivated or Sold since 2010).

⁶¹² Hearing Tr. Vol. XXXIII at 6839:9-21 (Lisowski Rebuttal Cross).

⁶¹³ Moul Direct, p. 4.

⁶¹⁴ Lisowski Rebuttal, p. 6.

⁶¹⁵ Lisowski Rebuttal, p. 6.

⁶¹⁶ Lisowski Rebuttal, p. 6; Hearing Tr. Vol. XXXII 6860:1-3; 7-8 (Lisowski Rebuttal Cross).

⁶¹⁷ Hearing Tr. Vol. XXXIII at 6860:5-7 (Lisowski Rebuttal Cross).

value that was positive.⁶¹⁸ If the Plants do not receive additional revenue then FES simply may be forced to retire them as well for the same reason.⁶¹⁹ Therefore, approval of Rider RRS is critical to ensure the ongoing operation of the Plants.

Of course, as discussed below, continued operation of the Plants is not a goal in-and-of itself but, rather, has value, among other things, to maintain resource diversity in a region that is dangerously close to overreliance on less-reliable fuel sources.

b. The Plants are needed given future reliability concerns, including the preservation of sufficient generation resource diversity.

As the record demonstrates, the continued operation of the Plants is needed for reliability reasons. The Economic Stability Program would address these concerns head-on. Specifically, maintaining the Plants will aid in the preservation of sufficient generation resource diversity, the importance of which this Commission has previously acknowledged.⁶²⁰

Coal and nuclear plants are “bedrock” units that operate in all seasons and at all times of day or night.⁶²¹ In contrast, renewable resources are a relatively small part of the market and are unsuitable for reliability support because they tend to be dependent on favorable weather

⁶¹⁸ Lisowski Rebuttal, p. 6; Hearing Tr. Vol. XXXIII at 6858:18-6859:13, 6861:1-11 (Lisowski Rebuttal Cross).

⁶¹⁹ As Company witness Moul testified at hearing, “[D]epending upon market outlooks, actual energy prices in the near term, FirstEnergy Solutions may reach a point where these plants aren't covering their avoidable costs, at which point we would have to make a decision as to whether to continue to invest in them and to keep them online or choose to shut the units down.” Hearing Tr. Vol. X at 2202:9-18.

⁶²⁰ Moul Direct, pp. 7-8 (quoting Comments Submitted on Behalf of the Public Utilities Commission of Ohio at 7-8, Technical Conference on Winter 2013-2014 Operations and Market Performance in Regional Transmission Organizations and Independent System Operators, FERC Docket No. AD14-8-000 (May 15, 2014)).

⁶²¹ Harden Direct, p. 9; Moul Direct, p. 10. As Company witness Harden testified at hearing, “bedrock” assets like the Plants “are typically the plants that are operating all the time so that the lights come on when we flip switches in our homes.” Hearing Tr. Vol. XII at 2523:9-17 (Harden Cross).

conditions. Solar resources are intermittent and useful only during the day, and are less useful in the winter than the summer.⁶²² Wind resources are also intermittent and difficult to dispatch, and only useful when the wind is blowing, which will often not correspond to peak demand during hot summer months.⁶²³

Likewise, unlike the coal and nuclear baseload generation provided by the Plants, natural gas plants lack significant on-site fuel storage and rely on “just in time” delivery of their fuel:

Natural gas plants are intermediate plants with reliability challenges associated with natural gas fuel supply. Unlike baseload coal and nuclear plants, natural gas plants do not have significant supplies of fuel stored onsite, relying on a “just-in-time” system of fuel delivery that requires problem-free scheduling and operation of thousands of miles of gas pipelines, gas storage facilities, and effective gas ‘gathering’ processes.⁶²⁴

Therefore, when gas supply becomes restricted (such as during the Polar Vortex), reliability challenges may quickly arise. Moreover, the current gas transportation infrastructure is stressed, and any transition to more gas-fired units will take time.⁶²⁵ Gas-fired generation cannot be relied upon to provide the reliability backbone of the electric system.⁶²⁶

Going forward, there is thus a pressing reliability need to maintain sufficient generation resource diversity. As baseload assets with onsite fuel supply, the Plants continue to meet this

⁶²² Hearing Tr. Vol. XII at 2508: 4-5 (Harden Cross).

⁶²³ Hearing Tr. Vol. XII at 2508: 3-4 (Harden Cross).

⁶²⁴ Moul Supp., pp. 7-8. As Company witness Moul further testified at hearing, “I think a reduction in the amount of coal generation right now would put more reliance on natural gas. And as I’ve stated earlier, there are some strengths with natural gas based on its low commodity price right now, but there are also vulnerabilities associated with the just-in-time deliverability of its fuel source. So reducing our percentage of coal I think makes us more susceptible to too much reliance on natural gas.” Hearing Tr. Vol. XI at 2255:11-23 (Moul Cross).

⁶²⁵ Moul Direct, p. 10; Hearing Tr. Vol. XI at 2312:4-12 (Moul Cross).

⁶²⁶ Moul Direct, pp. 7-8, 10-11; Strah Direct, pp. 8-9; Sierra Club Ex. 8, pp. 25-26 (Analysis of Operation Events and Market Impacts during the January 2014 Cold Weather Events-PJM Interconnection, PJM Interconnection (May 8, 2014)).

need. Coal-fired assets like Sammis and nuclear assets like Davis-Besse significantly contribute to generation resource diversity, thereby precluding the potentially catastrophic overreliance on a single type of fuel supply such as natural gas.⁶²⁷ As explained above, natural gas plants experienced a disproportionately high percentage of interruptions during the January 2014 Polar Vortex, creating the potential in PJM for severe service disruptions and load shedding. At hearing, Company witness Mikkelsen described the vital role the Plants played in avoiding this scenario:

if you have a constrained generation resource ... which was the situation during the Polar Vortex, we were very close to working through all of the synchronized reserves to the system, it is my belief that, having continued operation of baseload generating units with on-site fuel storage capabilities that are electrically designed to serve the Companies' load, will increase the likelihood that the system will remain stable and reliable through that emergency period.⁶²⁸

Therefore, the Plants are an essential part of the diverse generation mix necessary to ensure the reliable delivery of electric service both today and in the future.⁶²⁹

The Plants also have reliability benefits based on their location in close electrical proximity to the Companies' load. Increasing the distance between generation and load centers increases the potential for outages on the transmission system that affect reliability at the load center.⁶³⁰ If the Plants are retired and more generation is imported from out-of-state, Ohio's grid

⁶²⁷ Hearing Tr. Vol. I at 96:7-20 (Mikkelsen Cross); *see also* Hearing Tr. Vol. I at 112:10-21, 154:4-6 (Mikkelsen Cross); Hearing Tr. Vol. IV at 874:4-10 (Strah Cross).

⁶²⁸ Hearing Tr. Vol. II at 423:11-21 (Mikkelsen Cross).

⁶²⁹ Harden, p. 9; Hearing Tr. Vol. IV at 874:4-10 (Strah Cross).

⁶³⁰ Phillips Supp., p. 6.

will be “more vulnerable to have generation separated (i.e., disconnected) from the load centers.”⁶³¹ Thus, maintaining the Plants also helps maintain reliability.

c. The Plants are compliant with all existing and pending environmental regulations.

The Plants are in compliance with all existing environmental regulations and have plans to comply with pending or known future environmental regulations.⁶³² No issues have been raised by any party regarding Davis-Besse’s environmental compliance, which is unsurprising given it is a zero-emissions resource.⁶³³ Environmental compliance at the Sammis plant takes three forms:

- solid waste regulations, including the Coal Combustion Residuals (“CCR”) rule;
- air regulations, including the National Ambient Air Quality Standards (“NAAQS”), the Cross State Air Pollution Rule (“CSAPR”), the Mercury and Air Toxics Standard (“MATS”) and the CPP; and
- water regulations, including the Section 316(b) Cooling Water Intake Structures at Existing Facilities (“316(b)”) rule and the Effluent Limitations Guidelines and Standards (“ELG”) rule.

For each of these, Sammis is either fully in compliance or has a plan to comply with pending regulations at minimal cost. Indeed, any costs that the Plants may incur to comply with these regulations are included in the Companies’ cost forecast provided by Company witness Lisowski.⁶³⁴

⁶³¹ Phillips Supp., p. 6.

⁶³² Evans Supp., p. 2; Hearing Tr. Vol. XII at 2536:8-16 (Harden Cross).

⁶³³ See Moul Direct, p. 12; Campbell Direct, p. 7 (“Preserving nuclear facilities like Davis-Besse should be a priority for the state of Ohio and the country. Nuclear generation is the largest and most reliable form of clean generation, providing almost 65 percent of the nation’s carbon-free electricity, . . .”). See Hearing Tr. Vol. XI at 2448:18-21 (Moul Cross).

⁶³⁴ Evans Supp., pp. 3, 4, 5, 9.

Notably, after the 2005 Consent Decree was entered into between Ohio Edison and the United States of America,⁶³⁵ the Sammis plant installed significant environmental upgrades and retrofits.⁶³⁶ These investments included controls for sulfur dioxide (“SO₂”), nitrogen oxides (“NO_x”) and particulate matter. SO₂ is controlled using wet flue gas desulfurization (“WFGD”) scrubbers on all seven units that are designed to remove in excess of 95% of all sulfur dioxide.⁶³⁷ NO_x is controlled using Selective Non-Catalytic Reduction (“SNCR”) on the smaller units 1-5 and Selective Catalytic Reduction on Units 6 and 7, as well as low-NO_x burners and overfire air technology.⁶³⁸ Particulate matter is controlled using “baghouse” technology and electrostatic precipitators, which collectively is designed to remove over 99.6% of the particulate matter in Sammis’ flue gas.⁶³⁹ All of these technologies permit Sammis to comply with the 2005 Consent Decree, which “is much more restrictive than any current regulations.”⁶⁴⁰

(1) Solid waste regulations

The CCR rule regulates the disposal of coal combustion residuals, such as fly ash, bottom ash and gypsum, from coal-fired power plants.⁶⁴¹ The CCR rule is pending implementation; it was issued in late 2014 and became final in April 2015.⁶⁴² Sammis may require minimal additional costs related to: (1) monitoring of disposal sites where dry residuals from the plant are

⁶³⁵ See Tr. Vol. XXXI at 6463:16-6464:20 (taking administrative notice of the 2005 Consent Decree).

⁶³⁶ Evans Supp., p. 6; Hearing Tr. Vol. XII at 2519:9-16 (Harden Cross).

⁶³⁷ Harden Direct, pp. 8, 10.

⁶³⁸ Harden Direct, pp. 7, 10-11; Hearing Tr. Vol. XII at 2519:25 – 2520:7, 2521:5-9 (Harden Cross).

⁶³⁹ Harden Direct, p. 11; Hearing Tr. Vol. XII at 2522:3-9 (Harden Cross).

⁶⁴⁰ Hearing Tr. Vol. XII at 2536:8-16, 2552:1-7, 2577:15 – 2578:20 (Harden Cross).

⁶⁴¹ Evans Supp., p. 4; Hearing Tr. Vol. XIX at 3796:2-19 (Evans Cross).

⁶⁴² Evans Supp., p. 4; Hearing Tr. Vol. XIX at 3795:13-16 (Evans Cross).

landfilled; and (2) monitoring or upgrading an unlined, four-acre settling pond.⁶⁴³ As to the latter, although Sammis through 2017 will continue to evaluate whether the CCR rule requires any additional measures at the bottom ash wastewater settling pond, compliance costs are estimated to range from zero (the most likely option) to a worst-case option of installing a composite liner for less than \$1 million.⁶⁴⁴ These costs fit within an undesignated capital budget for small projects that is included in Company witness Lisowski's forecast.⁶⁴⁵

(2) Air regulations

Under the Clean Air Act, U.S. EPA sets National Ambient Air Quality Standards for six criteria pollutants, including SO₂, NO_x, fine particulate matter ("PM_{2.5}") and ground-level ozone.⁶⁴⁶ Because the 2005 Consent Decree resulted in stringent limits on air emissions and the installation of state-of-the-art emissions controls at Sammis, these standards are not a concern.⁶⁴⁷ Sammis is not located in an area designated nonattainment for SO₂, NO_x, PM_{2.5} or ozone and, thus, is not subject to any NAAQS compliance requirements.⁶⁴⁸ Although the city of

⁶⁴³ Evans Supp., p. 5; Hearing Tr. Vol. XIX at 3796:24-3797:1, 3799:9-3800:18 (Evans Cross); Hearing Tr. Vol. XX at 3858:16-3859:10 (Evans Cross).

⁶⁴⁴ Hearing Tr. Vol. XIX at 3800:19-3801:17 (Evans Cross); Hearing Tr. Vol. XX at 3858:16-3859:10 (Evans Cross).

⁶⁴⁵ Evans Supp., p. 5; Hearing Tr. Vol. XIX at 3800:1-6, 11-13 (Evans Cross).

⁶⁴⁶ Evans Supp., p. 5, 7; Harden Direct, p. 11; Ferrey Direct, p. 5; Hearing Tr. Vol. XXIII at 4651:10-17 (Ferrey Cross).

⁶⁴⁷ Evans Supp., p. 6; Harden Direct, pp. 10-11; Hearing Tr. Vol. XII at 2536:8-16, 2552:1-8 (Harden Cross); Hearing Tr. Vol. XIX at 3807:10-18, 3816:16-20 (Evans Cross).

⁶⁴⁸ Evans Supp., pp. 6, 7; Hearing Tr. Vol. XIX at 3807:19-24 (Evans Cross) (SO₂); *id.* at 3816:16-23 (Evans Cross) (NO_x and ozone); Hearing Tr. Vol. XXIII at 4663:1-23 (Ferrey Cross) (PM_{2.5}); Hearing Tr. Vol. XXVII at 5501:21-5502:2 (Hill Cross) (Jefferson County is not designated nonattainment for the 2012 PM_{2.5} standard); Hearing Tr. Vol. XXXI at 6462:1-17 (Comings Cross) (SO₂ and ozone). *See* Status of SIP Requirements for Designated Areas: Ohio Areas by Pollutant, available at http://www3.epa.gov/airquality/urbanair/sipstatus/reports/oh_areabypoll.html (administrative notice was taken of Steubenville nonattainment areas in 2015 at Tr. Vol. XXVII at 5501 (Hill Cross)).

Steubenville is designated nonattainment for the 2010 SO₂ standard, Sammis is not located in the nonattainment area and does not impact SO₂ emissions in that area.⁶⁴⁹ The area around the Sammis plant is designated attainment for the annual and 24-hour PM_{2.5} NAAQS⁶⁵⁰ and the 8-hour ozone NAAQS.⁶⁵¹

Moreover, although no additional SO₂ emission limits are anticipated, Sammis' state-of-the-art emissions controls allow it to make additional reductions in SO₂ emissions to accommodate any future changes to the 1-hour SO₂ NAAQS.⁶⁵² The modern control systems and flue gas stacks installed at Sammis as a result of the 2005 Consent Decree enable Sammis to satisfy any current requirements of the 1-hour SO₂ standard.⁶⁵³ Although the Companies do not anticipate that Sammis will incur any additional costs related to the 1-hour SO₂ standard, NAAQS, Company witness Lisowski's forecast conservatively includes costs to purchase allowances for SO₂ and NO_x.⁶⁵⁴

⁶⁴⁹ Evans Supp., p. 6; Hearing Tr. Vol. XXIII at 4653:6-25 (Ferrey Cross). *See generally* Ohio SO₂ Nonattainment Areas (2010 Standard), available at http://www3.epa.gov/airquality/greenbook/ohso2_2010.html.

⁶⁵⁰ Approval and Promulgation of Air Quality Implementation Plans; Ohio; Redesignation of the Steubenville-Weirton Area to Attainment of the 1997 Annual Standard and the 2006 24-Hour Standard for Fine Particulate Matter, 78 Fed. Reg. 57273 (Sept. 18, 2013). Jefferson County is attainment for the PM_{2.5} standard. *See* Status of SIP Requirements for Designated Areas: Ohio Areas by Pollutant, available on the U.S. EPA website at http://www3.epa.gov/airquality/urbanair/sipstatus/reports/oh_areabypoll.html (administrative notice was taken of PM_{2.5} nonattainment areas at Tr. Vol. XXVII at 5475:6-11 (Hill Cross)). The City of Cleveland is the only nonattainment area in Ohio for the most recent 2012 PM_{2.5} standard. *Id.*

⁶⁵¹ Determination of Attainment, Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Ohio; Redesignation of Jefferson County to Attainment of the 8-Hour Ozone Standard, 72 Fed. Reg. 27640 (May 16, 2007).

⁶⁵² Evans Supp., pp. 7, 16.

⁶⁵³ Hearing Tr. Vol. XIX at 3807:10-18 (Evans Cross).

⁶⁵⁴ Evans Supp., pp. 9, 17; Hearing Tr. Vol. XII at 2582:20-2583:24 (Harden Cross); Hearing Tr. Vol. XIX at 3815:22-3817:6 (Evans Cross).

While U.S. EPA reduced the ozone NAAQS from 75 parts per billion (“ppb”) to 70 ppb on Oct. 1, 2015,⁶⁵⁵ this will not have any effect on the Sammis plant. Based on current ozone concentrations measured in Jefferson County, the area near the Sammis plant currently is in attainment with the 2015 ozone standard.⁶⁵⁶ Ozone levels are an issue in metro areas, and Sammis is not in a metro area.⁶⁵⁷ Mr. Evans noted that ozone levels should continue to trend downward.⁶⁵⁸ Indeed, OCC witness Ferrey agreed that this trend exists.⁶⁵⁹ Ozone levels have been trending downward because of multiple federal and state programs to limit ozone precursors – NOx and volatile organic compounds – from cars, trucks, solvents, paints and other sources.⁶⁶⁰ U.S. EPA agrees that these programs have caused ozone levels to trend downward.⁶⁶¹ Moreover, U.S. EPA has projected that ozone levels will fall to 60 ppb in Jefferson County by 2025 and, thus, that Jefferson County will not be nonattainment with the 2015 ozone standard.⁶⁶²

⁶⁵⁵ Hearing Tr. Vol. XXXII at 4676:16-4677:5 (Ferrey Cross).

⁶⁵⁶ Evans Rebuttal, p. 3; Hearing Tr. Vol. XIX at 3816:16-3817:1 (Evans Cross).

⁶⁵⁷ Hearing Tr. Vol. XIX at 4672:23-4673:14 (Evans Cross).

⁶⁵⁸ Evans Supp., p. 17; Evans Rebuttal, p. 3.

⁶⁵⁹ Hearing Tr. Vol. XXIII at 4674:12-24; 4677:6-10 (Ferrey Cross).

⁶⁶⁰ Evans Supp., pp. 16-17; Hearing Tr. Vol. XXIII at 4672:20-22, 4673:21-4677:22 (Ferrey Cross).

⁶⁶¹ National Ambient Air Quality Standards for Ozone, 79 Fed. Reg. 75234, 75238 (Dec. 17, 2014) (“A number of significant emission reduction programs that will lead to reductions of O3 precursors are in place today or are expected to be in place by the time any new SIPs will be due. Examples of such rules include the Nitrogen Oxides (NOX) SIP Call, Clean Air Interstate Rule (CAIR), and Cross-State Air Pollution Rule (CSAPR), regulations controlling onroad and nonroad engines and fuels, the utility and industrial boilers hazardous air pollutant rules, and various other programs already adopted by states to reduce emissions from key emissions sources.” (footnote omitted)).

⁶⁶² Evans Rebuttal, p. 3; Hearing Tr. Vol. XXXI at 6468:9-24 (Comings Cross); Counties Projected to Violate the 2015 Primary Ground-Level Ozone Standard, available on U.S. EPA website at <http://www3.epa.gov/ozonepollution/pdfs/20151001datatable2025.pdf> (administrative notice was taken at Hearing Tr. Vol. XXVII at 5475:6-11 of ozone nonattainment areas on the U.S. EPA website).

CSAPR imposes state-level caps on emissions of NO_x and SO₂ to the extent these two pollutants contribute to nonattainment of the PM_{2.5} or ozone NAAQS in upwind states.⁶⁶³ In Ohio, CSAPR is implemented by Ohio EPA through a market-based system that issues allowances to offset NO_x and SO₂ emissions.⁶⁶⁴ Because Sammis' emissions of SO₂ and NO_x are strictly limited under the 2005 Consent Decree, **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL], even after taking into consideration the new ozone NAAQS.⁶⁶⁵ Thus, Sammis' plan to comply with CSAPR is simply to maintain existing emissions controls. No additional capital expenditures are required to comply with CSAPR.⁶⁶⁶ Again, although FES does not anticipate incurring any costs to purchase allowances for Sammis, Company witness Lisowski's forecast includes SO₂ and NO_x allowance costs.⁶⁶⁷

The MATS rule is intended to reduce emissions of hazardous air pollutants, including mercury, from the electric power industry.⁶⁶⁸ Sammis is in full compliance with the MATS

⁶⁶³ Evans Supp., p. 8; Co. Ex. 66; Co. Ex. 67 at 48210.

⁶⁶⁴ Evans Supp., pp. 8-9.

⁶⁶⁵ Evans Supp., p. 9; Hearing Tr. Vol. XIX at 3816:7-20 (Evans Cross).

⁶⁶⁶ Evans Supp., p. 9.

⁶⁶⁷ Evans Supp., pp. 9; Hearing Tr. Vol. XII at 2582:20- 2583:24 (Harden Cross); Hearing Tr. Vol. XIX at 3815:22-3817:6 (Evans Cross). *See* Hearing Tr. Vol. XII at 2583:16-18 (Harden Cross) ("I would characterize those costs as forecasted costs to conservatively bound anything that Sammis might be required to [do] in the future.").

⁶⁶⁸ National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units; Final Rule, 77 Fed. Reg. 9304, 9305-06 (Feb. 16, 2012).

rule.⁶⁶⁹ Thus, pending litigation that could result in a weakening of the MATS rule would have no impact on Sammis.⁶⁷⁰

As noted, the CPP proposes to regulate CO₂ emissions under Section 111(d) of the Clean Air Act.⁶⁷¹ The CPP became final on December 22, 2015, sixty days after its publication in the Federal Register.⁶⁷² The CPP requires states to develop state implementation plans to meet state-specific targets for CO₂ emissions reductions set by U.S. EPA.⁶⁷³ State plans likely will not be in final form until September 2018, and implementation of the CPP will not start until 2022 (assuming implementation is not delayed or eliminated by litigation⁶⁷⁴). The full impact on Ohio of the CPP cannot be understood until the 2018-2022 period.⁶⁷⁵ Moreover, the CPP is not source-specific and imposes no obligations specifically on Sammis.⁶⁷⁶ Thus, a compliance plan for the CPP has not yet been developed for Sammis.⁶⁷⁷

However, U.S. EPA modeling of the rate-based approach to the CPP shows that the Plants will continue to provide relatively cost-effective generation, at high capacity factors,

⁶⁶⁹ Harden Direct, p. 12.

⁶⁷⁰ See Direct Testimony of Professor Steven Ferrey (“Ferrey Direct”), pp. 16-17; *Michigan v. EPA*, 135 S.Ct. 2699 (2015) (U.S. EPA unreasonably interpreted 42 U.S.C. § 7412(n)(1)(A) of the Clean Air Act when it refused to consider cost). See also Tr. Vol. XIX at 3826:2-6 (Evans Cross) (“There could be some new regulation comes out of that litigation specifically addressing the issues of cost justification of the MATS rule. The scope of that ruling doesn’t include anything with respect to the standards that were set by EPA.”).

⁶⁷¹ Evans Errata, p. 1.

⁶⁷² Evans Errata, p. 2. See also Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64662 (Oct. 23, 2015).

⁶⁷³ Evans Errata, pp. 1-2.

⁶⁷⁴ On February 9, 2016, the United States Supreme Court stayed implementation of the CPP pending resolution of legal challenges to the CPP. U.S. Supreme Court Order 15A793, 577 U.S. ____ (Feb. 9, 2016), available at http://www.supremecourt.gov/orders/courtorders/020916zr4_4g15.pdf.

⁶⁷⁵ Evans Errata, p. 2; Hearing Tr. Vol. XXIII at 4681:2-4682:17 (Ferrey Cross).

⁶⁷⁶ Hearing Tr. Vol. XXIII at 4632:4-4633:2 (Ferrey Cross).

⁶⁷⁷ Evans Supp., p. 3; Evans Errata, p. 2.

throughout the Economic Stability Program period.⁶⁷⁸ Indeed, U.S. EPA's modeling produced results similar to Company witness Lisowski's modeling. Both used similar carbon prices to reflect the impact of CPP regulations and both projected similar capacity factors for the Sammis units.⁶⁷⁹ As with Company witness Lisowski's forecast, U.S. EPA's model shows that Sammis and other remaining baseload units will be dispatched more to protect transmission reliability.⁶⁸⁰ Indeed, as the CPP is implemented and more combined cycle natural gas-fired units are constructed in Ohio and elsewhere in PJM – thereby putting upward pressure on energy prices – the resulting energy price increases will make both Sammis and Davis-Besse more valuable baseload units.⁶⁸¹ Thus, Sammis will be a valuable asset for Ohio's compliance with the CPP.⁶⁸²

(3) Water regulations

Section 316(b) of the Clean Water Act requires that cooling water intake structures of power plants reflect the best technology available for minimizing adverse environmental impact.⁶⁸³ Sammis uses water from the Ohio River for its circulating water system.⁶⁸⁴ Under the pending version of the 316(b) rule, Sammis is currently studying whether the existing system of structures represents the best available technology for cooling water systems.⁶⁸⁵ When those

⁶⁷⁸ Evans Errata, pp. 3-5.

⁶⁷⁹ Hearing Tr. Vol. XIX at 3759:20-3760:2, 3761:15-3762:6 (Evans Cross); Evans Errata, p. 5 (U.S. EPA capacity factors); Sierra Club Ex. 49 Confidential (Mr. Lisowski's capacity factors on SC Set 1-INT-10 Attachment 1 - Competitively Sensitive Confidential); Hearing Tr. Vol. XII at 2648:14-2649:17 (Harden Cross).

⁶⁸⁰ Hearing Tr. Vol. XIX at 3764:9-24 (Evans Cross).

⁶⁸¹ Hearing Tr. Vol. XXI at 4221:2-10, 4223:4-4224:4 (Cole Cross).

⁶⁸² Evans Errata, p. 2.

⁶⁸³ Evans Supp., p. 3.

⁶⁸⁴ Harden Direct, p. 8.

⁶⁸⁵ Hearing Tr. Vol. XIX at 3789:22-25, 3836:11-3837:25 (Evans Cross).

studies are complete in 2017 and Ohio EPA decides what the best available technology is for Sammis, Sammis will comply with any additional requirements.⁶⁸⁶ Company witness Evans testified that the likely outcome is either that no additional measures will be required or that upgraded screens will be required.⁶⁸⁷ The cost of upgraded screens is included in the Companies' cost forecast presented by Mr. Lisowski.⁶⁸⁸

The ELG regulations cover wastewater discharges from power plants.⁶⁸⁹ Any ongoing costs to comply with existing ELG regulations are included in the Companies' cost forecast.⁶⁹⁰ In addition, U.S. EPA announced amended ELG regulations on September 30, 2015.⁶⁹¹ Company witness Harden explained at hearing that the cost for Sammis to comply with the proposed ELG rule is not expected to be significant or material.⁶⁹² Moreover, Company witness Evans testified that Sammis is well-positioned with its existing state-of-the-art technology to meet the new ELG requirements.⁶⁹³ Sammis will not have any cost to comply with the ELG requirements for fly ash wastewater treatment (because Sammis has no fly ash wastewater). It will incur minimal costs to comply with the new regulations for bottom ash (\$3 million to \$5

⁶⁸⁶ Evans Supp., p. 4; Hearing Tr. Vol. XIX at 3790:1-9 (Evans Cross).

⁶⁸⁷ Hearing Tr. Vol. XIX at 3793:15-25, 3838:17-3839:14 (Evans Cross).

⁶⁸⁸ Hearing Tr. Vol. XIX at 3788:21-3789:3, 3793:15-17 (Evans Cross).

⁶⁸⁹ Evans Supp., p. 5.

⁶⁹⁰ Evans Supp., p. 5.

⁶⁹¹ Hearing Tr. Vol. XIX at 3803:13-22 (Evans Cross). *See also* Steam Electric Power Generating Effluent Guidelines – 2015 Final Rule, available at <http://www2.epa.gov/eg/steam-electric-power-generating-effluent-guidelines-2015-final-rule>.

⁶⁹² Hearing Tr. Vol. XII at 2586:8-23 (Harden Cross) (“[W]e don’t expect any costs to be significant or material relative to the overall forecast cost assumptions for Sammis. The forward forecast cost assumptions in large part were based upon looking at history of the plant, and we don’t expect any of the – you’re referring to the ELGs, the effluent limitation guidelines. We don’t expect any of the ELGs to be any more material to the cost of the plant than any of the previous requirements we’ve had to meet.”).

⁶⁹³ Evans Rebuttal, p. 2.

million total, including the composite liner referenced above in the CCR section) and FGD wastewater (\$8 to \$18 million total over three to four years).⁶⁹⁴ The Companies' cost forecast provided in the filing included certain unspecified capital dollars that could be used for implementation of any ELG requirements applicable to Sammis.⁶⁹⁵

d. Closing the Plants would have a significant negative impact on electric prices and retail rate stability, with a resulting negative impact on economic development.

Closing the Plants would have a negative impact on electric prices and retail rate stability, resulting in negative economic impacts, both locally and regionally.⁶⁹⁶ As discussed above, the Plants have more stable cost structures than other sources of generation, and rely on coal and nuclear fuel sources that have less volatile prices than natural gas, which is rapidly becoming the dominant generation fuel source in the PJM region.⁶⁹⁷ Closing the Plants would result in even greater reliance on natural gas-fired generation to serve the Companies load, exposing customers to the risk of higher and more volatile electric prices as natural gas prices rise and play more of a factor in setting energy prices in the future.⁶⁹⁸ Additionally, if the Plants close, the Company's customers would be responsible for paying for transmission upgrades that could increase their retail electric prices by between \$1.7 and \$4.1 billion.⁶⁹⁹

⁶⁹⁴ Evans Rebuttal, p. 2; Hearing Tr. Vol. XXXIII at 6788:10-19, 6794:7-19 (Evans Rebuttal Cross).

⁶⁹⁵ Hearing Tr. Vol. XIX at 3806:11-16 (Evans Cross).

⁶⁹⁶ As Dr. Bowring admitted at hearing, this fact is a matter worthy of Commission concern. Hearing Tr. Vol. XXIV at 5039:4-13 (Bowring Cross).

⁶⁹⁷ Moul Direct, p. 7; Moul Supp., p. 4-5; Makovich Supp., p. 13; Hearing Tr. Vol. VI at 1168:8-21 (J. Rose Cross); Hearing Tr. Vol. XXII at 4522:20-25 (Wilson Cross); Hearing Tr. Vol. IV at 724:2-22 (Strah Cross); Hearing Tr. Vol. XIV at 2958:1-9 (Ruberto Cross).

⁶⁹⁸ Moul Direct, pp. 6-10; Makovich Supp., pp. 3-4; Hearing Tr. Vol. III at 515:5-7, 11-19 (Mikkelsen Cross); Hearing Tr. Vol. XI at 2255:11-23 (Moul Cross); Hearing Tr. Vol. XXV at 4941:4-4942:4 (Haugen Cross).

⁶⁹⁹ Phillips Supp., pp. 6-10; Mikkelsen Second Supp., pp. 6-11 and Attachment EMM-2.

The risk of higher, more volatile and unstable electric rates is a threat to economic development. Major companies considering locating or expanding in the Companies' service territories are making long-term, multi-million dollar investments and require pricing stability in their budget projections.⁷⁰⁰ Industrial and commercial customers seek out locations with less price volatility, because such volatility complicates their budgeting and planning.⁷⁰¹ Without pricing stability, such customers will defer new capital investments and hiring in the Companies' service territories, or take such investments and hiring elsewhere.⁷⁰² As a result, closing the Plants would have an impact on electric prices and a "resulting effect on economic development," satisfying the fourth non-binding factor announced in *AEP ESP3*.

In addition, the Plants themselves provide significant economic benefit that would be lost if the Plants closed. In today's unstable energy markets, plants and jobs are at risk throughout the United States; economic stability is critical to keep needed plants running for long-term industry health. Here, it is undisputed that closing the Plants would have a significant negative economic impact.⁷⁰³ The closure of the Plants would lead directly or indirectly to the loss of thousands of jobs, millions of dollars in tax revenue, and over \$1 billion in economic activity annually.

Company witness Murley conducted an economic impact analysis using the IMPLAN methodology to determine the economic impact the Plants currently have and the impact of their

⁷⁰⁰ Strah Direct, p. 11; Hearing Tr. Vol. IV at 877:9-878:7; 796: 7-20 (Strah Cross).

⁷⁰¹ Rose Direct, p. 8.

⁷⁰² Strah Direct, p. 11.

⁷⁰³ Dr. Bowring agreed at hearing that the effect on economic development from closing the Plants is an appropriate factor for the Commission to consider. Hearing Tr. Vol. XXIV at 5039:4-13.

retirement. An economic impact analysis determines the impact that a specific project or program may have by identifying the impact on business activity, personal income, and the nature of changes in jobs. The analysis quantifies the larger multiplier effects on other businesses that sales depend in part on the continued operation of the power plant.⁷⁰⁴ An economic impact analysis considers: (1) “direct impacts” (payroll and jobs required for production); (2) “indirect impacts” (activity created by spending by the subject company at supplier businesses); and (3) “induced impacts” (the effect of payroll from the subject business and how that payroll results in additional spending by employees and the results of that spending).⁷⁰⁵

If Sammis were to close, the economic impact would be significant. Leaving aside potential long-term impacts, Sammis’ retirement would result in the loss of 482 jobs at Sammis alone, plus an additional 443 jobs in the surrounding multi-state region.⁷⁰⁶ As shown in the table below, closing Sammis would result in \$634.1 million in lost economic activity, of which \$602.2 million would occur in the seven county region surrounding Sammis.⁷⁰⁷

⁷⁰⁴ Murley Direct, p. 2; Hearing Tr. Vol. XV at 3155:2-3156:11, 3184:21-3185:12 (Murley Cross).

⁷⁰⁵ Murley Direct, p. 3; Hearing Tr. Vol. XV at 3060:23-3061:25, 3069:10-21, 3070:14-3071:1, 3074:6-15 (Murley Cross).

⁷⁰⁶ Murley Supp., p. 6; Hearing Tr. Vol. XV at 3114:22-3115:15 (Murley Cross). The Sammis region includes the following counties: Jefferson, OH; Columbiana, OH; Belmont, OH; Mahoning, OH; Brooke, WV; Hancock, WV and Beaver, PA.

⁷⁰⁷ Murley Supp., p. 6; Hearing Tr. Vol. XV at 3214:25-3216:4 (Murley Cross).

FIGURE 2
ANNUAL DIRECT AND TOTAL ECONOMIC IMPACT
OF RETIREMENT OF THE W.H. SAMMIS PLANT
(millions of dollars)

	Direct			Indirect (Supplier) Impacts			Induced (Employee) Impacts			Total		
	Output	Jobs	Personal Income	Output	Jobs	Personal Income	Output	Jobs	Personal Income	Output	Jobs	Personal Income
Regional Impacts												
Immediate Loss	(\$448.26)	(415)	(\$40.86)	(\$25.93)	(110)	(\$5.13)	(\$30.10)	(265)	(\$9.11)	(\$504.29)	(790)	(\$55.10)
Add'l Loss within 3 to 4 months	(\$87.61)	(67)	(\$7.06)	(\$5.07)	(22)	(\$1.00)	(\$5.20)	(46)	(\$1.57)	(\$97.88)	(134)	(\$9.63)
Total Regional Loss	(\$535.88)	(482)	(\$47.92)	(\$31.00)	(132)	(\$6.13)	(\$35.30)	(311)	(\$10.68)	(\$602.17)	(925)	(\$64.73)
State of Ohio Impacts												
Immediate Loss	(\$448.26)	(415)	(\$40.86)	(\$40.21)	(139)	(\$8.15)	(\$42.73)	(340)	(\$14.11)	(\$531.20)	(894)	(\$63.11)
Add'l Loss within 3 to 4 months	(\$87.61)	(67)	(\$7.06)	(\$7.86)	(27)	(\$1.59)	(\$7.38)	(59)	(\$2.44)	(\$102.85)	(153)	(\$11.08)
Total Statewide Loss	(\$535.88)	(482)	(\$47.92)	(\$48.07)	(166)	(\$9.74)	(\$50.11)	(399)	(\$16.54)	(\$634.06)	(1,047)	(\$74.20)

Company witness Murley also analyzed the impact of Davis-Besse's potential retirement. As shown in the table below, these economic development impacts would be significant: 675 direct jobs and 911 indirect and induced jobs with firms that do business with Davis-Besse and its employees are at risk.⁷⁰⁸ Closure would cause a loss of \$338 million per year in direct output, as well as an additional \$131.2 million in indirect and induced output each year.⁷⁰⁹

FIGURE 4
ANNUAL DIRECT AND TOTAL ECONOMIC IMPACT
OF SHUT DOWN OF THE DAVIS BESSE NUCLEAR POWER STATION
(millions of dollars)

	Direct			Indirect (Supplier) Impacts			Induced (Employee) Impacts			Total		
	Output	Jobs	Personal Income	Output	Jobs	Personal Income	Output	Jobs	Personal Income	Output	Jobs	Personal Income
Ottawa County Impacts												
Loss at One Month	(\$100.92)	(200)	(\$19.09)	(\$4.20)	(39)	(\$1.13)	(\$20.89)	(183)	(\$5.50)	(\$126.01)	(422)	(\$25.72)
Add'l Loss within 6 months	(\$76.19)	(151)	(\$14.42)	(\$3.17)	(30)	(\$0.86)	(\$15.77)	(138)	(\$4.15)	(\$95.14)	(319)	(\$19.42)
Add'l Loss Year 1 to Year 10	(\$160.87)	(324)	(\$30.44)	(\$6.70)	(62)	(\$1.81)	(\$33.30)	(292)	(\$8.76)	(\$200.86)	(679)	(\$41.00)
Total Ottawa County Loss	(\$337.98)	(675)	(\$63.94)	(\$14.07)	(131)	(\$3.79)	(\$69.96)	(614)	(\$18.41)	(\$422.01)	(1,420)	(\$86.14)
State of Ohio Impacts												
Loss at One Month	(\$100.92)	(200)	(\$19.09)	(\$10.83)	(58)	(\$2.97)	(\$28.35)	(214)	(\$9.25)	(\$140.09)	(472)	(\$31.31)
Add'l Loss within 6 months	(\$76.19)	(151)	(\$14.42)	(\$8.17)	(44)	(\$2.24)	(\$21.40)	(162)	(\$6.99)	(\$105.77)	(356)	(\$23.64)
Add'l Loss Year 1 to Year 10	(\$160.87)	(324)	(\$30.44)	(\$17.26)	(92)	(\$4.73)	(\$45.19)	(341)	(\$14.75)	(\$223.31)	(758)	(\$49.92)
Total Statewide Loss	(\$337.98)	(675)	(\$63.94)	(\$36.26)	(194)	(\$9.94)	(\$94.93)	(717)	(\$30.99)	(\$469.17)	(1,586)	(\$104.87)

In addition to these economic impacts, if Sammis and Davis-Besse were to close, there would be a loss of approximately [BEGIN CONFIDENTIAL] [END CONFIDENTIAL]

⁷⁰⁸ Murley Supp., p. 10.

⁷⁰⁹ Murley Supp., p. 10; Hearing Tr. Vol. XV at 3216:15-3217:2 (Murley Cross).

million in federal, state and local payroll taxes and millions in annual property tax revenue in Jefferson County and Ottawa County.⁷¹⁰

As Ms. Murley's analysis shows, closure of the Plants would cause an economic impact loss of \$634.1 million and \$469.2 million per year respectively.⁷¹¹ Accordingly, closing the Plants would have a negative impact on economic development.⁷¹²

3. Stipulated ESP IV does not violate any State policy.

Stipulated ESP IV violates no regulatory principles or practices.⁷¹³ Pursuant to the test set forth at Section 4928.143(C)(1), Stipulated ESP IV satisfies the statutory requirement that "its pricing and all other terms and conditions, including any deferrals and any future recovery of deferrals, [are] more favorable in the aggregate as compared to the expected results that would otherwise apply under [an MRO]."⁷¹⁴ Stipulated ESP IV thus furthers Ohio's state policies and goals.

The evidence also shows that the provisions of Stipulated ESP IV are consistent with state policy as set forth in Section 4928.02.⁷¹⁵ For example, consistent with Section 4928.02(A),

⁷¹⁰ Sierra Club Ex. 37C (SC Set 1-RPD-49 Attachment 1 – Competitively Sensitive Confidential, p. 17); Murley Supp., pp. 7-10. *See also* Hearing Tr. Vol. XXVIII at 5655:21-5656:24 (Kalt Cross) (admitting that Sammis and Davis-Besse are among the largest employers in their respective counties and that closing the Plants would lead to a reduction in property taxes).

⁷¹¹ Murley Supp., p. 11; Hearing Tr. Vol. XV at 3214:25-3217:2 (Murley Cross).

⁷¹² Hearing Tr. Vol. XI at 2371:22-2372:12 (Moul Cross); Hearing Tr. Vol. XV at 3176:21-3177:9 (Murley Cross).

⁷¹³ Mikkelsen Supp., p. 8; Mikkelsen Fifth Supp., p. 9.

⁷¹⁴ R.C. 4928.143(C)(1).

⁷¹⁵ Many of the provisions of ESP IV are continued from the current ESP and have already been found by the Commission to not violate state policy. *See* Case No. 12-1230-EL-SSO, Opinion and Order at 57 (July 18, 2012).

Stipulated ESP IV will “ensure the availability to consumers of adequate, reliable, safe, efficient, nondiscriminatory, and reasonably priced retail electric service.”⁷¹⁶

a. Stipulated ESP IV provides customers with stable and reasonably priced electricity based upon market prices.

As the Companies have done in past ESPs, the Companies do not contemplate raising base distribution rates during the term of the ESP.⁷¹⁷ Just as significantly, all of the Companies’ customers will continue to have the benefit of market-based pricing for retail electric generation service.⁷¹⁸ For non-shopping customers, the Companies’ SSO auctions will once again rely on staggered and laddered products, thus helping to temper the effects of any near-term price volatility. For shopping customers, CRES suppliers will continue to have the opportunity to compete to serve customers. And, over the long term, the Economic Stability Program will mitigate the impact of volatile and increasing market prices for all customers.⁷¹⁹ As noted, this program provides retail customers with a hedge to help counter anticipated increases in energy prices due to projected increases in natural gas prices. Further, Stipulated ESP IV includes several million dollars in funding to assist low-income customers to pay their bills.

In addition, the rate design under Stipulated ESP IV continues the regulatory principle of gradualism.⁷²⁰ Stipulated ESP IV will gradually transition certain customers to market-based

⁷¹⁶ R.C. 4928.02(A).

⁷¹⁷ Mikkelsen Direct, p. 29; Hearing Tr. Vol. I at 154:13-17 (Mikkelsen Cross).

⁷¹⁸ Mikkelsen Direct, pp. 28-29.

⁷¹⁹ Mikkelsen Direct, p. 29; Hearing Tr. Vol. II at 427:12-20 (Mikkelsen Cross).

⁷²⁰ Mikkelsen Supp., p. 3; See *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, The Toledo Edison Company for Approval of a New Rider and Revision of an Existing Rider*, Case No. 10-176-EL-ATA, Opinion and Order at 18-20 (May 25, 2011) (discussing the nature and application of the “principle of gradualism.”); *In the Matter of the Application of Duke Energy Ohio, Inc. for an Increase in Rates*, Case No. 07-589-GA-AIR, Entry on Rehearing at 3 (July 23, 2008) (same).

rates.⁷²¹ For example, the Companies will gradually phase out the Companies' General Service – Transmission ("Rate EDR(d)") provision by reducing the charge per kVa of billing demand by \$2 per year in the second and third years of Stipulated ESP IV.⁷²²

b. Stipulated ESP IV promotes reliable electric service.

Stipulated ESP IV will promote reliable electric service. The Companies will continue to recover the cost of infrastructure enhancements to the electric utility distribution system through Rider DCR.⁷²³ Rider DCR enables the Companies to recover the costs of these enhancements without the delay caused by a base rate case.⁷²⁴ The Companies' ability to defer storm-related costs also promotes reliability by enabling the Companies to seek recovery of such costs.⁷²⁵ Further, the Economic Stability Program supports generation resource diversity and, as noted, thereby promotes enhanced reliability.⁷²⁶

⁷²¹ Mikkelsen Supp., p. 3.

⁷²² Mikkelsen Direct, p. 29; Hearing Tr. Vol. III at 623:23-624:12 (Mikkelsen Cross); Third Supp. Stip., G.4.a.iii.

⁷²³ Mikkelsen Direct, p. 29; Hearing Tr. Vol. I at 156:9-7; Hearing Tr. Vol. III at 613:3-8 (Mikkelsen Cross). *See also* R.C. 4928.02(F).

⁷²⁴ Mikkelsen Direct, p. 29; Hearing Tr. Vol. XXIX at 5882:11-15 (McCarter Cross); Hearing Tr. Vol. XXIX at 6059:15-6060:23 (Turkenton Cross).

⁷²⁵ Mikkelsen Direct, p. 29. "The Companies propose to continue the current storm deferral mechanism during ESP IV under the same terms and conditions that exist today under ESP III. Disposition of any regulatory asset or liability balance at the end of ESP IV will be addressed in a future proceeding." Mikkelsen Direct, p. 8. "Under the current deferral mechanism, actual storm damage expenses in excess of the test year levels are added to the deferral, while actual storm damage expenses that are less than the test year levels are subtracted from the deferred amount." Mikkelsen Direct, p. 7.

⁷²⁶ Mikkelsen Direct, p. 29; Hearing Tr. Vol. III at 515:5-7, 11-19; 649:7-20 (Mikkelsen Cross).

c. Stipulated ESP IV promotes a competitive marketplace and supports the retail market.

Stipulated ESP IV furthers Ohio's policy of promoting a competitive marketplace.⁷²⁷ Nothing in Stipulated ESP IV prohibits or hinders competition in wholesale and retail markets from continuing to flourish.⁷²⁸ Indeed, the success of the competitive balance provided by the Companies' previous ESPs is demonstrated by the fact that the Companies' service territories have the highest shopping levels in Ohio.⁷²⁹ Stipulated ESP IV also continues to support large-scale government aggregation.⁷³⁰

Likewise, Stipulated ESP IV will support the retail market. Stipulated ESP IV will provide CRES providers with additional customer information and retail market enhancements.⁷³¹ Minimum stay restrictions and notice requirements will be eliminated from the Companies' Electric Service Regulations.⁷³² Further, Stipulated ESP IV contains no other rules that would discourage residential, commercial or industrial shopping.⁷³³

d. Stipulated ESP IV protects at-risk populations.

Stipulated ESP IV protects at-risk populations.⁷³⁴ Stipulated ESP IV will provide over \$19 million in funding to assist low income customers with the payment of their electric bills.⁷³⁵

⁷²⁷ Mikkelsen Direct, p. 29; Hearing Tr. Vol. II at 233:17-24 (Mikkelsen Cross). *See also* R.C. 4928.02(B).

⁷²⁸ Mikkelsen Direct, p. 29.

⁷²⁹ Mikkelsen Direct, pp. 29-30.

⁷³⁰ Mikkelsen Direct, p. 31.

⁷³¹ Smialek Direct, p. 2.

⁷³² Smialek Direct, pp. 9-10; Hearing Tr. Vol. V at 1059:3-9 (Smialek Cross).

⁷³³ Mikkelsen Direct, p. 30; Hearing Tr. Vol. I at 39:3-18 (Mikkelsen Cross).

⁷³⁴ Mikkelsen Direct, p. 30. *See also* R.C. 4928.02(L).

⁷³⁵ Sierra Club Ex. 89 (Mikkelsen Nov. 30, 2015 Workpaper).

The Companies also will provide \$8 million in funding to jumpstart the creation of a Customer Advisory Agency.⁷³⁶ Through Stipulated ESP IV, the Companies have committed to assist energy efficiency, advanced metering, and grid modernization programs.⁷³⁷ At-risk populations also benefit from Stipulated ESP IV in the same manner in which all other residential customers are benefited (*e.g.*, through the benefits provided by the CBP, Rider RRS, Rider DCR, among others).

e. Stipulated ESP IV furthers Ohio's effectiveness in the global economy.

Stipulated ESP IV will further Ohio's effectiveness in the global economy.⁷³⁸ It includes a commitment to support regional economic development benefits.⁷³⁹ For example, it will maintain relatively stable rates and thereby promote economic development. Rider ELR provides economic development support to the Companies' largest customers that furthers the State's effectiveness in the global economy.⁷⁴⁰ By encouraging increased production within the state, the Automaker Credit Provision provides economic development and job retention benefits to eligible automaker facilities located in Ohio.⁷⁴¹ The Companies' provision of \$24 million in economic development funding will also promote Ohio's ability to compete in the global economy.

⁷³⁶ Sierra Club Ex. 89 (Mikkelsen Nov. 30, 2015 Workpaper).

⁷³⁷ Mikkelsen Supp., p. 10; Hearing Tr. Vol. I at 166:7-15, 185:2-22 (Mikkelsen Cross).

⁷³⁸ See R.C. 4928.02(N).

⁷³⁹ Mikkelsen Direct, pp. 16-17; Hearing Tr. Vol. I at 166:7-15 (Mikkelsen Cross).

⁷⁴⁰ Mikkelsen Rebuttal, p. 18.

⁷⁴¹ Mikkelsen Supp., pp. 11-12; Hearing Tr. Vol. III at 622:9-13; 622:14-623:22 Mikkelsen Cross).

Stipulated ESP IV thus does not violate any important regulatory principles, thereby meeting the third prong of the Commission's three prong test for stipulations.

V. CONCLUSION

The evidence presented in the proceeding clearly demonstrates that Stipulated ESP IV is more favorable in the aggregate as compared to the expected results that would otherwise apply under an MRO. Further, Stipulated ESP IV satisfies all three prongs regarding the approval of stipulations and the Commission thereby should find that Stipulated ESP IV is reasonable. Thus, for the reasons set forth above, the Commission should approve Stipulated ESP IV without modification.

Date: February 16, 2016

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a true and accurate copy of the foregoing has been filed with the Public Utilities Commission of Ohio and has been served upon the following parties via electronic mail on February 16, 2016.

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